

Table 4.7-4 Special-Status Botanical Species and Likelihood to Occur in the Study Area					
Common Name and <i>Scientific Name</i>	Regulatory Status <sup>1</sup>			Habitat and Flowering Period	Potential to Occur in the Study Area
	TRPA/ Federal	State	Other		
Western goblin <i>Botrychium montanum</i>	FSS	CRPR-2	–	Wet or moist soils, mostly of meadows and seeps in upper and lower montane coniferous forest; 5,000–7,000 ft. elev. Fertile July-Sept.	<b>Could occur</b> in riparian and wet meadow habitats in the study area. No individuals of western goblin have been previously documented in the study area or vicinity. The nearest known occurrence is on LTBMU land on the trail to Meeks Bay.
Bolander's candle moss <i>Bruchia bolanderi</i>	FSS	CRPR-2	–	Wet or moist soils of meadows, seeps, and stream banks in upper and lower montane coniferous forest; 5,300–11,000 ft. elev. Fertile period not specified.	<b>Could occur</b> in riparian and wet meadow habitats in the study area. No individuals of Bolander's candle moss have been previously observed within the study area and the nearest known occurrences are northwest of Donner Lake.
Davy's sedge <i>Carex davyi</i>	–	CRPR-1B	–	Subalpine and upper montane coniferous forests; 4,800-10,600 ft. elev. Blooms May–August.	<b>Could occur</b> in coniferous forest habitat in the study area. Occurrences of this species have been recorded within two miles of Segment 625-3, in the vicinity of River Road, SR 89.
Woolly-fruited sedge <i>Carex lasiocarpa</i>	–	CRPR-2	–	Bogs and fens, and lake margin marshes and swamps at elevations; of 1,980-6,850 ft. elev. Blooms June–July.	<b>Unlikely to occur</b> ; there is no suitable habitat for this species.
Mud sedge <i>Carex limosa</i>	–	CRPR-2	–	Upper montane coniferous forest, lower montane coniferous forest, bogs and fens, meadows and seeps, marshes and swamps (in floating bogs and soggy meadows, often at edges of lakes); 4,000–9,000 ft. elev. Blooms June–August.	<b>Unlikely to occur</b> ; boggy habitats preferred by this species are not present.
Northern meadow sedge <i>Carex praticola</i>	–	CRPR-2	–	Wet meadows and seeps; 0-10,500 ft. elev. Blooms May–July.	<b>Unlikely to occur</b> ; species is known primarily from northern coastal communities; there is one CNDDDB record from the Homewood area of the basin that was obtained from an unnamed secondary botanical literature source.
Clustered lady's slipper <i>Cypripedium fasciculatum</i>	FSS	CRPR-4	–	Moist, shady coniferous forests, often on slopes, usually in serpentine seeps or streambanks; 300 to 8,000 ft. elev. Blooms March-August.	<b>Unlikely to occur</b> ; not known to occur in the Tahoe Basin or surrounding region and no serpentine habitat preferred by this species is present.
Branched collybia <i>Dendrocollybia racemosa</i>	FSS	–	–	Fungus growing on old decayed or blackened mushrooms or occasionally in coniferous duff, usually within old growth stands. Fertile late fall to mid-winter.	<b>Could occur</b> in old growth coniferous forest habitat in the study area. Reconnaissance surveys were conducted outside the fertile period and this species is small and easily overlooked.

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Tahoe draba <i>Draba asterophora</i> <i>var. asterophora</i>	TRPA, FSS	CRPR-1B	–	Alpine boulder and rock fell field in rock crevices and open granite talus slopes, subalpine coniferous forest, usually on northeast-facing slopes; 8,200–10,500 ft. elev. Blooms July–September.	<b>Unlikely to occur;</b> no suitable habitat is present within the species' elevation range.
Cup Lake draba <i>Draba asterophora</i> <i>var. macrocarpa</i>	TRPA, FSS	CRPR-1B	–	Subalpine coniferous forest on steep, gravelly or rocky slopes; 8,200–9,200 ft. elev. Blooms July–August.	<b>Unlikely to occur;</b> no suitable habitat is present within the species' elevation range.
Oregon fireweed <i>Epilobium oregonum</i>	–	CRPR-1B	–	Upper montane coniferous forest, lower montane coniferous forest, in or near streams, bogs, or fens; often in serpentine soils (broad endemic); 1,600–7,300 ft. elev. Blooms June–September.	<b>Unlikely to occur;</b> the particular habitat characteristics this species is generally associated with are not present.
Marsh willowherb <i>Epilobium palustre</i>	–	CRPR-2	–	Bogs and fens, meadows, and seeps; 7,218 ft. elev. Blooms July–August.	<b>Unlikely to occur;</b> known in California only from Grass Lake in El Dorado County and Willow Lake in Plumas County.
Nevada daisy <i>Erigeron eatonii</i> <i>var. nevadincola</i>	–	CRPR-2	–	Rocky flats, generally in sagebrush scrub or pinyon and juniper woodland; 4,500–9,500 ft. elev. Blooms May–July.	<b>Could occur</b> in sagebrush scrub habitat present primarily in Segment 650-4B and associated access roads. The potential for this species to be found in the study is low; however, because confirmed occurrences are not known in the Tahoe-Truckee region. The CNDDDB reports a record of this species in the Tahoe City area along Highway 89, but this record was obtained from a secondary literature source and is unconfirmed.
Starved daisy <i>Erigeron miser</i>	FSS	CRPR-1B	–	Cracks or clefts in granite outcrops; 6,000–8,500 ft. elev. Blooms June–October.	<b>Could occur</b> in rock outcrops in the study area, but potential is low because suitable habitat is very limited in the study area and essentially all known occurrences are located in the vicinity of the Sierra Nevada crest in Placer and Nevada Counties.

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Torrey (Donner Pass) buckwheat <i>Eriogonum umbellatum</i> var. <i>torreyanum</i>	FSS	CRPR-1B	–	Highly erosive, shallow, rocky volcanic soils with sparse vegetation; 6,000–8,600 ft. elev. Blooms July–September.	<b>Could occur</b> in rock outcrops and gravelly slopes in the study area. There is an 1885 record of this species from the Truckee area, but the location is not specific. Several other occurrences have been reported near the study area, but greater than 1 mile away.
American manna grass <i>Glyceria grandis</i>	–	CRPR-2	–	Bog, fens, meadows, seeps, marshes, and swamps; streambanks and lake margins; 50-6,500 ft. elev. Blooms June–August.	<b>Could occur</b> in riparian and wet meadow habitats in the lower elevations of the study area, especially in Martis Valley. Occurrences of this species have been recorded within two miles of Segment 625-3, in the vicinity of River Road, SR 89.
Blandow's bog-moss <i>Helodium blandowii</i>	FSS	CRPR-2	–	Bogs and fens with calcareous groundwater in subalpine coniferous forest; 5,000-9,500 ft. elev. Fertile period unknown.	<b>Unlikely to occur</b> ; suitable habitat is not present.
Short-leaved hulsea <i>Hulsea brevifolia</i>	FSS	CRPR-1B	–	Upper and lower montane coniferous forest, primarily red fir forests, on volcanic or granitic gravel or sand, or on slate; 4,200-10,500 ft. elev. Blooms May–August.	<b>Could occur</b> in coniferous forest habitat in the study area. The nearest documented occurrence is a 1927 record from El Dorado County.
Plumas ivesia <i>Ivesia sericoleuca</i>	FSS	CRPR-1B	–	Vernally wet portions of meadows and alkali flats, and in vernal pools within sagebrush scrub or lower montane coniferous forest, often on volcanic soils; 4,300-7,200 ft. elev. Blooms May–October.	<b>Known to occur</b> ; several occurrences are present in the study area along Segments 650-3, 650-4, 650-4A, 650-4B and access roads. Also known from the vicinity of Segments 650-6 and 650-7 and the Northstar Golf Course Staging Area.
Webber's ivesia <i>Ivesia webberi</i>	FT, FSS	CRPR-1B, NCE	–	Shallow, clayey soils derived from andesitic rock. Typically found on sparsely to moderately densely vegetated sites in low sage scrub in association with dwarfed or cushion-like perennial herbs; 3,000-7,000 ft. elev. Blooms May–July.	<b>Unlikely to occur</b> ; no suitable habitat present and species known in California only from Sierra and Dog Valleys.

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Santa Lucia dwarf rush <i>Juncus luciensis</i>	FSS	CRPR-1B	–	Wet, sandy soils in riparian habitats, meadows and seeps, and vernal pools within chaparral, sagebrush scrub, and lower montane coniferous forest; 1,000-6,700 ft. elev. Blooms April–July.	<b>Could occur</b> in riparian and meadow habitats in the study area. An occurrence has been recorded within 1 mile of Segment 650-4B, between Martis Creek Lake and the Truckee airport.
Sierra Valley lewisia <i>Lewisia kelloggii</i> ssp. <i>hutchisonii</i>	FSS	CRPR-3	–	Ridge tops or flat open spaces with widely spaced trees and sandy granite, slate or volcanic rubble in upper montane coniferous forest; 5,000 to 7,000 ft. elev. Blooms May-August.	<b>Unlikely to occur</b> ; no suitable habitat is present and there are no nearby occurrences known; nearest confirmed occurrences are in Sierra Valley.
Kellogg’s lewisia <i>Lewisia kelloggii</i> ssp. <i>kelloggii</i>	FSS	–	–	Ridge tops in decomposed granite, volcanic ash, or rubble in upper montane coniferous forest; 4,500-8,000 ft. elev. Blooms June-August.	<b>Unlikely to occur</b> ; no suitable habitat is present and there are no nearby occurrences known; nearest confirmed occurrences are in Yosemite National Park.
Long-petaled lewisia <i>Lewisia longipetala</i>	TRPA, FSS	CRPR-1B	–	Northerly exposures on slopes and ridge tops in alpine boulder and rock field, subalpine coniferous forest; often found near the margins of persistent snow banks in wet soils 8,200–9,400 ft. elev. Blooms July–August.	<b>Unlikely to occur</b> ; no suitable habitat present.
Broad-nerved hump moss <i>Meesia uliginosa</i>	FSS	CRPR-2	–	Bogs and fens, and permanently wet meadows, typically spring fed, in subalpine and upper montane coniferous forest; 4,200–8,200 ft. elev. Fertile period not specified.	<b>Unlikely to occur</b> ; no suitable habitat present; meadow habitats in the study area are not permanently wet.
Veined water lichen <i>Peltigera gowardii</i>	FSS	–	–	Grows on rocks in cold, unpolluted, partially shaded, perennial streams in old-growth mixed conifer forests (Peterson 2010). Typically in spring-fed, first or second order streams in upper watersheds, with relatively stable flows and not subject to heavy scour (Peterson 2010); 3,000-8,500 ft. elev.	<b>Unlikely to occur</b> ; particular microhabitat characteristics this species is typically associated with are not present.

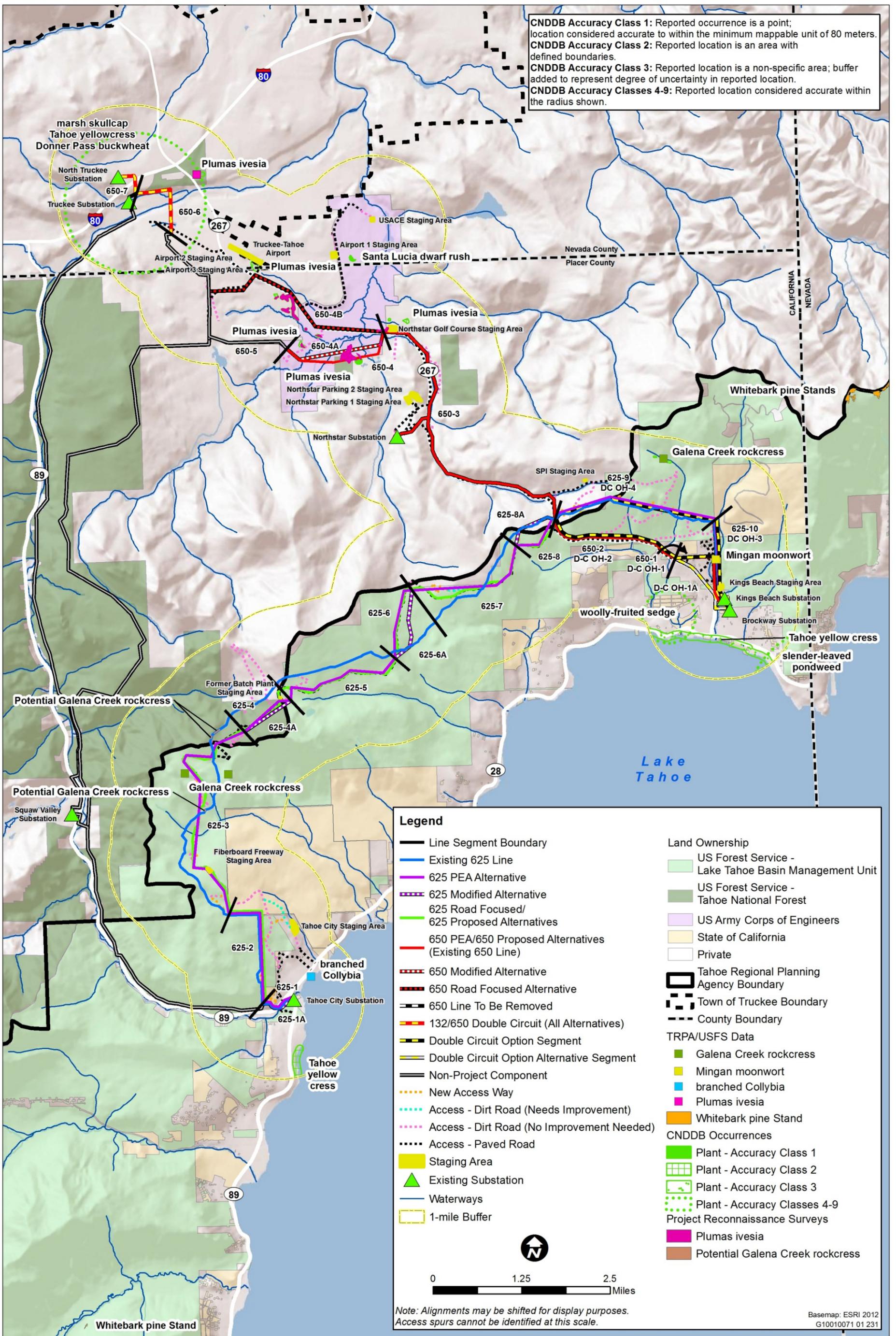
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Whitebark pine <i>Pinus albicaulis</i>	FC, FSS	–	–	Thin, rocky, cold soils at or near timberline in subalpine forests; 7,000-12,000 ft. elev.	<b>Unlikely to occur;</b> the study area is below the typical elevation where this species is found in the basin. This species grows at elevations from 7,000 to 12,000 feet across its range, which extends from British Columbia to Mt. Whitney and east to the Rocky Mountains; however, it is usually found between 9,000 and 11,000 feet in the Sierra Nevada and its distribution in the Lake Tahoe Basin is primarily south of the lake or on the Nevada side (Lanner 1999, Sawyer, Keeler-Wolfe and Evens 2009).
Alder buckthorn <i>Rhamnus alnifolia</i>	–	CRPR-2	–	Meadows, seeps, and riparian scrub within lower and upper montane coniferous forests; 4,500-7,000 ft. elev. Blooms May–July.	<b>Could occur</b> in riparian and wet meadow habitats in the study area. Several occurrences have been documented within three miles west of the northern terminus of the 650 Line and within two miles west of Segment 625-3.
Tahoe yellow cress <i>Rorippa subumbellata</i>	TRPA, FC, FSS	CA-CE, CRPR-1B		Decomposed granitic beaches on Lake Tahoe; species is endemic to Lake Tahoe Basin beaches; 6,217–6,234 ft. elev. Blooms May–Sept.	<b>Unlikely to occur;</b> no suitable habitat present.
Water bulrush <i>Schoenoplectus subterminalis</i>	–	CRPR-2	–	Bogs and fens, marshes and swamps (montane lake margins in shallow water); 2,461–7,661 ft. elev. Blooms July–August.	<b>Unlikely to occur;</b> no suitable habitat present.
Marsh skullcap <i>Scutellaria galericulata</i>	–	CRPR-2	–	Meadows, seeps, marshes, and swamps in sunny openings in lower montane coniferous forest; 0–7,000 ft. elev. Blooms June–September.	<b>Could occur</b> in wet meadow and riparian habitats in the study area. An occurrence was reported from the Truckee area in 1885. The exact location of this observation is unknown and was mapped as a best guess by the CNDDDB.
Munro's desert mallow <i>Sphaeralcea munroana</i>	–	CRPR-2	–	Sagebrush scrub; 6,560 ft. elev. Blooms May–June.	<b>Could occur;</b> sagebrush scrub habitat along Segment 650-4B is potentially suitable, but the potential for occurrence is low because in California, this species is known only from Squaw Creek. This species was not observed in the sagebrush scrub along Segment 650-4, which was thoroughly surveyed during reconnaissance surveys in 2012.

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Slender-leaved pondweed <i>Stuckenia filiformis</i>	–	CRPR-2	–	Shallow, clear water of lakes and rivers; 900–8,000 ft. elev. Blooms May–July.	<b>Could occur;</b> potentially suitable habitat for this species in the study area is limited to the Truckee River within Segments 625-1 and 625-1A. An occurrence has been documented on the margin of Lake Tahoe, approximately 1 mile southeast from Segments 625-10 and 650-1 in Kings Beach.
Crème-flowered bladderwort <i>Utricularia ochroleuca</i>	–	CRPR-2	–	Meadows and seeps, marshes and swamps (lake margins); shallow acidic waters. 4,691–4,724 ft. elev. Blooms June–July.	<b>Unlikely to occur;</b> no suitable habitat present.

<sup>1</sup>Regulatory Status Codes:

<b>TRPA/Federal:</b>	<b>State:</b>
TRPA = TRPA sensitive/threshold species	CA (California Department of Fish and Game)
FC = Federal candidate for listing	CE = California Endangered
FT = Federal Threatened	CRPR = California Rare Plant Rank
FSS = Forest Service Sensitive	1A = Plants presumed extinct in California
<b>Other:</b>	1B = Plants considered rare or endangered in California and elsewhere
NNPS-T = Nevada Native Plant Society Threatened	2 = Plants considered rare or endangered in California, but more common elsewhere.
NNPS-W = Nevada Native Plant Society Watchlist	3 = Plants about which more information is needed – a review list.
(Note: NNPS-T and -W species are only included here if they are also designated as NNHP-AR. The NNPS list is located at <a href="http://heritage.nv.gov/lists/nnpstat.pdf">http://heritage.nv.gov/lists/nnpstat.pdf</a> .)	4 = Plants of limited distribution in California – a watch list.

Sources: NNHP 2011; TRPA 2002; TRPA 2012a; USFWS 2012 ; CDFW 2012a ; Calflora 2013 ; Baldwin et al. 2012

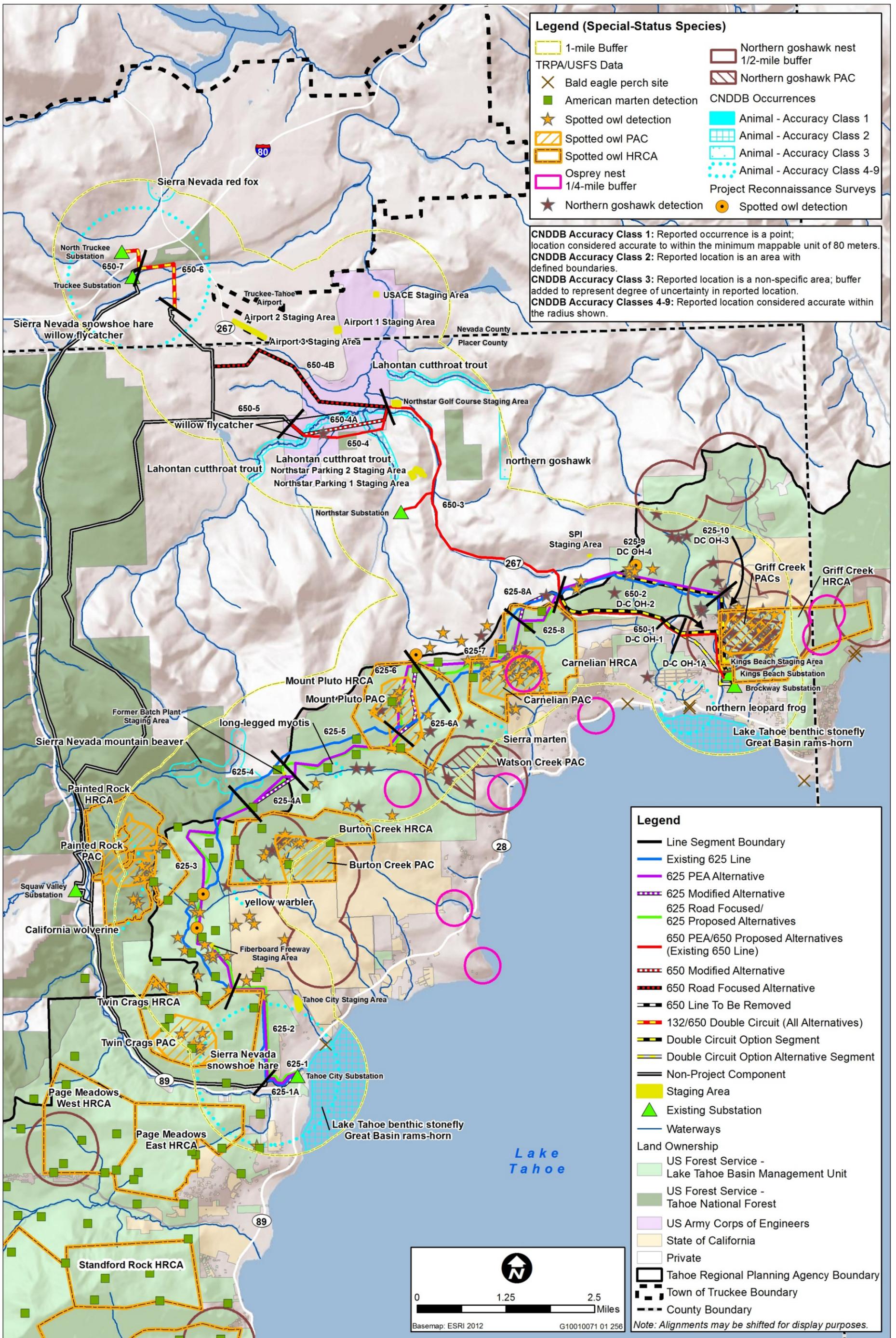


Source: Data provided by Ascent, CNDDB, Insignia Environmental, Placer County, TRPA, and USFS; Adapted by Ascent Environmental in 2012

Exhibit 4.7-2

Known Special-Status Plant Species Occurrences





Source: Data provided by Ascent, Placer County, Tri Sage, TRPA, and USFS; adapted by Ascent Environmental in 2012

Exhibit 4.7-3

Known Special-Status Animal Occurrences



Table 4.7-5 Special-Status Animal Species Evaluated for the CalPeco 625 and 650 Electrical Line Upgrade Project				
Common Name and <i>Scientific Name</i>	Regulatory Status <sup>1</sup>		Habitat Associations	Potential to Occur in the Study Area <sup>2</sup>
	TRPA/Federal	State/Other		
<b>Invertebrates</b>				
Great Basin rams-horn <i>Helisoma newberryi</i>	FSS-LTBMU/ Tahoe National Forest		Snail associated with larger lakes and slow rivers, including larger spring sources and spring-fed creeks. Snails burrow in soft mud.	<b>Low.</b> Species has been documented in Lake Tahoe. Historically, it has been observed in the Truckee River directly downstream of Lake Tahoe on the LTBMU (Tahoe National Forest data). Currently, this snail has not been sighted or surveyed for in Tahoe National Forest. Potential habitat in the study area occurs within slow segments of the Truckee River near Segment 625-1; however, the level of suitability is considered low due to high levels of disturbance in this section of the river. Although the species could be washed through the dam into the Truckee River or otherwise occur, it is not expected to persist in the Truckee River in the study area due to the limited amount of suitable burrowing substrate within the channel and variable flow conditions caused by dam releases, including moderate flows and pulses below the dam during some periods.
Western Bumble Bee <i>Bombus occidentalis</i>	FSS-LTBMU/ Tahoe National Forest		Forage on a variety of flowering plants for pollen and nectar; queens overwinter in the ground in abandoned rodent nests at depths from 6-18 inches, and typically emerge about mid-March.	<b>Low.</b> Although suitable forage (pollen and nectar) plants occur, there is only one known collection record of western bumble bee on LTBMU lands since 2000. No known records from the Tahoe National Forest since 2000. Because this species could potentially occur on NFS land in the study area despite a low potential, and its current distribution and status in the Tahoe region is not well known, western bumble bee was analyzed in the Animal BE prepared for the project.
<b>Fish</b>				
Lahontan lake tui chub <i>Gila bicolor pectinifer</i>	FSS-LTBMU/ Tahoe National Forest	C-SSC	Pelagic fish that feed on zooplankton in the open water of Lake Tahoe.	<b>Not expected to occur.</b> Not known nor expected to occur outside of Lake Tahoe.
Lahontan cutthroat trout <i>Oncorhynchus clarki hanshawi</i>	TRPA, FT		Only trout species native to lakes and streams in the Tahoe Basin. Found in both lake and stream habitats, but spawn in stream environments. Lahontan cutthroat trout (LCT) requires gravels and riffles for spawning and generally does not persist	<b>Low.</b> Although LCT could occur in the study area at Segment 625-1, it is not presently known nor expected to occur in the study area. The nearest known occurrence of LCT is in Pole Creek, a tributary of the

Table 4.7-5 Special-Status Animal Species Evaluated for the CalPeco 625 and 650 Electrical Line Upgrade Project				
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	TRPA/Federal	State/Other		
			or occur with nonnative salmonids.	Lower Truckee River downstream of Tahoe City, approximately 8 miles from the action area; additionally, LCT were recently released in the Lower Truckee River at Granite Flat Campground, approximately 12 miles from the study area. USFWS considers all of the Truckee River as having potential to be occupied by LCT, given past stocking efforts in the Truckee River and in Lake Tahoe; however, USFWS considers the potential for LCT to occur at Segment 625-1 to be low. Historically occurred in the study area in Martis Creek in the Martis Valley, near Segments 650-4, 650-4A, and 650-4B (CDFW 2012a). In the Tahoe region, LCT is absent from most of its historic range. LCT has been stocked in a few streams and lakes within the Lake Tahoe Basin, including the Upper Truckee River, Fallen Leaf Lake/Glen Alpine watershed, and Lake Tahoe. Recent efforts toward reintroducing LCT into Lake Tahoe, for recreational purposes, began during the summer of 2011. The Nevada Department of Wildlife (NDOW) stocked approximately 22,000 LCT in Lake Tahoe (near Cave Rock) as part of their efforts to begin stocking native aquatic species for the benefit of anglers. Additionally, in 2011, NDOW, in cooperation with CDFW and the University of Nevada-Reno, stocked LCT on the California side of Lake Tahoe in Emerald Bay. Individuals may move from the lake into stream environments to spawn; however, none of the streams in the study area, including the Truckee River, are currently expected to support this species due to limited habitat function, potential barriers to movement, presence of introduced species, and overall rarity of LCT in the watershed. The BA/BE prepared for the project concluded that the proposed action may affect but is not likely to adversely affect LCT.
<b>Amphibians</b>				
Yosemite toad <i>Bufo canarus</i>	FT	C-SSC	Endemic California toad found in wet meadows between 4,000 and 12,000 feet in the Sierra Nevada from Alpine County south	<b>Not expected to occur.</b> The study area is outside the known range of this species.

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	TRPA/Federal	State/Other		
			to Fresno County.	
Mount Lyell salamander <i>Hydromantes platycephalus</i>		C-SSC	Isolated populations occur in the Sierra Nevada, from Sierra County south to Tulare County, at approximately 4,000–12,000 feet elevation. Associated with large rock outcrops in mixed conifer, red fir, lodgepole pine, and subalpine habitats. Individuals usually found on the ground surface, in areas of open water in the form of seeps, drips, or spray.	<b>Not expected to occur.</b> Suitable habitat is not present.
Sierra Nevada yellow-legged frog <i>Rana sierrae</i>	FE, FSS-LTBMU/Tahoe National Forest	C-ST	Occurs in upper elevation lakes, ponds, bogs, and slow-moving alpine streams. Most Sierra Nevada populations are found between 6,000–12,000 feet elevation. Almost always found within 3.3 feet of water, and associated with montane riparian habitats in lodgepole pine, ponderosa pine, Jeffrey pine, sugar pine, white fir, whitebark pine, and wet meadow vegetation types. Alpine lakes inhabited by mountain yellow-legged frogs generally have grassy or muddy margin habitat, although below treeline sandy and rocky shores may be preferred. Suitable stream habitat can be highly variable, from high gradient streams with plunge pools and waterfalls, to low gradient sections through alpine meadows. Low-gradient streams are preferred because breeding and tadpole development cannot occur in streams with fast-moving water. Small streams are generally unoccupied and have no potential breeding locations because of the lack of depth for overwintering and refuge. Although Sierra Nevada yellow-legged frogs have been observed successfully breeding in shallow locations less than 7 feet deep, typically depth is an important factor for breeding locations since adults and larvae require overwintering habitat. For up to nine months, adults and larvae will live/hibernate below ice, or in nonfrozen portions of ponds or lakes, so adequate depth (greater than 2 m) is necessary to avoid having the pond or lake freeze through.	<b>Low.</b> The only known population in the Tahoe Basin occurs at Hell Hole bog, in the southern end of the Lake Tahoe Basin, over 25 miles south of the study area. Several occurrence records are located just outside the Tahoe Basin in Desolation Wilderness. Limited occurrence records are also present on the Tahoe National Forest, with the largest known population in the Soda Springs area more than 12 miles northwest of the study area. However, no known occurrences are near the study area. Additionally, suitable habitat is not known to occur in the study area because of hydrologic conditions, presence of predators (e.g., bullfrogs, nonnative trout), and disturbed aquatic habitat.
<b>Birds</b>				
Waterfowl species (collectively)	TRPA		Nest and roost in wetlands and around waters such as lakes, creeks, drainages, marshes, and wet meadows.	<b>Present.</b> Aquatic habitats in the study area (e.g., Truckee River) support common waterfowl species.
Northern goshawk	TRPA, FSS-	C-SSC	In the Sierra Nevada, this species generally requires mature	<b>Present.</b> Part of the Griff Creek northern goshawk

**Table 4.7-5 Special-Status Animal Species Evaluated for the CalPeco 625 and 650 Electrical Line Upgrade Project**

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	TRPA/Federal	State/Other		
<i>Accipiter gentilis</i>	LTBMU/ Tahoe National Forest		conifer forests with large trees, snags, downed logs, dense canopy cover, and open understories for nesting; aspen stands also are used for nesting. Foraging habitat includes forests with dense to moderately open overstories and open understories interspersed with meadows, brush patches, riparian areas, or other natural or artificial openings. Goshawks reuse old nest structures and maintain alternate nest sites.	protected activity center (PAC) is present within the study area along Segment 625-10 near the Kings Beach Substation (Exhibit 4.7-3), and three additional areas have documented concentrations of goshawk activity. All of these areas are located near recent or historic goshawk nests. The PAC has been active intermittently, with the last known nesting attempt there in 2005. Goshawk was detected in the Griff Creek PAC in 2010; however, the area was not surveyed in 2011 or 2012. In addition, portions of three TRPA-designated disturbance zones around goshawk nest records are also included in the study area along Segments 625-10 and 625-9 (Exhibits 4.7-3 and 4.7-4). The distribution of goshawk PACs, TRPA disturbance zones, recent and historic nests, and other detections of individuals in and near the study area are shown on Exhibit 4.7-3. Suitable foraging habitat for northern goshawk is present throughout most of the study area along the 625 Line, and the species has been detected along several segments, especially in the eastern end of the study area near Griff Creek. Suitable nesting habitat is also present throughout the study area. However, other than near Segments 625-9 and 625-10, nesting has not been documented within or immediately adjacent to the study area.
Northern harrier <i>Circus cyaneus</i>		C-SSC	Found in a variety of open grassland, wetland, and agricultural habitats. Open wetland habitats used for breeding include marshy meadows, wet and lightly grazed pastures, and freshwater and brackish marshes. Breeding habitat also includes dry upland habitats, such as grassland, cropland, drained marshland, and shrub-steppe in cold deserts. Winters throughout California where suitable habitat occurs. Wintering habitat includes open areas dominated by herbaceous vegetation, such as grassland, pastures, cropland, coastal sand dunes, brackish and freshwater marshes, and estuaries (Grinnell and Miller 1944, MacWhirter and Bildstein 1996).	<b>Present.</b> Northern harrier was observed foraging in the study area during project surveys, in the Martis Valley along Segment 650-4A, and near Segments 650-4 and 650-4B. Meadow, wetland, and scrub habitats in the Martis Valley provide suitable breeding and foraging habitat for this species.

Common Name and <i>Scientific Name</i>	Regulatory Status <sup>1</sup>		Habitat Associations	Potential to Occur in the Study Area <sup>2</sup>
	TRPA/Federal	State/Other		
Bald eagle <i>Haliaeetus leucocephalus</i>	TRPA, FSS-LTBMU/Tahoe National Forest, BGEPA	C-SE, C-FP	Use ocean shorelines, lake margins, and river courses for both nesting and wintering. Most nests are within 1 mile of water, in large trees with open branches. Roost communally in winter.	<b>Moderate.</b> Bald eagle does not nest in or near the project area. Only known nest sites in the Tahoe Basin are several miles away at Emerald Bay and Marlette Lake. Bald eagle is not expected to regularly use habitat in the study area; however, larger water bodies in the study area may provide potential foraging habitat occasionally during winter and summer. Bald eagle occurrence and habitat use in the study area is most common during wintering months, when the species is more abundant near meadows and lakes in the Tahoe region.
Golden eagle <i>Aquila chrysaetos</i>	TRPA, BGEPA	C-FP	Mountains and foothills throughout California. Nest on cliffs and escarpments or in tall trees.	<b>Low.</b> Suitable nesting habitat is not present in the study area, and golden eagle is rare in the Tahoe area. Due to disturbance levels and habitat quality in the study area, and higher quality habitat outside the study area, golden eagle is not expected to nest or regularly forage in the study area. Golden Eagle surveys were conducted by TRPA and USFS in selected areas of suitable nesting habitat in four of the past 12 years. These surveys never resulted in the detection of more than one active nest. Four mapped areas of potentially suitable habitat have been identified by TRPA for the protection of the Golden Eagle population Threshold Standard (TRPA 2012). Two of these areas are near but not within the study area.
Osprey <i>Pandion haliaetus</i>	TRPA		Associated with large fish-bearing waters. Nest usually within 0.25 mile of fish-producing water, but may nest up to 1.5 miles from water. In the Tahoe Basin, osprey nests are distributed primarily along the Lake Tahoe shoreline, at the northern portion of the east shore and southern portion of the west shore. Other osprey nest sites in the Tahoe Basin occur along the shorelines of smaller lakes (e.g., Fallen Leaf Lake) and in forest uplands up to 1.5 miles from lakes.	<b>Moderate.</b> Osprey nests and forages in suitable habitat throughout the Tahoe region. The nearest known osprey nest to the study area is approximately 0.3 mile south of Segment 625-7 (Exhibit 4.7-3). Some conifer forest in the study area provides potential nesting habitat for osprey, and larger water bodies provide potential foraging habitat. Exposed snags and dead tree limbs located adjacent to larger water bodies provide important perch sites for osprey foraging.
Peregrine falcon <i>Falco peregrinus</i>	TRPA	C- FP	Nest and roost on protected ledges of high cliffs, usually adjacent to water bodies and wetlands that support abundant avian prey.	<b>Low.</b> Suitable nesting habitat not present in the study area. However, peregrine falcons could occasionally forage in the Martis Valley and other areas within or near the study area.

Table 4.7-5 Special-Status Animal Species Evaluated for the CalPeco 625 and 650 Electrical Line Upgrade Project				
Common Name and <i>Scientific Name</i>	Regulatory Status <sup>1</sup>		Habitat Associations	Potential to Occur in the Study Area <sup>2</sup>
	TRPA/Federal	State/Other		
California spotted owl <i>Strix occidentalis occidentalis</i>	FSS-LTBMU/ Tahoe National Forest	C-SSC	Occur in several forest vegetation types including mixed conifer, ponderosa pine, red fir, and montane hardwood. Nesting habitat is generally characterized by dense canopy closure (i.e., greater than 70 percent) with medium to large trees and multistoried stands (i.e., at least two canopy layers). Foraging habitat can include intermediate to late-successional forest with greater than 40 percent canopy cover.	<b>Present.</b> California spotted owl occurs throughout the study area, and has been documented along all segments of the 625 and 650 Lines within the Lake Tahoe Basin. Suitable foraging habitat for spotted owl is present throughout most of the study area along the 625 Line and portions of the 650 Line in the Tahoe Basin. Portions of two spotted owl PACs (Griff Creek, Mt. Pluto) and their associated HRCAs occur in the study area; additionally, portions of the Carnelian and Twin Crags HRCAs occur in the study area. The distribution of spotted owl PACs, HRCAs, recent and historic nests, and other detections of individuals in and near the study area are shown on Exhibit 4.7-3. Additionally, Exhibits 4.7-5 and 4.7-6 provide detailed maps of the action alternatives within the Griff Creek and Mt. Pluto PACs, respectively.
Long-eared owl <i>Asio otus</i>		C-SSC	Found in a variety of habitat types throughout its range. Nest in woodland, forest, and open settings (e.g., grassland, shrub-steppe, and desert). Occupy wooded and nonwooded areas that support relatively dense vegetation (e.g., trees, shrubs) adjacent to or within larger open areas such as grasslands or meadows (i.e., habitat edges) (Bloom 1994; Marks, Evans, and Holt 1994). This species also has been documented breeding in contiguous conifer forest habitat with heavy mistletoe infestation (Bull, Wright, and Henjum 1989). Trees and shrubs used for nesting and roosting include oaks, willows, cottonwoods, conifers, and junipers (Marks, Evans, and Holt 1994).	<b>Moderate.</b> Some suitable habitat is present in the study area. Long-eared owl has been documented in the Tahoe Basin; however, no known occurrences are located in or near the study area.
Great gray owl <i>Strix nebulosa</i>	FSS-LTBMU/ Tahoe National Forest	C-SE	Found in Central Sierra mature mixed conifer forests near meadows. Scattered along the west slope of the Sierra, between 4,500 and 7,500 feet elevation, from Plumas County to Yosemite National Park.	<b>Not expected to occur.</b> Suitable habitat is not available in the study area. Habitat with biophysical attributes considered suitable for great gray owl (e.g., meadows bordered by large trees) occurs near the study area. However, these areas experience high disturbance levels, and neither the historic nor present occurrence of great gray owl in the Tahoe Basin or adjacent areas has been confirmed.

Table 4.7-5 Special-Status Animal Species Evaluated for the CalPeco 625 and 650 Electrical Line Upgrade Project				
Common Name and <i>Scientific Name</i>	Regulatory Status <sup>1</sup>		Habitat Associations	Potential to Occur in the Study Area <sup>2</sup>
	TRPA/Federal	State/Other		
Black-backed woodpecker <i>Picoides arcticus</i>		C-C	Occurs in a variety for conifer forest types, but strongly associated with unlogged, severely-burned forest with abundant snags. Also strongly associated with areas of high tree mortality from beetles.	<b>Present.</b> Species observed foraging in conifer forest near the 625 Line during project surveys in 2012. However, stands of high-severity postfire forest highly suitable for breeding was not observed in the study area.
Willow flycatcher <i>Empidonax traillii</i>	FSS-LTBMU/ Tahoe National Forest	C-SE	In the Sierra Nevada, suitable habitat typically consists of montane meadows that support riparian deciduous shrubs (particularly willows) and remain wet through the nesting season (i.e., midsummer). Important characteristics of suitable meadows include a high water table that results in standing or slow-moving water, or saturated soils (e.g., “swampy” conditions) during the breeding season; abundant riparian deciduous shrub cover (particularly willow); and riparian shrub structure with moderate to high foliar density that is uniform from the ground to the shrub canopy. Most breeding occurrences are in meadows larger than 19 acres, but the average size of occupied meadows is approximately 80 acres. Although less common in the Sierra Nevada, riparian habitat along streams also can function as suitable habitat for willow flycatcher. However, those areas must support the hydrologic and vegetation characteristics described for suitable meadows (e.g., standing or slow-moving water, and abundant and dense riparian vegetation).	<b>Present.</b> Willow flycatcher occurs in montane riparian habitat (willow thickets) in and adjacent to the study area in Martis Valley (CDFW 2012a; Exhibit 4.7-3). This species is known to nest in the Martis Creek Wildlife Area along Martis Creek and in Middle Martis Creek. Individuals were observed during 2007 reconnaissance surveys conducted for the PEA. During 2012 project surveys, suitable habitat was identified and mapped along Segments 650-4, 650-4A, and 650-4B. Suitable habitat within 200 feet of these segments is shown on Exhibit 4.7-7. (Additional suitable habitat not shown on Exhibit 4.7-7 is present along Martis Creek adjacent to these mapped areas.)
Olive-sided flycatcher <i>Contopus cooperi</i>		C-SSC	Summer resident and migrant that breeds primarily in late-succession conifer forest with open canopy. Species prefers to forage near forest openings or edges.	<b>High.</b> Known to occur in open canopy conifer forests within the Tahoe Basin. Species is not uncommon in the Tahoe region. Conifer forest in the study area provides suitable habitat.
Bank swallow <i>Riparia riparia</i>		C-ST	Nests in fine-textured or sandy banks or cliffs along rivers, streams, ponds, or lakes. Typically nests in colonies.	<b>Not expected to occur.</b> No suitable habitat present in the study area. Additionally, the Tahoe Basin is not within the current breeding range of bank swallow (see Garrison 1998). The only documented records are from the Tahoe Keys area in 1962 (10 birds) and 1976 (one bird) (CDFW 2012a).
Black swift <i>Cypseloides niger</i>		C-SSC	Nests on canyon walls near water and sheltered by overhanging rock or moss, preferably near waterfalls or on sea cliffs. It breeds in California from May to September.	<b>Not expected to occur.</b> No suitable habitat present in the study area.

Table 4.7-5 Special-Status Animal Species Evaluated for the CalPeco 625 and 650 Electrical Line Upgrade Project				
Common Name and <i>Scientific Name</i>	Regulatory Status <sup>1</sup>		Habitat Associations	Potential to Occur in the Study Area <sup>2</sup>
	TRPA/Federal	State/Other		
Yellow warbler <i>Dendroica petechia</i>		C-SSC	In the Sierra Nevada, yellow warbler typically breed in wet areas with dense riparian vegetation. Breeding habitats primarily include willow patches in montane meadows, and riparian scrub and woodland dominated by willow, cottonwood, aspen, or alder with dense understory cover. Localized breeding has been documented in more xeric sites including chaparral, wild rose ( <i>Rosa</i> spp.) thickets, and young conifer stands (Siegel and DeSante 1999, RHJV 2004).	<b>Present.</b> Yellow warbler was detected in montane riparian habitat during 2012 project surveys, in the Martis Valley near Segments 650-4, 650-4A, and 650-4B. Other montane riparian habitats in the study area could also provide suitable breeding and foraging habitat for this species. This species is also known to breed in Burton Creek State Park. One individual was observed along Griff Creek in Kings Beach during 2007 surveys conducted for the PEA. Suitable breeding and foraging habitat is scattered throughout the project area in montane riparian vegetation along the existing 625 Line, new 625 Line, and 650 Line.
Yellow-headed blackbird <i>Xanthocephalus xanthocephalus</i>		C-SSC	Typically breeds in marshes that have tall emergent vegetation such as cattails or tules, in open areas near and over relatively deep water.	<b>Low.</b> No suitable marsh habitat present.
<b>Mammals</b>				
Pallid bat <i>Antrozous pallidus</i>	FSS-LTBMU/Tahoe National Forest	C-SSC, WBWG-H	Locally common at lower elevations in California and occurs in grassland, shrubland, woodland, and mixed conifer forests. Absent from highest elevation locations in the Sierra Nevada. Rocky outcrops, caves, crevices, and occasional tree cavities or buildings provide roosts.	<b>Moderate.</b> No documented occurrences in the study area; however, conifer forest habitat in the study area could provide foraging or roosting habitat. Large trees and snags may provide suitable roosting sites along portions of the study area.
Sierra Nevada mountain beaver <i>Aplodontia rufa californica</i>		C-SSC	Use riparian habitats with soft, deep soils for burrowing, lush growth of preferred food sources such as willow and alder, and a variety of herbaceous species for bedding material. Vegetation types preferred include wet meadows and willow-alder-dominated riparian corridors typically near water sources. Suitable riparian habitats are characterized by dense growth of small deciduous trees and shrubs near permanent water. Mountain beaver is generally solitary, except during its short breeding season; beavers spend a high proportion of their time in extensive underground burrow systems with multiple openings, tunnels, and food caches.	<b>Moderate.</b> CNDDDB records indicate the presence of the species in the project area along the existing 625 Line at the upper headwaters of Deer Creek. However, the portion of this area within the study area was evaluated and determined to be low quality for Sierra Nevada mountain beaver during 2012 project surveys. Additional CNDDDB records indicate this species is present in suitable habitat within 2 miles of the project site. Some riparian habitat that could provide low- to moderate-quality habitat for the species is scattered throughout the project area.

Table 4.7-5 Special-Status Animal Species Evaluated for the CalPeco 625 and 650 Electrical Line Upgrade Project				
Common Name and <i>Scientific Name</i>	Regulatory Status <sup>1</sup>		Habitat Associations	Potential to Occur in the Study Area <sup>2</sup>
	TRPA/Federal	State/Other		
Pale Townsend's big-eared bat <i>Corynorhinus townsendii pallescens</i>	FSS-LTBMU/ Tahoe National Forest	C-SSC, WBWG-H	Range throughout California, mostly in mesic habitats. Limited by available roost sites (i.e., caves, tunnels, mines, and buildings).	<b>Low.</b> Suitable habitat not present in the study area. Until 2007, no occurrences reported within the Tahoe Basin (Schlesinger and Romsos 2000). However, this species was detected several miles from the study area in Blackwood Canyon and Cookhouse Meadow in 2007.
California wolverine <i>Gulo gulo luteus</i>	FSS-LTBMU/ Tahoe National Forest	C-ST, C-FP	Inhabit upper montane and alpine habitats of Sierra Nevada, Cascades, Klamath, and north Coast Ranges. Need water source and denning sites. Rarely seen. Sensitive to human disturbance.	<b>Not expected to occur.</b> Suitable habitat not present in the study area. Very few documented occurrences in or near the Tahoe Basin.
Western red bat <i>Lasiurus blossevillii</i>		C-SSC, WBWG-H	Day roosting common in edge habitats adjacent to streams or open fields, in orchards, and sometimes in urban areas. An association with intact riparian habitat may exist (particularly willows, cottonwoods, and sycamores).	<b>Moderate.</b> Some potential roosting and foraging habitat exists in the study area along the riparian corridors, and the species has been detected in the Tahoe Basin.
Fringed myotis <i>Myotis thysanodes</i>	FSS-LTBMU/ Tahoe National Forest		Associated with a variety of habitats; optimal habitat includes pinyon-juniper, valley foothill hardwood, and hardwood-conifer. Uses open habitats, streams, lakes, and ponds as foraging areas. Roosts in caves, mines, buildings, and crevices.	<b>Low.</b> Species has been detected in the Tahoe Basin; however, no known occurrences in or near the study area, and optimal habitat is not present.
Sierra Nevada snowshoe hare <i>Lepus americanus tahoensis</i>		C-SSC	In the Sierra Nevada, found in boreal zones, typically inhabiting riparian communities with thickets of deciduous trees and shrubs such as willows and alders.	<b>High.</b> Suitable habitat is present in the study area, and the species has been documented nearby.
Western white- tailed jackrabbit <i>Lepus townsendii</i>		C-SSC	Year-round resident in sagebrush, subalpine conifer, juniper, and other habitats along the crest and the eastern slope of the Sierra Nevada. Uncommon to rare.	<b>Low.</b> No suitable habitat present in the study area.
Pacific marten <i>Martes caurina</i>	FSS-LTBMU/ Tahoe National Forest		Inhabits dense canopy conifer forests with large snags and downed logs. Prefers old growth stands with multiple age classes in vicinity.	<b>Present.</b> Most conifer forest in the study area is suitable, and martens have been detected at several locations in and near the study area (Exhibit 4.7-3).
Pacific fisher <i>Martes pennanti pacifica</i>	FC, FSS- Tahoe National Forest	C-SSC	Inhabits stands of pine, Douglas fir, and true fir in northwestern California and Cascade-Sierra ranges. Fishers are considered extirpated throughout much of the Central and Northern Sierra Nevada (Zielinski, Kucera, and Ba 1995). No longer considered present in the Tahoe Basin; no current records.	<b>Not expected to occur.</b> Considered extirpated from the Tahoe region.

**Table 4.7-5 Special-Status Animal Species Evaluated for the CalPeco 625 and 650 Electrical Line Upgrade Project**

Common Name and <i>Scientific Name</i>	Regulatory Status <sup>1</sup>		Habitat Associations	Potential to Occur in the Study Area <sup>2</sup>
	TRPA/Federal	State/Other		
Mule deer <i>Odocoileus hemionus</i>	TRPA		Year-long resident or elevational migrant that prefer a wide distribution of various-aged vegetation for cover, meadow, and forest openings, and free water. In the Sierra Nevada, early to mid-successional forests, woodlands, and riparian and brush habitats are preferred because of the greater diversity of shrubby vegetation and woody cover. In addition to forage, vegetative cover is critical for thermoregulation. Suitable habitats include a mosaic of vegetation such as forest or meadow openings, dense woody thickets and brush, edge habitat, and riparian areas. Fawning habitat, used by does during birth and by newborn fawns, is of critical importance for reproductive success. A diversity of thermal cover, hiding cover, succulent forage, and water are needed during fawning. Optimal deer fawning habitat has been described as having moderate to dense shrub cover near forest cover and water, such as riparian zones. A source of surface water (e.g., creek or river) is especially important to mule deer. Typical fawning habitat varies in size, but an area of 5–26 acres is adequate, with optimal fawn-rearing habitat of around 400 acres.	<b>Present.</b> Suitable habitat occurs throughout the study area, and deer were observed during surveys conducted for the PEA in 2007 and 2008. The 650 Line crosses through Martis Valley, which functions as a migratory corridor and fawning habitat for the Verdi subunit of the Loyalton-Truckee deer herd. Deer have the potential to migrate through the project area along Segments 650-3 and 650-4 as they move into the Lake Tahoe Basin along Martis Creek and West Martis Creek. Also, the existing 625 Line crosses through the southern extent of the migratory path of the Loyalton-Truckee deer herd. Deer were observed along the alignment during 2008 surveys conducted for the PEA. Approximately 0.4 mile of the existing 625 Line intersects the edge of an area mapped by CDFW as a fawning area near Mt. Pluto; however, the precision of the CDFW mapping area is unknown, and deer use and fawning history of this mapped area have not been documented.
Sierra Nevada red fox <i>Vulpes vulpes necator</i>		C-ST	Inhabits upper montane and alpine habitats of Sierra Nevada, Cascades, Klamath, and north Coast Ranges. Need water source and denning sites. Rarely seen. Sensitive to human disturbance. No longer considered present in the Tahoe Basin; no current records.	<b>Not expected to occur.</b> Presumed extirpated from the Tahoe area.

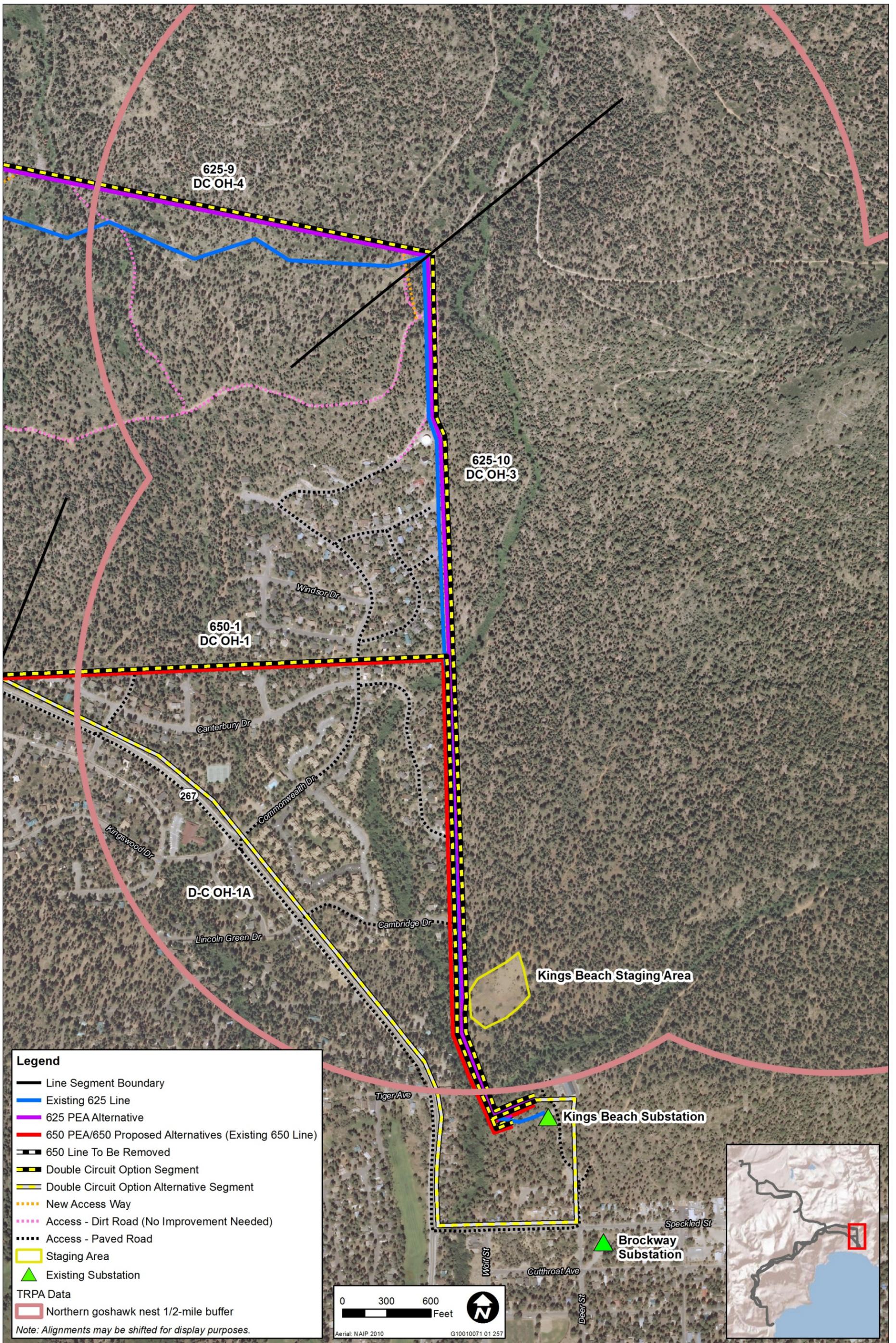
<sup>1</sup> **Regulatory Status Definitions:**  
**TRPA/Federal:**  
 TRPA = TRPA sensitive/special interest (threshold) species  
 FT = Threatened species under the Federal Endangered Species Act  
 FE = Endangered species under the Federal Endangered Species Act  
 FPT = Proposed for listing as Threatened under the Federal Endangered Species Act  
 FC = Candidate for listing under the Federal Endangered Species Act  
 FSS = USDA Region 5 Sensitive Species (FSM 2672)  
 BGEPA = Protected under the Bald and Golden Eagle Protection Act

**State/Other:**  
**CA—California Department of Fish and Game:**  
 C-SE = Endangered  
 C-ST = Threatened

**Western Bat Working Group**  
 WBWG-H = Designated as High Priority by the Western Bat Working Group

C-FP = Fully Protected  
 C-C = Candidate for listing  
 C-SSC = Species of special concern

<sup>2</sup> **Potential for Occurrence Definitions:**  
**Present**—Species was observed in the project area during site visits conducted for this analysis or was documented there by another reputable source.  
**High**—All of the species’ specific life history requirements can be met by habitat present in the project area, and populations are known to occur in the immediate vicinity.  
**Moderate**—Some or all of the species life history requirements are provided by habitat in the project area; populations may not be known to occur in the immediate vicinity, but are known to occur in the region.  
**Low**—Species not likely to occur because of marginal habitat quality or distance from known occurrences.  
**None**—None of the species’ life history requirements are provided by habitat in the project area and/or the project area is outside of the known distribution for the species. Any occurrence would be very unlikely.

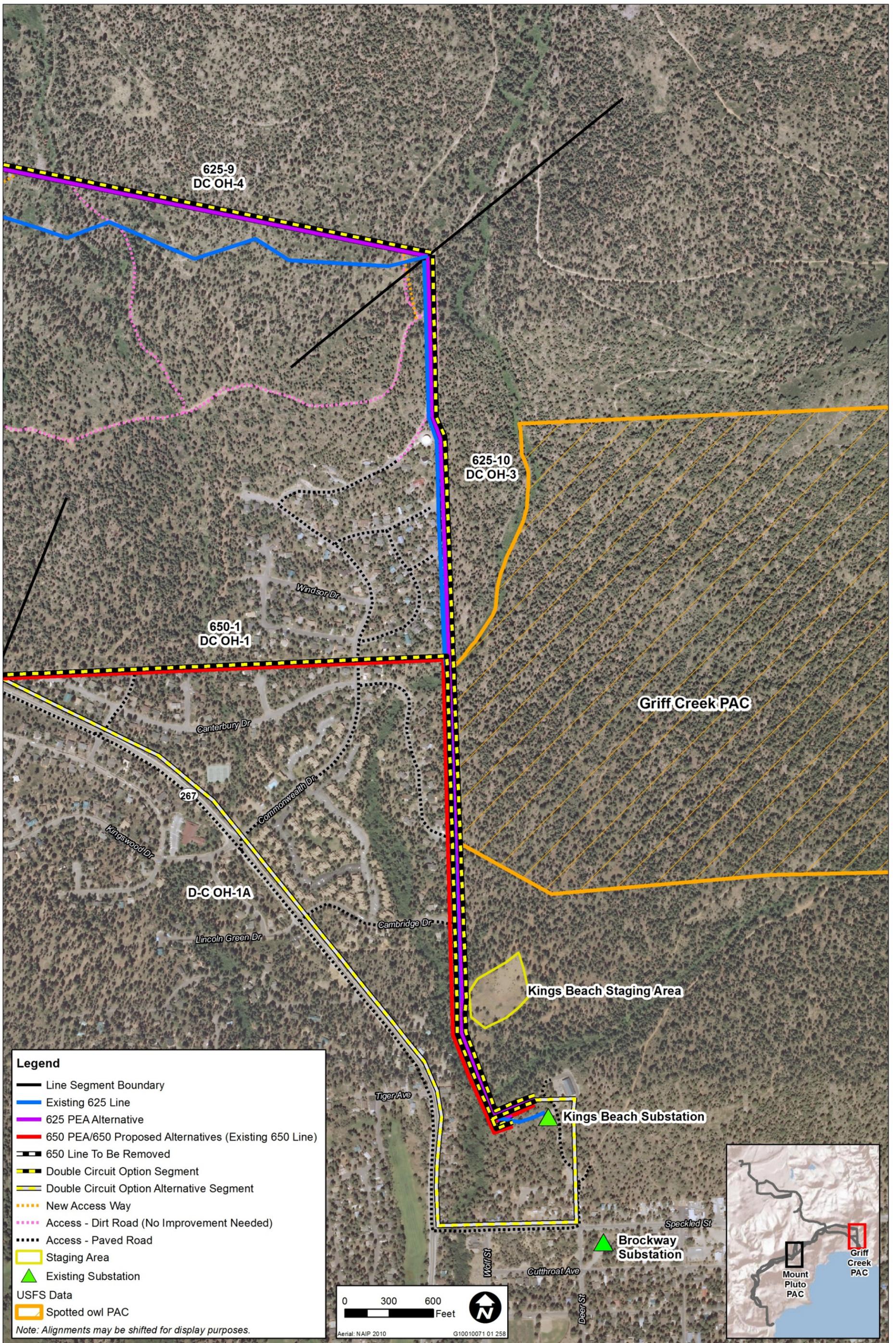


Source: Data received from Tri Sage and TRPA in 2012; Adapted by Ascent Environmental in 2012

Exhibit 4.7-4

TRPA Northern Goshawk Disturbance Zones and Project Features in the Study Area



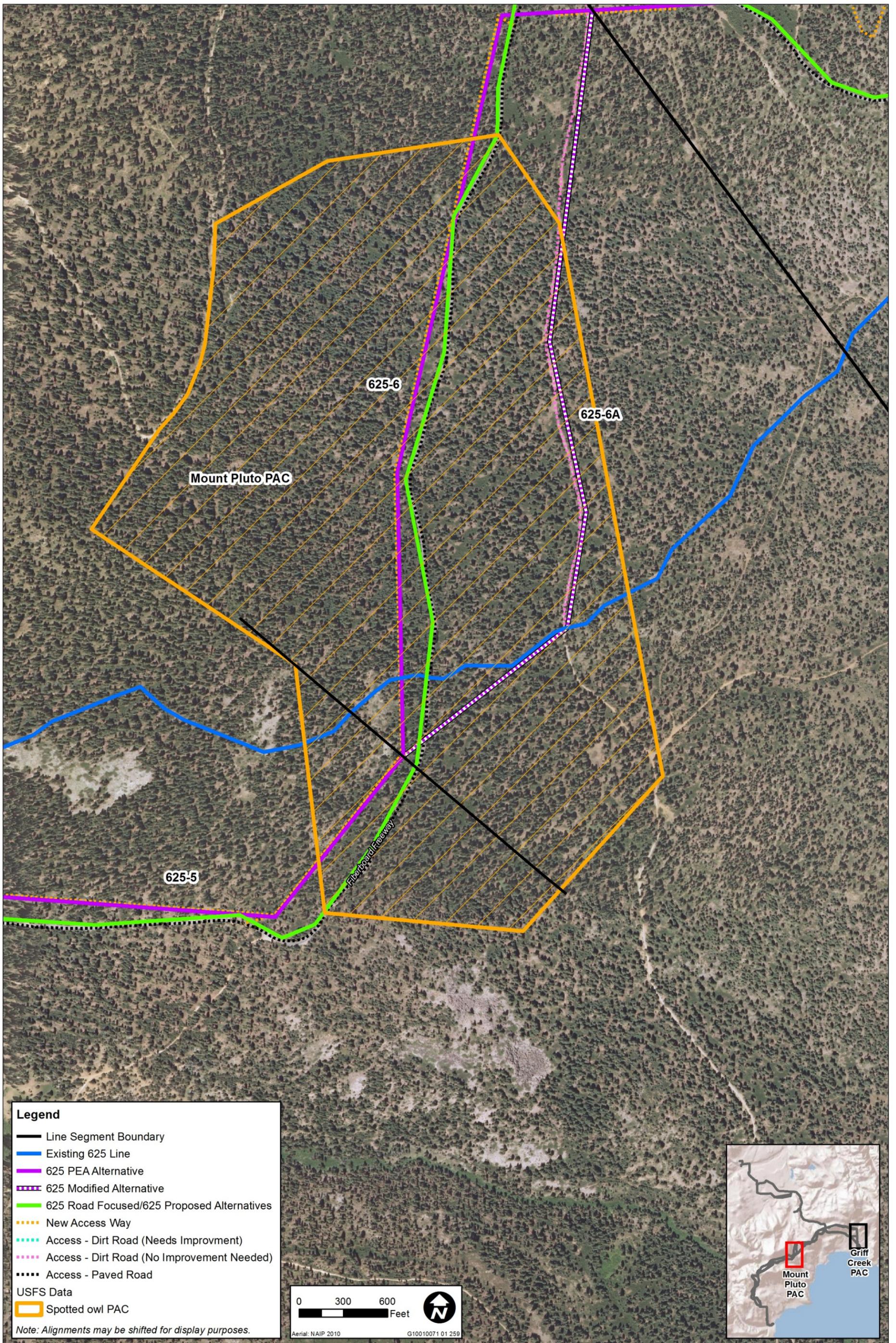


Source: Data received from Tri Sage, TRPA, and USFS in 2012; Adapted by Ascent Environmental in 2012

Exhibit 4.7-5

Griff Creek Spotted Owl PAC



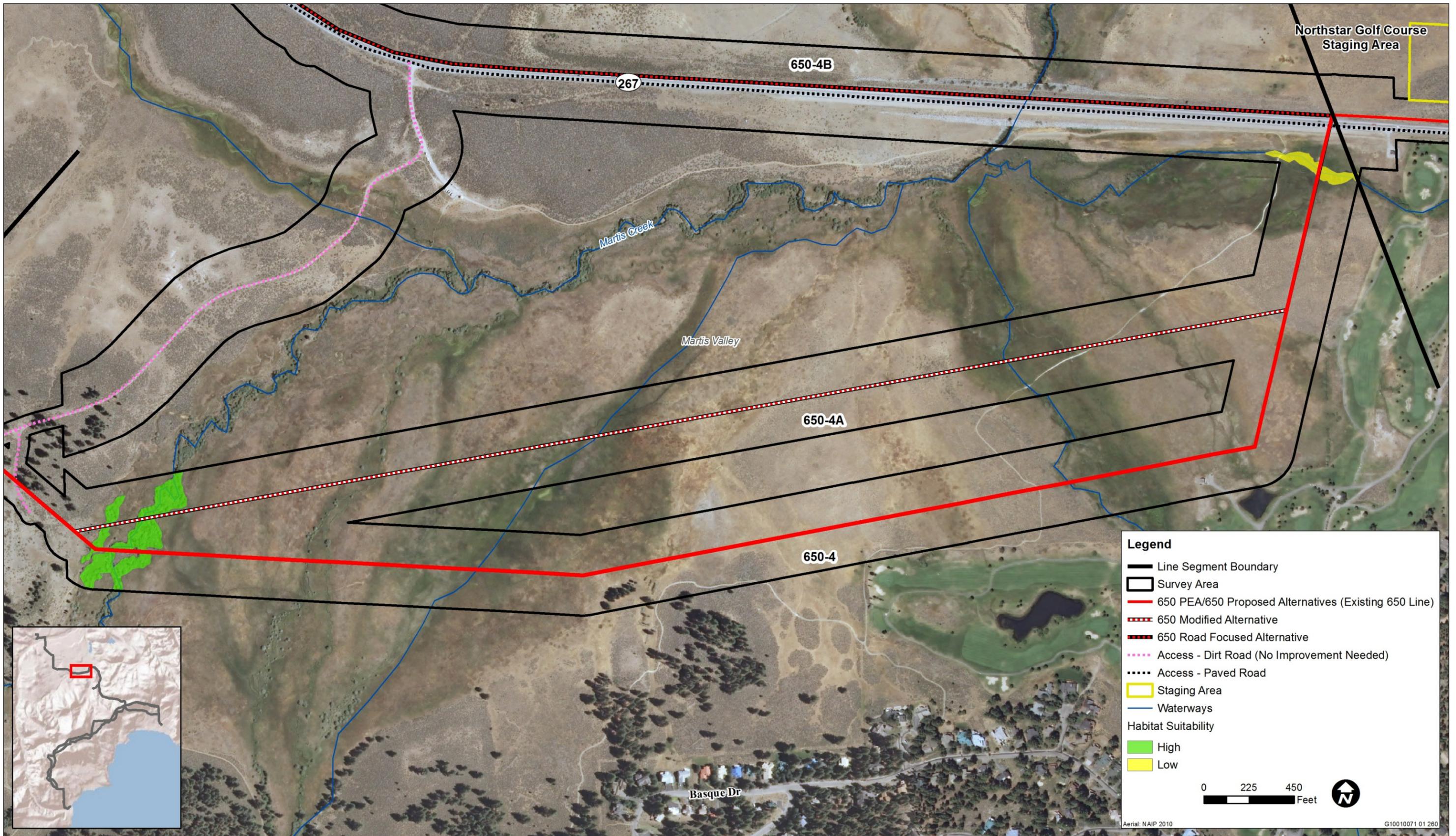


Source: Data received from Tri Sage, TRPA, and USFS in 2012; Adapted by Ascent Environmental in 2012

Exhibit 4.7-6

Mount Pluto Spotted Owl PAC





Source: Ascent Environmental in 2012

Exhibit 4.7-7

Willow Flycatcher Habitat in the Study Area - Martis Valley



## ANIMAL MOVEMENT AND MIGRATORY CORRIDORS

The Verdi sub-unit of the Loyalton-Truckee Deer Herd migrates from the eastern Sierra Nevada foothills outside of Reno, Nevada, southwest into eastern Sierra, Nevada, and Placer counties in California during the spring and summer months after breeding. As described in the Loyalton-Truckee Deer Herd Management Plan (CDFW 1982), individuals migrated along the northern and southern sides of Interstate 80 (I-80) southwest from the Truckee Meadows in Nevada. Deer moving along the southern side of I-80 then followed the Truckee River into the Martis Valley before diverging into the Donner Lake and west Lake Tahoe Basin areas. Migratory corridors are believed to cross the 650 Line in Martis Valley as deer move along riparian corridors to the western Lake Tahoe Basin. From the north, migratory corridors intersect the project area near the Truckee Tahoe Airport where they cross SR 267 and the 650 Line, then follow Martis Creek and West Martis Creek southward. Migrating deer then move through the Northstar-at-Tahoe Resort. An area mapped by CDFW as a fawning area occurs on the south edge of Northstar-at-Tahoe near Mt. Pluto, where deer are thought to migrate through. Approximately 0.4 mile of the existing 625 Line intersects the southern edge of this mapped area, and the Northstar Fold is located approximately 1 mile northwest of this area. However, the precision of the CDFW mapping area is unknown, and deer use and fawning history of this mapped area have not been documented. Nonetheless, deer fawning at Northstar-at-Tahoe has been documented in the last five years.

Because the 1982 Loyalton-Truckee Deer Herd Management Plan is 30 years old, deer migratory and fawning patterns have probably shifted since the Plan's completion due to development in the Truckee and Northstar region, the increased use of SR 267, and the expansion of I-80. For example, decreased migration across SR 267 and through the portions of the project west of SR 267, and limited movement across I-80, have likely occurred to some extent. Additionally, over the last 15 years, migratory habitat loss and fragmentation has increased throughout the herds' range because of residential development; also, the mule deer population has declined. The loss of wintering habitat and reduced access to wintering areas may be the primary causes of this population decline.

Several waterways within the project area are known or potential migratory pathways and spawning areas for fish in the area, including brown trout (*Salmo trutta*), rainbow trout (*Oncorhynchus mykiss*), and kokanee salmon (*Oncorhynchus nerka*). These waterways include the Truckee River, Griff Creek, Middle Martis Creek, and Martis Creek. Fish can be present within these waterways year round, though the primary spawning runs occur in the fall for kokanee salmon and brown trout and the spring for rainbow trout. Lahontan cutthroat trout historically occurred in Martis Creek and other suitable aquatic habitats in and adjacent to the study area; however, this species is now considered extirpated from aquatic habitats in the study area.

## SENSITIVE HABITATS AND NATURAL COMMUNITIES

Sensitive habitats include those that are of special concern to resource agencies or are afforded specific consideration through the TRPA Goals and Policies and TRPA Code, Section 404 of the CWA, and other applicable regulations. Sensitive natural habitats may be of special concern to these agencies and conservation organizations for a variety of reasons, including their locally or regionally declining status, or because they provide important habitat to common and special-status species. Many of these communities are tracked in the CNDDDB.

Sensitive habitats in the study area include wet montane meadow, montane riparian, fresh emergent wetland (i.e., marsh), and seasonal wetland plant communities described in Table 4.7-2. Other sensitive habitats include late seral/old growth forest. Exhibit 4.7-8 shows the locations of sensitive habitats, including TRPA-mapped SEZs and late seral/old growth forest, in the stud area.

The wet meadow and seasonal and fresh emergent wetland habitats would likely be considered jurisdictional by USACE and, in California, the Lahontan Regional Water Quality Control Board (LRWQCB) under Section 401 of the federal CWA and the state's Porter-Cologne Act. Montane riparian habitats sometimes meet all three criteria required to qualify as wetlands as defined under the CWA; however, it is also common for one or more wetland criteria to be lacking in montane riparian communities. Regardless of whether riparian communities meet the wetland criteria to qualify as waters of the United States, they would all likely meet the definition of waters of

the state regulated by the LRWQCB. The channel within the ordinary high water mark of rivers and creeks (e.g., Truckee River, Griff Creek, and Martis Creek) would also likely qualify as waters of the United States even if the associated riparian habitat did not. In addition, CDFW has jurisdiction over activities affecting the bed and bank of drainages. Additionally, in the Tahoe Basin portion of the project area, habitats consisting of deciduous trees, wetlands, and meadows (i.e., riparian, wetland, and meadow habitats) are designated by TRPA as habitats of special significance. The TRPA threshold standard for habitats of special significance is nondegradation while providing *for* opportunities to increase the acreage of these habitats.

In the Tahoe Basin portion of the project area, most of the areas within wetland/riparian habitats are also designated as SEZ, which is one of two TRPA-adopted threshold standards for soil conservation. SEZ is a term used specifically in the Lake Tahoe Basin to describe perennial, intermittent and ephemeral streams; wet meadows, marshes, and other wetlands; riparian areas; and other areas expressing the presence of surface and ground water through its biological and physical characteristics.

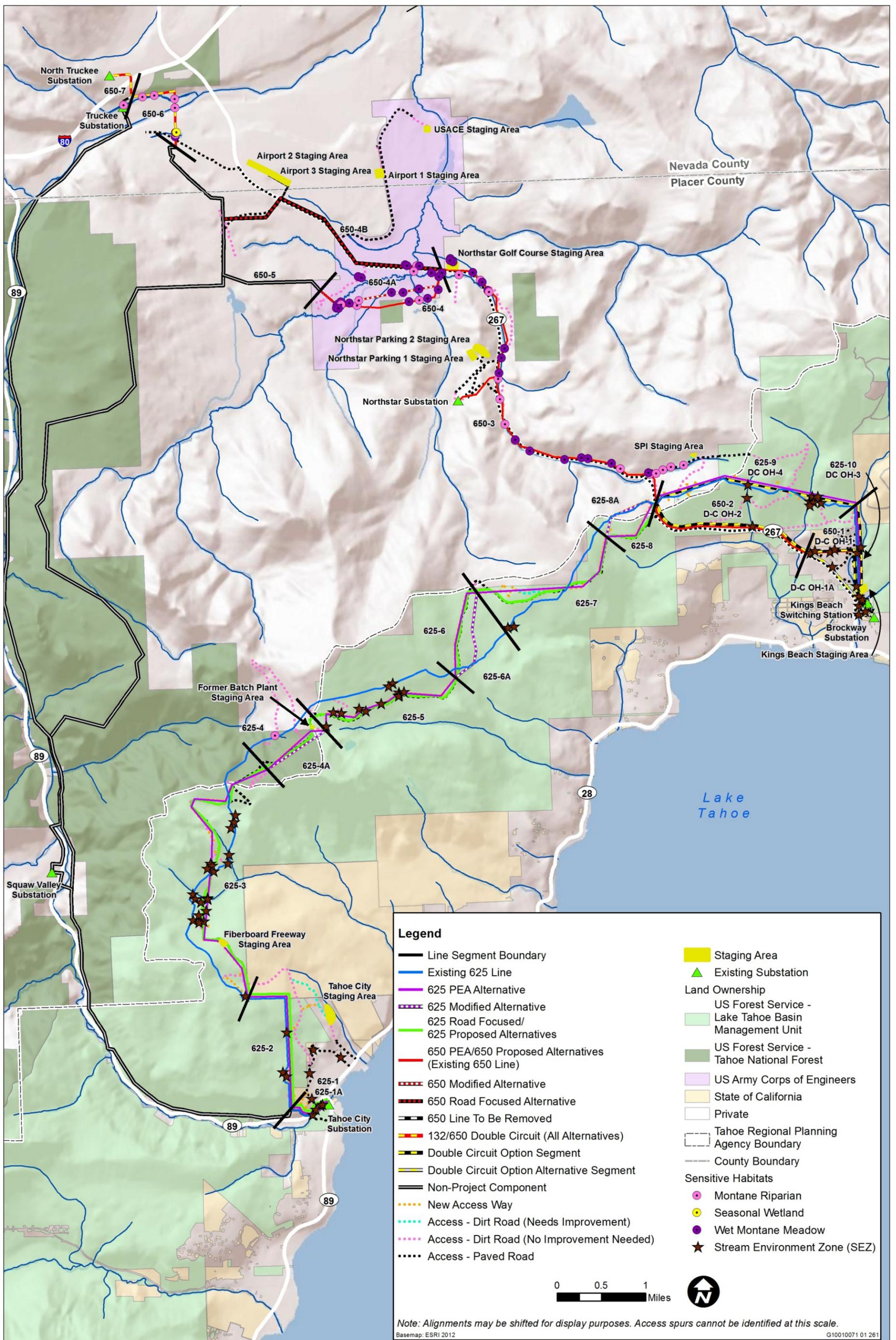
The TRPA definition of Late Seral/Old Growth, as per the Code section 2.2, is *“Coniferous forest stands that contain a relative greater density of large and/or old trees, typically in an advanced stage of community succession. Old-growth communities vary in structural character (number of canopy layers, size of snags, and size of coarse woody debris) due to tree species composition, disturbance regime, and the edaphic site qualities (defined by site specific substrate, precipitation, and solar radiation index).”*

As discussed above in Section 4.7.1, Regulatory Setting, TRPA Code Section 61.1.4, Old Growth Enhancement and Protection, prohibits the removal of trees greater than 24 and 30 inches dbh in eastside and westside forest types, respectively. The dividing line between eastside and westside forest bisects the project in Segment 625-7 at the point where the existing 625 Line and proposed PEA Alternative Line intersect. Therefore, these size criteria are applicable to old-growth forests, though tree size is not a part of the TRPA definition of late seral/old-growth forest. Generally, old-growth forest refers to stands of forest that are in the latter stages of development and, for the Sierra Nevada, this means forests that are a minimum of 150-200 years old (TRPA 2012a). It is difficult, however, to determine age by tree size because tree growth depends on many factors, including tree species, soils, elevation, aspect, precipitation, and natural disturbances. TRPA used the 24 inch diameter criterion to estimate the distribution and amount of old-growth forest present in the Tahoe Basin for their 2011 Threshold Evaluation Report, because there are no more accurate data available (TRPA 2012a). Specifically, TRPA has mapped late seral/old-growth forest throughout the Tahoe Basin, based on stands estimated to be dominated by trees greater than 24 inches dbh. TRPA’s old-growth forest GIS data layers were overlain with the action alternative footprints to estimate the amount and location of late seral/old-growth forest that could be affected under each action alternative. The TRPA 2011 Threshold Evaluation report identifies very little old-growth forest in the study area, even with the conservative definition of forest stands dominated by trees greater than 24 inches dbh.

Late seral/old-growth forest in the study area is limited. In general, forest communities in the study area do not exhibit multi-layered canopy structure and are fairly even aged due to a history of logging. However, forest stands in the study area are mature and some contain a high proportion of large trees. While patches of old-growth forest are present in the study area, they are not large, contiguous stands of forest that have not been previously logged and therefore exhibit the characteristics of old growth forest communities.

## FOREST SERVICE MANAGEMENT INDICATOR SPECIES

The Management Indicator Species (MIS) Report prepared for the project (USFS 2014a) evaluated habitat for 13 MISs required for consideration on national forest lands. The MIS report concluded that representative habitat for the following nine MIS species is present in the project area: aquatic macroinvertebrates (lacustrine/riverine habitat); yellow warbler (*Dendroica petechia*; riparian habitat); Pacific tree frog (*Pseudacris regilla*; wet meadow habitat); mountain quail (*Oreortyx pictus*; early- and mid-seral coniferous forest); blue grouse (*Dendragapus obscurus*; late-seral open-canopy coniferous forest); hairy woodpecker (*Picoides villosus*; snags in green forest); and California spotted owl (*Strix occidentalis occidentalis*), Pacific marten (*Martes caurina*), and northern flying squirrel (*Glaucomys sabrinus*) (late-seral closed-canopy coniferous forest) (Table 4.7-6).



Source: Data received from Ascent, Tri Sage, and USFS 2012; Adapted by Ascent Environmental in 2012

Exhibit 4.7-8

Overview of Sensitive Habitats in the Study Area



**Table 4.7-6 LTBMU and Tahoe National Forest Management Indicator Species and Selection of MIS for Project-Level Analysis for the CalPeco 625 and 650 Electrical Upgrade Project**

Habitat or Ecosystem Component	CWHR Type(s) Defining the Habitat or Ecosystem Component <sup>1</sup>	Management Indicator Species	Category for Project Analysis <sup>2</sup>
Riverine & Lacustrine	lacustrine (LAC) and riverine (RIV)	aquatic macroinvertebrates	3
Shrubland (west-slope chaparral types) (TAHOE NATIONAL FOREST only)	montane chaparral (MCP), mixed chaparral (MCH), chamise-redshank chaparral (CRC)	fox sparrow ( <i>Passerella iliaca</i> )	1
Oak-associated Hardwood & Hardwood/conifer	montane hardwood (MHW), montane hardwood-conifer (MHC)	Mule deer ( <i>Odocoileus hemionus</i> )	1
Riparian	montane riparian (MRI), valley foothill riparian (VRI)	Yellow warbler ( <i>Dendroica petechia</i> )	3
Wet Meadow	Wet meadow (WTM), freshwater emergent wetland (FEW)	Pacific tree frog ( <i>Pseudacris regilla</i> )	3
Early Seral Coniferous Forest	ponderosa pine (PPN), Sierran mixed conifer (SMC), white fir (WFR), red fir (RFR), eastside pine (EPN), tree sizes 1, 2, and 3, all canopy closures	Mountain quail ( <i>Oreortyx pictus</i> )	3
Mid Seral Coniferous Forest	ponderosa pine (PPN), Sierran mixed conifer (SMC), white fir (WFR), red fir (RFR), eastside pine (EPN), tree size 4, all canopy closures	Mountain quail ( <i>Oreortyx pictus</i> )	3
Late Seral Open Canopy Coniferous Forest	ponderosa pine (PPN), Sierran mixed conifer (SMC), white fir (WFR), red fir (RFR), eastside pine (EPN), tree size 5, canopy closures S and P	Sooty (blue) grouse ( <i>Dendragapus obscurus</i> )	3
Late Seral Closed Canopy Coniferous Forest	ponderosa pine (PPN), Sierran mixed conifer (SMC), white fir (WFR), red fir (RFR), tree size 5 (canopy closures M and D), and tree size 6.	California spotted owl, ( <i>Strix occidentalis occidentalis</i> ) Pacific marten, ( <i>Martes caurina</i> ) Northern flying squirrel, ( <i>Glaucomys sabrinus</i> )	3
Snags in Green Forest	Medium and large snags in green forest	Hairy woodpecker ( <i>Picoides villosus</i> )	3
Snags in Burned Forest	Medium and large snags in burned forest (stand-replacing fire)	Black-backed woodpecker ( <i>Picoides arcticus</i> )	1

<sup>1</sup> All CWHR size classes and canopy closures are included unless otherwise specified; dbh = diameter at breast height;  
 Canopy Closure classifications: Tree size classes:  
 S = Sparse Cover (10–24% canopy closure) P = Open cover (25–39% canopy closure) 1 (Seedling)(<1" dbh) 4 (Small tree)(11"–23.9" dbh)  
 M = Moderate cover (40–59% canopy closure) D = Dense cover (60–100% canopy closure) 2 (Sapling)(1"–5.9" dbh) 5 (Medium/Large tree)(>24" dbh)  
 3 (Pole)(6"–10.9" dbh) 6 (Multi-layered Tree) [In PPN and SMC] (Mayer and Laudenslayer 1988).

<sup>2</sup> Category 1: MIS whose habitat is not in or adjacent to the project area and would not be affected by the project.  
 Category 2: MIS whose habitat is in or adjacent to project area, but would not be either directly or indirectly affected by the project.  
 Category 3: MIS whose habitat would be either directly or indirectly affected by the project.

## INVASIVE PLANTS

Table 4.7-7 lists invasive plants present in the study area, including those previously documented by the USFS and those identified during reconnaissance-level surveys. An inventory and assessment of invasive plants in the study area on or in close proximity to NFS lands is presented in the project’s Invasive Plant Risk Assessment (USFS 2014b). A number of these plants were mapped in portions of the study area outside of NFS lands however, including on the Martis Valley Recreation Area managed by USACE and areas under the jurisdiction of TRPA. Exhibit 4.7-9 shows the locations of all known infestations of invasive plants in the study area and vicinity.

Table 4.7-7 Name and Status of Invasive Plant Species Known to Occur in the Study Area					
Common Name and Scientific Name	LTBWCG <sup>1</sup>	CDFA <sup>2</sup>	Cal-IPC <sup>3</sup>	LTBMU <sup>4</sup>	TNF <sup>5</sup>
Cheatgrass, <i>Bromus tectorum</i>	-	-	High	Low	Yes
Bull thistle, <i>Cirsium vulgare</i>	Group 2	-	Moderate	High	No
Poison hemlock, <i>Conium maculatum</i>	-	-	Moderate	Medium	Yes
Scotch broom, <i>Cytisus scoparius</i>	Group 2	C	High	Medium	No
Klamath weed, <i>Hypericum perforatum</i>	Group 1	C	Moderate	Medium	Yes
Dyer’s woad, <i>Isatis tinctoria</i>	-	B	Moderate	Medium	No
Broadleaved pepperweed, <i>Lepidium latifolium</i>	Group 2	B	High	Medium	Yes
Oxeye daisy, <i>Leucanthemum vulgare</i>	Group 2	-	Moderate	Medium	Yes
Dalmatian toadflax, <i>Linaria dalmatica</i> ssp. <i>dalmatica</i>	Group 2	A	Moderate	High	Yes
Butter and eggs, <i>Linaria vulgaris</i>	Group 2	-	Moderate	Medium	Yes
Eurasian water milfoil, <i>Myriophyllum spicatum</i>	-	C	High	N/A	Yes
Scotch thistle,* <i>Onopordum acanthium</i> ssp. <i>acanthium</i>	Group 1	A	High	High	Yes
Russian thistle, <i>Salsola tragus</i>	-	C	Limited	-	No
Woolly mullein, <i>Verbascum thapsus</i>	-	-	Limited	-	-

<sup>1</sup> Lake Tahoe Basin Weed Coordinating Group (LTBWCG) prioritizes invasive weeds of concern by management group. Group 1: watch for, report, and eradicate immediately. Group 2: manage infestations with the goal of eradication.

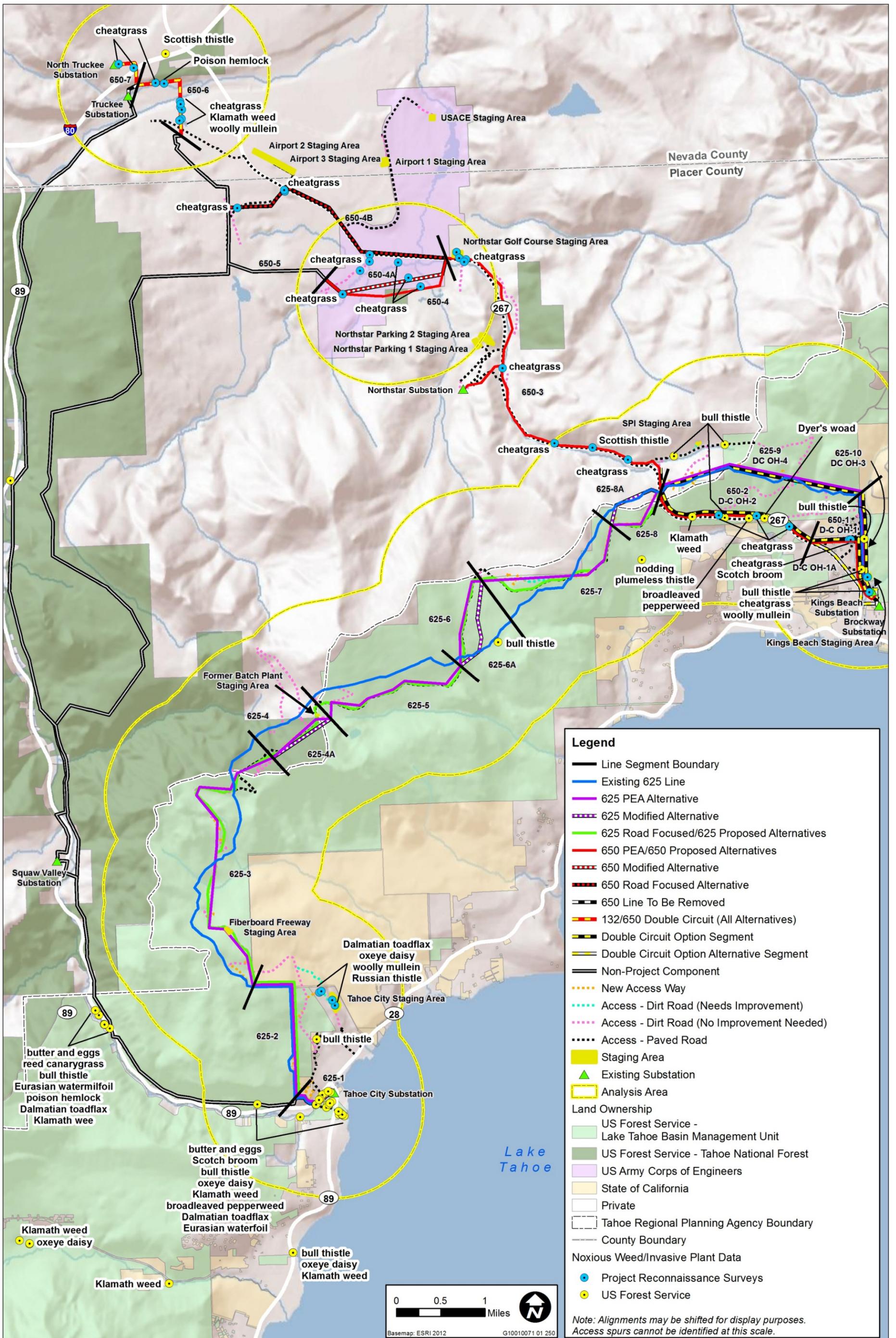
<sup>2</sup> The California Department of Food and Agriculture’s (CDFA) noxious weed list (<http://www.cdffa.ca.gov/phpps/ipc/>) List A: eradication or containment is required at the state or county level; List B: eradication or containment is at the discretion of the County Agricultural Commissioner; List C: eradication or containment only when found in a nursery or at the discretion of the County Agricultural Commissioner.

<sup>3</sup> California Invasive Plant Council (Cal-IPC) (<http://www.cal-ipc.org/ip/inventory/weedlist.php>) High: these species have severe ecological impacts on physical processes, plant and animal communities, and vegetation structure; Moderate: these species have substantial and apparent, but generally not severe, ecological impacts on physical processes, plant and animal communities, and vegetation structure; Limited: these species are invasive but their ecological impacts are minor on a statewide level.

<sup>4</sup> The Lake Tahoe Basin Management Unit (LTBMU) High: species that have a large ecological impact and/or invasive potential and are easily controlled; Medium: species that have a medium ecological impact and/or invasive potential and medium ability to be controlled; Low: species that have a low ecological impact and/or invasive potential and are not easily controlled; species with an N/A were not evaluated.

<sup>5</sup>The Tahoe National Forest (TNF). Yes: Report, map, treat, & actively control; No—Do not report, map or treat, but prevent spread.

\* Identification of this species needs to be verified before any treatment. Plants were immature during field surveys and, therefore, a positive identification could not be made.



Source: Data received from Ascent, POWER, Tri Sage, and USFS 2012; Adapted by Ascent Environmental in 2012

Exhibit 4.7-9

Documented Invasive Plants



## 4.7.3 ENVIRONMENTAL CONSEQUENCES AND RECOMMENDED MITIGATION MEASURES

### SIGNIFICANCE CRITERIA

#### TRPA CRITERIA

The “Vegetation” and “Wildlife” criteria from the TRPA Initial Environmental Checklist were used to evaluate the biological resources impacts of the alternatives. The checklist asks whether the project would result in the following conditions.

- ▲ Removal of riparian vegetation or other vegetation associated with critical wildlife habitat, either through direct removal or indirect lowering of the groundwater table?
- ▲ Introduction of new vegetation that will require excessive fertilizer or water, or will provide a barrier to the normal replenishment of existing species?
- ▲ Introduction of a new species of animals into an area, or result in a barrier to the migration or movement of animals?
- ▲ A change in the diversity or distribution of species, or number of any species of plants (including trees, shrubs, grass, crops, micro flora, and aquatic plants) or animals (birds, land animals including reptiles, fish and shellfish, benthic organisms, insects, mammals, amphibians, or microfauna)?
- ▲ A reduction in the numbers of any unique, rare, or endangered species of plants or animals?
- ▲ Removal of stream bank and/or backshore vegetation, including woody vegetation such as willows?
- ▲ Removal of any native live, dead, or dying trees 30-inches or greater dbh within TRPA’s Conservation or Recreation land use classifications?
- ▲ A change in the natural functioning of an old growth ecosystem?
- ▲ Deterioration of existing fish or wildlife habitat quantity or quality?

#### NEPA CRITERIA

Under NEPA, an alternative was determined to result in a significant impact related to biological resources if it would:

- ▲ substantially reduce the size, continuity, or integrity of a plant community through temporary or permanent removal, interruption of natural processes that support it, and/or disturbance that favors the establishment of invasive nonnative species;
- ▲ substantially reduce the size, continuity, or integrity of wildlife or fish habitat, or result in unnatural changes in the abundance, diversity, or distribution of wildlife or fish species; substantially affect, either directly or through habitat modifications, any species listed as threatened or endangered under the ESA, or designated as sensitive by the Regional Forester (i.e., “Forest Service sensitive”);
- ▲ substantially affect the habitat for any Forest Service Management Indicator Species; or
- ▲ conflict with the USFS land management practices and requirements provided in the Forest Plans of the LTBMU and Tahoe National Forest, which are summarized in the Forest Plan consistency matrix provided in Appendix G.

These factors are taken into account under NEPA to determine the significance of an action in terms of the context and the intensity of its effects; most of these are encompassed by the CEQA criteria used for this analysis.

## CEQA CRITERIA

Under CEQA, an alternative was determined to result in a significant impact related to biological resources if it would:

- ▲ substantially reduce the habitat of a fish or wildlife species;
- ▲ cause a fish or wildlife species to drop below self-sustaining levels;
- ▲ threaten to eliminate a plant or animal community;
- ▲ substantially reduce the number or restrict the range of an endangered, rare, or threatened species;
- ▲ 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 CDFW or USFWS;
- ▲ have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations, or by CDFW or USFWS;
- ▲ have a substantial adverse effect on federally-protected wetlands, as defined by Section 404 of the CWA, through direct removal, filling, hydrological interruption, or other means;
- ▲ 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;
- ▲ conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance; or
- ▲ conflict with the provisions of an adopted Habitat Conservation Plan, Natural Conservation Community Plan, or other approved local, regional, or state conservation plan.

## ISSUES DISMISSED FROM FURTHER EVALUATION

Section 4.7.2, Existing Conditions/Affected Environment, discusses all special-status botanical and animal species evaluated in this analysis, and Tables 4.7-4 and 4.7-5 summarize the potential for each of these species to occur in the study area. Those plant and animal species not expected to occur, or with a low probability to occur (because of a lack of suitable habitat, or lack of other occurrence records) are not addressed further in this analysis. Implementation of this project is not expected to affect those species.

This analysis considers Sierra Nevada yellow-legged frog (SNYLF) to have a low potential to occur in the study area (see Table 4.7-5), and assumes that SNYLF would not be affected by project implementation. The information provided for this project specific analysis on SNYLF is discussed in detail in the project's BA, and the potential for occurrence and project effects assumptions in this NEPA document are considered an accurate portrayal for this species at this time with the information obtained to date. However, the project area has been identified as having up to 19 acres of suitable SNYLF habitat (as broadly defined by USFWS and USFS Region 5 as all areas within 25 meters of perennial or intermittent streams, lakes, meadows, and ponds); therefore, this project was included in the USFS's regional programmatic batching for Section 7 ESA consultation on SNYLF. The programmatic effort includes projects containing suitable habitat across all forests in Region 5. The final determination of effects for SNYLF will be based on the programmatic consultation efforts and thus may differ from what is stated in this project specific analysis. Once the consultation process with USFWS is complete, the information will be incorporated into this project NEPA, Section 7 ESA BA, and decision documents.

None of the project alternatives would be constructed within an area covered under an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state conservation plan. Therefore, project implementation would not conflict with the provisions of an adopted conservation plan and this issue is not evaluated further.

As described above in Section 4.7.1, Regulatory Setting, the consistency of the action alternatives with the Forest Plans of the LTBMU and Tahoe National Forest is considered in a matrix included in Appendix G of this EIS/EIS/EIR. As described in the matrix, the action alternatives would be consistent with the LTBMU and Tahoe National Forest standards, guidelines, and management practices. Therefore, the potential for conflicts with the Forest Service's land management practices and requirements provided in the Forest Plans are not evaluated further.

## METHODS AND ASSUMPTIONS

### PRIMARY IMPACT MECHANISMS AND ASSUMPTIONS

Potential impacts associated with the project can be classified as either temporary or permanent.

Temporary impacts generally include effects associated with construction activities, including the use of vehicles or helicopters, storage of construction materials and equipment, or vegetation removal in areas that would be restored once construction is complete. Permanent impacts generally include effects associated with permanent tree or other vegetation removal for the establishment of a new right-of-way (ROW) or vehicular use associated with ongoing operation and maintenance activities resulting from the project. The following summarizes the main types of impacts analyzed for biological resources, and key assumptions about their relative effects, for the main project components that would have biological effects.

#### Existing 625 Line

In general, impacts associated with the removal of the existing 625 Line would be less substantial than those associated with the new 625 Line or 650 Line because the work does not require the expansion of the existing ROW. Temporary construction-related impacts are limited to the removal of the existing 625 Line and include:

- ▲ vegetation removal along new and existing temporary access roads, line removal sites, staging areas, and the existing ROW;
- ▲ minor grading, as necessary, along temporary access roads;
- ▲ blading, as necessary, along temporary access roads; and
- ▲ skidding of existing poles and trees along the existing ROW or access roads.

No permanent construction-related impacts are anticipated. Because this line is being decommissioned and removed, no impacts from operation and maintenance would occur as a result. The removal of this line would also allow the existing ROW to undergo natural succession and redevelop into a red fir or Sierran mixed conifer forest.

#### New 625 Line

Construction of the new 625 Line, because this is a new line, would require vegetation removal and other construction activities in previously undisturbed areas, which would have the potential to affect sensitive species, aquatic resources, and vegetation communities.

Primary temporary construction-related impacts include:

- ▲ vegetation removal within the temporary ROW, stringing sites, staging areas, and temporary access roads;
- ▲ establishment of new access ways;
- ▲ blading, as necessary, of existing access roads that require improvement;
- ▲ skidding of trees;
- ▲ installation of new poles and conductor; and
- ▲ potential dewatering during work near aquatic resources, including the Truckee River and Griff Creek.

Permanent construction-related impacts include:

- ▲ tree and shrub loss within the new permanent ROW and access ways, and
- ▲ removal of hazard trees adjacent to the permanent ROW within the 150 foot wide hazard tree border zone (see Section 4.3, Forestry Resources, for more information on hazard tree removal).

Impacts of operation and maintenance of the line would be essentially the same as they are today; as CalPeco personnel would periodically access the line by vehicle or helicopter. Vehicles would use established travel ways where low growing vegetation is present.

## 650 Line

Construction of the 650 Line, because this is a new line, would also require vegetation removal and other construction activities in some previously undisturbed areas; however, it is anticipated that there would be fewer biological resources impacts along the 650 Line than along the new 625 Line because the 650 Line would be rebuilt in place along much of the alignment, utilizing the existing ROW. (However, this analysis assumes the alignment setback along SR 267 called for in Applicant Proposed Measure [APM] SCE-7. See Chapter 3, Section 3.7, Applicant Proposed Measures, for a discussion of all APMs.) Primary temporary impacts as a result of construction include:

- ▲ vegetation removal within the temporary ROW, stringing sites, staging areas, and temporary access roads;
- ▲ establishment of new access ways;
- ▲ blading, as necessary, of existing access roads that require improvement;
- ▲ skidding of existing poles and trees;
- ▲ installation of new poles and conductor; and
- ▲ potential dewatering during work near aquatic resources, including Middle Martis Creek, Martis Creek, Griff Creek, and a large wet meadow within Martis Valley.

Permanent construction-related impacts would generally be less than for the 625 Line because the line would primarily be rebuilt in place. Permanent construction-related impacts include:

- ▲ tree and shrub loss within the new portions of the permanent ROW and within new access ways; and
- ▲ removal of hazard trees adjacent to the permanent ROW within the 150 foot wide hazard tree zone.

## Northstar Fold

The Northstar Fold would result in a lesser extent of impacts due to its shorter length and location within a largely disturbed area—the Northstar-at-Tahoe Resort. Additionally, because many permanent roads already exist in the area, temporary access road construction would be limited. Temporary impacts as a result of construction include:

- ▲ vegetation removal within the temporary ROW, stringing site, staging areas, and access ways; and
- ▲ skidding of existing poles and trees.

Minimal permanent impacts are expected as a result of construction because there is an existing ROW for the Northstar Tap and vegetation management practices have been implemented as part of regular maintenance. Additionally, no new permanent access roads are planned. No impacts are anticipated as a result of operation and maintenance because these activities would not differ significantly from those currently being conducted for the Northstar Tap.

## VEGETATION AND WILDLIFE

Potential impacts of each action alternative on vegetation and wildlife resources were initially identified by overlaying GIS layers of proposed project components (including alignment setbacks called for by APMs) on the land cover maps of the study area and maps of sensitive biological resources. Any natural community and wildlife habitat that overlapped with an area of proposed modification was considered to be directly affected during project construction. However, hazard tree removal outside the construction ROW but within the hazard tree border zone is not included in the habitat impact calculations as it is assumed that this area would be subject to selective hazard tree removal only and the habitat type and values in the area would remain intact. An estimate of the amount of vegetation removal planned for the clearing of the ROWs, work areas, and access ways was determined. Short-term construction impacts would occur where natural vegetation would be removed to construct new features and facilities or modify existing features. Long-term impacts to biological resources would occur in or adjacent to habitats that would experience a permanent conversion in land use and cover (i.e., conversion of natural vegetation to substations, electric line maintenance ROW, and access ways). In the Tahoe Basin portion of the project area, the boundaries of SEZs were derived from the verified TRPA land capability maps and were used to calculate the SEZ acreage that would be affected under each action alternative. A formal wetland delineation according to USACE criteria would be conducted after selection of a preferred alternative and prior to project permitting under Section 404 of the CWA, but it is not required for the EIS/EIS/EIR phase. The detailed maps of plant community boundaries and the map of SEZ boundaries were used as an intermediary method of determining the approximate limits of potentially jurisdictional wetlands.

Impacts to sensitive species could occur either through temporary or permanent habitat loss, disturbance of normal activity or dispersal patterns, or through direct mortality. Potential impacts to sensitive species associated with the project were determined by analyzing species life history requirements and known occurrences or potential to occur in the study area. Once the species and habitats were identified, impacts from project activities were analyzed.

## FISHERIES AND AQUATIC RESOURCES

Potential impacts of each action alternative on fisheries and aquatic resources were identified by overlaying GIS layers of proposed project components on aquatic habitats. Impacts to aquatic resources were determined by the proximity of these resources to project work areas, taking into account the construction needs within those areas. Hydrologic and flow characteristics and vegetation were also considered.

## ALTERNATIVE 1 - PEA ALTERNATIVE

### DIRECT AND INDIRECT IMPACTS

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<b>IMPACT 4.7-1 (Alt.1)</b>	<b>Disturbance or loss of common vegetation communities and wildlife habitats.</b> Implementing Alternative 1 (PEA Alternative) would result in the removal or disturbance of up to 231 acres of common vegetation communities and habitats, including Sierran mixed conifer forest, red fir forest, Jeffrey pine forest, and montane chaparral. Because these habitats are locally and regionally common and abundant, and implementation of APMs would minimize vegetation removal and require that habitat is restored to pre-project conditions in temporary construction areas, Alternative 1(PEA Alternative) would not substantially reduce the size, continuity, or integrity of any common vegetation community or habitat type. Therefore, this impact would be <b>less than significant</b> .
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Coniferous forest, sagebrush scrub, low sage scrub, montane chaparral, montane dry meadow, and mule ears meadow are the common habitat types that would be directly removed or temporarily disturbed as a result of

constructing Alternative 1 (PEA Alternative) (impacts on sensitive habitats are addressed separately below). Table 4.7-8 summarizes permanent and temporary effects on common vegetation for each action alternative. Permanent effect is based on the 40-foot-wide permanent electric line ROW that would remain following project completion plus new and improved access roads. Additional temporary effect is the maximum amount, in addition to what would remain as a permanent ROW or access way following project construction, assumed for temporary construction. This is based on a 65-foot-wide construction corridor along the entire length of the electric line alignments, minus the 40-foot-wide permanent maintenance ROW. Additional acreage of temporary habitat effects result from vegetation removal at staging. These impacts are considered temporary because these areas would be restored and revegetated following construction. Following construction, the 40-foot-wide permanent ROW would be cleared periodically to allow overland travel by line and inspection trucks, but low-growing native plants, such as mule ears, pinemat manzanita and mahala mat would be allowed to establish and the ROW would not be maintained in a barren state or covered by an impervious surface; however, trees and taller shrubs would not be allowed to establish under the electric lines. The existing 625 Line would be decommissioned and native vegetation would be allowed to regenerate within the approximately 20-foot wide corridor that is currently managed to limit vegetation height. A maximum total of approximately 151 acres of common natural habitat would be permanently converted, and 80 acres would be temporarily disturbed, as a result of implementing Alternative 1 (PEA Alternative). Implementing Alternative 1 (PEA Alternative) would result in permanent removal of approximately 58 more acres and temporary disturbance of approximately 6 more acres of native habitats than implementing Alternative 4 (Proposed Alternative) (Table 4.7-8). Effects on late-seral/old-growth forest are discussed under Impact 4.7-4, Tree Removal and impacts to sensitive habitats, including SEZs, are discussed under Impact 4.7-2, Sensitive Habitats.

**Table 4.7-8 Acreage of Common Vegetation Community/Habitat Types in the Permanent and Temporary Right of Way of Each Action Alternative<sup>1, 2</sup>**

Vegetation Community/Habitat Type Description	Alternative 1 (PEA Alternative)		Alternative 2 (Modified Alternative)		Alternative 3 (Road Focused Alternative)		Alternative 3A (Road Focused Alternative with Double Circuit Option)		Alternative 4 (Proposed Alternative)	
	Perm.	Temp.	Perm.	Temp.	Perm.	Temp.	Perm.	Temp.	Perm.	Temp.
Red Fir Forest	60.4	31.4	59.1	28.1	27.0	31.6	27.0	31.6	27.0	31.6
White Fir-Red Fir Forest	14.5	6.3	15.1	5.2	4.6	4.2	4.6	4.2	4.6	4.2
Jeffrey Pine-White Fir Forest	16.6	4.6	10.6	0.8	9.8	1.1	9.8	1.1	9.8	1.1
Jeffrey Pine Forest	18.3	10.9	16.0	10.3	15.9	11.2	15.9	11.2	14.6	9.7
Sierran Mixed Conifer Forest	22.9	15.9	20.3	14.2	23.6	16.0	24.1	13.5	23.2	15.4
Sagebrush Scrub	0.6	0.5	0.6	0.5	10.4	6.9	10.4	6.9	0.6	0.5
Montane Chaparral	11.1	4.9	9.7	4.2	6.8	5.8	6.7	5.7	6.8	5.8
Low Sage Scrub	4.4	3.5	4.2	4.4	3.1	2.5	3.1	2.5	4.4	3.5
Dry Montane Meadow	1.7	1.1	1.2	1.0	0.2	0.1	0.2	0.1	1.7	1.1
Mule Ears Meadow	0.1	0.1	0.1	0.1	0.1	0.2	0.1	0.2	0.1	0.2
Rock Outcrop/Barren	0.4	0.4	0.2	0.4	0.5	0.5	0.5	0.5	0.5	0.5
<b>Total of Native Habitats</b>	<b>151.0</b>	<b>79.6</b>	<b>137.1</b>	<b>69.2</b>	<b>102.0</b>	<b>80.1</b>	<b>102.4</b>	<b>77.5</b>	<b>93.3</b>	<b>73.6</b>
Disturbed or Developed	21.8	17.1	18.9	16.6	33.2	27.2	35.8	24.4	31.4	24.5
<b>Total</b>	<b>172.8</b>	<b>96.7</b>	<b>156.0</b>	<b>85.8</b>	<b>135.2</b>	<b>107.3</b>	<b>138.2</b>	<b>101.9</b>	<b>124.7</b>	<b>98.1</b>

<sup>1</sup> Where the new power line corridor would follow and expand the width of the existing 625 Line corridor, acreages in this table include only areas within the newly-disturbed expansion area (i.e., the acreages do not include the existing disturbed/managed corridor).

<sup>2</sup> Impact acreages assume implementation of APMs SCE-7 and SCE-8, which include an alignment setback away from SR 267 under Alternatives 1, 3, 3A and 4 for the 650 Line, and a setback away from the Truckee River and into the 64-Acre parcel under Alternatives 1, 3, 3A, and 4 for the 625 Line.

The following APMs have been incorporated into the project design to minimize, avoid, and reduce potential adverse effects from loss and disturbance of common vegetation communities.

- ▲ **APM BIO-21:** Qualified environmental monitors will be present with each crew during all vegetation-removal activities to help ensure that impacts to biological resources are minimized to the extent possible. For all other construction activities, monitors will be allowed to cover up to 5 miles of the project area at once to allow multiple crews to work in close proximity to each other at the same time. Environmental monitors will have the authority to stop work or direct work in order to help ensure the protection of resources and compliance with all permits.
- ▲ **APM BIO-23:** Topsoil, where present, will be salvaged in areas that will be graded or excavated. Topsoil will be segregated, stockpiled separately from subsoil, and covered. These soil stockpiles, as well as any others created by the proposed project, will have the proper erosion control measures applied until they are removed. The topsoil will then be replaced to the approximate location of its removal after project construction has been completed to facilitate revegetation of disturbed areas. Topsoil will not be salvaged from areas infested with invasive plants.
- ▲ **APM BIO-26:** Work areas will be clearly marked with fencing, staking, flagging, or another appropriate material. All project personnel and equipment will be confined to delineated work areas. In the event that work must occur outside of the work area, approval from lead and other agencies with jurisdiction over the property will be obtained prior to the commencement of activities.
- ▲ **APM BIO-28:** CalPeco will minimize vegetation and tree removal to only the areas necessary for construction, with particular attention given to minimizing effects on riparian areas and preserve trees greater than 30 inches diameter at breast height (dbh).
- ▲ **APM BIO-36:** Prior to construction, CalPeco will develop a Restoration Plan that will address final clean-up, stabilization, and revegetation procedures for areas disturbed by the project. The plan will be consistent with, and implement related commitments and requirements included in the EIS/EIS/EIR project description, other APMs, mitigation measures, and agency permit requirements. The Restoration Plan will address loosening of any compacted soil, restoration of surface residue, and reseeded. If existing unpaved roads require modification to temporarily allow passage of construction equipment during the construction period, these roads will be returned to their original footprint after construction is complete. On NFS lands, restoration activities will be designed and implemented to meet invasive plant management guidelines and Visual Quality Objectives (VQO) for the area. Areas temporarily disturbed by cut and fill activities would be re-graded to blend with the natural topography. On public land, CalPeco will coordinate with the land management agency to determine an appropriate seed mix or tree planting plan as well as other elements of the plan applicable to lands managed by the agency. On private land, CalPeco will coordinate with the landowner and/or provide the landowner with a suggested seed mix based on consultation with the agency of jurisdiction. The plan will include approved seed mixes, application rates, application methods, methods to record pre-disturbance conditions, success criteria for vegetation growth, monitoring and reporting protocols, and remedial measures if success criteria are not met. If broadcast seeding is determined to be the most feasible application method, seeding rates will be doubled relative to the standard seeding rate and the seeding method rationale will be explained. The plan will also include long-term erosion and sediment control measures, slope stabilization measures, criteria to determine the success of these measures, remedial actions if success criteria are not met, and monitoring and reporting procedures. As part of normal equipment inspections during project operation, an evaluation of access ways will be conducted to confirm that use has not resulted in compaction that will result in “coverage” per TRPA standards.
- ▲ **APM BIO-37:** Decommissioning the existing 625 Line ROW and allowing natural regeneration of coniferous forest and other native vegetation types will assist in offsetting or reducing the permanent loss of trees and other vegetation along the new 625 Line ROW. Prior to the removal of poles and conductor, a qualified biologist or soil scientist will identify areas of the abandoned ROW that contain unnaturally compacted soil (resulting from unauthorized public use, development of user-created trails, or other factors) that could

limit the natural reestablishment of vegetation and assess whether local treatments would be needed to facilitate native vegetation recruitment and development. CalPeco will consult with the applicable land owner/manager to verify that areas identified for treatments are appropriate (e.g., not part of a system road, authorized trail network, or other desired use) and secure approval for restoration. Restoration of these sites will be overseen by a qualified biologist and will likely consist of a combination of the following.

- /// Barricade existing access points and post appropriate signage to discourage use. Also incorporate into restoration actions minimizing the visibility of potential access points from intersecting roadways.
- /// Loosen compacted soil to a depth of 6 to 8 inches.
- /// Incorporate logs, boulders, mulch and other materials into the disturbed area to discourage use.
- /// Apply appropriate erosion control Best Management Practices (BMPs; e.g., installation of check dams, mulch, log and/or rock stabilization) in areas where evidence of sheet, rill, or gully erosion exists.
- /// Seed with a certified weed-free seed mix, approved by the applicable land owner/manager, containing native, site-appropriate species.
- /// Apply 1 to 2 inches of locally obtained mulch such as pine needles, wood chips, or tub grindings.
- /// Monitor for new invasive plant invasions and expansion of existing weed populations following treatments, and implement weed control measures where needed. Post-treatment monitoring for invasive plants will be conducted annually for up to three years, similar to the frequency and duration specified for USFS land in the USFS Invasive Plant Risk Assessment prepared for the project.
- /// Conduct post-treatment monitoring and reporting every two years for up to 10 years, to evaluate success of restoration treatments. The details of the monitoring and reporting program, including identification and implementation of potential adaptive management actions based on monitoring results, will be developed jointly by CalPeco, TRPA, and the land owner/manager.

While approximately 157 acres of common vegetation types would be permanently and/or temporarily removed or disturbed during construction of Alternative 1 (PEA Alternative), the loss of this amount of common habitat from the Truckee Tahoe region would not substantially reduce the quantity or quality of these habitats in the region and would not result in a change in diversity or distribution of species in the region or result in a substantial change in local population numbers of any common plant or tree species or any unique, rare, or endangered species of plants or animals. Permanent and temporary loss and disturbance that would occur under Alternative 1 (PEA Alternative) would not substantially reduce the size, continuity, or integrity of any common vegetation community or habitat type or interrupt the natural processes that support common vegetation communities in the project area. Some of the loss of common vegetation would be compensated for over time through natural regeneration along the decommissioned 625 Line. Integration of the APMs into project design would require that vegetation removal is minimized to the extent feasible and that habitat is restored to pre-project conditions in temporary construction areas. Therefore, impact would be **less than significant**.

**MITIGATION MEASURES**

*No mitigation measures are required.*

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<b>IMPACT 4.7-2 (Alt.1)</b>	<b>Disturbance or loss of sensitive habitats (jurisdictional wetlands, riparian vegetation, and SEZ).</b> Implementing Alternative 1 (PEA Alternative) would result in direct removal and disturbance of sensitive habitats, including waters of the United States, waters of the state, riparian habitat, and SEZs. This impact would be <b>significant</b> .
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Implementing Alternative 1 (PEA Alternative) would result in permanent loss or temporary disturbance of the following sensitive habitat types: montane riparian, open water, wet montane meadow, and fresh emergent wetland. These habitats in the impact area would potentially qualify as waters of the United States and/or waters of the State. Within the Tahoe Basin, all of these habitats would also meet the definition of SEZs and have been quantified and mapped as SEZ by TRPA for the project. While one seasonal wetland is present in the study area, implementing Alternative 1 (PEA Alternative) would not affect this sensitive habitat because it is outside of the maximum construction footprint. Effects on late-seral/old-growth forest are discussed under Impact 4.7-4, Tree removal and loss of late seral/old growth forest.

Table 4.7-9 summarizes and compares the acreage of sensitive habitats present in the permanent and temporary impact zone of each action alternative. Permanent and temporary acreage was calculated as described above for common habitat impacts. However, because the construction corridor would be reduced in sensitive habitat areas and APMs would be integrated into project design (as described below) to avoid and minimize impacts in these areas, the values presented here are considered a maximum and likely an overestimate of the area of actual impacts. For example, open water habitat is present where the 625 Line crosses the Truckee River, but the actual impact acreage here would be zero because the electric line would span the river and no construction would occur within the river channel. Within the Tahoe Basin, SEZs would be spanned or otherwise avoided in all but a few instances where new poles would be erected or existing poles would be replaced within the SEZ because there is no feasible way to span the SEZ or reroute the alignment outside of the SEZ. Therefore, impacts on SEZs have been minimized to the extent feasible.

**Table 4.7-9 Acreage of Sensitive Vegetation Community/Habitat Types in the Permanent and Temporary ROW of Each Action Alternative<sup>1, 2, 3</sup>**

Vegetation Community/Habitat Type Description	Alternative 1 (PEA Alternative)		Alternative 2 (Modified Alternative)		Alternative 3 (Road Focused Alternative)		Alternative 3A (Road Focused Double Circuit Option Segment Alternative)		Alternative 4 (Proposed Alternative)	
	Perm	Temp	Perm	Temp	Perm	Temp	Perm	Temp	Perm	Temp
Montane Riparian	3.4	4.1	4.2	3.4	3.2	3.1	2.7	3.1	3.5	3.7
Open Water	0.01	0.1	0.1	0.1	0.01	0.1	0.01	0.1	0.01	0.1
Wet Montane Meadow	5.6	5.2	5.8	4.5	1.5	1.6	1.5	1.6	5.6	5.1
Seasonal Wetland	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Fresh Emergent Wetland	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
<b>Total</b>	<b>9.0</b>	<b>9.4</b>	<b>10.1</b>	<b>8.0</b>	<b>4.7</b>	<b>4.8</b>	<b>4.2</b>	<b>4.8</b>	<b>9.1</b>	<b>8.9</b>
Stream Environment Zone <sup>4</sup>	3.1	2.2	3.4	0.9	3.6	1.6	2.3	1.6	3.6	1.6

<sup>1</sup> Where the new power line corridor would follow and expand the width of the existing 625 Line corridor, acreages in this table include only areas within the newly-disturbed expansion area (i.e., the acreages do not include the existing disturbed/managed corridor).

<sup>2</sup> Impact acreages assume implementation of APMs SCE-7 and SCE-8, which include an alignment setback away from SR 267 under Alternatives 1, 3, 3A and 4 for the 650 Line, and a setback away from the Truckee River and into the 64-Acre parcel under Alternatives 1, 3, 3A, and 4 for the 625 Line.

<sup>3</sup> Values in this table are acreages of each habitat type that occur in the project ROW. Because the construction corridor would be reduced in sensitive habitat areas and APMs would be integrated into project design, the actual impact would be reduced, and in some cases completely avoided. For example, open water habitat is present where the 625 Line crosses the Truckee River, but the actual impact acreage would be zero because the electric line would span the river and no construction would occur within the river channel.

<sup>4</sup> Stream Environment Zone (SEZ) refers to areas mapped specifically as SEZ by TRPA within the Tahoe Basin portion of ROW. SEZ acreage in the ROW includes all of the sensitive vegetation community acreages that occur within the Tahoe Basin portion of the ROW (montane riparian, open water, wet montane meadow, and seasonal wetland), plus additional area not mapped and quantified as one of the vegetation types.

These habitats are considered sensitive because they are declining in quantity and condition throughout the region and because they provide important habitat functions. Therefore, the loss or degradation of sensitive habitats is considered a significant impact. There are a total of approximately 9.0 acres of sensitive habitat types in the permanent ROW of Alternative 1 (PEA Alternative) and 9.4 additional acres within the temporary construction zone. In the Tahoe Basin portion of the project area, approximately 3.1 acres of SEZ has been

mapped within the Alternative 1 (PEA Alternative) permanent ROW and 2.2 acres has been mapped within the temporary construction zone.

The following APMs are included in the project design.

- ▲ **APM BIO-1:** Prior to construction, all CalPeco, contractor, and subcontractor project personnel will receive training from qualified resource specialists regarding the appropriate work practices necessary to effectively implement the APMs and to comply with the applicable environmental laws and regulations, including appropriate wildlife avoidance measures; impact minimization procedures; the importance of sensitive resources, and the purpose and methods for protecting such resources. Among other topics, the training will also include a discussion of BMPs to reduce the potential for erosion and sedimentation during construction. Additionally, CalPeco and designated environmental monitors for project construction will coordinate with the applicable public land owners/managers on communication, documentation and reporting, and data submittal protocols.
- ▲ **APM BIO-21, APM BIO-23, APM BIO-26, APM BIO-28, APM BIO-36, and APM BIO-37,** as described above under Impact 4.7-1, would avoid and minimize impacts on vegetation overall and restore habitat.
- ▲ **APM BIO-27:** Helicopters will be used, where necessary, to avoid impacts to waterways or in areas of rough terrain. Appropriate measures, including regular watering, will be implemented at landing zones in order to control dust. Helicopter use within HRCAs, PACs, and TRPA disturbance zones will be prohibited if vegetation treatment restrictions are concurrently in place.
- ▲ **APM BIO-29:** Skidding of trees will not be permitted in waters of the United States or waters of the State, including wetlands. Within these waters tree removal may be conducted by hand, use of cable systems, helicopter yarding, or use of ground based equipment when determined suitable for ground based mechanical harvest. Any work conducted in the vicinity of waters of the United States, waters of the State, and wetlands will have an environmental monitor present consistent with the requirements of APM WQ-4. Other APMs applicable to the protection of aquatic resources will also be implemented.
- ▲ **APM BIO-30:** Prior to commencing construction in any area containing aquatic resources or potential wetlands, a qualified biologist will conduct a delineation of waters of the United States according to methods established in the USACE wetlands delineation manual (Environmental Laboratories 1987) and Western Mountains, Valleys, and Coast Region Supplement (Environmental Laboratories 2010). The delineation will map and quantify the acreage of all aquatic habitats on the project site and will be submitted to USACE for verification. CalPeco will determine, based on the verified wetland delineation and the project design plan, the acreage of impacts on waters of the United States and waters of the state that will result from project implementation. Impacts will be avoided to the extent practicable through the siting of poles and other facilities outside of delineated waters of the United States and waters of the state. Work in wetlands or wet meadow habitats with saturated soil conditions will be scheduled when soils are dry to the extent possible. If soils become saturated, timber mats will be installed along all vehicle and equipment access routes to minimize rutting. Prior to disturbance of waters of the United States or waters of the state, an environmental monitor will record via photographs and field notes the pre-disturbance condition of the water. Disturbed waters will be restored to preconstruction conditions and seeded with a native annual species to stabilize the soils and minimize the introduction of invasive plants, as specified by the USACE and RWQCB. In accordance with the USACE “no net loss” policy, all permanent wetland impacts will be mitigated at a minimum of a 1:1 ratio. This mitigation will come in the form of either contribution to a USACE-approved wetland mitigation bank or through the development of a Compensatory Mitigation and Monitoring Plan aimed at creating or restoring wetlands in the surrounding area (although creation is not authorized by TRPA in their jurisdiction).
- ▲ **APM WQ-4:** When working near aquatic resources, poles and trees will be cut by hand and felled away from such features (unless there is an ecological reason to do otherwise that is approved by applicable regulatory agencies, such as adding coarse woody debris to a stream to enhance fish habitat). The skidding of poles and trees through aquatic resources will not be permitted. Within Stream Environment Zones (SEZs) poles and

trees will be removed by hand, by cable system, or by helicopter. No mastication will occur in SEZs and no chip material will be left in SEZs unless approved for erosion control. Vehicles and equipment will be staged away from aquatic features, along designated access routes or within staging areas. If there are circumstances where disturbance to the bank or channel of an aquatic feature is unavoidable, CalPeco will restore the banks and channels to preconstruction conditions immediately afterwards. An environmental monitor will be present in all instances where disturbance to an aquatic feature may occur to ensure conditions of this APM and any other applicable APMs, permit conditions, and mitigation measures are complied with.

- ▲ **APM WQ-5:** When construction activities are required adjacent to flowing streams or rivers, work will be conducted during low-flow conditions (i.e., when surface flow is restricted to the low-flow channel, as confirmed by the environmental monitor).
- ▲ **APM WQ-7:** CalPeco will minimize vehicle and equipment usage within and crossing of stream channels and other aquatic resources consistent with the requirements of other APMs. If vehicles and equipment must cross stream channels or other aquatic resources, CalPeco will construct shoo-fly access roads, install culvert crossings, or use other methods to access either side of the resource or utilize existing bridges, where feasible, in order to minimize the need to install temporary bridges. Limit crossings to no more than one for every 800 feet of channel. If there are no existing crossings and the construction of shoo-fly roads or other crossing methods may cause greater resource impact, CalPeco will install timber mats, slash mats, or other materials suitable for a temporary bridge. If bridges are installed over streams with discernible flow, all attempts will be made to span the channel. Temporary crossings on ephemeral or intermittent drainages will be constructed and removed, to the maximum extent feasible, when the channels are dry and will be removed before the winter season begins. These crossings will be designed to not obstruct water flow and fish passage and to accommodate flows from a 1 inch or greater precipitation event.
- ▲ **APM WQ-8:** CalPeco will obtain permits from appropriate regulatory agencies prior to commencing work in waters of the United States or waters of the state, and in stream and riparian habitats, and implement all applicable permit conditions. Following construction, CalPeco will restore any impacted riparian habitats, water bodies, and wetlands to pre-project conditions and compensate for any permanent wetland impacts in accordance with the US Army Corps of Engineer's "no net loss" policy.

These APMs would reduce project impacts on sensitive habitats, but not necessarily to a less-than-significant level under all circumstances. Even with incorporation of the APMs, implementing the project could result in loss or degradation of stream or riparian habitat protected under Section 1602 of the Fish and Game Code or SEZs protected under TRPA Code 61.3. Therefore, disturbance or loss of sensitive habitats under Alternative 1 (PEA Alternative) would be a **significant** impact.

## MITIGATION MEASURES

The following mitigation measures would be implemented by CalPeco to minimize, avoid, and compensate for potential adverse effects on sensitive habitats and ensure consistency with Fish and Game Code Section 1602 and TRPA Code Section 61.3.

### Mitigation Measure 4.7-2a (Alt. 1): Compensate for Unavoidable Loss of Stream and Riparian Habitat.

*The following measures would be implemented to avoid or compensate for the loss or degradation of stream or riparian habitat, ensure consistency with Fish and Game Code Section 1602, and further reduce potential adverse effects on riparian habitats:*

- › *CalPeco shall compensate for permanent riparian habitat impacts at a minimum of a 1:1 ratio through contributions to a CDFW approved wetland mitigation bank or through the development and*

*implementation of a Compensatory Stream and Riparian Mitigation and Monitoring Plan aimed at creating or restoring in-kind habitat in the surrounding area. If mitigation credits are not available, stream and riparian habitat compensation shall include establishment of riparian vegetation on currently unvegetated bank portions of streams affected by the project and enhancement of existing riparian habitat through removal of nonnative species, where appropriate, and planting additional native riparian plants to increase cover, continuity, and width of the existing riparian corridor along streams in the project site and surrounding areas. Construction activities and compensatory mitigation shall be conducted in accordance with the terms of a streambed alteration agreement as required under Section 1602 of the Fish and Game Code.*

- › *The Compensatory Stream and Riparian Mitigation and Monitoring Plan shall include the following:*
  - *identification of compensatory mitigation sites and criteria for selecting these mitigation sites;*
  - *in kind reference habitats for comparison with compensatory riparian habitats (using performance and success criteria) to document success;*
  - *monitoring protocol, including schedule and annual report requirements (Compensatory habitat shall be monitored for a minimum of five years from completion of mitigation, or human intervention (including recontouring and grading), or until the success criteria identified in the approved mitigation plan have been met, whichever is longer);*
  - *ecological performance standards, based on the best available science and including specifications for native riparian plant densities, species composition, amount of dead woody vegetation gaps and bare ground, and survivorship; at a minimum, compensatory mitigation planting sites must achieve 80 percent survival of planted riparian trees and shrubs by the end of the five-year maintenance and monitoring period or dead and dying trees shall be replaced and monitoring continued until 80 percent survivorship is achieved;*
  - *corrective measures if performance standards are not met;*
  - *responsible parties for monitoring and preparing reports; and*
  - *responsible parties for receiving and reviewing reports and for verifying success or prescribing implementation or corrective actions.*

#### **Mitigation Measure 4.7-2b (Alt. 1): Compensate for Unavoidable Loss of SEZ.**

*The following measures would be implemented to ensure consistency with TRPA Code Section 61.3 and Fish and Game Code Section 1602 and further reduce potential adverse effects on SEZs, streams, and riparian habitat:*

- › *Within the Tahoe Basin, all reasonable alternatives, including bridge spans, pole spans, and facility relocation; shall be implemented to avoid or reduce the extent of encroachment into SEZs.*
- › *In instances where there is no feasible alternative to avoid an SEZ, CalPeco shall mitigate all impacts within the boundaries of SEZs by restoring SEZ habitat (land capability district 1b) in the surrounding area, or other appropriate area as determined by TRPA, at a minimum ratio of 1.5:1, consistent with TRPA Code.*
- › *CalPeco shall retain a qualified restoration ecologist to prepare a restoration plan (see APM BIO-36) that will address final clean-up, stabilization, and revegetation procedures for areas disturbed by the project. The restoration plan for SEZs shall include the following:*

- *identification of compensatory mitigation sites and criteria for selecting these mitigation sites;*
- *complete assessment of the existing biological resources in the restoration areas;*
- *in kind reference habitats for comparison with compensatory SEZs (using performance and success criteria) to document success;*
- *monitoring protocol, including schedule and annual report requirements (Compensatory habitat shall be monitored for a minimum of five years from completion of mitigation, or human intervention (including recontouring and grading), or until the success criteria identified in the approved mitigation plan have been met, whichever is longer);*
- *ecological performance standards, based on the best available science and including specifications for native plant densities, species composition, amount of dead woody vegetation gaps and bare ground, and survivorship; at a minimum, compensatory mitigation planting sites must achieve 80 percent survival of planted vegetation by the end of the five-year maintenance and monitoring period or dead and dying plants shall be replaced and monitoring continued until 80percent survivorship is achieved;*
- *corrective measures if performance standards are not met;*
- *responsible parties for monitoring and preparing reports; and*
- *responsible parties for receiving and reviewing reports and for verifying success or prescribing implementation or corrective actions.*

Implementation of these mitigation measures, would reduce the significant impacts on sensitive habitats to a **less-than-significant** level because they would ensure that sensitive habitat is avoided to the extent feasible and that sensitive habitats that cannot be avoided are restored following construction, or if the habitat cannot be restored, that the applicant compensates for unavoidable losses in a manner that results in no net loss of sensitive habitats.

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**IMPACT  
4.7-3  
(Alt.1)**

**Disturbance or loss of special-status plants.** Implementing Alternative 1 (PEA Alternative) would result in direct removal and damage of Plumas ivesia plants and degradation or loss of suitable Plumas ivesia habitat. Special-status plants that are not directly removed or physically damaged could be adversely affected indirectly by habitat degradation or loss. APMs included in the project design would minimize, and in some instances, avoid potential adverse effects on special-status plants. Because, through implementation of the APMs, Alternative 1 (PEA Alternative) would not substantially affect the abundance or distribution of any special-status species (either directly or through habitat modifications), this impact would be **less than significant**.

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Implementing Alternative 1 (PEA Alternative) would result in direct impacts to Plumas ivesia individuals on approximately 2 acres in Segment 650-4 on both Tahoe National Forest and USACE land during grading and excavation to install poles and string conductor. To the extent feasible, plants will be protected *in situ* (in place); however, some individuals may be removed or destroyed, resulting in their mortality. In addition to removal of individuals, plants could suffer other direct physical damage, including breaking, crushing, and burying. Damaged plants may experience altered growth and development, or reduced or eliminated seed-set and reproduction. This may eventually result in individual plant mortality or even loss of the entire occurrence. Within this 2-acre occurrence, the proposed activities may degrade habitat to the point that is no longer suitable. However, on approximately 0.8 acres, impacts are expected to be temporary, as topsoil would be salvaged and disturbed areas would be restored following construction. Plumas ivesia occurrences along

Segment 650-4 and an existing dirt access road connecting to Segment 650-4, as well as unidentified areas of suitable habitat throughout the project area, could also be indirectly affected by project activities (described below).

Occurrences of Galena Creek rockcress have been previously documented north of a potential project access road (Martis Peak Road), north of Segment 625-9 and east and west of the existing and Proposed Alternative electric alignments in Segment 625-3, on LTBMU land. These documented occurrences of Galena Creek rockcress are outside of the project study area and will not be affected by proposed activities. Suitable habitat for this species within the study area occurs primarily along conifer forest edges. Plants thought to potentially be Galena Creek rockcress were mapped along the existing 625 Line, in Segment 625-3, during reconnaissance-level surveys conducted in 2007; however, these plants could not be positively identified. No individuals of Galena Creek rockcress were observed within the Alternative 1 (PEA Alternative) study area during the 2012 reconnaissance surveys; however, some surveys may have been too early to observe fruit (necessary for identification), so occurrences may exist in the study area. Protocol-level surveys for Galena Creek rockcress would be conducted prior to ground disturbance, so these potential occurrences will be verified or dismissed prior to implementation. Ground disturbance along the existing 625 Line would be minimized during removal of the existing line because all work would be done either from existing access roads or from the air. Existing poles would generally be cut off and air lifted from the site unless the pole was along an existing access road. Some poles may be accessed by foot if they are not accessible from existing roads. If any occurrences are verified, they would be flagged and avoided, therefore no direct or indirect impacts on Galena Creek rockcress are expected to result from removal of the existing 625 Line.

One occurrence of Mingan moonwort has been previously documented within the project study area, in Segment 625-10/650-1, along Griff Creek, on LTBMU property. Suitable habitat for Mingan moonwort within the study area occurs in the wet meadows and riparian areas. No individuals of Mingan moonwort were observed within the study area during the field survey. The location of the known occurrence along Griff Creek was surveyed during the 2012 reconnaissance and Mingan moonwort was not found, but moonworts do not produce above-ground sporophytes every year and when they do, there are generally no more than a few individuals present. Moonworts are sensitive to drought and often do not appear in dry years and the reconnaissance survey was conducted in a dry year (2012). Furthermore, these are diminutive plants (approximately 1 inch tall) and the riparian vegetation at this location, mostly alders, is extremely dense and difficult to penetrate. All of these factors increase the difficulty of finding Mingan moonwort even at locations where it has been found previously. Therefore undetected populations could be present within suitable riparian habitats in the study area and this species could be adversely affected by project construction. Protocol-level surveys for moonworts would be conducted before initiating any project actions that could disturb meadow or riparian habitats. The known occurrence of Mingan moonwort would not be affected by implementation of Alternative 1 (PEA Alternative) because the riparian corridor (SEZ) where this species was found would be spanned and no work would occur within the habitat.

As discussed in Table 4.7-4, 19 other special-status botanical species (plant, lichen, and fungi), in addition to the known Plumas ivesia and Mingan moonwort, and potential Galena Creek rockcress, could be present in the study area. Undetected special-status botanical species could be directly removed or physically damaged during construction of Alternative 1 (PEA Alternative).

Special status species may be indirectly affected by habitat removal or degradation. Habitat in the study area that could potentially support these additional special-status plant species consists of coniferous forests, sagebrush scrub, wet meadow, fresh emergent wetland, riparian habitats, and rock outcrop/barren habitat. Other project-related activities, such as introduction of nonnative plant species, altered hydrology, and soil compaction can result in habitat degradation or destruction. Increased traffic on dirt access roads during construction and grading or other ground disturbances that create dust, which can coat plants nearby, thus reducing their ability to photosynthesize and respire.

The following measures have been incorporated into the project design that would minimize, avoid, and reduce potential direct and indirect effects on special-status botanical species.

- ▲ **APM BIO-2:** CalPeco will conduct a complete floristic survey, including surveys for all special-status botanical species and invasive plants, during a time that coincides with the greatest number of blooming periods for target species. This survey will be conducted no more than one year prior to the start of construction. Occurrences of special-status botanical species and weed-infested areas will be flagged or fenced no more than 30 days prior to the start of construction. Flagging and fencing will be refreshed and maintained throughout construction. Implementation of this measure will occur in coordination with USFS.
- ▲ **APM BIO-3:** CalPeco will complete an invasive plant risk assessment for all ground disturbing activities.
- ▲ **APM BIO-4:** Before construction activities begin, CalPeco will treat invasive plant infestations where feasible. Treatments will be selected based on each species ecology and phenology. All treatment methods—including the use of herbicides—will be conducted in accordance with the law, regulations, and policies governing the land owner (e.g., TRPA in the Lake Tahoe Basin; LTBMU Forest Supervisor and Tahoe National Forest Supervisor on NFS lands). Land owners will be notified prior to the use of herbicides. In areas where treatment is not feasible, CalPeco will clearly flag or fence infested areas in order to clearly delineate work exclusion. Appropriate treatments will also be incorporated into tree removal and construction activities, such as a requirement that all cut live conifer stumps greater than 6 inches in diameter be treated with Sporex or an EPA-registered borate compound to prevent the spread of *Annosus* root disease.
- ▲ **APM BIO-5:** Vehicles and equipment will arrive at the project area clean and weed-free and will be inspected by the on-site environmental monitor for mud or other signs that weed seeds or propagules could be present prior to use in the project area. If the vehicles and equipment are not clean, the monitor will deny entry to the ROW and other work areas.
- ▲ **APM BIO-6:** Vehicles and equipment will be cleaned using high-pressure water or air at designated weed-cleaning stations after exiting an infested area. Cleaning stations will be designated by a botanist or invasive plant specialist and located away from aquatic resources.
- ▲ **APM BIO-7:** Only certified weed-free construction materials, such as gravel, seed, and fill, will be used throughout the project.
- ▲ **APM BIO-8:** If invasive plant-infested areas are unavoidable, the invasive plants will be cut, if feasible, and disposed of in a landfill in sealed bags or disposed of or destroyed in another manner acceptable to the USFS, TRPA, or other agency as appropriate. If cutting is not feasible, layers of mulch, degradable geotextiles, or similar materials will be placed over the infestation area to minimize the spread of propagules by equipment and vehicles during construction. These materials will be secured so they are not blown or washed away.
- ▲ **APM BIO-9:** Exclusion zones will be established around any identified special-status botanical species. In consultation with a qualified biologist, CalPeco will first attempt to avoid effects of project implementation on special-status plants and protect occurrences *in situ*. In the event that a special-status plant occurrence cannot be avoided by construction activities, CalPeco will notify CPUC, CDFW, TRPA, and/or USFS, as applicable depending on the species regulatory status. CalPeco will consult with CDFW, TRPA, and/or USFS in order to establish appropriate mitigation measures. If seed collection or transplantation are selected as appropriate mitigations, then the following measures will apply: a) CalPeco will collect any mature seeds from the affected plants and store them at an appropriate native plant nursery or comparable facility; b) upon the completion of work, CalPeco will redistribute the seeds within the original location of the occurrence; c) CalPeco will establish performance standards for survivorship and will also monitor and document the success rate of the transplanted individuals for three consecutive growing seasons; d) if performance standards are not met, corrective measures will be implemented and monitoring and adaptive management continued until success criteria are met. Specifically for *Plumas ivesia*: if, through consultation with an occurrence's land manager, it is determined that *Plumas ivesia* plants cannot be avoided or protected *in situ*, then CalPeco will attempt to relocate all *Plumas ivesia* individuals. Plants that cannot be

avoided during construction will be relocated to suitable habitat surrounding the 650 Line. If relocation is unsuccessful, CalPeco will consult with the CDFW and USFS in order to determine the cause of relocation failure and to establish appropriate corrective remedial measures.

- ▲ **APM BIO-10:** Any special-status botanical species identified during the floristic surveys will be documented and photographed, and a Native Species Field Survey Form will be submitted to the CNDDDB. CalPeco will notify and provide documentation to CPUC, CDFW, TRPA, and/or USFS, as applicable depending on the species listing status.
- ▲ **APM BIO-24:** If invasive plant infestations are later identified throughout the course of construction in staging areas, parking areas, or access routes, they will be treated according to APM BIO-4 & BIO-8.
- ▲ **APM BIO 1, APM BIO-21, APM BIO-23, APM BIO-26, APM BIO-28, APM BIO-30, and APM BIO-36,** as described above under Impacts 4.7-1 and 4.7-2, include measures to avoid and minimize impacts on vegetation and sensitive habitats.
- ▲ **APM BIO-35:** No harm, harassment, or collection of plant and wildlife species will be allowed. Feeding of wildlife will be prohibited.
- ▲ **APM AQ-2:** Unpaved areas subject to vehicle access will be stabilized using water at least two times daily, or as needed to control fugitive dust. On NFS lands, unpaved roads will be watered at least as often as specified in Forest Service Handbook 2409.15 (USFS 1992). A locally approved chemical dust palliative, applied according to the manufacturer’s recommendations, may be substituted for watering with approval from the applicable land owner/manager.
- ▲ **APM AQ-4:** Prior to any ground disturbance, sufficient water will be applied to the area to be disturbed in order to control fugitive dust emissions.
- ▲ **APM AQ-7:** Traffic speeds on unpaved roads and the ROW will be limited to 15 miles per hour.
- ▲ **APM AQ-10:** Trucks transporting bulk materials off-site will be maintained such that no spillage can occur from holes or other openings in the cargo compartments. Loads will be completely covered or the bulk material will be wetted and loaded to maintain 6 inches of freeboard from the top of the container.

Through implementation of the APMs, Plumas ivesia, Mingan moonwort, and Galena Creek rockcress occurrences would be avoided to the extent feasible, mitigation measures would be established for plants that cannot be avoided, and suitable habitat that is degraded as a result of project implementation would be restored following disturbance. Under Alternative 1 (PEA Alternative), the applicant would be required to identify and avoid special-status botanical species or fully mitigate effects through measures such as salvaging seed and soil, relocating individuals, and restoring habitat to pre-project conditions. Consequently, implementing Alternative 1 (PEA Alternative) would not substantially affect the abundance or distribution, either directly or through habitat modifications, of Plumas ivesia, Mingan moonwort, Galena Creek rockcress, or any other special-status botanical species. Therefore, this impact would be **less than significant**.

**MITIGATION MEASURES**

*No mitigation measures are required.*

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<b>IMPACT 4.7-4 (Alt.1)</b>	<b>Tree removal and loss of late seral/old growth forest.</b> Implementing Alternative 1 (PEA Alternative) would result in substantial tree removal, as defined by TRPA, and could result in the loss of late seral/old growth forest stands, which could interfere with attainment of late seral/old growth forest threshold standards. Therefore, this impact would be <b>significant</b> .
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Implementing Alternative 1 (PEA Alternative) would result in substantial tree removal as defined by TRPA (i.e., project activities of three acres or more and proposing the removal of more than 100 live trees 14 inches dbh or larger). Though the specific number of trees that would be removed under Alternative 1 (PEA Alternative) is not

known, it would undoubtedly be more than 100 trees 14 inches or greater dbh and would include a large number that are greater than 24 inches dbh. Furthermore, implementing Alternative 1 (PEA Alternative) would result in substantial removal of trees measuring 6 inches or greater dbh and more than 50 percent of existing native trees within the project footprint in Placer County, which would conflict with the County's tree ordinance.

Tree removal within the narrow electric line ROW would not result in substantial changes in stand structure or composition or in the distribution of plant communities in the project area overall and would not result in a change in the natural functioning of a late seral or old-growth ecosystem. Furthermore, the 650 Line would be rebuilt in the same alignment as the existing 650 Line under this alternative, but the vegetation management corridor would expand from approximately 20 feet to 40 feet. Because this existing line is already maintained as a utility corridor, the number of trees measuring 14 inches or greater is limited within the ROW and trees over 24 inches dbh are scarce. Nonetheless, tree removal within the new 625 Line ROW and the expanded 650 Line ROW would be substantial.

Relatively little of the forest habitat in the study area exhibits structural characteristics that are generally thought to typify old growth forest communities. However, implementing Alternative 1 (PEA Alternative) would result in permanent loss of approximately 0.37 acre of late seral/old growth forest, as mapped by TRPA for the 2011 Threshold Evaluation Report (i.e., stands dominated by trees greater than 24 inches dbh). Another 0.23 acre is within the temporary construction corridor; however, temporary construction disturbances would be avoided in any areas containing late seral/old growth forest.

Removing trees greater than 6 inches dbh from non-Federal lands within Placer County requires a permit from the County and removing greater than 50 percent of existing trees in the project footprint would be a conflict with the County tree ordinance. Removing trees greater than 14 inches dbh in the Tahoe Basin requires a permit from TRPA and the loss of trees greater than 24 inches dbh could conflict with achievement of TRPA late seral/old growth threshold standards. However, large utility projects such as this are exempted from the prohibition on cutting trees greater than 24 inches in eastside forests and greater than 30 inches dbh in westside forests when there is no reasonable alternative.

While APM BIO-1, APM BIO-21, APM BIO-28, APM BIO-36, and APM BIO-37, as described above under Impacts 4.7-1 and 4.7-2, have been incorporated into the project design to minimize, avoid, and reduce impacts associated with tree removal and loss of late seral/old-growth forest, impacts would still be significant since attainment status for TRPA late seral/old growth forest threshold standards is considerably worse than target and it is anticipated to take 100 years or more to achieve targets. Therefore, any tree removal and loss of late seral/old growth forest under Alternative 1 (PEA Alternative) would be a **significant** impact.

## MITIGATION MEASURES

The following mitigation measure would be implemented by CalPeco to minimize, avoid, and compensate for tree removal and potential adverse effects on late seral/old growth forest stands and ensure consistency with TRPA Code.

### **Mitigation Measure 4.7-4 (Alt. 1): Conduct a Tree Survey; Avoid Late Seral/Old-Growth Forest; Compensate for Loss of Trees.**

*A Registered Professional Forester (RPF) shall conduct a focused tree survey to identify, map, and tabulate the number of trees in each relevant size class (6 inches or greater on non-Federal lands in Placer County, greater than 14 inches within the jurisdiction of TRPA, greater than 24 inches eastside, greater than 30 inches westside) that would be removed as a result of the project.*

*Following completion of the focused tree survey, a timber harvest/tree removal plan shall be prepared by a RPF. The plan shall include applicable APMs and additional necessary prescriptions for tree removal, water quality protection, protection of preserved trees, slash disposal, fire protection, and tree replacement. The plan*

shall contain all information required to be in a tree information report under the Placer County tree ordinance, for obtaining a tree removal permit. The plan shall comply with the minimum standards for tree removal, as described under TRPA Code 61.1.6 and with CAL FIRE timber harvesting plan standards, as applicable, under the Forest Practice Act. Before implementing any project activities that involve tree removal, the timber harvest plan shall be submitted to CAL FIRE for review and approval. Once approved, the plan shall be incorporated into the project design and all conditions of approval shall be implemented. CalPeco shall obtain a tree removal permit from TRPA for tree removal within the Lake Tahoe Basin.

For construction on non-Federal lands within Placer County, CalPeco will implement APM BIO-36 and APM BIO-37 to restore vegetation disturbed by the project and offset the loss of trees in the new 625 Line; however, this may not be sufficient to fully offset the loss of trees resulting from project implementation. If it is determined that the loss of trees protected under County ordinance cannot be fully offset through implementation of APM BIO-37, CalPeco shall either replace trees at an offsite location or contribute to the County's Tree Preservation Fund; as determined in coordination with the County and in accordance with the Placer County Tree Ordinance (12.16.080 Replacement program and penalties). Before Improvement Plans are approved, the applicant shall provide proof to the County that one, or a combination, of the mitigation options described above has been completed and/or funded. Proof of mitigation fulfillment will also be provided to CDFW.

CalPeco shall avoid loss of old growth forest to the extent feasible. If loss of late seral/old growth forest is unavoidable, CalPeco shall compensate for the loss of late seral/old growth forest through the development and implementation of a forest management plan, prepared by a RPF, to facilitate establishment of late seral/old growth forest stands and enhance existing late seral/old growth forest stands. The forest management plan shall include management actions, such as fuels and vegetation treatments, to facilitate and enhance old-growth development within the existing 625 Line to be removed and/or other potential treatment areas. The forest management plan shall clearly describe how the project shall achieve TRPA threshold standards for late seral/old growth forest enhancement, identify priority locations where enhancement actions could be implemented to achieve the plan's objectives, and include a funding component for late seral/old growth forest enhancement projects. The forest management plan shall be approved by TRPA before removal of any forest stands identified as late seral/old growth forest.

Implementation of this mitigation measure would reduce the significant impacts associated with tree removal, conflict with county tree protection ordinances, and loss of late seral/old growth forest to a **less-than-significant** level because it would ensure that tree removal and old growth forest removal are avoided to the extent feasible and that the applicant compensates for unavoidable losses.

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<b>IMPACT 4.7-5 (Alt.1)</b>	<b>Introduction and spread of invasive plants.</b> Project construction could result in the introduction or spread of invasive plant species through seed mixes, equipment, and other materials. Areas disturbed during construction can provide ideal conditions for weed establishment. APMs included in the project design would avoid and minimize potential adverse effects from the introduction and spread of invasive plants, but not necessarily to a less-than-significant level. Therefore, this impact is <b>potentially significant</b> .
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Implementing Alternative 1 (PEA Alternative) could result in the spread of invasive plants that are present in the study area, as described in the project's Invasive Plant Risk Assessment (IPRA). Additionally, new invasive plant species could be introduced into the study area during construction. New access ways and new electric line easements could create new pathways for the introduction and spread of invasive plants into areas that are not currently infested and construction equipment and personnel could inadvertently pick up weed seeds or propagules and distribute them throughout construction areas. Erosion-control materials, seed mixes, and unwashed construction equipment can transport propagules of invasive plants to construction sites where disturbed areas can provide ideal conditions for their establishment, and aid their spread into adjacent native plant communities.

Once established, invasive plant species can alter ecosystem processes having serious deleterious effects on native biological communities. Potential impacts include alteration of hydrological patterns, fire cycles, and soil chemistry; reduction of nutrient, water, and light availability; and reduced biodiversity (Coblentz 1990, Vitousek *et al.* 1996, CallIPC 2006). The effects of invasive plant species can also decrease wildlife habitat values. These effects would be potentially significant without measures to avoid and minimize the spread and introduction of invasive plants.

The risk of spreading invasive plants is greater under Alternative 1 (PEA Alternative) than under any of the other action alternatives because the other action alternatives would result in less ground disturbance and fewer acres of native vegetation removal. Alternatives 3, 3A, and 4 would be constructed along existing roadways and rely more heavily on existing roads for access thereby reducing the amount of new road construction and newly created bare ground for weeds to establish. Alternative 2 (Modified Alternative) would follow a straighter alignment in some segments thereby reducing impact acreage compared to Alternative 1. Implementing Alternative 1 (PEA Alternative) would result in removal or disturbance of approximately 231 acres of native vegetation cover as compared to 206 acres under Alternative 2 (Modified Alternative), 182 acres under Alternative 3 (Road Focused Alternative), 180 acres under Alternative 3A (Road Focused Alternative with Double-Circuit Option), and 167 acres under Alternative 4 (Proposed Alternative). Therefore, the risk of introduction and spread of invasive plants is potentially significant under Alternative 1 (PEA Alternative) and greater than under the other action alternatives.

APMs BIO-3, BIO-4, BIO-5, BIO-6, BIO-7, BIO-8, BIO-24, BIO-26, BIO-30, and BIO-36 have been incorporated into the project design to minimize, avoid, and reduce potential adverse effects of invasive plants. In particular, the applicant will be required to treat known infestations prior to implementation and avoid (or mitigate potential spread through barriers) infestations during all construction activities. The APMS also require that weed-free materials be used and equipment be inspected for invasive plants prior to use, reducing the potential introduction of invasive plants during the use of imported equipment and materials. These APMs would reduce potential adverse effects from the spread or introduction of invasive plants; however, potential conflicts with the Forest Service Noxious Weed Management strategy could still result. This would be a **potentially significant** impact.

## MITIGATION MEASURES

The APMs described above would reduce potential adverse effects from the spread or introduction of invasive plants. In addition, the following mitigation measure would be implemented to ensure consistency with the Forest Service invasive plant management direction and further reduce potential adverse effects from the spread and introduction of invasive plants.

### **Mitigation Measure 4.7-5 (Alt. 1): Utilize Local Native Seed and Notify Noxious Weed Coordinator.**

*CalPeco shall utilize locally collected native seed sources for revegetation when possible. Plant and seed material shall be collected from or near the project area, from within the same watershed, and at a similar elevation when possible and with approval of the USFS botanist. Persistent nonnatives such as cultivated timothy (Phleum pretense), orchard grass (Dactylis glomerata), or ryegrass (Lolium spp.) shall not be used.*

*After the project is completed, the USFS noxious weed coordinator shall be notified so that the project area can be monitored by the USFS if desired. Monitoring could be for up to three years (as funding allows) subsequent to project implementation to ensure additional nonnative invasive species do not become established in the areas affected by the project and to ensure that known nonnative invasive species do not spread.*

Implementation of the APMs and this mitigation measure would reduce and prevent potentially significant impacts from the introduction and spread of invasive plants because the applicant would be required to treat,

avoid or mitigate effects from known invasive plant infestations prior to construction; revegetate temporary disturbance areas with native vegetation and locally collected native plants and seeds; clean weed seed and propagules from equipment so they are not introduced as part of construction activities; utilize weed-free materials to prevent new introductions; and monitor after construction is completed to ensure new infestations do not become established. Collectively, these measures would substantially reduce the risk of invasive plant introduction and spread resulting from proposed activities to a **less-than-significant** level. .

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<b>IMPACT 4.7-6 (Alt.1)</b>	<b>Disturbance or loss of special-status wildlife species and habitats.</b> Implementation of Alternative 1 (PEA Alternative) could disturb the foraging and movement patterns of individuals, affect breeding activities and reproductive success, cause direct mortality, and disturb or remove suitable habitat for special-status wildlife species. With implementation of APMs to avoid, minimize, and compensate for impacts to wildlife resources generally and several special-status species specifically, Alternative 1 (PEA Alternative) is not expected to substantially affect the distribution, breeding productivity, viability, or the regional population of any special-status species. However, vegetation removal would result in permanent habitat loss within TRPA-designated disturbance zones around northern goshawk nests, which is prohibited by TRPA. Therefore, this impact to northern goshawk would be <b>significant</b> .
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Nine special-status wildlife taxa have been documented in the study area: waterfowl, northern goshawk, California spotted owl, northern harrier, black-backed woodpecker, willow flycatcher, yellow warbler, Pacific marten, and mule deer. Eight additional special-status wildlife species were identified as having a moderate or high potential to occur within the study area (Table 4.7-5). Potential impacts are discussed below for each species. Level of significance and a discussion of any impacts that would be considered significant are provided at the end of each species discussion and under "Impact Summary," below.

Appendix L summarizes the USFS NEPA and ESA effects determinations for species federally listed or proposed for listing as threatened or endangered under the ESA, species designated as a candidate for listing, critical habitat, and Forest Service sensitive species, as analyzed and concluded in the BA and Animal BE.

## NORTHERN GOSHAWK

Northern goshawk is designated as a sensitive species by USFS Region 5 for the LTBMU and the Tahoe National Forest, a species of special concern by CDFW, and a special-interest species by TRPA. In the Sierra Nevada, northern goshawks breed at elevations from approximately 2,500 feet in the ponderosa pine/mixed-conifer vegetation types through approximately 10,000 feet in the red fir and lodgepole pine vegetation types, and throughout eastside pine forests on the east slope (Bloom et al. 1986). Additionally, northern goshawks nest in aspen stands occurring in shrub vegetation types on the eastern slope of the Sierra Nevada (Bloom et al. 1986). Northern goshawks are year-round residents in the Lake Tahoe region and are suspected to be year-round residents throughout the Sierra Nevada, although some limited seasonal altitudinal movements may occur.

Suitable foraging habitat for northern goshawk is present throughout most of the study area along the 625 Line and portions of the 650 Line, and goshawks have been detected in several segments along the 625 Line. Habitat suitable for nesting is also present throughout the study area; however, except for some areas within Segments 625-9 and 625-10, nesting activity has not been documented throughout most of the study area (Exhibit 4.7-3). Nesting habitat quality within the study area may be limited by forest structure and/or levels of disturbance (e.g., from trail and other recreation uses) throughout much of the area.

One northern goshawk protected activity center (PAC) is present within the study area along Segment 625-10 (Griff Creek PAC) (Exhibit 4.7-3), and three additional areas have documented concentrations of goshawk activity. All of these areas are located near recent or historic goshawk nests. In addition, portions of three TRPA-designated disturbance zones around goshawk nests are also included in the study area along Segments 625-10

and 625-9 (Exhibits 4.7-3 and 4.7-4). The TRPA disturbance zones in the study area occur within three TRPA plan areas: Martis Peak, Kingswood East, and Woodvista. TRPA's habitat nondegradation standard within these disturbance zones applies only to habitat within the Martis Peak plan area; Kingswood East and Woodvista are considered urban plan areas, where the nondegradation standard does not apply. The distribution of goshawk PACs, TRPA disturbance zones, recent and historic nests, and other detections of individuals in and near the study area are shown on Exhibit 4.7-3. A PAC is a USFS land designation around the known or suspected (based on patterns of concentrated use) nesting or denning area of a particular species that is present in a given area; the size of a PAC depends on the species involved.

Northern goshawk PACs are delineated by USFS to include the best available 200 acres of nesting habitat around known or suspected nest sites, as described in the Management Direction for the Sierra Nevada Forest Plan Amendment (USFS 2001, 2004). The total acreage included in goshawk PACs on the LTBMU varies, because "non-forest vegetation (e.g., montane meadow, chaparral) should not be counted as part of the 200 acres" (USFS 2004). All LTBMU goshawk PACs were remapped in 2008 to incorporate the most up-to-date detection, nest location, and land boundary information available. Further remapping was conducted in 2012 for PACs affected by LTBMU's South Shore Fuels Reduction and Healthy Forest Restoration project; however, none of these PACs are in the study area.

The western edge of the Griff Creek northern goshawk PAC intersects the study area along Segment 625-10 near the Kings Beach Substation. The existing power line, which would be replaced in its current location under Alternative 1 (PEA Alternative), is located along this portion of the PAC's western boundary. Habitat within the Griff Creek PAC consists primarily of Sierran mixed conifer forest, with some montane riparian habitat. Suitable habitat for goshawk in the study area outside of the Griff Creek PAC additionally includes Jeffrey pine and white fir forest. Much of the potential habitat for northern goshawk in the Griff Creek PAC, and elsewhere, in the study area may only be suitable for foraging, rather than nesting. Goshawks are highly sensitive to disturbance, especially during pair bonding and the nesting initiation phase (mid-February through late May) (USFS 2001). Much of the habitat within the study area is bisected by several roads and trails that receive a variety of recreational use. Therefore, high-quality nesting habitat may be limited within the study area, but suitable foraging habitat is present throughout the study area and northern goshawks have been documented along the 625 Line, especially at the eastern end near Griff Creek (see Exhibit 4.7-3).

In the short term, project activities related to construction of the new 625 and 650 Lines, and decommissioning of the existing 625 Line, could temporarily disturb northern goshawks and/or their habitat located within the study area. Temporary disturbances resulting from noise and increased human activity within northern goshawk habitat, or other project activities such as low-flying helicopter operations near occupied habitat, could affect foraging, movement, and reproductive activity of northern goshawks. Such disturbances may cause individuals to temporarily leave an area to avoid the disturbance and may also cause changes in behavior and local distribution of their prey species, thus influencing goshawk foraging activity and patterns. However, disturbances associated with construction activity would occur locally and over short periods of time in a given area, and would not be expected to affect significant portions of an individual's foraging range. Because northern goshawks are particularly sensitive to disturbance, especially during the breeding season, they may abandon nests if disturbance levels increase in a given area.

Direct mortality of individuals may result from collisions with the conductor and electrocution. Bird collisions with existing power facilities typically occur to migratory bird species and are generally due to poor visibility of electrical lines. Factors leading to avian collisions with existing power lines include a lack of visual cues that make the lines stand out against the surrounding environment. Most bird electrocutions occur on distribution systems at lower voltages due to the closer spacing between conductors. The closer spacing is more of a potential hazard to raptors and other large birds because their body size and wingspan are large enough to span the distance between the wires, completing the electrical circuit.

Habitat for northern goshawks would be removed and/or disturbed to construct the new 625 and 650 Lines, and access roads and staging areas for use during and after construction. Table 4.7-10 summarizes the amount of potential habitat estimated within PACs, TRPA disturbance zones, and undesignated areas (i.e., habitat outside

**Table 4.7-10 Permanent and Temporary Effects on Northern Goshawk Habitat<sup>1</sup>**

Habitat Area <sup>2</sup>	Alternative 1 (PEA Alternative)				Alternative 2 (Modified Alternative)				Alternative 3 (Road Focused Alternative)				Alternative 3A (Double Circuit Option)				Alternative 4 (Proposed Alternative)			
	Permanent (acres)			Additional Temp (acres)	Permanent (acres)			Additional Temp (acres)	Permanent (acres)			Additional Temp (acres)	Permanent (acres)			Additional Temp (acres)	Permanent (acres)			Additional Temp (acres)
	Disturb/Loss <sup>3</sup>	Enhance/Gain	Net Change		Disturb/Loss <sup>2</sup>	Enhance/Gain	Net Change		Disturb/Loss <sup>2</sup>	Enhance/Gain	Net Change		Disturb/Loss <sup>2</sup>	Enhance/Gain	Net Change		Disturb/Loss <sup>2</sup>	Enhance/Gain	Net Change	
<b>PAC</b>																				
Griff Creek	-0.1		-0.1	-0.2	-0.2		-0.2		-0.2		-0.2			+0.06	+0.06		-0.2		-0.2	
<b>TRPA Disturbance Zones<sup>4</sup></b>																				
Nonurban Plan Area <sup>5</sup>	-3.9	+0.7	-3.2	-4.4	-7.1	+0.7	-6.4	-1.6	-1.6	+1.9	+0.3	-0.6		+2.3	+2.3		-1.6	+1.9	+0.3	-0.6
Urban Plan Area <sup>6</sup>	-0.4		-0.4	-0.33	-0.04		-0.04	-0.2	-0.6		-0.6	-0.6	-2.5		-2.5		-0.6		-0.6	-0.6
<b>Other/Undesignated Areas</b>																				
	-125.4	+20.0	-105.4	-64.6	-113.7	+19.2	-94.5	-56.4	-78.2	+20.9	-57.3	-62.3	-79.0	+21.0	-58.0	-61.3	-76.9	+20.9	-56.0	-60.9
<b>Total<sup>4</sup></b>	<b>-129.8</b>	<b>+20.7</b>	<b>-109.1</b>	<b>-68.4</b>	<b>-121.1</b>	<b>+19.9</b>	<b>-101.2</b>	<b>-58.2</b>	<b>-80.6</b>	<b>+22.8</b>	<b>-57.8</b>	<b>-63.5</b>	<b>-81.5</b>	<b>+23.4</b>	<b>-58.1</b>	<b>-61.3</b>	<b>-79.3</b>	<b>+22.8</b>	<b>-56.5</b>	<b>-62.1</b>
<sup>1</sup> Impact acreages assume implementation of APMS SCE-7 and SCE-8, which include an alignment setback away from SR 267 under Alternatives 1, 3, 3A and 4 for the 650 Line, and a setback away from the Truckee River and into the 64-Acre parcel under Alternatives 1, 3, 3A, and 4 for the 625 Line. <sup>2</sup> For purposes of this analysis, potential northern goshawk habitat includes the following CWHR Types: Jeffrey Pine, Jeffrey Pine/White Fir, White Fir/Red Fir, Red Fir, and Sierran Mixed Conifer Forest. <sup>3</sup> Where the new power line corridor would follow and expand the width of the existing 625 Line corridor, the amount of habitat affected refers specifically to overstory forest cover that would be removed to widen the existing disturbed/managed corridor (i.e., the calculation of new habitat loss does not include the amount of existing disturbed corridor). <sup>4</sup> Because TRPA non-degradation buffers overlap with PACs at some locations, column values do not sum to the total. <sup>5</sup> Nonurban Plan Areas refers to the portion of the TRPA disturbance zones within the Martis Peak TRPA Plan Area. TRPA's nondegradation standard for habitat within goshawk disturbance zones applies to nonurban plan areas only. <sup>6</sup> Urban Plan Areas refers to the portion of the TRPA Disturbance Zone within the Kingswood East or Woodvista TRPA Plan Areas. TRPA's nondegradation standard for habitat within goshawk disturbance zones does not apply to urban plan areas.																				

of PACs and non-degradation zones) that would be disturbed or removed permanently and temporarily as a result of implementation of all action alternatives. Table 4.7-10 also summarizes the amount of habitat potentially gained or enhanced where the existing 625 Line would be removed and revegetated (see APM BIO-37), and the long-term net change in the amount of suitable habitat when considering both disturbances/losses and enhancements/gains. For purposes of this analysis, potential habitat was generally assumed to include all conifer forest types mapped in the study area. This assumption is very conservative, because not all of these areas likely function as suitable nesting or foraging habitat, due to variability in stand structure and canopy closure, forage quality, presence of potential nesting trees, levels of existing disturbance, and other biophysical factors. Therefore, the habitat acreage values shown in Table 4.7-10 and referenced throughout this analysis overestimate the potential effect on goshawk habitat.

Overall, implementation of Alternative 1 (PEA Alternative) would initially result in the permanent loss or disturbance of up to 129.8 acres of potential habitat for northern goshawk over the study area. Of this total amount, 0.1 acre would occur in the Griff Creek PAC, and 3.9 acres would occur within the nonurban portion of three partially-overlapping TRPA disturbance zones (Table 4.7-10; Exhibits 4.7-3 and 4.7-4), which represents approximately 0.05 percent of the PAC and 0.4 percent of the TRPA disturbance zone area. Over the long term, because the existing 625 Line would be decommissioned and vegetation would be allowed to reestablish within the existing 20-foot vegetation management corridor, the net permanent disturbance/loss would be reduced to approximately 109.1 acres overall and 3.2 acres in the nonurban portion of TRPA disturbance zones (there would be no change in PAC acreage affected). Disturbance or loss of suitable goshawk habitat along Segments 625-9 and 625-10, where the Griff Creek PAC, TRPA disturbance zones, and most documented goshawk activity are located, would be relatively limited as the new 625 and 650 Lines would follow the existing ROW where vegetation is already cleared. However, additional clearance of vegetation would need to occur along the existing line here and throughout the study area to accommodate the wider clearance requirement for a 125 kV line (expanding the existing 20-foot vegetation management corridor to 40-feet). Because the existing 625 Line ROW follows the western boundary of the Griff Creek PAC, habitat disturbances and loss (0.3 acre) that extend into the PAC would be limited to its western edge and avoid the PAC's core or interior. Additionally, although the study area in Segments 625-9 and 625-10 is located within or adjacent to a goshawk PAC and within TRPA disturbance zones, much of the habitat there is relatively low-quality due to existing vegetation disturbances and clearance, disturbance from adjacent neighborhoods, and edge effects from adjacent residential and commercial land uses.

In addition to up to 129.8 acres of permanent habitat loss, implementation of Alternative 1 (PEA Alternative) would result in 68.4 acres of temporary habitat disturbance, including some within the Griff Creek goshawk PAC and TRPA disturbance zones (Table 4.7-10). Additional temporary effect is the maximum amount, in addition to what would remain as a permanent ROW or access road following project construction, assumed for temporary construction. This is based on a 65-foot-wide construction corridor along the entire length of the electric line alignments, minus the 40-foot-wide permanent maintenance ROW. Additional acreage of temporary habitat effects result from vegetation removal at staging. These impacts are considered temporary because these areas would be restored and revegetated following construction. Some large trees could be removed during temporary construction activities. However, no trees used by northern goshawks for nesting would be removed. Despite the potential removal of large trees, the post-restoration conditions of temporary construction areas would not be outside the range of habitat types that contribute to suitable goshawk habitat and territories; goshawk habitat is typically a mosaic of nesting and foraging habitats, consisting of mature forest stands interspersed with patches of native shrub and herbaceous vegetation (Youtz et al. 2008).

The following APMs have been incorporated into the project design to avoid, minimize, and compensate for impacts to wildlife resources generally and northern goshawk specifically.

- ▲ **APM BIO-11:** CalPeco will conduct protocol-level surveys during the appropriate season prior to construction in a particular area to determine whether northern goshawks or California spotted owls are

nesting in planned work areas within suitable habitat along the new 625 Line, existing 625 Line, and 650 Line, including USFS-designated PACs or HRCAs.

- ▲ **APM BIO-12:** No vegetation management or treatment or other construction activities, other than vehicle passage on existing roadways, will occur within 0.25 mile of active California spotted owl nests during the breeding season (March 1 to August 31) or within 0.50 mile of active northern goshawk nests during the breeding season (February 15 to September 15), unless protocol-level surveys confirm that the birds are not nesting. A qualified biologist will have the ability to amend the start and end dates of these breeding seasons with concurrence from appropriate agencies if it can be determined that breeding has not started or that fledglings have left the nest. If the location of a nest site within a PAC is unknown, either surveys are required to locate the nest stand and determine nesting status or, as an alternative to surveys, an activity buffer will be applied to the 0.25-mile area surrounding the PAC. The activity buffer may be waived for activities of limited scope and duration, when a biological evaluation determines that such projects are unlikely to result in breeding disturbance considering their intensity, duration, timing, and specific location. Where a biological evaluation concludes that a nest site will be shielded from planned activities by topographic features that will minimize disturbance, the buffer distance may be modified in coordination with the USFS.
- ▲ **APM BIO-13:** To offset permanent removal of suitable habitat within designated PACs and HRCAs, CalPeco will assist the USFS in locating additional suitable habitat immediately adjacent to the PAC or HRCA removed to form a new PAC to support the USFS's goal of establishing additional PACs and maintaining specific acreages of California spotted owl and northern goshawk PACs and HRCAs. The amount of suitable habitat designated as a PAC or HRCA for each species is as follows: a spotted owl PAC is 300 acres, a northern goshawk PAC is 200 acres, and a spotted owl HRCA is 1,000 acres. CalPeco will coordinate with the USFS to identify areas of interest and understand the desirable components or key criteria of suitable habitat used for PAC and HRCA designation. As an alternative to assisting USFS in locating additional suitable habitat adjacent to a PAC or HRCA, CalPeco will provide monitoring support for new PAC or HRCA areas established by USFS as a result of the project. The specific objectives, timing, and duration of monitoring will be agreed upon by CalPeco and USFS.
- ▲ **APM BIO-19:** Power poles will be constructed to conform to the practices described in the Suggested Practices for Avian Protection on Power Lines Manual developed by the Avian Power Line Interaction Committee (2006).

In addition, all of the APMs that would protect and minimize removal of trees and other vegetation resources described above in Impact 4.7-1 (Alt. 1), Disturbance or Loss of Common Vegetation Communities and Wildlife Habitats, Impact 4.7-2 (Alt. 1), Disturbance or Loss of Sensitive Habitats, and Impact 4.7-4 (Alt. 1), Tree Removal and Loss of Late Seral/Old Growth Forest (APM BIO-1, -BIO-21, -23, -26, -28, -36, and -37) would also reduce and partially compensate for potential effects on goshawk habitat. To compensate for permanent removal of suitable habitat within designated PACs, CalPeco proposes to conduct additional protocol-level surveys, under APM BIO-13, and assist USFS in locating additional suitable or best available habitat immediately adjacent to the PAC. These commitments are intended to assist USFS in achieving its goal of establishing additional PACs and maintaining specific acreages of northern goshawk PACs, as described in APM BIO-13. This measure would support any potential reconfiguring or expansion of the Griff Creek PAC to include additional habitat of equal or better quality and function to that affected, which would offset project-related impacts to the PAC, if USFS pursues that option. As described above, habitat that would be affected in the Griff Creek PAC is along its western edge and relatively low-quality due to existing vegetation disturbances and clearance, disturbance from adjacent neighborhoods, and edge effects from adjacent residential and commercial land uses. Therefore, opportunities to improve PAC quality and function by adding higher-quality habitat to the PAC from other adjacent areas may exist. As part of this measure, CalPeco will first coordinate with USFS to develop clear objectives and preferences for additional PAC evaluation and designation/realignment, understand the key environmental variables and constraints used for PAC designation, and identify priority/target areas for evaluation.

Although APM BIO-13 would provide compensation for the small amount of permanent habitat loss or disturbance within the Griff Creek northern goshawk PAC (0.1 acre), up to approximately 129.7 acres of potential goshawk habitat would initially be affected in areas outside the PAC under Alternative 1 (PEA Alternative). Over time, because the existing 625 Line would be decommissioned and native vegetation is expected to reestablish within most of the existing 20-foot vegetation management corridor (see APM BIO-37), the net permanent disturbance/loss would be approximately 109 acres. This represents a small proportion of the total amount of available habitat for goshawk in the vicinity of the project area along its entire length; and these habitats are relatively abundant in the Truckee Tahoe region. Forest or other native vegetation recruitment, development, and succession within the decommissioned ROWs would benefit goshawk habitat in those areas, by providing additional cover and foraging habitat for goshawks and their prey species. Additionally, APM BIO-37 requires that decommissioned ROWs be evaluated for soil compaction or other factors that could limit the recruitment and reestablishment of native vegetation over time, and apply appropriate treatments to facilitate native vegetation development as needed. Also, no goshawk nest sites are known to occur within areas where potential habitat would be permanently removed.

With implementation of the APMs described above, Alternative 1 (PEA Alternative) is not expected to substantially affect the distribution, breeding productivity, viability, or the regional (Tahoe-Truckee) population of northern goshawk. This conclusion is based on the following: 1) although individuals could be disturbed during project construction, disturbances to breeding goshawks, effects on reproductive success, and the potential for direct mortality would be avoided or minimized through implementation of APM BIO-11; 2) impacts to suitable habitat within the Griff Creek PAC would be minor (up to 0.1 acre, or 0.05 percent of the PAC, along the PAC's edge) and would be compensated for; 3) tree and other vegetation removal would be minimized, and habitat would be restored to preproject conditions in temporary construction areas; 4) no occupied nest sites would be removed; and 5) the permanent loss of potential habitat would be small relative to the total amount available in the area, and likely limited primarily to foraging habitat. However, despite implementation of the APMs, the long-term habitat gains or enhancements where the existing 625 Line would be removed, and the finding that Alternative 1 (PEA Alternative) is not expected to substantially affect goshawk individuals or populations, vegetation removal under Alternative 1 would result in a net permanent habitat loss within TRPA-designated disturbance zones around northern goshawk nests in nonurban areas (3.2 acres), which is prohibited by TRPA. Therefore, this impact to northern goshawk would be **significant**.

## CALIFORNIA SPOTTED OWL

California spotted owl is designated as a sensitive species by USFS Region 5 for the LTBMU and the Tahoe National Forest, and a species of special concern by CDFW. California spotted owl occurs in several forest vegetation types: mixed conifer, ponderosa pine, red fir, and montane hardwood. In the Sierra Nevada, approximately 80 percent of known spotted-owl sites occur in mixed conifer forest, 10 percent are in red fir, 7 percent are in ponderosa pine/hardwood forest, and 3 percent occur in foothill riparian/hardwood forest and eastside pine (USFS 2001). Nesting habitat is generally characterized by dense canopy closure (i.e., 70 percent or greater) with medium to large trees and multistoried stands (i.e., at least two canopy layers). Foraging habitat can include intermediate to late-successional forest with greater than 40 percent canopy cover (Verner et al. 1992).

Management direction for spotted owl on national forest lands in Region 5 is to manage PACs and Home Range Core Areas (HRCAs) as described in the Record of Decision for the Sierra Nevada Forest Plan Amendment. A California spotted owl PAC is an area 300 acres in size that includes the best available habitat around known or suspected nest stands in as compact a unit as possible (USFS 2001, 2004); HRCAs are 1,000-acre land allocations of base habitat that include the 300-acre PAC. All LTBMU spotted owl PACs and HRCAs were remapped in 2008 to incorporate the most current detection, nest location, and land boundary information available. Further remapping was conducted in 2012 on the LTBMU for PACs affected by the South Shore Fuels Reduction and Healthy Forest Restoration project. However, none of these PACs are in the study area. The Tahoe National Forest refined existing and delineated new PACs and HRCAs according to direction in the Sierra Nevada Forest

Plan Amendment (SNFPA) (USFS 2001) during February 2003. This work is updated at least once a year to add new or revise boundaries of PACs and HRCAs.

California spotted owl occurs throughout most of the study area, and has been documented several times along all segments of the 625 and 650 Lines within the Lake Tahoe Basin. Suitable foraging habitat for spotted owl is present throughout most of the study area along the 625 Line and portions of the 650 Line in the Tahoe Basin. Portions of two spotted owl PACs (Griff Creek, Mt. Pluto) and their associated HRCAs occur in the study area on LTBMU lands; additionally, portions of the Carnelian and Twin Crags HRCAs occur in the study area on LTBMU lands. The distribution of spotted owl PACs, HRCAs, recent and historic nests, and other detections of individuals in and near the study area are shown on Exhibit 4.7-3. Additionally, Exhibits 4.7-5 and 4.7-6 provide detailed maps of the action alternatives within the Griff Creek and Mt. Pluto PACs, respectively. The western edge of the Griff Creek spotted owl PAC intersects the study area along Segment 625-10 near the Kings Beach Substation; it also overlaps with the Griff Creek northern goshawk PAC, described above. The existing power line, which would be replaced in its current location under Alternative 1 (PEA Alternative), is located along this portion of the PAC's western boundary. The Griff Creek spotted owl PAC was intermittently active historically; however, the nest tree blew down in 2009 and no owls have been detected in the area since then. The Mount Pluto PAC is approximately centered along the study area in Segment 625-6/6A and the northeast end of Segment 625-5. This PAC was established based on previous activity of an owl pair, but a nest was never located in this area and owls have not been detected there since 2005. The Carnelian PAC, which is outside but immediately south of the study area near Segment 625-7, is active infrequently; a nest was located there in 2004 and an owl was detected in 2011. Surveys conducted by USFS in 2012 did not detect any owls in this area.

Other PACs and HRCAs outside but near the study area are the Painted Rock PAC and HRCA east of Segment 625-3 on Tahoe National Forest and LTBMU lands, and the Burton Creek PAC and HRCA southeast of Segment 625-4/4A on LTBMU lands (Exhibit 4.7-3). No spotted owl habitat is present within Martis Valley or on Tahoe National Forest lands near the Town of Truckee due to lack of suitable forest habitat, lack of connectivity to more suitable habitat, and high levels of disturbance and development.

High-quality nesting habitat is primarily located within the designated PAC areas, although additional potential nesting habitat and suitable foraging and roosting habitat are located within the broader HRCAs. Habitat within these designated areas in the study area consists primarily of coniferous forest types, including red fir, white fir, Jeffrey pine, and Sierran mixed conifer. Suitable habitats and several owl detections are also located outside of the designated spotted owl HRCAs and PACs throughout the study area, along the 625 Line and part of the 650 Line within the Lake Tahoe Basin. Overall, habitat quality for spotted owl varies throughout the study area, and the distribution and number of known active nests is limited in and adjacent to the study area; however, suitable foraging, roosting, and nesting habitat is well-distributed and spotted owls have been documented in every segment of the 625 and 650 Lines within the Lake Tahoe Basin.

In the short term, project activities related to construction of the new 625 and 650 Lines, and decommissioning of the existing 625 Line, could temporarily disturb spotted owls and/or their habitat located within the study area. Temporary disturbances resulting from noise and increased human activity within spotted owl habitat could affect foraging, movement, and reproductive activity of owls, and may cause individuals to temporarily leave an area to avoid the disturbance. However, because spotted owls are primarily nocturnal, construction activities (which would occur during the day) may not directly displace foraging owls. Construction activity and habitat disturbances could cause changes in behavior and local distribution of their prey species, thus influencing spotted owl foraging activity and patterns. However, disturbances associated with construction activity would occur locally and over short periods of time in a given area, and would not be expected to affect significant portions of an individual's foraging range. Breeding pairs of spotted owls tend to be more sensitive to disturbances associated with diurnal noise and increased human activity, and may abandon a nest location where disturbances are intense and persistent during the breeding season. Additionally, direct mortality of individuals may result from collisions with the conductor and electrocution, as discussed above for northern goshawk.

Habitat for spotted owl would be removed and/or disturbed to construct the new 625 and 650 Lines, and access roads and staging areas for use during and after construction. Table 4.7-11 summarizes the amount of potential habitat estimated within PACs, HRCAs, and undesignated areas that would be disturbed or removed permanently and temporarily as a result of implementation of all action alternatives. Table 4.7-11 also summarizes the amount of habitat potentially gained or enhanced where the existing 625 Line would be removed and revegetated (see APM BIO-37), and the long-term net change in the amount of suitable habitat when considering both disturbances/losses and enhancements/gains. For purposes of this analysis, potential habitat was generally assumed to include all conifer forest types mapped in the study area. This assumption is very conservative, because not all of these areas likely function as suitable nesting or foraging habitat, due to variability in stand structure and canopy closure, forage quality, presence of potential nesting trees, levels of existing disturbance, and other biophysical factors. Therefore, the habitat acreage values shown in Table 4.7-11 and referenced throughout this analysis overestimate the potential impact to spotted owl habitat.

Overall, implementation of Alternative 1 (PEA Alternative) would initially result in the permanent loss or disturbance of up to 129.8 acres of potential habitat for spotted owl; of this amount, 0.1 acre would occur in the Griff Creek PAC, and 6.2 acres would occur in the Mt. Pluto PAC (Table 4.7-11; Exhibit 4.7-5), which represents approximately 0.03 percent of the Griff Creek spotted owl PAC and 2.1 percent of the Mt. Pluto PAC area. Over the long term, because the existing 625 Line would be decommissioned and vegetation would be allowed to reestablish within the existing 20-foot vegetation management corridor, the net permanent disturbance/loss would be reduced to approximately 109.1 acres overall and 5.2 acres in the Mt. Pluto PAC (effects in the Griff Creek PAC would not change). Table 4.7-11 shows the amount of additional habitat affected outside of PACs but within HRCAs (Mt. Pluto, Carnelian, Griff Creek, Twin Crags HRCAs), and impacts to suitable habitat outside of designated PACs or HRCAs.

Disturbance or loss of suitable spotted owl habitat along Segment 625-10, where the Griff Creek PAC is located, would be relatively limited as the new 625 and 650 lines would follow the existing ROW where vegetation is already cleared (see Exhibit 4.7-5 for detailed map of project features near the Griff Creek PAC). However, additional clearance of vegetation would need to occur along the existing line here and throughout the study area to accommodate the wider clearance requirement for a 125 kV line (40-foot vegetation management corridor vs. the existing 20-feet). Because the existing 625 Line ROW follows the western boundary of the Griff Creek PAC, habitat disturbances and loss (0.1 acre) that extend into the PAC would be limited to its western edge and avoid the PAC's core or interior (Exhibit 4.7-5). Additionally, although the study area in Segments 625-9 and 625-10 is located within or adjacent to the Griff Creek PAC and HRCA, much of the habitat there is relatively low-quality due to existing vegetation disturbances and clearance, disturbance from adjacent neighborhoods, and edge effects from adjacent residential and commercial land uses.

Under Alternative 1 (PEA Alternative), the proposed 625 Line would be constructed approximately through the middle of the Mt. Pluto spotted owl PAC (Exhibit 4.7-6). The Fiberboard Freeway presently bisects the Mt. Pluto PAC in this area, and the new 625 Line would parallel the Fiberboard Freeway corridor closely throughout the PAC. Although this general corridor is subject to existing disturbances and habitat degradation as a result of road use, maintenance, and edge effects, the new 625 Line ROW would be mostly separated from the existing Fiberboard Freeway disturbed corridor, resulting in up to 6.2 acres of new habitat disturbance and loss in the PAC (approximately 2.1 percent of the PAC total). In addition to habitat loss, because the new 625 Line ROW would be located within the PAC's core and approximately 1 mile in length, construction and operation of these segments would contribute to habitat fragmentation of the PAC. However, because the Fiberboard Freeway and associated disturbances are already present in this area, nesting has not been documented in the PAC, and spotted owls have not been detected there since 2005, effects of additional fragmentation on the PAC's biological function may not be substantial.

**Table 4.7-11 Permanent and Temporary Effects on California Spotted Owl Habitat<sup>1</sup>**

Habitat Area <sup>2</sup>	Alternative 1 (P'EA Alternative)				Alternative 2 (Modified Alternative)				Alternative 3 (Road Focused Alternative)				Alternative 3A (Double Circuit Option)				Alternative 4 (Proposed Alternative)			
	Permanent (acres)			Additional Temp (acres)	Permanent (acres)			Additional Temp (acres)	Permanent (acres)			Additional Temp (acres)	Permanent (acres)			Additional Temp (acres)	Permanent (acres)			Additional Temp (acres)
	Disturb/Loss <sup>4</sup>	Enhance/Gain	Net Change		Disturb/Loss <sup>3</sup>	Enhance/Gain	Net Change		Disturb/Loss <sup>3</sup>	Enhance/Gain	Net Change		Disturb/Loss <sup>3</sup>	Enhance/Gain	Net Change		Disturb/Loss <sup>3</sup>	Enhance/Gain	Net Change	
<b>PAC</b>																				
Mt. Pluto	-6.2	+1.0	-5.2	-2.4	-4.9	+0.9	-4.0	-1.7	-2.6	+1.1	-1.5	-3.0	-2.6	+1.1	-1.5	-3.0	-2.6	+1.1	-1.5	-3.0
Griff Creek	-0.1	-	-0.1	-0.3	-0.4	-	-0.4	-	-0.4	-	-0.4	-	-	+0.1	+0.1	-	-0.4	-	-0.4	-
<b>HRCA<sup>4</sup></b>																				
Mt. Pluto	-4.0	+2.2	-1.8	-2.3	-3.4	+2.2	-1.2	-2.2	-1.1	+2.2	+1.1	-1.8	-1.1	+2.2	+1.1	-1.8	-1.1	+2.2	+1.1	-1.8
Carnelian	-12.1	+2.0	-10.1	-5.2	-9.8	+2.0	-7.8	-4.3	-5.2	+2.0	-3.2	-5.9	-5.2	+2.0	-3.2	-5.9	-5.2	+2.0	-3.2	-5.9
Griff Creek	-0.9	-	-0.9	-1.9	-1.5	-	-1.5	-1.2	-0.4	+0.6	+0.2	-0.6	-	+0.8	+0.8	-	-0.4	+0.6	+0.2	-0.6
Twin Crags	-0.4	-	-0.4	-1.1	-0.4	-	-0.4	-	-0.3	-	-0.3	-1.1	-0.3	-	-0.3	-1.1	-0.3	-	-0.3	-1.1
<b>Habitat Outside PACs and HRCAs</b>																				
	-106.1	+15.5	-90.6	-55.2	-100.7	+14.8	-85.9	-48.8	-70.3	+16.9	-53.4	-0.7	-72.3	+17.2	-55.1	-52.9	-68.9	+16.9	-52.0	-49.7
<b>Total</b>	<b>-129.8</b>	<b>+20.7</b>	<b>-109.1</b>	<b>-68.4</b>	<b>-121.1</b>	<b>+19.9</b>	<b>-101.2</b>	<b>-58.2</b>	<b>-80.6</b>	<b>+22.8</b>	<b>-57.8</b>	<b>-63.5</b>	<b>-81.5</b>	<b>+23.4</b>	<b>-58.1</b>	<b>-61.3</b>	<b>-79.3</b>	<b>+22.8</b>	<b>-56.5</b>	<b>-62.1</b>

<sup>1</sup> Impact acreages assume implementation of APMs SCE-7 and SCE-8, which include an alignment setback away from SR 267 under Alternatives 1, 3, 3A and 4 for the 650 Line, and a setback away from the Truckee River and into the 64-Acre parcel under Alternatives 1, 3, 3A, and 4 for the 625 Line.

<sup>2</sup> For purposes of this analysis, potential spotted owl habitat includes the following CWHR Types: Jeffrey Pine, Jeffrey Pine/White Fir, White Fir/Red Fir, Red Fir, and Sierran Mixed Conifer Forest.

<sup>3</sup> Each PAC is associated with and included within its respective HRCA (e.g., the Mt. Pluto HRCA is larger than and includes the Mt. Pluto PAC). The acreages shown for each HRCA do not include and are in addition to PAC acreage.

<sup>4</sup> Where the new power line corridor would follow and expand the width of the existing 625 Line corridor, the amount of habitat affected refers specifically to overstory forest cover that would be removed to widen the existing disturbed/managed corridor (i.e., the calculation of new habitat loss does not include the amount of existing disturbed corridor).

In addition to up to 129.8 acres of permanent habitat loss, implementation of Alternative 1 (PEA Alternative) would result in 68.4 acres of temporary habitat disturbance, including some within spotted owl PACs and HRCAs (Table 4.7-11). Additional temporary effect is the maximum amount, in addition to what would remain as a permanent ROW or access way following project construction, assumed for temporary construction. This is based on a 65-foot-wide construction corridor along the entire length of the electric line alignments, minus the 40-foot-wide permanent maintenance ROW. Additional acreage of temporary habitat effects result from vegetation removal at staging areas. These impacts are considered temporary because these areas would be restored and revegetated following construction.

APM BIO-11, APM BIO-12, APM BIO-13, and APM BIO-19, as described previously under the northern goshawk impact discussion have been incorporated into the project design to avoid, minimize, and compensate for impacts to wildlife resources generally and spotted owl specifically.

All of the APMs that would protect and minimize removal of trees and other vegetation resources described above in Impact 4.7-1 (Alt. 1), Disturbance or Loss of Common Vegetation Communities and Wildlife Habitats, Impact 4.7-2 (Alt. 1), Disturbance or Loss of Sensitive Habitats, and Impact 4.7-4 (Alt. 1), Tree Removal and Loss of Late Seral/Old Growth Forest (APM BIO-1, BIO-21, -23, -26, -28, -36, and -37) would also reduce and partially compensate for potential effects on spotted owl habitat. To compensate for permanent removal of suitable habitat within designated PACs and HRCAs, CalPeco proposes to conduct additional protocol-level surveys, under APM BIO-13, and assist USFS in locating additional suitable or best available habitat immediately adjacent to the PACs and HRCAs. These commitments are intended to assist USFS in achieving its goal of establishing additional PACs and HRCAs and maintaining specific acreages of spotted owl PACs and HRCAs, as described in APM BIO-13. This measure would support any potential reconfiguring or expansion of the Griff Creek and Mt. Pluto PACs and HRCAs, and the Carnelian and Twin Crag HRCAs, to include additional habitat of better or equal quality and function to that affected, if USFS pursues that option. As described above, habitat that would be affected in the Griff Creek PAC is along its western edge and relatively low-quality due to existing vegetation disturbances and clearance, disturbance from adjacent neighborhoods, and edge effects from adjacent residential and commercial land uses. Habitat that would be affected in the Mt. Pluto PAC is adjacent to the Fiberboard Freeway corridor, which is subject to existing disturbances and habitat degradation as a result of road use, maintenance, and edge effects. Therefore, opportunities to improve PAC quality and function by adding higher-quality habitat to these PACs from other adjacent areas may exist. As part of this measure, CalPeco will first coordinate with USFS to develop clear objectives and preferences for additional PAC and HRCA evaluation and designation/realignment, understand the key environmental variables and constraints used for PAC and HRCA designation, and identify priority/target areas for evaluation.

Although APM BIO-13 would provide compensation for permanent habitat loss or disturbance within the Mt. Pluto and Griff Creek spotted owl PACs and HRCAs, and the Carnelian and Twin Crag HRCAs, up to approximately 106.1 acres of potential spotted owl habitat would initially be affected in areas outside PACs and HRCAs under Alternative 1 (PEA Alternative). Over time, because the existing 625 Line would be decommissioned and native vegetation is expected to reestablish within most the existing 20-foot vegetation management corridor (see APM BIO-37), the net permanent disturbance/loss would be approximately 90.6 acres. This total amount of potential habitat loss or disturbance represents a small proportion of the total amount available for spotted owl in the vicinity of the project area along its entire length; and these habitats are relatively abundant in the Truckee Tahoe region. Forest or other native vegetation recruitment, development, and succession within the decommissioned ROWs would benefit spotted owl habitat in those areas, by providing additional cover and foraging habitat for owls and their prey species. Additionally, APM BIO-37 requires that decommissioned ROWs be evaluated for soil compaction or other factors that could limit the recruitment and reestablishment of native vegetation over time, and apply appropriate treatments to facilitate native vegetation development as needed. Also, no spotted owl nest sites are known to occur within areas where potential habitat would be permanently removed.

With implementation of the APMs described above, Alternative 1 (PEA Alternative) is not expected to substantially affect the distribution, breeding productivity, viability, or the regional population (Tahoe-Truckee) of California spotted owl. This conclusion is based on the following: 1) although individuals could be disturbed during project construction, disturbances to breeding spotted owls, effects on reproductive success, and the potential for direct mortality would be avoided or minimized through implementation of APM BIO-11; 2) the amount of suitable habitat affected within PACs would be relatively small (approximately 0.03 and 2.1 percent of the Griff Creek and Mt. Pluto spotted owl PAC areas, respectively) and would be compensated for; 3) tree and other vegetation removal would be minimized, and habitat would be restored to preproject conditions in temporary construction areas; 4) no occupied nest sites would be removed; and 5) the permanent loss of potential habitat would be small relative to the total amount available in the area. Therefore, impacts to California spotted owl would be less than significant.

### **NORTHERN HARRIER, LONG-EARED OWL, OLIVE-SIDED FLYCATCHER, BLACK-BACKED WOODPECKER, AND WATERFOWL**

Northern harrier is designated by CDFW as a species of special concern. Northern harriers nest on the ground in open, vegetated habitats such as grasslands, wetlands, meadows, and agricultural fields. Nests are typically built in dense, tall vegetation in areas that are undisturbed during the nesting period; and nest sites are often in wet areas. Northern harrier was observed foraging in the study area during project surveys in early August 2012, in the Martis Valley along Segment 650-4A and near Segments 650-4 and 650-4B. Although northern harrier nesting has not been documented in the study area, open habitats in the Martis Valley including wet montane meadow, dry montane meadow, sagebrush scrub, and low sage scrub provide suitable breeding and foraging habitat for this species.

Long-eared owl is designated by CDFW as a species of special concern. Specific habitat associations of long-eared owl vary over the species' range, and confusion has resulted over whether it is a forest or open-country species (Holt 1997). Long-eared owls nest in woodland, forest, and open settings (e.g., grassland, shrub-steppe, and desert). Wooded and nonwooded areas that are occupied by long-eared owls often support relatively dense vegetation (e.g., trees, shrubs) adjacent to or within larger open areas such as grassland or meadows (e.g., habitat edges) (Bloom 1994; Marks, Evans, and Holt 1994). However, this species also has been documented as breeding in contiguous conifer forest habitat with heavy mistletoe infestation (Bull, Wright, and Henjum 1989). In California, this species occurs in medium-aged and mature live oak and riparian woodlands. Long-eared owls also breed in oak thickets and conifer forests at higher elevations (Zeiner et al. 1990). Although long-eared owls have been documented in the Tahoe Basin, its breeding status and distribution in the study area and most of the Tahoe region are unknown; and habitat use has not been well studied. Conifer forest and riparian habitat in the study area provide potential foraging and nesting habitat for long-eared owl.

Olive-sided flycatcher is designated by CDFW as a species of special concern. In general, this species breeds in open canopy, late-succession forest. Open conifer forests are used within the Sierra Nevada, and forest edges are important for foraging. Tree species used for nesting vary throughout the species' range; snags provide valuable habitat and nesting features throughout the range. Olive-sided flycatcher uses lofty perches for foraging and singing, and can often be found perched on the apical tip of trees, above the surrounding canopy (Shuford and Gardali 2008). This species is not uncommon in the Tahoe region and is known to occur in open canopy conifer forests within the Tahoe Basin. Although olive-sided flycatcher was not documented during project reconnaissance surveys, this species is assumed to occur in the study area and forest habitat conditions there could support all life stages of this species. Specifically, mixed-conifer forests with ample edge habitat dominated by Jeffrey pine or lodgepole pine provides foraging and nesting habitat for olive-sided flycatcher.

Black-backed woodpecker was recently designated as a candidate for listing under CESA. This species occurs in a variety for conifer forest types, but is strongly associated with unlogged, severely-burned forest with abundant snags. Black-backed woodpeckers are also strongly associated with areas of high tree mortality from beetles.

This species is patchily distributed and not common in the Tahoe Region, but has become more regularly detected in recent years in recently-burned forest stands (e.g., Angora and Gondola fire areas). A black-backed woodpecker was observed foraging in conifer forest near the 625 Line during project surveys in July 2012. However, stands of high-severity postfire forest highly suitable for breeding was not observed in the study area, and the study area is not expected to provide important nesting habitat for black-backed woodpecker.

“Waterfowl” is designated as a special interest species by TRPA in the Tahoe Basin. Several waterfowl species occur in the Tahoe region during spring and summer months including Canada goose (*Branta canadensis*), mallard (*Anas platyrhynchos*), green-winged teal (*Anas crecca*), common merganser (*Mergus merganser*), and ruddy duck (*Oxyura jamaicensis*). In the Tahoe Basin, wetlands provide nesting, resting, and foraging habitat for waterfowl. Important areas for waterfowl include Pope Marsh, Truckee Marsh, Taylor Creek Marsh, Grass Lake, and Spooner Lake (TRPA 2002). In the Tahoe Basin portion of the study area (where the TRPA special interest status applies), common waterfowl species use the Truckee River, other aquatic habitats, and adjacent uplands for foraging, resting, and probably nesting. No TRPA-designated waterfowl threshold areas occur in the study area. Outside the Tahoe Basin, high-quality waterfowl foraging, resting, and nesting habitat occurs in the Martis Valley along Segments 650-4, 4A, and 4B within wet meadow habitats and along Middle Martis Creek and Martis Creek. During project surveys conducted in mid July 2012, remains of what appeared to be a predated mallard nest were observed within dense wet meadow vegetation between segments 650-4A and 4B.

If northern harrier, long-eared owl, olive-sided flycatcher, black-backed woodpecker, or waterfowl use the study area for nesting, project-related construction and vegetation removal within occupied habitat could impair breeding and nesting activities. Also, direct mortality of individuals may result from collisions with the conductor and electrocution (as described previously for northern goshawk). In addition to direct removal of individuals and habitat during grading, excavation to install poles, and stringing of electrical line, removing or disturbing occupied nesting habitat could result in a substantial effect if individuals of these species would be deterred from occupying breeding and nesting locations. Construction and operations and maintenance activities could also result in noise, dust, and other disturbances to nesting birds in the vicinity, potentially resulting in nest abandonment and mortality to eggs and chicks. However, as part of the project, CalPeco would implement several resource protection measures to avoid and minimize, and in some cases compensate for, impacts to wildlife resources generally and avian species specifically.

The following APM has been incorporated into the project design to avoid or minimize impacts to nesting birds, including northern harrier, long-eared owl, olive-sided flycatcher, black-backed woodpecker, and waterfowl, and their reproductive success.

- ▲ **APM BIO-18:** For bird species not specifically addressed in other APMs, nesting bird surveys will be conducted no more than 30 days prior to construction activities if work is scheduled to occur during the breeding season—March to September. Exclusionary buffer zones (to be determined based on species-specific needs) will be created surrounding any active nests along the project alignment. Buffers will be established by a qualified biologist prior to the start of construction. If an area is given clearance to proceed with construction and nesting subsequently occurs, it will be assumed that the individuals are acclimated to the ongoing disturbance of construction. If circumstances exist such that future activities may result in the abandonment or failure of the nest, as determined by a qualified biologist, an appropriate exclusionary buffer will be established by CalPeco in coordination with the CDFW, USFS, and/or USACE.

All of the APMs that would protect and minimize removal of trees and other vegetation resources described above in Impact 4.7-1 (Alt. 1), Disturbance or Loss of Common Vegetation Communities and Wildlife Habitats, Impact 4.7-2 (Alt. 1), Disturbance or Loss of Sensitive Habitats, and Impact 4.7-4 (Alt. 1), Tree Removal and Loss of Late Seral/Old Growth Forest (APM BIO-1, BIO-21, -23, -26, -28, -36, and -37) would also reduce and partially compensate for potential effects on habitat for northern harrier, long-eared owl, olive-sided flycatcher, black-backed woodpecker, and waterfowl. To help prevent accidental injury or mortality as a result of electrocution,

APM BIO-19, as described previously in the discussion of northern goshawk, requires incorporation of avian protection measures into the project design. Full descriptions of all APMs are provided in Section 3.7, Applicant Proposed Measures.

With incorporation of these APMs into project design, Alternative 1 (PEA Alternative) would not substantially affect the distribution, breeding productivity, or local population size of these species. This conclusion is based on requirements to: conduct surveys prior to construction during the breeding season and establish appropriate buffers around nesting sites; limit potential effects on habitat; and prevent accidental injury or mortality as a result of electrocution. Therefore, impacts to northern harrier, long-eared owl, olive-sided flycatcher, black-backed woodpecker, and waterfowl would be less than significant.

## YELLOW WARBLER

Yellow warbler is designated as a species of special concern by CDFW. Yellow warbler was detected frequently in montane riparian habitat during 2012 project surveys in the Martis Valley near Segments 650-4, 650-4A and 650-4B. Other montane riparian habitats in the study area could also provide suitable breeding and foraging habitat for this species. This species is also known to breed in Burton Creek State Park. One individual was observed along Griff Creek in Kings Beach during 2007 surveys conducted for the PEA. Suitable breeding and foraging habitat is scattered throughout the project area in montane riparian vegetation along the existing 625 Line, new 625 Line, and 650 Line.

Approximately 3.4 acres of montane riparian habitat, which is considered potential habitat for yellow warbler in this analysis, occurs in the permanent ROW for Alternative 1 (PEA Alternative); an additional 4.1 acres are present in the temporary ROW. Exhibit 4.7-8 provides an overview of the locations of montane riparian and other sensitive habitats mapped in the study area; Exhibit 4.7-1 (vegetation maps provided in Appendix G) shows the detailed extent of montane riparian and other vegetation communities and habitat types in the study area. The montane riparian habitat along Martis Creek and Middle Martis Creek in Segments 650-4, 650-4A, and 650-4B is known to support a yellow warbler population and the species likely nests there regularly. (As discussed above, yellow warblers also breed in Burton Creek State Park and have been detected along Griff Creek, and likely occur in suitable habitats elsewhere in the study area.) Table 4.7-9 (above) summarizes the acreage of montane riparian and other sensitive habitats present in the permanent and temporary impact zone of each action alternative. Because the construction corridor would be reduced in sensitive habitat areas and measures would be implemented to avoid and minimize impacts in these areas, the amounts of habitat within the permanent and temporary ROWs presented in Table 4.7-9 are considered a maximum and overestimate the area of actual impacts. For example, montane riparian is present where the 625 and 650 Lines cross several streams (including Martis Creek, Middle Martis Creek, etc.), but the actual impact acreage there would be minimal or none because the electric line would span the riparian habitat and no construction would occur within the stream channels.

Impacts to yellow warblers may occur as a result of collisions with construction vehicles and changed foraging, movement, or sheltering patterns caused by construction-related activities, including helicopter use. Individuals present along the new 625 Line, 650 Line, or existing 625 Line would likely relocate temporarily to avoid construction areas. Removal of any riparian vegetation, such as willow, alder, or dogwood, would result in a loss of suitable cover and nesting habitat. Permanent tree removal within planned construction areas would have a minimal impact on the species if conducted outside of the nesting season—April to August. If work occurs during the nesting season, construction within occupied yellow warbler habitat could disrupt or prevent breeding and nesting activities and could affect the size or viability of the local population. Removal of occupied nesting habitat would be a substantial impact if yellow warblers were taken or deterred from occupying breeding and nesting locations. Construction could also result in noise, dust, and other disturbances to nesting birds in the vicinity, resulting in potential nest abandonment and mortality to eggs and chicks. However, to avoid potential disturbances to yellow warbler and other nesting birds and effects on reproductive success, APM BIO-18 would

be implemented as part of the project. This measure requires conducting preconstruction surveys for nesting birds during the breeding season, and implementing an appropriate exclusionary buffer and limited operating period to avoid or minimize effects of construction-related disturbance on nesting activity and breeding success.

Implementation of Alternative 1 (PEA Alternative) would not cause a substantial loss of suitable habitat for yellow warbler because vegetation treatment within riparian areas would typically not be required due to the shorter height of riparian vegetation; overhead lines would span most or all riparian zones. As part of the project, APM BIO-28, as described under Impact 4.7-1, will be implemented to minimize the removal of riparian habitat by limiting vegetation removal to only those areas necessary for construction, particularly in riparian zones. In some or all of these locations, power poles would be placed outside of montane riparian habitat where it is associated with a stream, to provide sufficient distance from the stream channel to minimize effects on aquatic habitats. In addition, existing poles to be abandoned in the locations where the new line would follow the existing alignment would be cut off at the base and the upper portion removed in order to avoid unnecessary ground disturbance, especially near streams. Although some montane riparian habitat suitable for yellow warbler may still be disturbed or removed during project construction, very little, if any, is expected to be permanently removed.

Potential impacts to yellow warbler as a result of operation and maintenance are anticipated to be minimal because vegetation management of willows, alders, and dogwood along the ROW is not anticipated in the same manner as for conifer species, because these species rarely grow above the minimum clearance for the line—approximately 20 feet—and would not differ substantially from existing operation and maintenance activities.

Therefore, Alternative 1 (PEA Alternative) would not substantially affect the distribution, breeding productivity, or local population size of yellow warbler, and impacts to yellow warbler would be less than significant.

## **WILLOW FLYCATCHER**

Willow flycatcher is listed as endangered under CESA and designated as a sensitive species by USFS Region 5 for the LTBMU and the Tahoe National Forest. In the Sierra Nevada, suitable habitat typically consists of montane meadows that support riparian deciduous shrubs (particularly willows) and remain wet through the nesting season (i.e., midsummer). Important characteristics of suitable meadows include a high water table that results in standing or slow-moving water, or saturated soils (e.g., “swampy” conditions) during the breeding season; abundant riparian deciduous shrub cover (particularly willow); and riparian shrub structure with moderate to high foliar density that is uniform from the ground to the shrub canopy. Most breeding occurrences are in meadows larger than 19 acres, but the average size of occupied meadows is approximately 80 acres (USFS 2001). Although less common in the Sierra Nevada, riparian habitat along streams also can function as suitable habitat for willow flycatcher. However, those areas must support the hydrologic and vegetation characteristics described for suitable meadows (e.g., standing or slow-moving water, and abundant and dense riparian vegetation).

Willow flycatcher occurs in montane riparian habitat (willow thickets) in and adjacent to the study area in Martis Valley (CDFW 2012a; Exhibit 4.7-3). This species is known to nest in the Martis Creek Wildlife Area along Martis Creek and in Middle Martis Creek. Individuals were observed during 2007 reconnaissance surveys conducted for the PEA. During 2012 project surveys, suitable habitat was identified and mapped along Segments 650-4, 650-4A, and 650-4B. Suitable habitat within 200 feet of these segments is shown on Exhibit 4.7-7. (Additional suitable habitat not shown on Exhibit 4.7-7 is present along Martis Creek adjacent to these mapped areas.) Montane riparian habitat in the Martis Valley was the only suitable montane riparian and meadow habitat identified for willow flycatcher in the entire study area.

Potential impacts to willow flycatcher individuals, breeding, and suitable habitat in the Martis Valley as a result of Alternative 1 (PEA Alternative) are similar to those discussed above for yellow warbler.

The following APMs have been incorporated into the project design to avoid and minimize impacts to willow flycatcher.

- ▲ **APM BIO-28:** CalPeco will minimize vegetation and tree removal to only the areas necessary for construction, with particular attention given to minimizing effects on riparian areas and to preserving trees greater than 30 inches diameter at breast height (dbh).
- ▲ **APM BIO-14:** CalPeco will conduct protocol-level surveys for willow flycatcher in the Martis Valley, within suitable habitat that could be affected by project activities associated with segments 650-4, 650-4A, and 650-4B. Suitable habitat within 200 feet of these segments is identified in Exhibit 4.7-7. (Additional suitable habitat not shown on Exhibit 4.7-7 is present along Martis Creek adjacent to these segments and may require consideration for surveys.) The survey will follow *A Willow Flycatcher Survey Protocol for California* (Bombay et al. 2003). The protocol requires a minimum of two survey visits to determine presence or absence of willow flycatcher: one visit during survey period 2 (June 15–25) and one during either survey period 1 (June 1–14) or period 3 (June 26–July 15). This measure is based on willow flycatcher sightings made in 2007 during field surveys to support the PEA, recent CNDDDB records, and habitat mapping conducted during the 2012 surveys. If nesting willow flycatchers are discovered within the survey area, 250-foot exclusionary buffer zones will be established to exclude work during the breeding season—June through August—or until young have fledged the nest. If an area is given clearance to proceed with construction and nesting activities subsequently occur, it will be assumed that the nesting pair is acclimated to the ongoing disturbance of construction. If circumstances exist such that future activities may result in the abandonment or failure of the nest, as determined by a qualified biologist, an appropriate exclusionary buffer will be established by CalPeco, in coordination with the CDFW, to protect nesting birds.

With integration of APMs into project design, which would avoid effects of construction-related disturbance on willow flycatcher nesting activity and breeding success, avoid take of willow flycatcher individuals, and avoid or minimize the disturbance and removal of suitable habitat, Alternative 1 (PEA Alternative) would not substantially affect the distribution, breeding productivity, or local population size of willow flycatcher. Therefore, impacts to willow flycatcher would be less than significant.

## OSPREY AND BALD EAGLE

Osprey is designated by TRPA as a special-interest species. Bald eagle is listed as endangered under CESA, designated as a sensitive species by USFS, and designated as a special-interest species by TRPA; it also is fully protected under the California Fish and Game Code and protected under the Bald and Golden Eagle Protection Act. Both osprey and bald eagle are fish-eating raptor species (although they may utilize other food sources) and are typically found near bodies of water. Ospreys nest and forage in suitable habitat throughout the Tahoe region, particularly along Lake Tahoe. The nearest known osprey nest to the study area is approximately 0.3 mile south of Segment 625-7 (Exhibit 4.7-3). Some conifer forest in the study area provides potential nesting habitat for osprey, and larger water bodies in the study area (e.g., Truckee River) provide potential foraging habitat. Bald eagle does not nest in or near the project area. The only known nest sites in the Tahoe Basin are several miles away at Emerald Bay and Marlette Lake. Bald eagle is not expected to regularly use habitat in the study area; however, larger water bodies in the study area may provide potential foraging habitat occasionally during winter and summer. Any bald eagle occurrence and habitat use in the study area would be most likely during winter, when the species is more abundant in the Tahoe region.

Impacts to ospreys or bald eagles may occur as a result of tree removal near Lake Tahoe or by changed movement and foraging patterns caused by construction-related activities such as helicopter use. Individuals present in the project area would likely relocate temporarily to avoid construction areas. If ospreys or bald eagles use the study area or immediate vicinity for foraging, project construction could temporarily disturb their foraging activities. However, because of the presence of existing recreation use, vehicle travel, vegetation/forest management, and other activities throughout the study area, the existing disturbance level is relatively high;

additional construction-related disturbance would not substantially affect the foraging patterns of bald eagle or osprey. Also, abundant and suitable foraging habitat is available in other areas nearby (e.g., Lake Tahoe, Watson Lake, Martis Creek Reservoir). In addition, during the winter months, when bald eagles are most abundant in the project region, construction activity would not occur. Direct mortality or injury of individuals could result from collisions with the conductor and electrocution, as discussed above for northern goshawk. To help prevent accidental injury or mortality as a result of electrocution, APM BIO-19, as described previously in the discussion of northern goshawk, requires incorporation of avian protection measures into the project design.

Bald eagles are not known or expected to nest in the study area, based on the rarity of nesting in the region, no nesting records in or near the study area, and the lack of high-quality nesting habitat there. Ospreys could potentially nest in conifer forest and on existing power line poles throughout the project area; however, osprey nests are well-documented in the Tahoe Basin and adjacent areas, and none were observed during project surveys. Therefore, potential effects of project construction on osprey or bald eagle breeding activities, nest sites and young, or reproductive success are not expected. To further ensure that construction-related disturbances and loss of nest sites would be avoided (e.g., in the event that nesting is initiated in the study area during or prior to construction), APM BIO-18 would be implemented. This measure requires conducting preconstruction surveys for nesting birds, and implementing an appropriate exclusionary buffer and limited operating period to avoid or minimize effects of construction-related disturbance on nesting activity and breeding success, as described previously for northern harrier, long-eared owl, olive-sided flycatcher, black-backed woodpecker, and waterfowl.

Because construction-related disturbance would not substantially affect the foraging patterns of bald eagle or osprey in the region, and potential effects on nesting and individuals would be avoided or minimized through integration of APM BIO-18 and -19 into project design, Alternative 1 (PEA Alternative) would not substantially affect the distribution, breeding productivity, or local population size of osprey or bald eagle. Therefore, impacts to these species would be less than significant.

## **PACIFIC MARTEN AND SNOWSHOE HARE**

Pacific marten is designated as a sensitive species by the USFS Regional Forester and a species of special concern by CDFW; Sierra Nevada snowshoe hare is designated as a species of special concern by CDFW. Pacific marten has been documented throughout the study area within the Lake Tahoe Basin and on the Tahoe National Forest along Segment 625-4 (Exhibit 4.7-3). Suitable habitat for marten is present within both the forested and open habitats along the entire length of the 625 Line and the portions of the 650 Line on NFS lands within the Lake Tahoe Basin. The portions of the 650 Line located in the Martis Valley and near the town of Truckee do not provide suitable habitat for marten due to lack of suitable forest habitat, lack of connectivity to more suitable habitat, and high levels of disturbance and development. Conifer forest, willow-riparian, and meadow habitats in the study area provide suitable habitat for snowshoe hare, and the species has been documented near segment 625-1 (CDFW 2012a; Exhibit 4.7-3).

In the short term, activities related to construction of the new 625 and 650 Lines and decommissioning of the existing 625 Line could temporarily disturb Pacific marten and snowshoe hare and/or their habitat located within the study area. If Pacific marten or snowshoe hare use the study area for foraging or breeding, increased noise, human activities, or other factors associated with construction activities (vegetation removal, clearing, and excavation) could temporarily disturb foraging, movement, or reproductive activities and temporarily displace individuals. Also, individuals could alter their behavior by avoiding the project area during construction. The behavior and local distribution of prey populations for Pacific marten could be temporarily altered by project activities; this could influence marten foraging activity and patterns. However, potential disruptions of prey populations would occur locally and are not likely to occur over a substantial portion of any individual's foraging range. In addition, mortality or injury could occur as a result of collision with construction equipment, although individuals are mobile and would likely avoid active construction areas.

Sierra Nevada snowshoe hare is a potential prey species for raptors and mammal predators (e.g., coyote). Vegetation removal during construction could reduce cover and increase predation risk for this species, if it uses habitats along the new power lines. However, because the new 625 Line would be constructed mostly within areas where trees and shrubs are common and dense, and abundant suitable habitat and cover are available adjacent to the study area, no substantial increases in predation risk are anticipated.

In addition to potential temporary effects on individuals described above, clearing of the new power line corridors, removal of hazard trees adjacent to the lines, extension of existing corridors, and clearing and widening of access roads would also result in permanent loss or disturbance of habitat suitable for Pacific marten and snowshoe hare. Additional temporary habitat loss would result from vegetation removal within the temporary construction ROW, stringing sites, staging areas, and temporary access roads; establishment of new access ways; placement of crossing structures; improvement and expansion of access roads to accommodate construction equipment and supplies; and installation of new poles and conductor. Areas where temporary habitat loss and disturbance would occur would be revegetated as part of the proposed project. Temporary or permanent removal of Pacific marten habitat could also result in disturbance or removal of an active marten reproductive den site, and injury or mortality of young or adults using the den, if dens are present in the study area. (Snowshoe hares typically do not dig or occupy burrows; rather, they use scrapes or shallow depressions on the ground.)

The following APMs have been incorporated into the project design that would avoid, minimize, and compensate for impacts to Pacific marten and Sierra Nevada snowshoe hare.

- ▲ **APM BIO-15:** Preconstruction biological surveys will be conducted no more than 30 days prior to construction activities to identify biological resources, including burrows and den sites, which could be impacted by construction activities. All burrows and den sites will be inspected for use by sensitive mammals, and buffers may be established based on occupation. If an area is given clearance to proceed with construction and burrowing or denning activities subsequently occur, it will be assumed that the individuals are acclimated to the ongoing disturbance of construction. However, the den will be flagged to prevent damage during construction. If circumstances exist such that future activities may result in the abandonment of the burrow or den site, as determined by a qualified biologist, an appropriate exclusionary buffer will be established by CalPeco, in coordination with CDFW, USFS, and, if necessary, the USFWS.
- ▲ **APM BIO-16:** If a potentially active sensitive mammal burrow or den site is unavoidable, CalPeco will employ den-dusting or scoping to determine the species and reproductive status of the animal. If the burrow or den is determined to be active and does not contain young, CalPeco will excavate the burrow by hand, remove the den, or block the entrance to prevent re-entry until after the completion of work. If the animal is determined to be raising young, CalPeco will establish a 200-foot exclusionary buffer surrounding the burrow or den until it is determined that the young have left the den. After it is determined that young have left the den, CalPeco will commence hand excavation or removal of the den structure. CalPeco will contact CDFW, USFS and/or USACE prior to any den-dusting, scoping, burrow excavation, or den structure removal.
- ▲ **APM BIO-22:** An environmental monitor will inspect all pole excavations and areas of active construction on a daily basis for trapped wildlife. Wildlife found in active construction areas will be allowed to passively leave the site. If necessary, wildlife may be relocated by a qualified biologist. The construction foreman will notify the environmental monitor immediately if any wildlife enters or becomes trapped in the work area.
- ▲ **APM BIO-33:** All trash and food will be removed from the site at the end of each workday in order to deter wildlife from entering the site.
- ▲ **APM BIO-34:** No pets or firearms will be allowed in the project area.
- ▲ **APM BIO-35:** No harm, harassment, or collection of plant and wildlife species will be allowed. Feeding of wildlife will be prohibited.

All of the APMs that would protect and minimize removal of trees and other vegetation resources described above in Impact 4.7-1 (Alt. 1), Disturbance or Loss of Common Vegetation Communities and Wildlife Habitats, Impact 4.7-2 (Alt. 1), Disturbance or Loss of Sensitive Habitats, and Impact 4.7-4 (Alt. 1), Tree Removal and Loss of Late Seral/Old Growth Forest (APM BIO-1, -21, -23, -26, -28, -36, and -37) would also reduce and partially compensate for potential effects on habitat for Pacific marten and Sierra Nevada snowshoe hare. In addition, the permanent loss of habitat along the new 625 Line ROW would be partially compensated for, over the long term, by the abandonment and revegetation of the existing 625 Line ROW.

With integration of these APMs into project design, Alternative 1 (PEA Alternative) would not be expected to substantially affect Pacific marten or Sierra Nevada snowshoe hare. Although Alternative 1 (PEA Alternative) would result in habitat loss and could adversely affect individuals locally, the magnitude and intensity of potential adverse effects are not expected to affect the species' distribution, breeding productivity, local population size, or regional populations. Therefore, impacts to Pacific marten and Sierra Nevada snowshoe hare would be less than significant.

## MULE DEER

Mule deer is designated by TRPA as a special-interest species in the Tahoe Basin. The Loyalton-Truckee deer herd – the herd that uses the study area and nearby areas – is also of management and conservation concern to CDFW due to habitat loss and population decline over the last several years. Mule deer use early to mid-successional stages of several vegetation types, including riparian, meadow, and forest for summer range. Important habitat requirements for mule deer fawning include undisturbed meadow and riparian areas that provide hiding cover and forage. The Loyalton-Truckee deer herd occurs in and near the study area during snow-free months for fawning and summer range activities. The Carson River herd also occurs in the Tahoe Basin, but its distribution does not include the study area. In the Tahoe Basin, mule deer numbers are relatively low.

The Loyalton-Truckee deer population has declined throughout its range (Rogers 1999, CDFW 2009). Habitat disturbances, fragmentation, and loss of habitat on the herd's winter range and along migration routes (between winter and summer range) have occurred as a result of urban development, transportation projects, and vegetation management (Rogers 1999, CDFW 2009). Although several factors have likely contributed to the herd's population decline, it has been suspected that the loss of wintering habitat and reduced access to wintering areas may be the primary causes (TRPA 2002, Rogers 1999, CDFW 2009). Habitat use and migratory patterns of the Loyalton-Truckee Deer Herd in and near the study area (within and outside the Tahoe Basin) are described in Section 4.7.2, Existing Conditions/Affected Environment, in the subsection titled "Animal Movement and Migratory Corridors."

Mule deer are highly mobile ungulates and are likely present in all project areas during non-winter months. Construction-related activities could cause mule deer to avoid or move out of the areas immediately surrounding work areas. This could result in temporary impacts to foraging, movement, fawning, or sheltering behavior. Direct mortality or injury to deer could also occur as a result of vehicle or equipment collisions. Because mule deer are highly mobile and adaptive, potential effects of temporary construction activities are expected to be minor. Construction of the project would not create any temporary or permanent barriers to movement that would redirect migration during non-working hours. In addition, work in Martis Valley along the 650 Line where historic migratory corridors exist would not span the entire area, allowing deer to move around areas of construction through nearby low sage and Jeffrey pine habitat. Because the study area is outside of mule deer winter range, winter habitat or access to winter grounds would not be affected by project implementation.

Approximately 0.4 mile of the existing 625 Line (in Segment 625-5) intersects the edge of an area mapped by CDFW as a fawning area near Mt. Pluto; however, the precision of the CDFW mapping area is unknown, and deer use and fawning history of this mapped area have not been documented. The new 625 Line would be

located outside and approximately 0.25 mile south of this area. The Northstar Fold would be located approximately 1 mile north of the northern boundary of the fawning area. Temporary impacts as a result of construction-related noise from helicopters and equipment along the existing and new 625 Lines have the potential to disrupt fawning activities, if fawning occurs near those areas, though it can be assumed that deer would simply avoid these areas. Because the existing 625 Line would be removed from this mapped fawning area, and no construction of new facilities would occur there (the new 625 line would be constructed 0.25 mile to the south), no permanent adverse effects on habitat quality or function of this area would result from implementation of Alternative 1 (PEA Alternative). Impacts to fawning and access to the fawning area from the north as a result of the Northstar Fold are not anticipated because the line would be located within an area of the Northstar-at-Tahoe Resort with high levels of human disturbance.

The following APM has been incorporated into the project design to avoid impacts on mule deer fawning.

- ▲ **APM BIO-25:** If the environmental monitor determines that construction is occurring in an active mule deer fawning area, they will have the authority to temporarily halt or relocate work until the fawns move out of the project area. In addition, helicopter flight paths may be rerouted to avoid these areas if it is determined that helicopter use may impact fawns.

No substantial permanent impacts to mule deer fawning, foraging, or movement habitat throughout the study area are anticipated as a result project implementation, and no habitat loss would occur within any known fawning areas. Because the new 650 and 625 Lines would be placed in the same general areas as the existing lines within the herd's migratory and summer range, and the overhead power lines would not create local or landscape-level barriers to movement that would redirect migration, the project would not introduce any new large linear corridors or other structures that could deter or prevent mule deer from using traditional areas throughout its range. Therefore, implementation of Alternative 1 (PEA Alternative) would not substantially affect mule deer. Therefore, impacts to mule deer would be less than significant.

## PALLID BAT AND WESTERN RED BAT

Pallid bat is designated as a sensitive species by USFS Region 5 on the Tahoe National Forest, a species of special concern by CDFW, and High Priority by the Western Bat Working Group. Throughout California pallid bat is usually found in arid habitats below 6,000 feet elevation; however, the species has been found up to 10,000 feet in the Sierra Nevada. Pallid bats use a variety of habitats including grasslands, shrublands, woodlands, and coniferous forests. Pallid bats are most common in open, dry habitats that contain rocky areas for roosting. Day roosts may vary but are commonly found in rock crevices, tree hollows, mines, caves and a variety of human-made structures. Night roosts are usually more open sites and may include open buildings, porches, mines, caves, and under bridges. Tree roosting has been documented in large conifer snags, inside basal hollows of redwoods and giant sequoias, and bole cavities in oaks (Sherwin 1998). They are a yearlong resident in most of their range and hibernate in winter near their summer roost (Zeiner et al.1990). Though no documented occurrences of pallid bat exist for the project area, the coniferous forest present within the project area and vicinity may provide suitable foraging habitat as well as roosting habitat in large trees and snags and in more open areas.

Western red bat is designated as a sensitive species by USFS Region 5 on the Tahoe National Forest, a species of special concern by CDFW, and High Priority by the Western Bat Working Group. Red bats are found primarily in dense riparian woodland habitats containing willow, cottonwood, and sycamore trees. Red bats appear to differentially select relatively wide, well-developed riparian habitats with large trees for breeding roosts; however, roosting has also been documented in orchards adjacent to riparian areas (Pierson et al. 2006). Western red bats typically forage within or near riparian zones, along stream banks and gravel bars (Pierson et al. 2006) or at high altitudes over the tree canopy (Tahoe National Forest 2009). Foraging typically begins 1 to 2 hours after sunset (Tahoe National Forest 2009). Western red bat has not been documented in the study area,

and most records of the species are from below 3,000 feet elevation. However, this species has been detected at Tallac Marsh in the Tahoe Basin, approximately 17 miles southeast of the south end of the study area (Borgmann and Morrison 2004). Potential roosting and foraging habitat exist in or near the study area along the Truckee River, Griff Creek, and Middle Martis Creek in Segment 650-3 (upstream of the Martis Valley). Other areas, particularly where riparian zones include mature trees, could also provide suitable habitat.

Construction of the new 625 Line and decommissioning of the old 625 Line could temporarily disturb pallid and western red bats that may be roosting in the study area. If roost sites for pallid or red bats are present in the study area, temporary disturbances resulting from construction-related noise could disrupt roosting bats, including breeding females, and cause them to abandon a roost site and young. Project activities within suitable habitat that remove or disturb trees or other structures used for roosting could remove or cause abandonment of these features. Additionally, the removal of trees occupied by bats during removal activities could injure or kill bats. Loss of active roost sites could affect distribution of individuals over time if other suitable roost sites are not available; however, potential roost sites are not limited to the project disturbance footprint; other forested habitat with potential roost structures is abundant throughout the study area and the surrounding forest. Because construction would occur during the day when bats are typically not active, disturbances to foraging behavior and prey would be avoided.

To avoid or minimize disturbances or removal of active roost sites for pallid bat and western red bat, and mortality or injury to bats, the following APM will be integrated into the project.

- ▲ **APM BIO-20:** Bat surveys will be conducted in the spring, no more than 30 days prior to the start of construction, in order to identify active bat roosting sites, such as snags or dense trees. All potential roosting sites will be surveyed by a qualified biologist in order to determine usage. Specific survey methodologies will be determined in coordination with CDFW and the appropriate land manager (e.g., USFS, USACE). All non-active roosting sites will be trimmed or removed within 30 days of the surveys in order to prevent new roosts from being established. If it is determined that an active roosting site will be impacted, CalPeco will consult with CDFW, USFS, and/or USACE in order to acquire appropriate authorizations to remove the roosting sites. All active non-maternity roosting sites will be fitted with passive exclusion devices, such as one-way doors, and all bats will be allowed to leave voluntarily. Once it is confirmed that all bats have left the roost, crews will be allowed to continue work in the area. If a maternity roosting site is discovered, CalPeco will consult with the CDFW, USFS, and/or USACE in order to establish appropriate exclusionary buffers until all young are determined to be volant by a qualified biologist. Once it is determined that all young are volant, passive exclusion devices will be installed and all bats will be allowed to leave voluntarily. Once it is determined by a qualified biologist that all bats have left the roost, crews will be allowed to work within the buffer zone.

Implementation of Alternative 1 (PEA Alternative) is not expected to substantially affect pallid bat or western red bat. As described above, with integration of APM BIO-20 into project design, effects would be avoided or minimized including disturbances or removal of active roost sites for pallid bat and western red bat, and mortality or injury to bats. Therefore, effects on bat foraging and roosting habitat would be minor relative to the amount available in and adjacent to the study area. Disturbances to foraging behavior would be mostly avoided due to the temporal separation between construction activity and bat foraging activity. Therefore, implementation of Alternative 1 (PEA Alternative) would not affect the distribution, breeding productivity, or regional populations of pallid bat or western red bat. Accordingly, impacts to these species would be less than significant.

## SIERRA NEVADA MOUNTAIN BEAVER

Sierra Nevada mountain beaver is designated by CDFW as a species of special concern. This species is associated with riparian habitats with soft, deep soils for burrowing, lush growth of preferred food sources such as willow

and alder, and a variety of herbaceous species for bedding material. Vegetation types preferred by mountain beaver include wet meadows and willow-alder–dominated riparian corridors typically near water sources. Suitable riparian habitats are characterized by dense growth of small deciduous trees and shrubs near permanent water. Mountain beaver is generally solitary, except during its short breeding season; beavers spend a high proportion of their time in extensive underground burrow systems with multiple openings, tunnels, and food caches. CNDDDB records indicate the presence of Sierra Nevada mountain beaver in the study area along the existing 625 Line in Segment 625-4, at the upper headwaters of Deer Creek (Exhibit 4.7-3). However, this portion of the study area was evaluated and determined to be low quality for Sierra Nevada mountain beaver during 2012 project surveys. Additional CNDDDB records indicate this species is present in suitable habitat within 2 miles of the project area. Some riparian habitat that could provide low- to moderate-quality habitat for Sierra Nevada mountain beaver is scattered throughout the project area; and known occurrences of this species have been increasing in the Tahoe region in recent years, due to increased survey efforts.

Approximately 3.4 acres of montane riparian habitat, which is considered potential habitat for Sierra Nevada mountain beaver in this analysis, occurs in the permanent ROW for Alternative 1 (PEA Alternative); an additional 4.1 acres are present in the temporary ROW. Exhibit 4.7-8 provides an overview of the locations of montane riparian and other sensitive habitats mapped in the study area; Exhibit 4.7-1 (vegetation maps provided in Appendix G) shows the detailed extent of montane riparian and other vegetation communities and habitat types in the study area. Table 4.7-9 (above) summarizes the acreage of montane riparian and other sensitive habitats present in the permanent and temporary impact zone of each action alternative. Because the construction corridor would be reduced in sensitive habitat areas and measures would be implemented to avoid and minimize impacts in these areas, the amounts of habitat within the permanent and temporary ROWs presented in Table 4.7-9 are considered a maximum and overestimate the area of actual impacts. For example, montane riparian is present where the 625 and 650 Line crosses several streams but the actual impact acreage there to potential Sierra Nevada mountain beaver habitat would be minimal or none because the electric line would span the riparian habitat and no construction would occur within the stream channels.

Because Sierra Nevada mountain beavers generally dig large burrow complexes hidden beneath dense brush, potential construction-related impacts would result primarily from vegetation removal, grading, and tower installation that may occur in or near riparian areas. These construction activities could cause the collapse or fill of burrows. Removal of any riparian vegetation could also result in a loss of suitable cover and foraging habitat for Sierra Nevada mountain beaver. However, implementation of Alternative 1 (PEA Alternative) is not expected to cause a substantial loss of suitable habitat or burrows for Sierra Nevada mountain beaver because overhead lines would span most or all riparian zones, as described in APM BIO-28, above, and vegetation management of willows, alders, and dogwood along the ROW is not anticipated in the same manner as for conifer species, because these species rarely grow above the minimum clearance for the line—approximately 20 feet.

The following APMs incorporated into the project design would avoid, minimize, and partially compensate potential impacts on Sierra Nevada mountain beaver:

- ▲ **APM BIO-15**, which requires preconstruction surveys for sensitive mammals and dens/burrows, as described previously under the impact discussion for Pacific marten and snowshoe hare.
- ▲ **APMs BIO-1, -16, -21, -22, -23, -25, -26, -28, -33, -34, -35 -36, and -37**, which protect and minimize removal of vegetation resources and wildlife habitats, described previously for other biological impacts.

Integration of these APMs into project design would minimize the removal of riparian habitat by limiting vegetation removal to only those areas necessary for construction, particularly in riparian zones. In some or all of these locations, power poles would be placed outside of montane riparian habitat where it is associated with a stream, to provide sufficient distance from the stream channel to minimize effects on aquatic habitats. In addition, existing poles to be abandoned in the locations where the new line would follow the existing alignment would be cut off at the base and the upper portion removed in order to avoid unnecessary ground disturbance,

especially near streams. Although some montane riparian habitat suitable for mountain beaver may still be disturbed or removed during project construction, very little, if any, is expected to be permanently removed. Where impacts to riparian habitat may be unavoidable, potential disturbances to mountain beaver burrow complexes and effects on reproductive success would be minimized per APM BIO-15. Preconstruction surveys would be conducted for sensitive mammals and dens/burrows (which would include Sierra Nevada mountain beaver), burrow and den identification and protection measures, monitoring, and agency consultation, as appropriate, to avoid or reduce potential impacts.

With integration of APMs into the project design, which avoid or minimize effects of construction-related disturbance on Sierra Nevada mountain beaver and the amount of suitable habitat disturbed or removed, implementation of Alternative 1 (PEA Alternative) would not substantially affect the distribution, breeding productivity, or local population size of Sierra Nevada mountain beaver. Therefore, impacts to Sierra Nevada mountain beaver would be less than significant.

## IMPACT SUMMARY

Nine special-status wildlife taxa have been documented in the study area: waterfowl, northern goshawk, California spotted owl, northern harrier, black-backed woodpecker, willow flycatcher, yellow warbler, Pacific marten, and mule deer. Eight additional special-status wildlife species were identified as having a moderate or high potential to occur within the study area: olive-sided flycatcher, long-eared owl, snowshoe hare, pallid bat, western red bat, Sierra Nevada mountain beaver, osprey, and bald eagle. Implementation of Alternative 1 (PEA Alternative) could disturb the foraging and movement patterns of individuals, affect breeding activities and reproductive success, cause direct mortality or injury, and disturb or remove suitable habitat for some of these species. However, with integration of the above-listed APMs into project design to avoid, minimize, and compensate for impacts to wildlife resources generally and several special-status species specifically, Alternative 1 (PEA Alternative) is not expected to substantially affect the distribution, breeding productivity, viability, or the regional population of any special-status species. However, despite implementation of the APMs, the long-term habitat gains or enhancements where the existing 625 Line would be removed, and the finding that Alternative 1 (PEA Alternative) is not expected to substantially affect goshawk individuals or populations, vegetation removal under Alternative 1 (PEA Alternative) would result in a net permanent habitat loss within TRPA-designated disturbance zones around northern goshawk nests in nonurban areas (3.2 acres), which is prohibited by TRPA. Therefore, this impact to northern goshawk would be **significant**.

## MITIGATION MEASURES

For areas outside of TRPA urban plan areas, the Code, Section 62.4.1, "Disturbance Zones," states that the habitat in TRPA-designated disturbance zones around northern goshawk nests "shall not be manipulated in any manner unless such manipulation is necessary to enhance the quality of the habitat." Section 62.4.3, "Environmental Documents," states that "applicants for projects within disturbance zones shall submit with their applications appropriate environmental documentation prepared by a biologist that includes specific recommendations for avoiding significant adverse impacts to the ... species." Through consultation with TRPA on this issue, no feasible mitigation for permanent loss of habitat within TRPA-designated disturbance zones around northern goshawk nests has been identified. Therefore, this impact to northern goshawk would be **significant and unavoidable**.

**IMPACT**  
**4.7-7**  
**(Alt.1)**

**Effects on aquatic habitat.** Under Alternative 1 (PEA Alternative), construction activities such as vegetation clearing, pole installation, pole removal, creation of access ways, and staging near aquatic habitats could temporarily result in adverse impacts to aquatic habitat, including through removal of riparian vegetation; accidental spill and contamination from construction chemicals, fuels, or other hazardous materials; increased erosion, downstream sedimentation, and turbidity; small amounts of fill placed in aquatic habitats; and direct mortality or injury of fish and other aquatic species caused by equipment passing through aquatic habitats. The project's design, construction methods, and incorporation of several APMs designed to protect aquatic resources would minimize, avoid, and partially compensate for these potential impacts to aquatic habitats. However, even with integration of the APMs into project design, project construction could result in loss or degradation of stream or riparian habitat protected under Section 1602 of the Fish and Game Code. Any unavoidable disturbance to the bed and bank of a waterway that provides habitat functions would require a Streambed Alteration Agreement from CDFW and be considered a **potentially significant impact**.

As described in Section 4.7.2, Existing Conditions/Affected Environment, aquatic habitats within the project area include streams, rivers, drainages, ponds, seeps, and seasonally flooded areas. Approximately 45 perennial and intermittent aquatic features, including Griff Creek, Truckee River, Middle Martis Creek, Martis Creek, wet meadows, ponds, and other drainages, were identified and described in or near the study area (Sierra Pacific 2010). Many of these aquatic features provide habitat for several common fish species. Additionally, suitable habitat for amphibians and other riparian/aquatic-associated wildlife is generally found in streams, ponds, wetlands, and associated riparian zones, as well as in upland areas adjacent to aquatic and riparian habitats.

Project components of Alternative 1 (PEA Alternative) would cross, or be implemented near, several waterways that provide aquatic habitats for fish, amphibians, birds, invertebrates, and other species, including the Truckee River, Burton Creek, Snow Creek, Griff Creek, Trout Creek, Martis Creek, and Middle Martis Creek. Construction activities such as vegetation clearing, pole installation, pole removal, creation of access ways, and staging near aquatic habitats could temporarily result in adverse impacts to aquatic resources, including removal of riparian vegetation, which provides shade, cover, and bank stability; accidental spill and contamination from construction chemicals, fuels, or other hazardous materials; increased erosion, downstream sedimentation, and turbidity; small amounts of fill placed in aquatic habitats; and direct mortality or injury of fish and other aquatic species caused by vehicles or equipment passing through aquatic habitats.

Some clearing of trees and woody riparian vegetation along stream channels may be required to provide adequate clearance for construction activities. Although no construction is planned within stream channels, work adjacent to these areas could result in minor, short-term water quality impacts (increased turbidity, sedimentation) if sediment is inadvertently transported into aquatic habitats during pole foundation construction, pole placement, corridor clearing, or other construction activity; and, the crossing of small stream channels by vehicles and equipment for construction access may be unavoidable in some cases. Additionally, dewatering could occur during work near aquatic resources, including the Truckee River, Griff Creek, Martis Creek, Middle Martis Creek, and a large wet meadow in the Martis Valley. Along the Truckee River, work is planned to occur in two locations—in Tahoe City near the Tahoe City Substation and in Truckee where the 650/132 double-circuit line spans the river. In Tahoe City, construction crews would need to access the bank of the Truckee River to remove poles along the existing 625 Line. CalPeco would attempt to construct poles for the new 625 Line further away from the river; however, new poles may be required below the ordinary high water mark.

Overhead conductors would span streams and riparian zones, and most power poles would be placed outside of and at a sufficient distance from stream channels to avoid excavation, pouring of pole foundations, or other ground disturbing activities within the stream channels. Because only a small number of poles would be placed

within wet meadows or below the ordinary high water mark of the Truckee River, impacts to aquatic resources, riparian areas, and wet meadows are anticipated to be minor; and potential effects of any pole replacement along the Truckee River on fish and their movements would be minimal.

The following APMs designed to further protect aquatic resources would minimize, avoid, and partially compensate for potential impacts to aquatic habitats and avoid harm of fish and wildlife during any dewatering activities.

- ▲ **APM BIO-17:** Concurrent with the preconstruction surveys described in APM BIO-15, surveys will be conducted for amphibians, including eggs or juveniles, at aquatic habitat crossed by the project. If adults, juveniles, or eggs of amphibians are discovered, a permitted specialist will relocate the individuals to suitable habitat outside of the construction area. If amphibians are discovered in the construction area after the start of work, the environmental monitor will allow the individuals to leave under their own volition. As an alternative, an agency-approved biologist may relocate the individuals from the project area to similar, suitable habitat. CalPeco will coordinate with the CDFW, USFWS, USFS, and/or USACE prior to relocating any individuals. If it is determined that surveys would have potential to result in harassment or other forms of take of a federally listed species (e.g., Sierra Nevada yellow-legged frog), survey and potential relocation methods will be coordinated with and authorized by USFWS.
- ▲ **APM BIO-28 and APM BIO-29** are measures to minimize vegetation removal, particularly in riparian areas, and reduce potential temporary impacts to aquatic habitats, as described under Impact 4.7-1 and 4.7-2 above.
- ▲ **APM BIO-31:** Visibility permitting, all excavations will be inspected for sensitive aquatic wildlife prior to dewatering. Wildlife found in excavations will be allowed to leave passively or will be relocated by a qualified biologist.
- ▲ **APM BIO-32:** If dewatering of an excavation is needed, all dewatering pump intakes will be fitted with filter screening to prevent impacts to aquatic wildlife that may accidentally enter excavations. Water will not be pumped directly from rivers, streams, ponds, or other waters of the U.S. or wetlands (although as stated above, dewatering of excavations is permitted).
- ▲ **APM WQ-4, APM WQ-5, APM WQ-7 and APM WQ-8** are measures to minimize impacts to stream channels and other aquatic resources and restore these habitats following construction; and measures requiring CalPeco to obtain permits that would provide compensatory mitigation prior to commencing work in waters of the United States or waters of the state, as described under Impact 4.7-2 above.

Additionally, a stormwater pollution prevention plan (SWPPP) would be prepared and implemented as part of the project. This plan would detail the BMPs that would be implemented to minimize erosion, reduce sediment transport, control stormwater flow from the project area, and prevent construction materials from entering or otherwise affecting waterways. In addition, the SWPPP would generally describe the terrain type and slope at temporary construction areas, and would address grading and slope stabilization methods, as well as construction waste disposal methods.

The project design including incorporation of applicable APMs would reduce project impacts to aquatic resources, and most potential residual impacts to aquatic habitat functions would not be considered substantial. However, even with incorporation of APMs into project design, project construction could result in loss or degradation of stream or riparian habitat protected under Section 1602 of the Fish and Game Code. For example, equipment operation is not anticipated within stream channels, implementation of APM WQ-7 and other APMs would minimize equipment use and crossing through the bed and bank of a channel, and APM WQ-8 requires CalPeco to obtain permits that would provide compensatory mitigation prior to commencing work in waters of the United States or waters of the state. However, the crossing of small stream channels by vehicles and equipment for construction access, and associated disturbances to riparian and stream habitats protected by CDFW, may be unavoidable in some cases. Although the project design and implementation of APMs would

prevent most impacts to aquatic resources from being substantial, any unavoidable disturbance to the bed and bank of a waterway that provides habitat functions would require a Streambed Alteration Agreement from CDFW and be considered a **potentially significant** impact.

## MITIGATION MEASURES

In addition to the APMs listed above, the following mitigation measure will be implemented by CalPeco to minimize, avoid, and compensate for potential adverse effects on aquatic habitats and ensure consistency with Fish and Game Code.

### Mitigation Measure 4.7-7 (Alt. 1): Compensate for Unavoidable Loss of Stream and Riparian Habitat.

*See Mitigation Measure 4.7-2a described above for Impact 4.7-2 (Alt. 1) (Disturbance or Loss of Sensitive Habitats). The same mitigation measure would apply.*

Implementation of Mitigation Measure 4.7-7 (Alt. 1) would reduce potentially significant impacts to aquatic habitats to a **less-than-significant** level because it would require that: 1) aquatic habitat is avoided to the extent feasible; 2) aquatic habitats that cannot be avoided are restored following construction; 3) any unavoidable losses would be compensated for in a manner that results in no net loss of aquatic habitat; and 4) project implementation is consistent with the aquatic and riparian habitat protection provisions of Fish and Game Code Section 1602.

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<b>IMPACT 4.7-8 (Alt.1)</b>	<b>Effects on wildlife and fish movement corridors.</b> Known animal movement corridors in the study area include the migratory route of the Loyalton-Truckee mule deer herd and streams that function as migratory and movement routes for fish. Under Alternative 1 (PEA Alternative), construction activities could cause temporary disturbances to mule deer and fish movements and habitat use. However, the project would not create local, watershed-, or landscape-level barriers that would impair movement, redirect migration, or prevent the use of traditional habitats throughout a species range. Therefore, any potential impacts to wildlife and fish movement patterns and corridors would be short-term and <b>less than significant</b> .
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Wildlife and fish movement corridors are considered an important ecological resource by various agencies (e.g., USFWS, CDFW, USFS, State Parks, and TRPA) and are also protected under the Code. Movement corridors may provide favorable locations for wildlife to travel or disperse between various habitat areas (e.g., foraging sites, breeding sites, cover areas, and preferred summer and winter range locations). Known animal movement corridors in the study area include the migratory route of the Loyalton-Truckee mule deer herd and streams that function as migratory and movement routes for fish. Potential impacts to animal movement corridors would be associated primarily with removal of the existing 625 Line and construction of a new, rerouted 625 Line, and rebuild and realignment of the 650 Line. Potential effects related to each of these project components are described below.

The California Essential Habitat Connectivity Project is a recently-completed, peer-reviewed statewide assessment of important habitat linkages (Spencer et al. 2010). The project's goal was to identify large remaining blocks of intact habitat or natural landscape at a coarse spatial scale, and model linkages between them that are important to maintain as corridors for wildlife. This coarse-scale, statewide map was based primarily on the concept of ecological integrity over a very large region, rather than the specific movement and other life history requirements of particular species. The project study area is not within any area identified by the California Essential Habitat Connectivity Project as an Essential Habitat Connectivity area.

## EXISTING AND NEW 625 LINES

The existing 625 Line and the proposed new 625 Line cross through the southern extent of the migratory route of the Loyalton-Truckee deer herd. Because the lines are located near the southern terminus of the migration corridor where migration is likely sparse, impacts to migratory movement are expected to be minimal. Temporary construction-related noise and human presence could cause migrating mule deer to avoid or move out of the areas immediately surrounding work areas. However, because mule deer are highly mobile and adaptive, potential effects of temporary construction activities on movements are expected to be minor. Due to the large amount of suitable habitat adjacent to the project area, deer would likely move out of active construction areas and into adjacent habitat temporarily. Because the existing 625 Line would be permanently removed and revegetated, and no construction of new facilities would occur there, no permanent adverse effects on migratory routes or habitat would result from removal of the existing 625 Line.

The proposed new 625 Line parallels the Fiberboard Freeway corridor for much of its length, and also crosses SR 267. This general corridor is subject to existing disturbances and habitat degradation as a result of road use, maintenance, and edge effects. Existing noise and human presence along this roadway likely deters deer, to some extent, from regularly using parts of this area during the daytime. Because the Fiberboard Freeway, SR 267, and associated disturbances are already present near the proposed new 625 Line, the incremental increase in disturbances from constructing the new 625 Line may not disturb mule deer migration and habitat use substantially above existing levels. Additionally, project construction would not create any temporary or permanent barriers to movement that would redirect migration during non-working hours. Also, any permanent loss or degradation of habitat along the new 625 Line ROW would be partially compensated for by the abandonment and revegetation of the existing 625 Line ROW.

Approximately 0.4 mile of the existing 625 Line (in Segment 625-5) intersects the edge of an area mapped by CDFW as a fawning area near Mt. Pluto; the new 625 Line would be located outside and approximately 0.25 mile south of this area. The Northstar Fold would be located approximately 1 mile north of the northern boundary of the fawning area. The precision of the CDFW mapping area is unknown, and deer use and fawning history of this mapped area have not been documented. Because no construction of new facilities would occur there following removal and revegetation of the existing 625 Line, no permanent adverse effects on habitat quality or migration in this area would occur. Temporary construction-related noise from helicopters and equipment along the existing and new 625 Lines have the potential to disrupt fawning activities, if fawning occurs near those areas, though it can be assumed that deer would simply avoid these areas. Impacts to fawning and access to the fawning area from the north as a result of the Northstar Fold are not anticipated because the line would be located within an area of the Northstar-at-Tahoe Resort with existing high levels of human disturbance. Additionally, APM BIO-25 (described previously) would be implemented to avoid impacts to mule deer and mule deer fawns that might be sensitive to construction activity and helicopter noise.

The Truckee River serves as a migratory pathway for several species of trout and salmon. Because work would only occur on the river bank and be scheduled during low-flow conditions, work would not impede flow or disrupt natural migratory or movement patterns. Because fish tend to navigate through deeper areas away from the shore, potential effects of any pole replacement along the Truckee River on fish and their movements would be minimal. Additionally, CalPeco will implement APM BIO-31 and APM BIO-32 (described previously), which would avoid harm of fish and wildlife during any dewatering activities. Some of the smaller stream channels along the existing and proposed new 625 Lines may function as fish movement corridors locally and within watersheds. Pole placement or other construction activities are not expected to occur within these streams, and implementation of the applicable APMs described in Impact 4.7-7 (Alt. 1) would further minimize, avoid, or compensate for potential effects on riparian and aquatic habitats. However, as described in Impact 4.7-7 (Alt. 1), some temporary disturbances to stream channels may be unavoidable in some cases. Because such disturbances would be infrequent, temporary, and relatively minor if they occur, they would not substantially impair movement or migratory habitat for aquatic species.

## 650 LINE

The 650 Line crosses through Martis Valley, which functions as a migratory corridor and fawning habitat for the Loyalton-Truckee deer herd. Deer have the potential to migrate through the project area across Segments 650-3 and 650-4 as they move into the Lake Tahoe Basin along Martis Creek and West Martis Creek. Rebuilding of the line has the potential to temporarily impact migrating or fawning deer due to increased noise and human presence, as well as the temporary loss of vegetation within work areas. However, due to the large amount of suitable habitat adjacent to the project area, nearby deer would likely avoid or move out of active construction areas and into adjacent Jeffrey pine and low sage habitat. Construction of the project would not create any temporary or permanent barriers to movement that would redirect migration during non-working hours. In addition, work in Martis Valley along the 650 Line where historic migratory corridors exist would not span the entire area at any one time, allowing deer to move around areas of construction.

The 650 Line also crosses Middle Martis Creek and Martis Creek, which provide habitat and movement opportunities for fish and other aquatic species. Because pole placement or other construction activities are not expected to occur within these creeks, and implementation of the applicable APMs would further minimize, avoid, or compensate for potential effects on riparian and aquatic habitats, construction of the 650 Line would not impair movement or migratory habitat for aquatic species.

## IMPACT SUMMARY

Known animal movement corridors in the study area include the migratory route of the Loyalton-Truckee mule deer herd and streams that function as migratory and movement routes for fish. Mule deer are highly mobile ungulates and are likely present in all project areas. Construction-related activities could cause mule deer to avoid or move out of the areas immediately surrounding work areas. This could result in temporary impacts to foraging, movement, fawning, or sheltering behavior. Direct mortality or injury to deer could also occur as a result of vehicle or equipment collisions. Because mule deer are highly mobile and adaptive, potential effects of temporary construction activities on movement are expected to be minor. Construction of the project would not create any temporary barriers to movement that would redirect migration during non-working hours. In addition, work in Martis Valley along the 650 Line where historic migratory corridors exist would not span the entire area at any one time, allowing deer to move around areas of construction through nearby low sage and Jeffrey pine habitat. No substantial permanent impacts to mule deer fawning, foraging, or movement habitat throughout the study area are anticipated as a result project implementation, and no habitat loss would occur within any known fawning areas. Because the new 650 and 625 Lines would be placed in the same general areas as the existing lines within the herd's migratory and summer range, and the overhead power lines would not create local or landscape-level barriers to movement that would redirect migration, the project would not introduce any new large linear corridors or other structures that could deter or prevent mule deer from using traditional areas throughout its range.

Pole placement or other construction activities are not expected to occur within streams that provide movement corridors for aquatic species, and integration of the applicable APMs into project design described in Impact 4.7-7 (Alt. 1) would further minimize, avoid, or compensate for potential effects on riparian and aquatic habitats. However, some temporary disturbances to small stream channels that may function as fish movement corridors locally and within watersheds may be unavoidable in some cases. Because such disturbances would be infrequent, temporary, and relatively minor if they occur, they would not substantially impair movement or migratory habitat for aquatic species.

In sum, Alternative 1 (PEA Alternative) would not create local, watershed-, or landscape-level barriers that would impair movement, redirect migration, or prevent the use of traditional habitats throughout a species range. Therefore, any potential effects on wildlife and fish movement patterns and corridors under Alternative 1 (PEA Alternative) would be short-term and **less than significant**.

## MITIGATION MEASURES

No mitigation measures are required.

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<b>IMPACT 4.7-9 (Alt.1)</b>	<b>Loss of habitat for Forest Service Management Indicator Species.</b> Implementation of Alternative 1 (PEA Alternative) could affect habitat for nine Forest Service MISs. With integration of APMs into project design to minimize, avoid, and compensate for impacts to biological resources, the project would not result in a substantial loss of habitat for any MIS, alter existing trends in any MIS habitat, or lead to a change in distribution of an MIS across the Sierra Nevada bioregion. Therefore, this impact would be less than <b>less than significant</b> .
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The MIS Report prepared for the project (USFS 2014a) evaluated habitat for 13 MISs required for consideration on NFS lands. The MIS report concluded that representative habitat for the following nine MIS species is present in the project area: aquatic macroinvertebrates (lacustrine/riverine habitat); yellow warbler (*Dendroica petechia*; riparian habitat); Pacific tree frog (*Pseudacris regilla*; wet meadow habitat); mountain quail (*Oreortyx pictus*; early- and mid-seral coniferous forest); blue grouse (*Dendragapus obscurus*; late-seral open-canopy coniferous forest); hairy woodpecker (*Picoides villosus*; snags in green forest); and California spotted owl (*Strix occidentalis occidentalis*), Pacific marten (*Martes caurina*), and northern flying squirrel (*Glaucomys sabrinus*) (late-seral closed-canopy coniferous forest) (Table 4.7-6). Several of these species are specifically addressed above under Impact 4.7-6 (Alt. 1), Disturbance or Loss of Special-Status Wildlife Species and Habitats (yellow warbler, California spotted owl, Pacific marten), with impacts considered less than significant.

The detailed MIS analysis concluded that implementation of Alternative 1 (PEA Alternative), with integration of APMs into project designs to protect biological resources, would not: 1) result in substantial loss of habitat for any MIS relative to the amount and quality available within and near the study area; or 2) alter existing trends in any MIS habitat or lead to a change in distribution of an MIS across the Sierra Nevada bioregion. Therefore, this impact would be **less than significant**. The full MIS analysis and discussion, including quantification of habitat impacts, are provided in the MIS Report (USFS 2014a).

## MITIGATION MEASURES

No mitigation measures are required.

## ALTERNATIVE 2 – MODIFIED ALTERNATIVE

### DIRECT AND INDIRECT IMPACTS

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<b>IMPACT 4.7-1 (Alt.2)</b>	<b>Disturbance or loss of common vegetation communities and wildlife habitats.</b> Implementing Alternative 2 (Modified Alternative) would result in the removal or disturbance of up to 206 acres of common vegetation communities and habitats, including Sierran mixed conifer forest, red fir forest, Jeffrey pine forest, and montane chaparral. Because these habitats are locally and regionally common and abundant, and implementation of APMs would minimize vegetation removal and require that habitat is restored to pre-project conditions in temporary construction areas, Alternative 2 (Modified Alternative) would not substantially reduce the size, continuity, or integrity of any common vegetation community or habitat type. Therefore, this impact would be <b>less than significant</b> .
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Implementing Alternative 2 (Modified Alternative) would result in removal and disturbance of the same common vegetation types as Alternative 1 (PEA Alternative) (coniferous forest, sagebrush scrub, low sage scrub, montane chaparral, montane dry meadow, and mule ears meadow). A maximum total of approximately 137

acres of permanent common natural habitat conversion and 69 acres of temporary common natural habitat disturbance would result from implementing Alternative 2 (Modified Alternative). Alternative 2 (Modified Alternative) would result in the permanent loss of approximately 14 fewer acres and temporary loss of 10 fewer acres of common vegetation than Alternative 1 (PEA Alternative) (see Table 4.7-8). This is primarily because this alternative would eliminate Segments 650-1 and 650-2 and put them into a double-circuit line in Segments 625-9 and 625-10. Implementing Alternative 2 (Modified Alternative) would result in permanent removal of approximately 44 more acres of common native habitats than implementing Alternative 4 (Proposed Alternative). Implementing Alternative 2 (Modified Alternative) would result in temporary disturbance of approximately 4 fewer acres of common native habitats than implementing Alternative 4 (Proposed Alternative). Permanent and temporary impact acreage was calculated as described above for Impact 4.7-1 (Alt. 1). The losses of common vegetation that would result under Alternative 2 (Modified Alternative) represent only a small proportion of the amount of these common vegetation types that is present in the overall study area. These habitats are abundant in the Truckee Tahoe region and permanent and temporary loss and disturbance that would occur under Alternative 2 (Modified Alternative) would not substantially reduce the size, continuity, or integrity of any common vegetation community or habitat type or interrupt the natural processes that support common vegetation communities in the project area.

The same APMs listed under Impact 4.7-1 (Alt.1) would be incorporated into the project design for Alternative 2 (Modified Alternative) to avoid and minimize disturbances to common vegetation.

These measures would ensure that vegetation removal is minimized to the extent feasible and that habitat is restored to preproject conditions in temporary construction areas. Therefore, this impact would be **less than significant**.

**MITIGATION MEASURES**

*No mitigation measures are required.*

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<b>IMPACT 4.7-2 (Alt.2)</b>	<b>Disturbance or loss of sensitive habitats (jurisdictional wetlands, riparian vegetation, and SEZ).</b> Implementing Alternative 2 (Modified Alternative) would result in direct removal and disturbance of sensitive habitats, including waters of the United States, waters of the state, riparian habitat, and SEZs. This impact would be <b>significant</b> .
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Implementing Alternative 2 (Modified Alternative) would result in permanent loss or temporary disturbance of the same sensitive habitat types as Alternative 1 (PEA Alternative) (montane riparian, wet montane meadow, and fresh emergent wetland), except that Alternative 2 (Modified Alternative) would be routed away from the open water habitat in the Truckee River near Tahoe City. These habitats in the impact area would potentially qualify as waters of the United States and/or waters of the State. Within the Tahoe Basin, all of these habitats would also meet the definition of SEZs and have been quantified and mapped as SEZ by TRPA for the project. While one seasonal wetland is present in the study area, implementing Alternative 2 (Modified Alternative) would not affect this sensitive habitat because it is outside of the maximum construction footprint.

Table 4.7-9 summarizes and compares the acreage of sensitive habitats and SEZs present in the permanent and temporary impact zone of each action alternative. Permanent and temporary acreage was calculated as described above for common habitat impacts, assuming that all habitat acreage within the 40-foot permanent ROW and 65-foot temporary construction easement would be removed. There are a total of approximately 10 acres of sensitive habitat types in the permanent ROW of Alternative 2 (Modified Alternative) and approximately 8 additional acres within the temporary construction zone. Therefore, Alternative 2 (Modified Alternative) could potentially remove approximately the same amount of sensitive habitats as Alternative 1 (PEA Alternative) and alternative 4 (Proposed Alternative), if all habitat acreage within these zones were affected. However, there is

up to approximately 1.4 acre less sensitive habitat within the temporary disturbance area of Alternative 2 (Modified Alternative) than within the temporary construction area of Alternative 1 (PEA Alternative) and alternative 4 (Proposed Alternative). Therefore, more sensitive habitat could potentially be temporarily disturbed under Alternative 1 and Alternative 4 than under Alternative 2. Within the Tahoe Basin, there are approximately 3.4 acres of SEZ within the permanent ROW of Alternative 2 (Modified Alternative) and 0.9 acre within the temporary construction zone. Therefore, Alternative 2 (Modified Alternative) would result in approximately 0.2 acre less permanent impact and 0.7 acre less temporary impact to SEZs than Alternative 4 (Proposed Alternative). Implementing Alternative 2 (Modified Alternative) would result in greater potential sensitive habitat impacts (more acreage) than Alternative 3 (Road Focused Alternative) and Alternative 3A (Road Focused Alternative with Double Circuit Option) (see Impact 4.7-2[Alt.3] below).

Because the construction corridor would be reduced in sensitive habitat areas and measures would be implemented to avoid and minimize impacts in these areas, the potential impact values presented here are considered a maximum and likely an overestimate of the area of actual impacts. For example, open water habitat is present where the 625 Line crosses the Truckee River, but the actual impact acreage here would be zero because the electric line would span the river and no construction would occur within the river channel. Within the Tahoe Basin, SEZs would be spanned or otherwise avoided in all but a few instances where new poles would be erected or existing poles would be replaced within the SEZ because there is no feasible way to span the SEZ or reroute the alignment outside of the SEZ. Therefore, impacts on SEZs have been minimized to the extent feasible. Nonetheless, these habitats are considered sensitive because they are declining in quantity and condition throughout the region and because they provide important habitat functions. Therefore, any loss or degradation of sensitive habitats is significant.

The same APMs listed under Impact 4.7-2 (Alt.1) would be incorporated into the project design for Alternative 2 (Modified Alternative) to minimize, avoid, and reduce potential adverse effects associated with the loss and disturbance of sensitive habitats. However, these APMs alone are not enough to fully reduce potential impacts from Alternative 2 (Modified Alternative) on all sensitive habitat types to a less-than-significant level. Therefore, loss and disturbance of sensitive habitats would be a **significant** impact under Alternative 2 (Modified Alternative).

## MITIGATION MEASURES

In addition to the APMs, the following measures would be implemented to ensure consistency with Fish and Game Code Section 1602 and TRPA Code Section 61.3 further reduce potential adverse effects on stream and riparian habitats and SEZs.

### **Mitigation Measure 4.7-2a (Alt. 2): Compensate for Unavoidable Loss of Stream and Riparian Habitat.**

*This Mitigation Measure is the same as Mitigation Measure 4.7-2a (Alt. 1) described above.*

### **Mitigation Measure 4.7-2b (Alt. 2): Compensate for Unavoidable Loss of SEZ.**

*This Mitigation Measure is the same as Mitigation Measure 4.7-2b (Alt. 1) described above.*

Implementation of these mitigation measures would reduce the significant impacts on sensitive habitats to a **less-than-significant** level because it would ensure that sensitive habitat is avoided to the extent feasible and that sensitive habitats that cannot be avoided are restored following construction, or if the habitat cannot be restored, that the applicant compensates for unavoidable losses in a manner that results in no net loss of sensitive habitats.

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<b>IMPACT 4.7-3 (Alt.2)</b>	<b>Disturbance or loss of special-status plants.</b> Implementing Alternative 2 (Modified Alternative) would result in direct removal and damage of Plumas ivesia plants and degradation or loss of suitable Plumas ivesia habitat. Special-status plants that are not directly removed or physically damaged could be adversely affected indirectly by habitat degradation or loss. APMs included in the project design would minimize, and in some instances, avoid potential adverse effects on special-status plants. Because, through implementation of the APMs, Alternative 2 (Modified Alternative) would not substantially affect the abundance or distribution of any special-status species (either directly or through habitat modifications), this impact would be <b>less than significant</b> .
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Implementing Alternative 2 (Modified Alternative) would result in direct removal of Plumas ivesia plants on 0.7 acres in Segment 650-4A. As discussed under Impact 4.7-3 (Alt.1), direct impacts could occur through various mechanisms in addition to direct removal. Plumas ivesia occurrences along Segment 650-4 and an existing dirt access road connecting to Segment 650-4, as well as unidentified areas of suitable habitat throughout the project area, could also be indirectly affected by project activities as described under Impact 4.7-3 (Alt. 1). Approximately 0.3 acres of habitat disturbance would be temporary and 0.4 acres of habitat disturbance would be permanent. Impacts to Plumas ivesia would be less under Alternative 2 (Modified Alternative) than under Alternative 1 (PEA Alternative) and Alternative 4 (Proposed Alternative), which would both affect 2.1 acres of Plumas ivesia, but greater than under Alternative 3 (Road Focused Alternative), which would impact 0.01 acre.

Potential impacts to Galena Creek rockcress and Mingan moonwort would be the same under Alternative 2 (Modified Alternative) as under Alternative 1 (PEA Alternative), Alternative 3 (Road Focused Alternative), and Alternative 4 (Proposed Alternative) because each of these alternatives would involve removal of the existing 625 Line where potential Galena Creek rockcress plants were observed and each of these alternatives would cross through the location of a known Mingan moonwort occurrence on Griff Creek in Segment 650-1/625-10. Under each of these alternatives, the line would span the riparian habitat/SEZ where Mingan moonwort occurs so that impacts to this species would be avoided.

As with Alternative 1 (PEA Alternative), special-status botanical species could be present in the Alternative 2 (Modified Alternative) study area and could be directly affected by habitat removal during implementation of Alternative 2 (Modified Alternative). Undetected special-status botanical species could be directly removed or physically damaged during construction of Alternative 2 (Modified Alternative). Direct and indirect impacts that could result from implementation of Alternative 2 (Modified Alternative) are the same as those described under Impact 4.7-3 (Alt. 1).

The same APMs listed under Impact 4.7-3(Alt.1) would be incorporated into the project design for Alternative 2 (Modified Alternative) to avoid, minimize, and compensate for potential direct and indirect effects on special-status botanical species. Through implementation of the APMs, Plumas ivesia, Mingan moonwort, and Galena Creek rockcress would be avoided to the extent feasible, mitigation measures would be established for plants that cannot be avoided, and degraded habitat would be restored following disturbance. As with Alternative 1, under Alternative 2 (Modified Alternative) the applicant would be required to identify and avoid special-status botanical species or provide compensation for the loss of special-status botanical species by salvaging seed and soil, relocating individuals, and restoring habitat to pre-project conditions. Consequently, implementing Alternative 2 (Modified Alternative) would not substantially affect the abundance or distribution, either directly or through habitat modifications, of Plumas ivesia, Mingan moonwort, Galena Creek rockcress, or any other special-status botanical species. Therefore, this impact would be **less than significant**.

## MITIGATION MEASURES

*No mitigation measures are required.*

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<b>IMPACT 4.7-4 (Alt.2)</b>	<b>Tree removal and loss of late seral/old growth forest.</b> Implementing Alternative 2 (Modified Alternative) would result in substantial tree removal, as defined by TRPA, and could result in the loss of late seral/old growth forest stands, which could interfere with attainment of late seral/old growth forest threshold standards. Therefore, this impact would be <b>significant</b> .
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Implementing Alternative 2 (Modified Alternative) would result in substantial tree removal as defined by TRPA (i.e., project activities of three acres or more and proposing the removal of more than 100 live trees 14 inches dbh or larger). Tree removal under Alternative 2 (Modified Alternative) would be slightly less compared to Alternative 1 (PEA Alternative) because it would eliminate Segments 650-1 and 650-2, placing them into a double circuit in Segments 625-9 and 625-10. This would result in fewer miles of electric line ROW and, consequently, fewer acres of forest habitat removal, as described under Impact 4.7-1 (Alt. 2). Still, constructing Alternative 2 (Modified Alternative) would undoubtedly result in removal of more than 100 trees 14 inches or greater dbh and a large number of trees greater than 24 inches dbh. Furthermore, implementing Alternative 2 (Modified Alternative) would result in substantial removal of trees measuring 6 inches or greater dbh and more than 50 percent of existing native trees within the project footprint, in Placer County, which would conflict with the County tree ordinance.

Tree removal within the narrow electric line ROW would not result in substantial changes in stand structure or composition or in the distribution of plant communities in the project area overall, and would not result in a change in the natural functioning of a late seral or old-growth ecosystems. As with Alternative 1 (PEA Alternative), the majority of the 650 Line would be rebuilt in the same alignment as the existing 650 Line. The only deviations from the existing alignment would be where the 650 Line would be double circuited with the 625 Line in Segments 625-9 and 625-10, and in a treeless area in Martis Valley (Segment 650-4A). The double circuit in Segments 625-9 and 625-10 would closely follow the existing 625 Line, deviating slightly to create a straighter line. Because this existing line is already maintained as a utility corridor, the number of trees measuring 14 inches or greater is limited within the ROW and trees over 24 inches dbh are scarce. Nonetheless, tree removal within the new 625 Line ROW and the expanded 650 Line ROW would be substantial.

Very little of the forest habitat in the study area exhibits structural characteristics that are generally thought to typify old growth forest communities. One feature widely accepted as a criterion of late seral/old growth forest habitat is structural variability and structural variability is generally not observed in forest communities within the study area. However, implementing Alternative 2 (Modified Alternative) would result in permanent loss of approximately 0.6 acre of late seral/old growth forest, as mapped by TRPA for the 2011 Threshold Evaluation Report. There is no late seral/old growth forest within the temporary construction footprint of this alternative.

Removing trees greater than 6 inches dbh from non-Federal lands within Placer County would necessitate issuance of a tree permit by the County. Removing trees greater than 14 inches dbh in the Tahoe Basin requires a permit from TRPA and the loss of trees greater than 24 inches dbh could conflict with achievement of TRPA late seral/old growth threshold standards, even though large utility projects such as this are exempted from the prohibition on cutting trees greater than 24 inches in eastside forests and greater than 30 inches dbh in westside forests when there is no reasonable alternative. Because attainment status for late seral/old growth forest threshold standards is considerably worse than target and it is anticipated to take 100 years or more to achieve targets, any loss of old growth forest would be a significant impact. Therefore, tree removal and loss of late seral/old growth forest under Alternative 2 (Modified Alternative) would be a significant impact.

The same APMs listed under Impact 4.7-4(Alt.1) would be incorporated into the project design for Alternative 2 (Modified Alternative) to minimize, avoid, and reduce potential adverse effects associated with tree removal and the loss and disturbance of late seral/old growth forest stands. However, these APMs alone are not enough to reduce the significant impacts of tree removal and the loss and disturbance of late seral/old growth forest stands that would result under Alternative 2 (Modified Alternative) to a less-than-significant level. Therefore,

tree removal and loss of late seral/old growth forest under Alternative 2 (Modified Alternative) would be a **significant** impact.

## MITIGATION MEASURES

The following mitigation measure will be implemented by CalPeco to minimize, avoid, and compensate for tree removal and potential adverse effects on late seral/old growth forest stands and ensure consistency with TRPA Code.

### Mitigation Measure 4.7-4 (Alt. 2): Conduct a Tree Survey; Avoid Late Seral/Old-Growth Forest; Compensate for Loss of Trees.

*This mitigation measure is the same as Mitigation Measure 4.7-4 (Alt. 1) described above.*

Implementation of this mitigation measure would reduce the significant impacts associated with tree removal and loss of late seral/old growth forest to a **less-than-significant** level because it would ensure that tree removal and old growth forest removal is avoided to the extent feasible and that the applicant compensates for unavoidable losses.

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<b>IMPACT 4.7-5 (Alt.2)</b>	<b>Introduction and spread of invasive plants.</b> Project construction could result in the introduction or spread of invasive plant species through seed mixes, equipment, and other materials. Areas disturbed during construction can provide ideal conditions for weed establishment. APMs included in the project design would avoid and minimize potential adverse effects from the introduction and spread of invasive plant, but not necessarily to a less-than-significant level. Therefore, this impact is <b>potentially significant</b> .
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Implementing Alternative 2 (Modified Alternative) could result in the spread of invasive plants that are present in the study area. Additionally, new invasive plant species could be introduced into the study area during construction. The risk of spreading invasive plants is slightly lower under Alternative 2 (Modified Alternative) than under Alternative 1 (PEA Alternative), but greater than under Alternatives 3, 3A, and 4 because these action alternatives would rely more heavily on existing roadways for access and would be constructed along existing roadways. Implementing Alternative 2 (Modified Alternative) would result in removal or disturbance of approximately 206 acres of native vegetation cover as compared to 231 acres under Alternative 1 (PEA Alternative), 182 acres under Alternative 3 (Road Focused Alternative), 180 acres under Alternative 3A (Road Focused Alternative with Double Circuit Option), and 167 acres under Alternative 4 (Proposed Alternative).

The same APMs listed under Impact 4.7-5 (Alt.1) would be incorporated into the project design for Alternative 2 (Modified Alternative) to minimize, avoid, and reduce potential direct and indirect effects of invasive plants. In particular, the applicant will be required to treat known infestations prior to implementation and avoid (or mitigate potential spread through barriers) infestations during all construction activities. The APMs also require that weed-free materials be used and equipment be inspected for invasive plants prior to use, reducing the potential introduction of invasive plants during the use of imported equipment and materials. However, these APMs alone would not necessarily reduce the impact to a less-than-significant level because the project could still conflict with the Forest Service Noxious Weed Management Strategy. The risk of introduction and spread of invasive plants is **potentially significant** under Alternative 2 (Modified Alternative).

## MITIGATION MEASURES

The APMs described previously would reduce potential adverse effects from the spread or introduction of invasive plants. In addition, the following mitigation measure would be implemented to ensure consistency with

the Forest Service invasive plant management direction and further reduce potential adverse effects from the spread and introduction of invasive plants.

### **Mitigation Measure 4.7-5 (Alt. 2): Utilize Local Native Seed and Notify Noxious Weed Coordinator.**

*This Mitigation Measure is the same as Mitigation Measure 4.7-5 (Alt. 1) described above.*

Implementation of the APMs and this mitigation measure would reduce potentially significant impacts from the introduction and spread of invasive plants because the applicant would be required to treat, avoid or mitigate effects from known invasive plant infestations prior to construction; revegetate temporary disturbance areas with native vegetation and locally collected native plants and seeds; clean weed seed and propagules from equipment so they are not introduced as part of construction activities; utilize weed-free materials to prevent new introductions; and monitor after construction is completed to ensure new infestations do not become established. Collectively, these measures would substantially reduce the risk of invasive plant introduction and spread resulting from proposed activities to a **less-than-significant** level.

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<b>IMPACT 4.7-6 (Alt.2)</b>	<b>Disturbance or loss of special-status wildlife species and habitats.</b> Implementation of Alternative 2 (Modified Alternative) could disturb the foraging and movement patterns of individuals, affect breeding activities and reproductive success, cause direct mortality, and disturb or remove suitable habitat for some of these species. With implementation of APMs to avoid, minimize, and compensate for impacts to wildlife resources generally and several special-status species specifically, Alternative 2 (Modified Alternative) is not expected to substantially affect the distribution, breeding productivity, viability, or the regional population of any special-status species. However, vegetation removal would result in permanent habitat loss within TRPA-designated disturbance zones around northern goshawk nests, which is prohibited by TRPA. Therefore, this impact to northern goshawk would be <b>significant</b> .
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Under Alternative 2 (Modified Alternative), the types and magnitude of most potential impacts to special-status wildlife would be similar to those described for Alternative 1 (PEA Alternative), with minor differences in the amounts and locations of habitats affected between the alternatives. Please see Impact 4.7-6 (Alt. 1) for a discussion of potential impact mechanisms, applicable APMs, biological effects, and anticipated magnitude of effects for each of the 17 special-status wildlife species analyzed. However, some effects on special-status species under Alternative 2 (Modified Alternative) would differ from those previously addressed in Impact 4.7-6 (Alt. 1), primarily for northern goshawk and California spotted owl. The following summarizes key differences between effects under Alternative 2 (Modified Alternative) and those previously described for Alternative 1 (PEA Alternative), followed by a summary of impacts and level of significance for all special-status species analyzed.

Appendix L summarizes the USFS NEPA and ESA effects determinations for species federally listed or proposed for listing as threatened or endangered under the ESA, species designated as a candidate for listing, critical habitat, and Forest Service sensitive species, as analyzed and concluded in the BA and Animal BE.

### **NORTHERN GOSHAWK HABITAT, PACs, AND TRPA DISTURBANCE ZONES**

Overall, implementation of Alternative 2 (Modified Alternative) would initially result in the permanent loss or disturbance of up to 121.1 acres of potential habitat for northern goshawk over the study area (compared to 129.8 acres under Alternative 1 [PEA Alternative]). Of this total amount, 0.2 acre would occur in the Griff Creek goshawk PAC (compared to 0.1 acre under Alternative 1 [PEA Alternative]), and 7.1 acres would occur within the nonurban portion of three partially-overlapping TRPA disturbance zones (compared to 3.9 acres under Alternative 1 [PEA Alternative]) (Table 4.7-10; Exhibit 4.7-5). Over the long term, because the existing 625 Line

would be decommissioned and vegetation would be allowed to reestablish within the existing 20-foot vegetation management corridor, the net permanent disturbance/loss would be reduced to approximately 101.2 acres overall (compared to 109.1 acres under Alternative 1 [PEA Alternative]) and 6.4 acres in the nonurban portion TRPA disturbance zones (compared to 3.2 acres under Alternative 1 [PEA Alternative]).

The amount of temporary disturbance to northern goshawk habitat would be less under Alternative 2 (Modified Alternative). Overall, implementation of Alternative 2 (Modified Alternative) would result in the temporary loss or disturbance of up to 58.2 acres of potential habitat for northern goshawk (compared to 68.4 acres under Alternative 1 [PEA Alternative]); of this amount, none would occur in the Griff Creek goshawk PAC (compared to 0.2 acre under Alternative 1 [PEA Alternative]), and 1.6 acre would occur within the nonurban portion of three partially-overlapping TRPA disturbance zones (compared to 4.4 acres under Alternative 1 [PEA Alternative]) (Table 4.7-10; Exhibit 4.7-5).

## CALIFORNIA SPOTTED OWL HABITAT, PACs, AND HRCAs

Alternative 2 (Modified Alternative) includes a segment of the new 625 Line that would reduce the amount of permanent and temporary habitat loss and disturbance within the Mt. Pluto spotted owl PAC and HRCA (Segment 625-6A), relative to Alternative 1 (PEA Alternative). (However, as discussed below in Impact 4.7-6 [Alt. 3] and Impact 4.7-6 [Alt. 4], Alternative 3 [Road Focused Alternative] and Alternative 4 [Proposed Alternative] would result in the least amount of impact to spotted owl habitat among the action alternatives.) This segment was identified during project surveys in 2012, as an option to reduce potential habitat loss and fragmentation within the PAC and HRCA. Under Alternative 2 (Modified Alternative), within the Mt. Pluto PAC, Segment 625-6A would be constructed mostly along Mt. Watson Road rather than parallel the Fiberboard Freeway (see Exhibit 4.7-6). Within the PAC, the new 625 Line would be 0.03 mile shorter and result in 1.3 fewer acres permanently affected initially than under Alternative 1 (PEA Alternative) (see Table 4.7-11 for acreage comparisons among the alternatives); it would also be located closer to the western edge of the PAC, rather than through the middle as under Alternative 1 (PEA Alternative) (Exhibit 4.7-6). Within the HRCA outside the PAC, the new 625 Line would permanently affect 0.6 fewer acres than under Alternative 1 (PEA Alternative). However, based on project surveys conducted in 2012, the habitat along Mt. Watson Road is likely subject to less existing disturbance and habitat degradation from road use than the area adjacent to the Fiberboard Freeway. Therefore, the quality of spotted owl habitat within the Mt. Pluto PAC affected under Alternative 2 (Modified Alternative) may be higher than that under Alternative 1 (PEA Alternative).

Overall, implementation of Alternative 2 (Modified Alternative) would initially result in the permanent loss or disturbance of up to 121.1 acres of potential habitat for spotted owl (compared to 129.8 acres under Alternative 1 [PEA Alternative]); of this amount, 0.4 acre would occur in the Griff Creek PAC (compared to 0.1 acre under Alternative 1 [PEA Alternative]), and 4.9 acres would occur in the Mt. Pluto PAC (compared to 6.2 acres under Alternative 1 [PEA Alternative]) (Table 4.7-11; Exhibit 4.7-5). Over the long term, because the existing 625 Line would be decommissioned and vegetation would be allowed to reestablish within the existing 20-foot vegetation management corridor, the net permanent disturbance/loss would be reduced to approximately 101.2 acres overall (compared to 109.1 acres under Alternative 1 [PEA Alternative]), and 1.7 acres in the Mt. Pluto PAC (compared to 2.4 acres under Alternative 1 [PEA Alternative]). Table 4.7-11 additionally shows the amount of additional habitat affected outside of PACs but within HRCAs (Mt. Pluto, Carnelian, Griff Creek, Twin Crags HRCAs), and impacts to suitable habitat outside of designated PACs or HRCAs.

The amount of temporary disturbance to spotted owl habitat would be less under Alternative 2 (Modified Alternative). Overall, implementation of Alternative 2 (Modified Alternative) would result in the temporary loss or disturbance of up to 58.2 acres of potential habitat for spotted owl (compared to 68.4 acres under Alternative 1 [PEA Alternative]); of this amount, none would occur in the Griff Creek PAC (compared to 0.3 acre under Alternative 1 [PEA Alternative]), and 1.7 acres would occur in the Mt. Pluto PAC (compared to 2.4 acres under Alternative 1 [PEA Alternative]) (Table 4.7-11; Exhibit 4.7-5).

## IMPACT SUMMARY

Nine special-status wildlife taxa have been documented in the study area: waterfowl, northern goshawk, California spotted owl, northern harrier, black-backed woodpecker, willow flycatcher, yellow warbler, Pacific marten, and mule deer. Eight additional special-status wildlife species were identified as having a moderate or high potential to occur within the study area: olive-sided flycatcher, long-eared owl, snowshoe hare, pallid bat, western red bat, Sierra Nevada mountain beaver, osprey, and bald eagle. For the same reasons described in Impact 4.7-6 (Alt. 1) for Alternative 1 (PEA Alternative), implementation of Alternative 2 (Modified Alternative) could disturb the foraging and movement patterns of individuals, affect breeding activities and reproductive success, cause direct mortality or injury, and disturb or remove suitable habitat for some of these species. However, with implementation of APMs to avoid, minimize, and compensate for impacts to wildlife resources generally and several special-status species specifically, Alternative 2 (Modified Alternative) is not expected to substantially affect the distribution, breeding productivity, viability, or the regional population of special-status species. However, despite implementation of the APMs, the long-term habitat gains or enhancements where the existing 625 Line would be removed, and the finding that Alternative 2 is not expected to substantially affect goshawk individuals or populations, vegetation removal under Alternative 2 would result in a net permanent habitat loss within TRPA-designated disturbance zones around northern goshawk nests in nonurban areas (6.4 acres), which is prohibited by TRPA. Therefore, this impact to northern goshawk would be **significant**.

## MITIGATION MEASURES

For areas outside of TRPA urban plan areas, the Code, Section 62.4.1, "Disturbance Zones," states that the habitat in TRPA-designated disturbance zones around northern goshawk nests "shall not be manipulated in any manner unless such manipulation is necessary to enhance the quality of the habitat." Section 62.4.3, "Environmental Documents," states that "applicants for projects within disturbance zones shall submit with their applications appropriate environmental documentation prepared by a biologist that includes specific recommendations for avoiding significant adverse impacts to the ... species." Through consultation with TRPA on this issue, no feasible mitigation for permanent loss of habitat within TRPA-designated disturbance zones around northern goshawk nests has been identified. Therefore, this impact to northern goshawk would be **significant and unavoidable**.

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<b>IMPACT 4.7-7 (Alt.2)</b>	<b>Effects on aquatic habitat.</b> Under Alternative 2 (Modified Alternative), construction activities such as vegetation clearing, pole installation, pole removal, creation of access ways, and staging near aquatic habitats could temporarily result in adverse impacts to aquatic habitat, including through removal of riparian vegetation; accidental spill and contamination from construction chemicals, fuels, or other hazardous materials; increased erosion, downstream sedimentation, and turbidity; small amounts of fill placed in aquatic habitats; and direct mortality or injury of fish and other aquatic species caused by equipment passing through aquatic habitats. The project's design, construction methods, and incorporation of several APMs designed to protect aquatic resources would minimize, avoid, and partially compensate for these potential impacts to aquatic habitats. However, even with incorporation of the APMs, project construction could result in loss or degradation of stream or riparian habitat protected under Section 1602 of the Fish and Game Code. Any unavoidable disturbance to the bed and bank of a waterway that provides habitat functions would require a Streambed Alteration Agreement from CDFW and be considered a <b>potentially significant</b> impact.
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Under Alternative 2 (Modified Alternative), potential impacts to aquatic habitats would be similar to those described for Alternative 1 (PEA Alternative), except that Alternative 2 (Modified Alternative) would be routed farther away from aquatic habitat in the Truckee River near Tahoe City in Segment 625-1A. Please see Impact

4.7-7 (Alt. 1) for a discussion of potential impact mechanisms and anticipated magnitude of effect on aquatic habitats.

The project design and incorporation of applicable APMs described in Impact 4.7-7 (Alt. 1) would reduce project impacts to aquatic resources under this alternative, and most potential residual impacts to aquatic habitat functions would not be considered substantial. Even with incorporation of the APMs, project construction could result in loss or degradation of stream or riparian habitat protected under Section 1602 of the Fish and Game Code. For example, equipment operation is not anticipated within stream channels, implementation of APM WQ-7 and other APMs would minimize equipment use and crossing through the bed and bank of a channel, and APM WQ-8 requires CalPeco to obtain permits that would provide compensatory mitigation prior to commencing work in waters of the United States or waters of the state. However, the crossing of small stream channels by vehicles and equipment for construction access, and associated disturbances to riparian and stream habitats protected by CDFW, may be unavoidable in some cases. Although the project design and implementation of APMs would prevent most impacts on aquatic resources from being substantial, any unavoidable disturbance to the bed and bank of a waterway that provides habitat functions would require a Streambed Alteration Agreement from CDFW and be considered a **potentially significant** impact.

## MITIGATION MEASURES

In addition to the applicable APMs, the following mitigation measure will be implemented by CalPeco to minimize, avoid, and compensate for potential adverse effects on aquatic habitats and ensure consistency with Fish and Game Code.

### Mitigation Measure 4.7-7 (Alt. 2): Compensate for Unavoidable Loss of Stream and Riparian Habitat.

*See Mitigation Measure 4.7-7 (Alt. 1) described above for Alternative 1 (PEA Alternative). The same mitigation measure would apply.*

Implementation of Mitigation Measure 4.7-7 (Alt. 2) would reduce potentially significant impacts to aquatic habitats to a **less-than-significant** level because it would require that: 1) aquatic habitat is avoided to the extent feasible; 2) aquatic habitats that cannot be avoided are restored following construction; 3) any unavoidable losses would be compensated for in a manner that results in no net loss of aquatic habitats; and 4) project implementation is consistent with the aquatic and riparian habitat protection provisions of Fish and Game Code Section 1602.

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<b>IMPACT 4.7-8 (Alt.2)</b>	<b>Effects on wildlife and fish movement corridors.</b> Known animal movement corridors in the study area include the migratory route of the Loyalton-Truckee mule deer herd and streams that function as migratory and movement routes for fish. Under Alternative 2 (Modified Alternative), construction activities could cause temporary disturbances to mule deer and fish movements and habitat use. However, the project would not create local, watershed-, or landscape-level barriers that would impair movement, redirect migration, or prevent the use of traditional habitats throughout a species range. Therefore, any potential impacts to wildlife and fish movement patterns and corridors would be short-term and <b>less than significant</b> .
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Known animal movement corridors in the study area include the migratory route of the Loyalton-Truckee mule deer herd and streams that function as migratory and movement routes for fish. Under Alternative 2 (Modified Alternative), the types and magnitude of potential impacts to wildlife and fish movement corridors would be similar to those described for Alternative 1 (PEA Alternative), with minor differences in the amounts and

locations of areas affected between the alternatives. Please see Impact 4.7-8 (Alt. 1) for a discussion of potential impact mechanisms, biological effects, and anticipated magnitude of effects on movement corridors.

For the same reasons described in Impact 4.7-8 (Alt. 1), implementation of Alternative 2 (Modified Alternative) could temporarily disturb mule deer and fish movements and habitat use. Because mule deer are highly mobile and adaptive, potential effects of temporary construction activities on movement are expected to be minor. Construction of the project would not create any temporary barriers to movement that would redirect migration during non-working hours. In addition, work in Martis Valley along the 650 Line where historic migratory corridors exist would not span the entire area at any one time, allowing deer to move around areas of construction through nearby low sage and Jeffrey pine habitat. No substantial permanent impacts to mule deer movement habitat throughout the study area are anticipated as a result project implementation. Because the new 650 and 625 Lines would be placed in the same general areas as the existing lines within the herd's migratory and summer range, and the overhead power lines would not create local or landscape-level barriers to movement that would redirect migration, the project would not introduce any new large linear corridors or other structures that could deter or prevent mule deer from using traditional areas throughout its range.

Pole placement or other construction activities are not expected to occur within streams that provide movement corridors for aquatic species, and implementation of the applicable APMs described in Impact 4.7-8 (Alt. 1) would further minimize, avoid, or compensate for potential effects on riparian and aquatic habitats. However, as described in Impact 4.7-8 (Alt. 1), some temporary disturbances to small stream channels that may function as fish movement corridors locally and within watersheds may be unavoidable in some cases. Because such disturbances would be infrequent, temporary, and relatively minor if they occur, they would not substantially impair movement or migratory habitat for aquatic species.

In summary, implementation of Alternative 2 (Modified Alternative) would not create local, watershed-, or landscape-level barriers that would impair movement, redirect migration, or prevent the use of traditional habitats throughout a species range. Therefore, any potential effects on wildlife and fish movement patterns and corridors under Alternative 2 (Modified Alternative) would be short-term and **less than significant**.

## MITIGATION MEASURES

*No mitigation measures are required.*

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<b>IMPACT 4.7-9 (Alt.2)</b>	<b>Loss of habitat for Forest Service Management Indicator Species.</b> Implementation of Alternative 2 (Modified Alternative) could affect habitat for nine Forest Service MISs. With implementation of APMs designed to minimize, avoid, and compensate for impacts to biological resources, project implementation would not result in a substantial loss of habitat for any MIS, alter existing trends in any MIS habitat, or lead to a change in distribution of an MIS across the Sierra Nevada bioregion. Therefore, this impact would be less than <b>less than significant</b> .
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The MIS Report prepared for the project (USFS 2014a) evaluated habitat for 13 MISs required for consideration on national forest lands. The MIS report concluded that representative habitat for the following nine MIS species is present in the project area: aquatic macroinvertebrates (lacustrine/riverine habitat); yellow warbler (riparian habitat); Pacific tree frog (wet meadow habitat); mountain quail (early- and mid-seral coniferous forest); blue grouse (late-seral open-canopy coniferous forest); hairy woodpecker (snags in green forest); and California spotted owl, Pacific marten, and northern flying squirrel (late-seral closed-canopy coniferous forest) (see Table 4.7-6).

The detailed MIS analysis concluded that implementation of Alternative 2 (Modified Alternative), with incorporation of the APMs designed to protect biological resources, would not: 1) result in substantial loss of habitat for any MIS relative to the amount and quality available within and near the study area; or 2) alter existing trends in any MIS habitat or lead to a change in distribution of an MIS across the Sierra Nevada bioregion. Therefore, this impact would be **less than significant**. The full MIS analysis and discussion, including quantification of habitat impacts, are provided in the MIS Report (USFS 2014a).

## MITIGATION MEASURES

*No mitigation measures are required.*

## ALTERNATIVE 3 – ROAD FOCUSED ALTERNATIVE

### DIRECT AND INDIRECT IMPACTS

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<b>IMPACT 4.7-1 (Alt.3)</b>	<b>Disturbance or loss of common vegetation communities and wildlife habitats.</b> Implementing Alternative 3 (Road Focused Alternative) would result in the removal or disturbance of up to 182 acres of common vegetation communities and habitats, including Sierran mixed conifer forest, red fir forest, Jeffrey pine forest, and montane chaparral. Because these habitats are locally and regionally common and abundant, and implementation of APMs would minimize vegetation removal and require that habitat is restored to pre-project conditions in temporary construction areas, Alternative 3 (Road Focused Alternative) would not substantially reduce the size, continuity, or integrity of any common vegetation community or habitat type. Therefore, this impact would be <b>less than significant</b> .
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Implementing Alternative 3 (Road Focused Alternative) or Alternative 3A (Road Focused Alternative with Double Circuit Option) would result in removal and disturbance of the same common vegetation types as the other action alternatives (coniferous forest, sagebrush scrub, low sage scrub, montane chaparral, montane dry meadow, and mule ears meadow). A maximum total of approximately 102 acres of permanent common natural habitat conversion and 80.1 acres of temporary common natural habitat disturbance would result from implementing Alternative 3 (Road Focused Alternative); approximately 49 fewer acres of permanent loss and approximately the same (80 acres) of temporary loss of common vegetation than Alternative 1 (PEA Alternative) (see Table 4.7-8). This is primarily because this alternative would eliminate Segments 625-9 and 625-10 and put them into a double-circuit line in Segments 650-1 and 650-2 and also because much of the impact footprint of Alternative 3 (Road Focused Alternative) and Alternative 3A (Road Focused Alternative with Double Circuit Option) would be within existing roadways that do not contain native vegetation. Implementing Alternative 3 (Road Focused Alternative) would result in approximately 35 fewer acres of permanent loss, than Alternative 2 (Modified Alternative) (see Table 4.7-8) because of the larger portion of the Alternative 3 (Road Focused Alternative) footprint that is within existing developed or disturbed areas compared to Alternative 2 (Modified Alternative). Furthermore, the quality of common habitat that would be removed under Alternative 3 (Road Focused Alternative) is generally lower than the quality of habitat to be removed under Alternative 1 (PEA Alternative) or Alternative 2 (Modified Alternative) because the Alternative 3 (Road Focused Alternative) alignment is located within existing road corridors that are already subject to higher disturbance levels. Implementing Alternative 3 (Road Focused Alternative) would result in permanent removal of 9 more acres and temporary disturbance of 6.5 more acres of common native habitats than implementing Alternative 4 (Proposed Alternative). Losses of common vegetation would be essentially the same under Alternative 3A (Road Focused Alternative with Double Circuit Option) as under Alternative 3 (Road Focused Alternative) except that Alternative 3A (Road Focused Alternative with Double Circuit Option) would temporarily remove approximately 2.5 fewer acres of common native vegetation.

The losses of common vegetation that would result under Alternative 3 (Road Focused Alternative) or Alternative 3A (Road Focused Alternative with Double Circuit Option) represent only a small proportion of the amount of these common vegetation types that are present in the overall study area. These habitats are abundant in the Truckee Tahoe region and permanent and temporary loss and disturbance that would occur under Alternative 3 (Road-Focused Alternative) or Alternative 3A (Road Focused Alternative with Double Circuit Option) would not substantially reduce the size, continuity, or integrity of any common vegetation community or habitat type or interrupt the natural processes that support common vegetation communities in the project area.

The same APMs listed under Impact 4.7-1(Alt.1) would be incorporated into the project design for Alternative 3 (Road Focused Alternative) and Alternative 3A (Road Focused Alternative with Double Circuit Option) to avoid and minimize disturbances to common vegetation.

These measures would ensure that vegetation removal is minimized to the extent feasible and that habitat is restored to preproject conditions in temporary construction areas. Therefore, this impact would be **less than significant**.

## MITIGATION MEASURES

*No mitigation measures are required.*

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<b>IMPACT 4.7-2 (Alt.3)</b>	<b>Disturbance or loss of sensitive habitats (jurisdictional wetlands, riparian vegetation, and SEZ).</b> Implementing Alternative 3 (Road Focused Alternative) or Alternative 3A (Road Focused Alternative with Double Circuit Option) would result in direct removal and disturbance of sensitive habitats, including waters of the United States, waters of the state, riparian habitat, and SEZs. This impact would be <b>significant</b> .
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Implementing Alternative 3 (Road Focused Alternative) or Alternative 3A (Road Focused Alternative with Double Circuit Option) would result in permanent loss or temporary disturbance of the same sensitive habitat types as the other action alternatives (montane riparian, open water, wet montane meadow, and fresh emergent wetland). These habitats in the impact area would potentially qualify as waters of the United States and/or waters of the State. Within the Tahoe Basin, all of these habitats would also meet the definition of SEZs and have been quantified and mapped as SEZ by TRPA for the project. While one seasonal wetland is present in the study area, implementing Alternative 3 (Road Focused Alternative) or Alternative 3A (Road Focused Alternative with Double Circuit Option) would not affect this sensitive habitat because it is outside of the maximum construction footprint.

Table 4.7-9 summarizes and compares the acreage of sensitive habitats and SEZs present in the permanent and temporary impact zone of each action alternative. Permanent and temporary acreage was calculated as described above for common habitat impacts, assuming that all habitat acreage within the 40-foot permanent ROW and 65-foot temporary construction easement would be removed. There are a total of approximately 4.7 and 4.2 acres of sensitive habitat types in the permanent ROW of Alternative 3 (Road Focused Alternative) and Alternative 3A (Road Focused Double Circuit Option Segment Alternative), respectively; and approximately 4.8 acres within the temporary construction zones. Therefore, Alternative 3 (Road Focused Alternative) would result in approximately 4.4 acres less permanent impact and 4.1 acres less temporary impact to sensitive habitats than the other action alternatives, with the exception of Alternative 3A (Road Focused Alternative with Double Circuit Option), if all habitat acreage within these zones were affected. Whereas Alternative 3 (Road Focused Alternative) and Alternative 3A (Road Focused Alternative with Double Circuit Option) would be constructed along SR 267 through Martis Valley, the other action alternatives would be constructed through a large meadow complex through Martis Valley. Within the Tahoe Basin, implementing Alternative 3 (Road Focused Alternative)

could result in permanent removal of approximately 3.6 acres of SEZ and temporary disturbance of approximately 1.6 acres of SEZ; this impact would be the same under Alternative 4 (Proposed Alternative) and up to 0.3–1.3 acres (of permanent impact) greater than under the other action alternatives. Because of the rarity and sensitivity of these habitat types, differences of this magnitude are considerable.

Because the construction corridor would be reduced in sensitive habitat areas and measures would be implemented to avoid and minimize impacts in these areas, the values presented here are considered a maximum and likely an overestimate of the area of actual impacts. For example, open water habitat is present where the 625 Line crosses the Truckee River, but the actual impact acreage here would be zero because the electric line would span the river and no construction would occur within the river channel. Within the Tahoe Basin, SEZs would be spanned or otherwise avoided in all but a few instances where new poles would be erected or existing poles would be replaced within the SEZ because there is no feasible way to span the SEZ or reroute the alignment outside of the SEZ. Therefore, impacts on SEZs have been minimized to the extent feasible. Nonetheless, these habitats are considered sensitive because they are declining in quantity and condition throughout the region and because they provide important habitat functions. Therefore, any loss or degradation of sensitive habitats is significant.

The same APMs listed under Impact 4.7-2(Alt.1) would be incorporated into the project design for Alternative 3 (Road Focused Alternative) or Alternative 3A (Road Focused Alternative with Double Circuit Option) to minimize, avoid, and reduce potential adverse effects associated with the loss and disturbance of sensitive habitats. However, these APMs alone are not enough to fully reduce potential impacts from Alternative 3 (Road Focused Alternative) or Alternative 3A (Road Focused Alternative with Double Circuit Option) on all sensitive habitat types to a less-than-significant level. Therefore, loss and disturbance of sensitive habitats would be a **significant** impact under Alternative 3 (Road Focused Alternative) and Alternative 3A (Road Focused Alternative with Double Circuit Option).

## MITIGATION MEASURES

In addition to the APMs, the following measures would be implemented to ensure consistency with Fish and Game Code Section 1602 and further reduce potential adverse effects on stream and riparian habitats and SEZs.

### **Mitigation Measure 4.7-2a (Alt. 3): Compensate for Unavoidable Loss of Stream and Riparian Habitat.**

*This Mitigation Measure is the same as Mitigation Measure 4.7-2 (Alt. 1) described above.*

### **Mitigation Measure 4.7-2b (Alt. 3): Compensate for Unavoidable Loss of SEZ.**

*This Mitigation Measure is the same as Mitigation Measure 4.7-2b (Alt. 1) described above.*

Implementation of these mitigation measures, along with the APMs, would reduce the significant impacts on sensitive habitats to a **less-than-significant** level because it would ensure that sensitive habitat is avoided to the extent feasible and that sensitive habitats that cannot be avoided are restored following construction, or if the habitat cannot be restored, that the applicant compensates for unavoidable losses in a manner that results in no net loss of sensitive habitats.

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<b>IMPACT 4.7-3 (Alt.3)</b>	<b>Disturbance or loss of special-status plants.</b> Implementing Alternative 3 (Road Focused Alternative) would result in direct removal and damage of Plumas ivesia plants and degradation or loss of suitable Plumas ivesia habitat. Special-status plants that are not directly removed or physically damaged could be adversely affected indirectly by habitat degradation or loss. APMs included in the project design would minimize, and in some instances avoid, avoid potential adverse effects on special-status plants. Because, through implementation of the APMs, Alternative 3 (Road Focused Alternative) would not substantially affect the abundance or distribution of any special-status species (either directly or through habitat modifications), this impact would be <b>less than significant</b> .
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Implementing Alternative 3 (Road Focused Alternative) could result in direct removal of Plumas ivesia plants on 0.01 acre in Segment 650-4B in the temporary construction zone. As discussed under Impact 4.7-3 (Alt.1), direct impacts could occur through various mechanisms in addition to direct removal. Plumas ivesia occurrences along Segment 650-4 and an existing dirt access road connecting to Segment 650-4, as well as unidentified areas of suitable habitat throughout the project area, could also be indirectly affected by project activities. Impacts to Plumas ivesia would be substantially less under Alternative 3 (Road Focused Alternative) than under Alternative 1 (PEA Alternative) and Alternative 4 (Proposed Alternative), which would remove or disturb 2.1 acres, and Alternative 2 (Modified Alternative), which would remove or disturb 0.7 acres of habitat with Plumas ivesia because Alternative 3 (Road Focused Alternative) would be constructed along the SR 267 corridor rather than through the meadow complex. Therefore, mitigating impacts on Plumas ivesia would be less difficult under this alternative than under the other three action alternatives.

Potential impacts to Galena Creek rockcress and Mingan moonwort would be the same under Alternative 3 (Road Focused Alternative) as under Alternative 1 (PEA Alternative), Alternative 2 (Modified Alternative), and Alternative 4 (Proposed Alternative) because each of these alternatives would involve removal of the existing 625 Line where potential Galena Creek rockcress plants were observed and each of these alternatives would cross through the location of a known Mingan moonwort occurrence on Griff Creek in Segment 650-1/625-10. Under each of these alternatives, the line would span the riparian habitat/SEZ that supports Mingan moonwort so that impacts to this species would be avoided.

Potential impacts to special-status botanical species would be the same under Alternative 3A (Road Focused Alternative with Double Circuit Option) as under Alternative 3 (Road Focused Alternative), except it would not cross through the location of a known Mingan moonwort occurrence on Griff Creek in Segment 650-1/625-10 because this alternative would eliminate the Segment 650-1/625-10 into a double circuit along SR 267. Alternative 3A (Road Focused Alternative with Double Circuit Option) is the only action alternative that would not involve a stream crossing in the area where the Mingan moonwort was previously documented; however, it is expected that impacts on the Mingan moonwort population would be avoided by the other action alternatives because the line would span the montane riparian/SEZ habitat where the plants are known to occur.

As with Alternative 1 (PEA Alternative) and Alternative 2 (Modified Alternative), special-status botanical species could be present in the Alternative 3 (Road Focused Alternative) study area and could be directly affected by habitat removal during implementation of Alternative 3 (Road Focused Alternative). Undetected special-status botanical species could be directly removed or physically damaged during construction of Alternative 3 (Road Focused Alternative). Direct and indirect impacts that could result from implementation of Alternative 3 (Road Focused Alternative) are the same as those described under Impact 4.7-3 (Alt. 1).

The same APMs listed under Impact 4.7-3(Alt.1) would be incorporated into the project design for Alternative 3 (Road Focused Alternative) or Alternative 3A (Road Focused Alternative with Double Circuit Option) to avoid, minimize, and compensate for potential direct and indirect effects on special-status botanical species. Through implementation of the APMs, Plumas ivesia, Mingan moonwort, and Galena Creek rockcress occurrences would

be avoided to the extent feasible, mitigation measures would be established for plants that cannot be avoided, and degraded habitat would be restored following disturbance. As with Alternative 1, under Alternative 3 (Road Focused Alternative) the applicant would be required to identify and avoid special-status botanical species or provide compensation for the loss of special-status botanical species by salvaging seed and soil, relocating individuals, and restoring habitat to pre-project conditions. Consequently, implementing Alternative 3 (Road Focused Alternative) would not substantially affect the abundance or distribution, either directly or through habitat modifications, of *Plumas ivesia*, *Mingan moonwort*, *Galena Creek rockcress*, or any other special-status botanical species. Therefore, this impact would be **less than significant**.

## MITIGATION MEASURES

*No mitigation measures are required.*

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<b>IMPACT 4.7-4 (Alt.3)</b>	<b>Tree removal and loss of late seral/old growth forest.</b> Implementing Alternative 3 (Road Focused Alternative) or Alternative 3A (Road Focused Alternative with Double Circuit Option) would result in substantial tree removal, as defined by TRPA, and could result in the loss of late seral/old growth forest stands, which could interfere with attainment of late seral/old growth forest threshold standards. Therefore, this impact would be <b>significant</b> .
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Implementing Alternative 3 (Road Focused Alternative) would result in substantial tree removal as defined by TRPA. Tree removal under Alternative 3 (Road Focused Alternative) would be slightly less compared to the other action alternatives because it would eliminate Segments 625-9 and 625-10, putting them into a double circuit in Segments 650-1 and 650-2 either in the existing 650 Line alignment, or under Option D-C-OH-1A, along the SR 267 corridor. This would result in fewer miles of electric line ROW and, consequently, fewer acres of forest habitat removal, as described under Impact 4.7-1 (Alt. 3). Tree removal would also be lessened under this action alternative compared to Alternative 1 (PEA Alternative) and Alternative 2 (Modified Alternative) because both the 625 and 650 Lines would be constructed along existing roads where habitats are already subject to higher levels of disturbance and generally support lower numbers of trees. Still, constructing Alternative 3 (Road Focused Alternative) would undoubtedly result in removal of more than 100 trees 14 inches or greater dbh and a large number of trees greater than 24 inches dbh. Furthermore, implementing Alternative 3 (Road Focused Alternative) would result in substantial removal of trees measuring 6 inches or greater dbh and more than 50 percent of existing native trees within the project footprint, in Placer County, which would necessitate issuance of a tree permit by the County.

Tree removal within the narrow electric line ROW would not result in substantial changes in stand structure or composition or in the distribution of plant communities in the project area overall, and would not result in a change in the natural functioning of a late seral or old-growth ecosystems. As with the other action alternatives, the majority of the 650 Line would be rebuilt in the same alignment as the existing 650 Line, but with an expanded permanent ROW. Because the existing line already has a 20-foot-wide easement maintained as a utility corridor, the number of trees measuring 14 inches or greater is limited within the ROW and trees over 24 inches dbh are scarce. The only deviations from the existing alignment under this alternative would be in Segment 650-4B where the line would be moved out of the large meadow complex in Martis Valley to the SR 267 road corridor where there are no trees. The second deviation would occur under Option D-C-OH-1A where the line would be moved from its existing location through a residential neighborhood in Segment 650-1, to the SR 267 corridor. More trees could be removed under Option D-C-OH-1A than D-C-OH-1 because the new alignment along 267 in that segment likely has more trees than the existing maintained alignment.

Very little of the forest habitat in the study area exhibits structural characteristics that are generally thought to typify old growth forest communities. One feature widely accepted as a criterion of late seral/old growth forest habitat is structural variability, and structural variability is generally not observed in forest communities within

the study area. However, implementing Alternative 3 (Road Focused Alternative) would result in permanent loss of approximately 0.6 acres of late seral/old growth forest, as mapped by TRPA for the 2011 Threshold Evaluation report (i.e., stands dominated by trees greater than 24 inches dbh). There is no late seral/old growth forest within the temporary construction zone of Alternative 3 (Road Focused Alternative).

Removing trees greater than 6 inches dbh from non-Federal lands within Placer County would necessitate issuance of a tree permit by the County. Removing trees greater than 14 inches dbh in the Tahoe Basin requires a permit from TRPA and the loss of trees greater than 24 inches dbh could interfere with achievement of TRPA late seral/old growth threshold standards, even though large utility projects such as this are exempted from the prohibition on cutting trees greater than 24 inches in eastside forests and greater than 30 inches dbh in westside forests when there is no reasonable alternative. Because attainment status for late seral/old growth forest threshold standards is considerably worse than targets and it is anticipated to take 100 years or more to achieve targets, any loss of old growth forest would be significant. Therefore, tree removal and loss of late seral/old growth forest under Alternative 3 (Road Focused Alternative) would be a significant impact.

Tree removal and late seral/old growth forest impacts would be the same under Alternative 3A (Road Focused Alternative with Double Circuit Option) as for Alternative 3 (Road Focused Alternative) except that approximately 3 fewer acres of forest vegetation containing trees would be removed. The amount of late seral/old growth forest that would be affected would be exactly the same (0.6 acre).

The same APMs listed under Impact 4.7-4 (Alt.1) would be incorporated into the project design for Alternative 3 (Road Focused Alternative) or Alternative 3A (Road Focused Alternative with Double Circuit Option) to minimize, avoid, and reduce potential adverse effects associated with tree removal and the loss and disturbance of late seral/old growth forest stands. However, these APMs alone are not enough to reduce the significant impacts of tree removal and the loss and disturbance of late seral/old growth forest stands that would result under Alternative 3 (Road Focused Alternative) to a less-than-significant level. Therefore, tree removal and loss of late seral/old growth forest under Alternative 3 (Road Focused Alternative) or Alternative 3A (Road Focused Alternative with Double Circuit Option), would be a **significant** impact.

## MITIGATION MEASURES

The following mitigation measure will be implemented by CalPeco to minimize, avoid, and compensate for tree removal and potential adverse effects on late seral/old growth forest stands and ensure consistency with TRPA Code.

### **Mitigation Measure 4.7-4 (Alt. 3): Conduct a Tree Survey; Avoid Late Seral/Old-Growth Forest; Compensate for Loss of Trees.**

*This Mitigation Measure is the same as Mitigation Measure 4.7-4 (Alt. 1) described above.*

Implementation of this mitigation measure would reduce the significant impacts associated with tree removal and loss of late seral/old growth forest to a **less-than-significant** level because it would ensure that tree removal and old growth forest removal is avoided to the extent feasible and that the applicant compensates for unavoidable losses.

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**IMPACT 4.7-5 (Alt.3)** **Introduction and spread of invasive plants.** Implementing Alternative 3 (Road Focused Alternative) or Alternative 3A (Road Focused Alternative with Double Circuit Option) could result in the introduction or spread of invasive plant species through seed mixes, equipment, and other materials. Areas disturbed during construction can provide ideal conditions for weed establishment. APMs included in the project design would avoid and minimize potential adverse effects from the introduction and spread of invasive plants, but not necessarily to a less-than-significant level. Therefore, this impact is **potentially significant**.

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Implementing Alternative 3 (Road Focused Alternative) or Alternative 3A (Road Focused Alternative with Double Circuit Option) could result in the spread of invasive plants that are present in the study area. Additionally, new invasive plant species could be introduced into the study area during construction. The risk of spreading invasive plants is lower under Alternative 3 (Road Focused Alternative) and Alternative 3A (Road Focused Alternative with Double Circuit Option) than Alternative 1 (PEA Alternative) or Alternative 2 (Modified Alternative) because habitat alteration and new vectors would be lower due to more construction within existing roadway corridors and greater reliance on existing roadways for access. Implementing Alternative 3 (Road Focused Alternative) would result in removal or disturbance of approximately 182 acres of native vegetation cover or 180 acres under Alternative 3A (Road Focused Alternative with Double Circuit Option), as compared to 231 acres under Alternative 1 (PEA Alternative), 206 acres under Alternative 2 (Modified Alternative), and 167 acres under Alternative 4 (Proposed Alternative).

The same APMs listed under Impact 4.7-5 (Alt.1) would be incorporated into the project design for Alternative 3 (Road Focused Alternative) and Alternative 3A (Road Focused Alternative with Double Circuit Option) to minimize, avoid, and reduce potential direct and indirect effects of invasive plants species. In particular, the applicant will be required to treat known infestations prior to implementation and avoid (or mitigate potential spread through barriers) infestations during all construction activities. The APMs also require that weed-free materials be used and equipment be inspected for invasive plants prior to use, reducing the potential introduction of invasive plants during the use of imported equipment and materials. However, these APMs alone would not necessarily reduce the impact to a less-than-significant level because the project could still conflict with the Forest Service Noxious Weed Management Strategy. The risk of introduction and spread of invasive plants is still **potentially significant** under Alternative 3 (Road Focused Alternative) or Alternative 3A (Road Focused Alternative with Double Circuit Option). Potential impacts from invasive species are similar, but slightly less under Alternative 3 (Road Focused Alternative) or Alternative 3A (Road Focused Alternative with Double Circuit Option) than under Alternative 1 (PEA Alternative) and Alternative 2 (Modified Alternative), but slightly greater than under Alternative 4 (Proposed Alternative), which would result in the least amount of native vegetation removal and disturbance.

## MITIGATION MEASURES

The same APMs listed under Impact 4.7-5 (Alt.1) would reduce potential adverse effects from the spread or introduction of invasive plants. In addition, the following mitigation measure would be implemented to ensure consistency with the Forest Service invasive plant management direction and further reduce potential adverse effects from the spread and introduction of invasive plants.

### **Mitigation Measure 4.7-5 (Alt. 3): Utilize Local Native Seed and Notify Noxious Weed Coordinator.**

*This Mitigation Measure is the same as Mitigation Measure 4.7-5 (Alt. 1) described above.*

Implementation of the APMs and this mitigation measure would reduce potentially significant impacts from the introduction and spread of invasive plants because the applicant would be required to treat, avoid, or mitigate effects from known invasive plant infestations prior to construction; revegetate temporary disturbance areas with native vegetation and locally collected native plants and seeds; clean weed seed and propagules from equipment so they are not introduced as part of construction activities; utilize weed-free materials to prevent new introductions; and monitor after construction is completed to ensure new infestations do not become established. Collectively, these measures would substantially reduce the risk of invasive plant introduction and spread resulting from proposed activities to a **less-than-significant** level.

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<b>IMPACT 4.7-6 (Alt.3)</b>	<b>Disturbance or loss of special-status wildlife species and habitats.</b> Implementation of Alternative 3 (Road Focused Alternative) could disturb the foraging and movement patterns of individuals, affect breeding activities and reproductive success, cause direct mortality, and disturb or remove suitable habitat for some of these species. However, with implementation of APMs to avoid, minimize, and compensate for impacts to wildlife resources generally and several special-status species specifically, Alternative 3 (Road Focused Alternative) is not expected to substantially affect the distribution, breeding productivity, viability, or the regional population of any special-status species. Therefore, this impact would be less than <b>less than significant</b> .
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Under Alternative 3 (Road Focused Alternative), the types of potential impacts to special-status wildlife would be similar to those described for Alternative 1 (PEA Alternative). Please see Impact 4.7-6 (Alt. 1) for a discussion of potential impact mechanisms, applicable APMs, biological effects, and anticipated magnitude of effects for each of the 17 special-status wildlife species analyzed. Because Alternative 3 (Road Focused Alternative) would eliminate Segments 625-9 and 625-10 and place them into a double-circuit line in Segments 650-1 and 650-2, and much of the impact footprint of Alternative 3 (Road Focused Alternative) is within existing roadways that do not contain native vegetation, implementation of Alternative 3 (Road Focused Alternative) would result in less removal of wildlife habitats and potential habitat for special-status species compared to Alternative 1 (PEA Alternative) and Alternative 2 (Modified Alternative). Furthermore, the quality of habitat that would be removed under Alternative 3 (Road Focused Alternative) is generally lower than that under Alternative 1 (PEA Alternative) or Alternative 2 (Modified Alternative), because the Alternative 3 (Road Focused Alternative) alignment is located within existing road corridors that are already subject to higher disturbance levels. See Impact 4.7-1 (Alt. 3) and Impact 4.7-2 (Alt. 3) for a discussion and quantification of comparative effects on common and sensitive habitats among the alternatives.

Some potential effects on special-status species under Alternative 3 (Road Focused Alternative) would differ more than others when compared to those previously addressed in Impact 4.7-6 (Alt. 1) and Impact 4.7-6 (Alt. 2) for Alternative 1 (PEA Alternative) and Alternative 2 (Modified Alternative), primarily for northern goshawk and California spotted owl. The following summarizes key differences between effects under Alternative 3 (Road Focused Alternative) and those previously described for Alternative 1 (PEA Alternative) and Alternative 2 (Modified Alternative), followed by a summary of impacts and level of significance for all special-status species analyzed.

Appendix L summarizes the USFS NEPA and ESA effects determinations for species federally listed or proposed for listing as threatened or endangered under the ESA, species designated as a candidate for listing, critical habitat, and Forest Service sensitive species, as analyzed and concluded in the BA and Animal BE.

## **NORTHERN GOSHAWK HABITAT, PACS, AND TRPA DISTURBANCE ZONES**

Implementation of Alternative 3 (Road Focused Alternative) would affect substantially less habitat for northern goshawk, including habitat within PACs and TRPA disturbance zones, than Alternative 1 (PEA Alternative) and Alternative 2 (Modified Alternative). Overall, implementation of Alternative 3 (Road Focused Alternative) would

initially result in the permanent loss or disturbance of up to 80.6 acres of potential habitat for northern goshawk over the study area (compared to 129.8 and 121.1 acres under Alternative 1 [PEA Alternative] and Alternative 2 [Modified Alternative], respectively). Of this total amount, 0.2 acre would occur in the Griff Creek goshawk PAC (compared to 0.1 and 0.2 acre under Alternative 1 [PEA Alternative] and Alternative 2 [Modified Alternative], respectively), and 1.6 acres would occur within the nonurban portion of three partially-overlapping TRPA disturbance zones (compared to 3.9 and 7.1 acres under Alternative 1 [PEA Alternative] and Alternative 2 [Modified Alternative], respectively) (Table 4.7-10; Exhibit 4.7-5). Under the double-circuit option of Alternative 3 (Alternative 3A), no habitat within the Griff Creek PAC or the nonurban portion of the TRPA disturbance zones would be affected (Table 4.7-10). Over the long term, because the existing 625 Line would be decommissioned and vegetation would be allowed to reestablish within the 20-foot corridor currently managed to limit vegetation, the net permanent disturbance/loss would be reduced to approximately 57.8 acres overall (compared to 109.1 and 101.2 acres under Alternative 1 [PEA Alternative] and Alternative 2 [Modified Alternative], respectively); and a net gain or enhancement of 0.3 acre within the nonurban portion of the TRPA disturbance zones would occur (compared to the disturbance/loss of 3.2 and 6.4 acres under Alternative 1 [PEA Alternative] and Alternative 2 [Modified Alternative], respectively). Under the double-circuit option, a net gain or enhancement of 2.3 acres within the nonurban portion of the TRPA disturbance zones, and up to 0.1 acre within the Griff Creek PAC, is expected to occur over the long term (Table 4.7-10).

Overall, implementation of Alternative 3 (Road Focused Alternative) would result in the temporary loss or disturbance of up to 63.5 acres of potential habitat for northern goshawk (compared to 68.4 and 58.2 acres under Alternative 1 [PEA Alternative] and Alternative 2 [Modified Alternative], respectively); of this amount, none would occur in the Griff Creek goshawk PAC (compared to 0.2 and 0 acre under Alternative 1 [PEA Alternative] and Alternative 2 [Modified Alternative], respectively), and 0.6 acre would occur within the nonurban portion of three partially-overlapping TRPA disturbance zones (compared to 4.4 and 1.6 acre under Alternative 1 [PEA Alternative] and Alternative 2 [Modified Alternative], respectively) (Table 4.7-10; Exhibit 4.7-5). Under the double-circuit option of Alternative 3 (Road Focused Alternative, 3A), no habitat within the Griff Creek PAC or the nonurban portion of the TRPA disturbance zones would be temporarily affected.

## **CALIFORNIA SPOTTED OWL HABITAT, PACs, AND HRCAS**

Alternative 3 (Road Focused Alternative) would result in less permanent and temporary impact to California spotted owl habitat than Alternative 1 (PEA Alternative) and Alternative 2 (Modified Alternative). Most of the new 625 and 650 Lines would be placed within existing road ROWs, requiring less permanent and temporary vegetation removal for ROW clearing, construction access, and access road construction/improvements.

Overall, implementation of Alternative 3 (Road Focused Alternative) would initially result in the permanent loss or disturbance of up to 80.6 acres of potential habitat for spotted owl (compared to 129.8 and 121.1 acres under Alternative 1 [PEA Alternative] and Alternative 2 [Modified Alternative], respectively); of this amount, up to 0.4 acre would occur in the Griff Creek PAC (compared to 0.1 and 0.4 acre under Alternative 1 [PEA Alternative] and Alternative 2 [Modified Alternative], respectively), and 2.6 acres would occur in the Mt. Pluto PAC (compared to 6.2 and 4.9 acres under Alternative 1 [PEA Alternative] and Alternative 2 [Modified Alternative], respectively) (Table 4.7-11; Exhibit 4.7-5). Under the double-circuit option of Alternative 3 (Road Focused Alternative), no habitat within the Griff Creek PAC would be affected (Table 4.7-11). Within the Mt. Pluto PAC, Segment 625-6 would be constructed within or adjacent to the disturbed Fiberboard Freeway ROW (see Exhibit 4.7-6). In addition to resulting in fewer acres permanently affected within the Mt. Pluto PAC, the existing ROW where the new 625 Line would be constructed under Alternative 3 (Road Focused Alternative) is already subject to existing disturbances and habitat degradation as a result of road use, maintenance, and edge effects. Therefore, the quality of spotted owl habitat within the Mt. Pluto PAC affected under Alternative 3 (Road Focused Alternative) may be lower than that affected under Alternative 1 (PEA Alternative) or Alternative 2 (Modified Alternative).

Over the long term, because the existing 625 Line would be decommissioned and vegetation would be allowed to reestablish within the existing 20-foot vegetation management corridor, the net permanent disturbance/loss would be reduced to approximately 57.8 acres overall (compared to 109.1 and 101.2 acres under Alternative 1 [PEA Alternative] and Alternative 2 [Modified Alternative], respectively), and 1.5 acres in the Mt. Pluto PAC (compared to 5.2 and 4 acres under Alternative 1 [PEA Alternative] and Alternative 2 [Modified Alternative], respectively). Under the double-circuit option, a net gain or enhancement of 0.1 acre would occur in the Griff Creek PAC (compared to the disturbance/loss of 0.1 and 0.4 acre under Alternative 1 [PEA Alternative] and Alternative 2 [Modified Alternative], respectively). Table 4.7-11 additionally shows the amount of additional habitat affected outside of PACs but within HRCAs (Mt. Pluto, Carnelian, Griff Creek, Twin Crags HRCAs), and impacts to suitable habitat outside of designated PACs or HRCAs.

The total amount of temporary disturbance to spotted owl habitat under Alternative 3 (Road Focused Alternative) would be less than under Alternative 1 (PEA Alternative) and greater than Alternative 2 (Road Focused Alternative). Overall, implementation of Alternative 3 (Road Focused Alternative) would result in the temporary loss or disturbance of up to 63.5 acres of potential habitat for spotted owl (compared to 68.4 and 58.2 acres under Alternative 1 [PEA Alternative] and Alternative 2 [Modified Alternative], respectively); of this amount, none would occur in the Griff Creek PAC (compared to 0.3 and 0 acre under Alternative 1 [PEA Alternative] and Alternative 2 [Modified Alternative], respectively), and 3 acres would occur in the Mt. Pluto PAC (compared to 2.4 and 1.7 acres under Alternative 1 [PEA Alternative] and Alternative 2 [Modified Alternative], respectively) (Table 4.7-11; Exhibit 4.7-5).

## IMPACT SUMMARY

Nine special-status wildlife taxa have been documented in the study area: waterfowl, northern goshawk, California spotted owl, northern harrier, black-backed woodpecker, willow flycatcher, yellow warbler, Pacific marten, and mule deer. Eight additional special-status wildlife species were identified as having a moderate or high potential to occur within the study area: olive-sided flycatcher, long-eared owl, snowshoe hare, pallid bat, western red bat, Sierra Nevada mountain beaver, osprey, and bald eagle. For the same reasons described in Impact 4.7-6 (Alt. 1) for Alternative 1 (PEA Alternative), implementation of Alternative 3 (Road Focused Alternative) could disturb the foraging and movement patterns of individuals, affect breeding activities and reproductive success, cause direct mortality or injury, and disturb or remove suitable habitat for some of these species. However, with implementation of APMs to avoid, minimize, and compensate for impacts to wildlife resources generally and several special-status species specifically, Alternative 3 (Road Focused Alternative) is not expected to substantially affect the distribution, breeding productivity, viability, or the regional population of any special-status species. Additionally, unlike Alternative 1 (PEA Alternative) and Alternative 2 (Modified Alternative), a long-term net loss of habitat within TRPA-designated goshawk disturbance zones in nonurban plan areas would not occur under Alternative 3 (Road Focused Alternative). Therefore, this impact would be less than **less than significant**.

## MITIGATION MEASURES

*No mitigation measures are required.*

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<b>IMPACT 4.7-7 (Alt.3)</b>	<b>Effects on aquatic habitat.</b> Under Alternative 3 (Road Focused Alternative), construction activities such as vegetation clearing, pole installation, pole removal, creation of access ways, and staging near aquatic habitats could temporarily result in adverse impacts to aquatic habitat, including through removal of riparian vegetation; accidental spill and contamination from construction chemicals, fuels, or other hazardous materials; increased erosion, downstream sedimentation, and turbidity; small amounts of fill placed in aquatic habitats; and direct mortality or injury of fish and other aquatic species caused by equipment passing through aquatic habitats. The project's design, construction methods,
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and incorporation of several APMs designed to protect aquatic resources would minimize, avoid, and partially compensate for these potential impacts to aquatic habitats. However, even with incorporation of the APMs, project construction could result in loss or degradation of stream or riparian habitat protected under Section 1602 of the Fish and Game Code. Any unavoidable disturbance to the bed and bank of a waterway that provides habitat functions would require a Streambed Alteration Agreement from CDFW and be considered a **potentially significant** impact.

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Under Alternative 3 (Road Focused Alternative), potential impacts to aquatic habitats would be similar to those described for Alternative 1 (PEA Alternative). Please see Impact 4.7-7 (Alt. 1) for a discussion of potential impact mechanisms and anticipated magnitude of effect on aquatic habitats. However, the Alternative 3 (Road Focused Alternative) alignment would be located mostly within existing road corridors that are already subject to higher disturbance levels, provide existing construction access, and require fewer new stream crossings for equipment. Therefore, the amount and quality of aquatic habitats potentially affected under Alternative 3 (Road Focused Alternative) are generally lower than that under Alternative 1 (PEA Alternative) or Alternative 2 (Modified Alternative).

The project design and incorporation of applicable APMs described in Impact 4.7-7 (Alt. 1) would reduce project impacts to aquatic resources, and most potential residual impacts to aquatic habitat functions would not be considered substantial. Even with incorporation of the APMs, project construction could result in loss or degradation of stream or riparian habitat protected under Section 1602 of the Fish and Game Code. For example, equipment operation is not anticipated within stream channels, implementation of APM WQ-7 and other APMs would minimize equipment use and crossing through the bed and bank of a channel, and APM WQ-8 requires CalPeco to obtain permits that would provide compensatory mitigation prior to commencing work in waters of the United States or waters of the state. However, the crossing of small stream channels by vehicles and equipment for construction access, and associated disturbances to riparian and stream habitats protected by CDFW, may be unavoidable in some cases. Although the project design and implementation of APMs would prevent most impacts on aquatic resources from being substantial, any unavoidable disturbance to the bed and bank of a waterway that provides habitat functions would require a Streambed Alteration Agreement from CDFW and be considered a **potentially significant** impact.

## MITIGATION MEASURES

In addition to the applicable APMs, the following mitigation measure will be implemented by CalPeco to minimize, avoid, and compensate for potential adverse effects on aquatic habitats and ensure consistency with Fish and Game Code.

### **Mitigation Measure 4.7-7 (Alt. 3): Compensate for Unavoidable Loss of Stream and Riparian Habitat.**

*See Mitigation Measure 4.7-7 (Alt. 1) described above for Alternative 1 (PEA Alternative). The same mitigation measure would apply.*

Implementation of Mitigation Measure 4.7-7 (Alt. 3), along with the applicable APMs, would reduce potentially significant impacts to aquatic habitats to a **less-than-significant** level because it would ensure that: 1) aquatic habitat is avoided to the extent feasible; 2) aquatic habitats that cannot be avoided are restored following construction; 3) any unavoidable losses would be compensated for in a manner that results in no net loss of aquatic habitats; and 4) project implementation is consistent with the aquatic and riparian habitat protection provisions of Fish and Game Code Section 1602.

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**IMPACT 4.7-8 (Alt.3)** **Effects on wildlife and fish movement corridors.** Known animal movement corridors in the study area include the migratory route of the Loyalton-Truckee mule deer herd and streams that function as migratory and movement routes for fish. Under Alternative 3 (Road Focused Alternative), construction activities could cause temporary disturbances to mule deer and fish movements and habitat use. However, the project would not create local, watershed-, or landscape-level barriers that would impair movement, redirect migration, or prevent the use of traditional habitats throughout a species range. Therefore, any potential impacts to wildlife and fish movement patterns and corridors would be short-term and **less than significant**.

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Known animal movement corridors in the study area include the migratory route of the Loyalton-Truckee mule deer herd and streams that function as migratory and movement routes for fish. Under Alternative 3 (Road Focused Alternative), the types of potential impacts to wildlife and fish movement corridors would be similar to those described for Alternative 1 (PEA Alternative) and Alternative 2 (Modified Alternative). Please see Impact 4.7-8 (Alt. 1) for a discussion of potential impact mechanisms, biological effects, and anticipated magnitude of effects on movement corridors. However, the Alternative 3 (Road Focused Alternative) alignment would be constructed mostly within existing road corridors, including the Fiberboard Freeway and SR 267; these areas are subject to existing disturbances and habitat degradation as a result of road use, maintenance, and edge effects. Existing noise, traffic, and other human presence along these roadways likely deters deer, to some extent, from regularly using parts of the proposed construction area during the daytime. Because these areas are already subject to higher disturbance levels, provide existing construction access, and require fewer new stream crossings for equipment, the magnitude of potential effects on wildlife and fish movement under Alternative 3 (Road Focused Alternative) would be lower than that under Alternative 1 (PEA Alternative) or Alternative 2 (Modified Alternative). Furthermore, the amount and quality of terrestrial and aquatic habitat that would be affected under Alternative 3 (Road Focused Alternative) are lower than that under Alternative 1 (PEA Alternative) or Alternative 2 (Modified Alternative).

For the same reasons described in Impact 4.7-8 (Alt. 1), implementation of Alternative 3 (Road Focused Alternative) would not create local, watershed-, or landscape-level barriers that would impair movement, redirect migration, or prevent the use of traditional habitats throughout a species range. Therefore, any potential effects on wildlife and fish movement patterns and corridors under Alternative 3 (Road Focused Alternative) would be short-term and **less than significant**.

## MITIGATION MEASURES

*No mitigation measures are required.*

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**IMPACT 4.7-9 (Alt.3)** **Loss of habitat for Forest Service Management Indicator Species.** Implementation of Alternative 3 (Road Focused Alternative) could affect habitat for nine Forest Service MISs. With implementation of APMs designed to minimize, avoid, and compensate for impacts to biological resources, project implementation would not result in a substantial loss of habitat for any MIS, alter existing trends in any MIS habitat, or lead to a change in distribution of an MIS across the Sierra Nevada bioregion. Therefore, this impact would be less than **less than significant**.

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The MIS Report prepared for the project (Ascent 2013) evaluated habitat for 13 MISs required for consideration on national forest lands. The MIS report concluded that representative habitat for the following nine MIS species is present in the project area: aquatic macroinvertebrates (lacustrine/riverine habitat); yellow warbler (riparian habitat); Pacific tree frog (wet meadow habitat); mountain quail (early- and mid-seral coniferous forest); blue grouse (late-seral open-canopy coniferous forest); hairy woodpecker (snags in green forest); and California spotted owl, Pacific marten, and northern flying squirrel (late-seral closed-canopy coniferous forest) (Table 4.7-6).

The detailed MIS analysis concluded that implementation of Alternative 3 (Road Focused Alternative), with incorporation of the APMs designed to protect biological resources, would not: 1) result in substantial loss of habitat for any MIS relative to the amount and quality available within and near the study area, or 2) alter existing trends in any MIS habitat or lead to a change in distribution of an MIS across the Sierra Nevada bioregion. Therefore, this impact would be **less than significant**. The full MIS analysis and discussion, including quantification of habitat impacts, are provided in the MIS Report (USFS 2014a).

## MITIGATION MEASURES

*No mitigation measures are required.*

## ALTERNATIVE 4 – PROPOSED ALTERNATIVE

### DIRECT AND INDIRECT IMPACTS

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<b>IMPACT 4.7-1 (Alt.4)</b>	<b>Disturbance or loss of common vegetation communities and wildlife habitats.</b> Implementing Alternative 4 (Proposed Alternative) would result in the removal or disturbance of up to 167 acres of common vegetation communities and habitats, including Sierran mixed conifer forest, red fir forest, and montane chaparral. Because these habitats are locally and regionally common and abundant, and implementation of APMs would minimize vegetation removal and require that habitat is restored to pre-project conditions in temporary construction areas, Alternative 4 (Proposed Alternative) would not substantially reduce the size, continuity, or integrity of any common vegetation community or habitat type. Therefore, this impact would be <b>less than significant</b> .
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Implementing Alternative 4 (Proposed Alternative) would result in removal and disturbance of the same common vegetation types as the other action alternatives (coniferous forest, sagebrush scrub, low sage scrub, montane chaparral, montane dry meadow, and mule ears meadow). A maximum total of approximately 93.3 acres of permanent common natural habitat conversion and 73.6 acres of temporary common natural habitat disturbance would result from implementing Alternative 4 (Proposed Alternative). Implementing Alternative 4 (Proposed Alternative) would result in the permanent loss of approximately 58 fewer acres and temporary loss of 6 fewer acres of common vegetation than Alternative 1 (PEA Alternative) (see Table 4.7-8). This is primarily because this alternative would eliminate Segments 650-1 and 650-2 and put them into a double-circuit line in Segments 625-9 and 625-10, the same as Alternative 3 (Road Focused alternative) and because this alternative would rely more heavily on existing roads for access. Permanent and temporary impact acreage was calculated as described above for Impact 4.7-1 (Alt. 1). The losses of common vegetation that would result under Alternative 4 (Proposed Alternative) represent only a small proportion of the amount of these common vegetation types that is present in the overall study area. These habitats are abundant in the Truckee Tahoe region and permanent and temporary loss and disturbance that would occur under Alternative 4 (Proposed Alternative) would not substantially reduce the size, continuity, or integrity of any common vegetation community or habitat type or interrupt the natural processes that support common vegetation communities in the project area.

The same APMs listed under Impact 4.7-1(Alt.1) would be incorporated into the project design for Alternative 4 (Proposed Alternative) to avoid and minimize disturbances to common vegetation.

These measures would ensure that vegetation removal is minimized to the extent feasible and that habitat is restored to pre-project conditions in temporary construction areas. Therefore, this impact would be **less than significant**.

## MITIGATION MEASURES

*No mitigation measures are required.*

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<b>IMPACT 4.7-2 (Alt.4)</b>	<b>Disturbance or loss of sensitive habitats (jurisdictional wetlands, riparian vegetation, and SEZ).</b> Implementing Alternative 4 (Proposed Alternative) would result in direct removal and disturbance of sensitive habitats, including waters of the United States, waters of the state, riparian habitat, and SEZs. This impact would be <b>significant</b> .
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Implementing Alternative 4 (Proposed Alternative) would result in permanent loss or temporary disturbance of the same sensitive habitat types as the other action alternatives (montane riparian, wet montane meadow, and fresh emergent wetland). These habitats in the impact area would potentially qualify as waters of the United States and/or waters of the State. Within the Tahoe Basin, all of these habitats would also meet the definition of SEZs and have been quantified and mapped as SEZ by TRPA for the project. While one seasonal wetland is present in the study area, implementing Alternative 4 (Proposed Alternative) would not affect this sensitive habitat because it is outside of the maximum construction footprint.

Table 4.7-9 summarizes and compares the acreage of sensitive habitats and SEZs present in the permanent and temporary impact zone of each action alternative. Permanent and temporary acreage was calculated as described above for common habitat impacts, assuming that all habitat acreage within the 40-foot permanent ROW and 65-foot temporary construction easement would be removed. There are a total of approximately 9.1 acres of sensitive habitat types in the permanent ROW of Alternative 4 (Proposed Alternative) and approximately 8.9 acres within the temporary construction zone. Therefore, Alternative 4 (Proposed Alternative) would result in similar acreages of permanent and temporary impacts to sensitive habitats as Alternative 1 (PEA Alternative), but would result in up to approximately 4 to 5 more acres of permanent impacts and 4 more acres of temporary impact than Alternative 3 (Road Focused Alternative) or Alternative 3A (Road Focused Alternative with Double Circuit Option); whereas Alternative 3 (Road Focused Alternative) and Alternative 3A (Road Focused Alternative with Double Circuit Option) would be constructed along SR 267 through Martis Valley, the other action alternatives would be constructed through a large meadow complex through Martis Valley. Within the Tahoe Basin, implementing Alternative 4 (Proposed Alternative) could result in permanent removal of approximately 3.6 acres of SEZ and temporary disturbance of approximately 1.6 acres of SEZ; this impact would be the same under Alternative 3 (Road Focused Alternative) and up to 0.3 to 1.3 acres (of permanent impact) greater than under the other action alternatives. Because of the rarity and sensitivity of these habitat types, differences of this magnitude are considerable.

Because the construction corridor would be reduced in sensitive habitat areas and measures would be implemented to avoid and minimize impacts in these areas, the values presented here are considered a maximum and likely an overestimate of the area of actual impacts. For example, open water habitat is present where the 625 Line crosses the Truckee River, but the actual impact acreage here would be zero because the electric line would span the river and no construction would occur within the river channel. Within the Tahoe Basin, SEZs would be spanned or otherwise avoided in all but a few instances where new poles would be erected or existing poles would be replaced within the SEZ because there is no feasible way to span the SEZ or reroute the alignment outside of the SEZ. Therefore, impacts on SEZs have been minimized to the extent feasible. Nonetheless, these habitats are considered sensitive because they are declining in quantity and condition throughout the region and because they provide important habitat functions. Therefore, any loss or degradation of sensitive habitats is significant.

The same APMs listed under Impact 4.7-2(Alt.1) would be incorporated into the project design for Alternative 4 (Proposed Alternative) to minimize, avoid, and reduce potential adverse effects associated with the loss and disturbance of sensitive habitats. However, these APMs alone are not enough to fully reduce potential impacts

from Alternative 4 (Proposed Alternative) on all sensitive habitat types to a less-than-significant level. Therefore, loss and disturbance of sensitive habitats would be a **significant** impact under Alternative 4 (Proposed Alternative).

## MITIGATION MEASURES

In addition to the APMs, the following measures would be implemented to ensure consistency with Fish and Game Code Section 1602 and TRPA Code Section 61.3 further reduce potential adverse effects on stream and riparian habitats and SEZs.

### Mitigation Measure 4.7-2a (Alt. 4): Compensate for Unavoidable Loss of Stream and Riparian Habitat.

*This Mitigation Measure is the same as Mitigation Measure 4.7-2a (Alt. 1) described above.*

### Mitigation Measure 4.7-2b (Alt. 4): Compensate for Unavoidable Loss of SEZ.

*This Mitigation Measure is the same as Mitigation Measure 4.7-2b (Alt. 1) described above.*

Implementation of these mitigation measures would reduce the significant impacts on sensitive habitats to a **less-than-significant** level because it would ensure that sensitive habitat is avoided to the extent feasible and that sensitive habitats that cannot be avoided are restored following construction, or if the habitat cannot be restored, that the applicant compensates for unavoidable losses in a manner that results in no net loss of sensitive habitats.

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<b>IMPACT 4.7-3 (Alt.4)</b>	<b>Disturbance or loss of special-status plants.</b> Implementing Alternative 4 (Proposed Alternative) would result in direct removal and damage of Plumas ivesia plants and degradation or loss of suitable Plumas ivesia habitat. Special-status plants that are not directly removed or physically damaged could be adversely affected indirectly by habitat degradation or loss. APMs included in the project design would minimize, and in some instance, avoid, potential adverse effects on special-status plants. Because, through implementation of the APMs, Alternative 4 (Proposed Alternative) would not substantially affect the abundance or distribution of any special-status species (either directly or through habitat modifications), this impact would be <b>less than significant</b> .
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This impact would be the same as discussed above for Alternative 1 (PEA Alternative). These impacts to Plumas ivesia would be greater than under Alternative 2 (Modified Alternative) (0.7 acres), and under Alternative 3 (Road Focused Alternative) and Alternative 3A (Road Focused Alternative with Double Circuit Option) (both 0.01 acre).

Potential impacts to Galena Creek rockcress and Mingan moonwort would be the same under all of the action alternatives because each of these alternatives would involve removal of the existing 625 Line where potential Galena Creek rockcress plants were observed and each of these alternatives would cross through the location of a known Mingan moonwort occurrence on Griff Creek in Segment 650-1/625-10. Under each of these alternatives, the line would span the riparian habitat/SEZ that supports Mingan moonwort so that impacts to this species would be avoided.

As with Alternative 1 (PEA Alternative), other special-status botanical species could be present in the Alternative 4 (Proposed Alternative) study area and could be directly affected by habitat removal during implementation of Alternative 4 (Proposed Alternative). Undetected special-status botanical species could be directly removed or physically damaged during construction of Alternative 4 (Proposed Alternative). Direct and indirect impacts that

could result from implementation of Alternative 4 (Proposed Alternative) are the same as those described under Impact 4.7-3 (Alt. 1).

The same APMs listed under Impact 4.7-3 (Alt.1) would be incorporated into the project design for Alternative 4 (Proposed Alternative) to avoid, minimize, and compensate for potential direct and indirect effects on special-status botanical species. Through implementation of the APMs, Plumas ivesia, Mangan moonwort, and Galena Creek rockcress occurrences would be avoided to the extent feasible, mitigation measures would be established for plants that cannot be avoided, and degraded habitat would be restored following disturbance. As with Alternative 1, under Alternative 4 (Proposed Alternative) the applicant would be required to identify and avoid special-status botanical species or provide compensation for the loss of special-status botanical species by salvaging seed and soil, relocating individuals, and restoring habitat to pre-project conditions. Consequently, implementing Alternative 4 (Proposed Alternative) would not substantially affect the abundance or distribution, either directly or through habitat modifications, of Plumas ivesia, Mangan moonwort, Galena Creek rockcress, or any other special-status botanical species. Therefore, this impact would be **less than significant**.

## MITIGATION MEASURES

*No mitigation measures are required.*

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<b>IMPACT 4.7-4 (Alt.4)</b>	<b>Tree removal and loss of late seral/old growth forest.</b> Implementing Alternative 4 (Proposed Alternative) would result in substantial tree removal, as defined by TRPA, and could result in the loss of late seral/old growth forest stands, which could interfere with attainment of late seral/old growth forest threshold standards. Therefore, this impact would be <b>significant</b> .
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Implementing Alternative 4 (Proposed Alternative) would result in substantial tree removal as defined by TRPA (i.e., project activities of three acres or more and proposing the removal of more than 100 live trees 14 inches dbh or larger). Tree removal under Alternative 4 (Proposed Alternative) would be slightly less compared to Alternative 1 (PEA Alternative) because it would eliminate Segments 650-1 and 650-2, placing them into a double circuit in Segments 625-9 and 625-10. This would result in fewer miles of electric line ROW and, consequently, fewer acres of forest habitat removal, as described under Impact 4.7-1 (Alt. 4). Still, constructing Alternative 4 (Proposed Alternative) would undoubtedly result in removal of more than 100 trees 14 inches or greater dbh and a large number of trees greater than 24 inches dbh. Furthermore, implementing Alternative 4 (Proposed Alternative) would result in substantial removal of trees measuring 6 inches or greater dbh and more than 50 percent of existing native trees within the project footprint, in Placer County, which would conflict with the County tree ordinance.

Tree removal within the narrow electric line ROW would not result in substantial changes in stand structure or composition or in the distribution of plant communities in the project area overall, and would not result in a change in the natural functioning of a late seral or old-growth ecosystems. As with Alternative 1 (PEA Alternative), the majority of the 650 Line would be rebuilt in the same alignment as the existing 650 Line. The only deviation from the existing alignment would be where the 650 Line would be double circuited with the 625 Line in Segments 625-9 and 625-10. The double circuit in Segments 625-9 and 625-10 would closely follow the existing 625 Line, deviating slightly to create a straighter line. Because this existing line is already maintained as a utility corridor, the number of trees measuring 14 inches or greater is limited within the ROW and trees over 24 inches dbh are scarce. Nonetheless, tree removal within the new 625 Line ROW and the expanded 650 Line ROW would be substantial.

Very little of the forest habitat in the study area exhibits structural characteristics that are generally thought to typify old growth forest communities. One feature widely accepted as a criterion of late seral/old growth forest habitat is structural variability and structural variability is generally not observed in forest communities within

the study area. However, implementing Alternative 4 (Proposed Alternative) would result in permanent loss of approximately 0.6 acre of late seral/old growth forest, as mapped by TRPA for the 2011 Threshold Evaluation Report. There is no late seral/old growth forest within the temporary construction footprint of this alternative.

Removing trees greater than 6 inches dbh from non-Federal lands within Placer County would necessitate issuance of a tree permit by the County. Removing trees greater than 14 inches dbh in the Tahoe Basin requires a permit from TRPA and the loss of trees greater than 24 inches dbh could conflict with achievement of TRPA late seral/old growth threshold standards, even though large utility projects such as this are exempted from the prohibition on cutting trees greater than 24 inches in eastside forests and greater than 30 inches dbh in westside forests when there is no reasonable alternative. Because attainment status for late seral/old growth forest threshold standards is considerably worse than target and it is anticipated to take 100 years or more to achieve targets, any loss of old growth forest would be a significant impact. Therefore, tree removal and loss of late seral/old growth forest under Alternative 4 (Proposed Alternative) would be a significant impact.

The same APMs listed under Impact 4.7-4(Alt.1) would be incorporated into the project design for Alternative 4 (Proposed Alternative) to minimize, avoid, and reduce potential adverse effects associated with tree removal and the loss and disturbance of late seral/old growth forest stands. However, these APMs alone are not enough to reduce the significant impacts of tree removal and the loss and disturbance of late seral/old growth forest stands that would result under Alternative 4 (Proposed Alternative) to a less-than-significant level. Therefore, tree removal and loss of late seral/old growth forest under Alternative 4 (Proposed Alternative) would be a **significant** impact.

## MITIGATION MEASURES

The following mitigation measure will be implemented by CalPeco to minimize, avoid, and compensate for tree removal and potential adverse effects on late seral/old growth forest stands and ensure consistency with TRPA Code.

### Mitigation Measure 4.7-4 (Alt. 4): Conduct a Tree Survey; Avoid Late Seral/Old-Growth Forest; Compensate for Loss of Trees.

*This Mitigation Measure is the same as Mitigation Measure 4.7-4 (Alt. 1) described above.*

Implementation of this mitigation measure would reduce the significant impacts associated with tree removal and loss of late seral/old growth forest to a **less-than-significant** level because it would ensure that tree removal and old growth forest removal is avoided to the extent feasible and that the applicant compensates for unavoidable losses.

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<b>IMPACT 4.7-5 (Alt.4)</b>	<b>Introduction and spread of invasive plants.</b> Project construction could result in the introduction or spread of invasive plant species through seed mixes, equipment, and other materials. Areas disturbed during construction can provide ideal conditions for weed establishment. APMs included in the project design would avoid and minimize potential adverse effects from the introduction and spread of invasive plants, but not necessarily to a less-than-significant level. Therefore, this impact is <b>potentially significant</b> .
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Implementing Alternative 4 (Proposed Alternative) could result in the spread of invasive plants that are present in the study area. Additionally, new invasive plant weed species could be introduced into the study area during construction. Implementation of Alternative 4 (Proposed Alternative) would result in removal or disturbance of 64 fewer acres of native vegetation than Alternative 1 (PEA Alternative), 39 fewer acres than Alternative 2 (Modified Alternative), 15 fewer acres than Alternative 3 (Road Focused Alternative), and 13 fewer acres than

Alternative 3A (Road Focused Alternative with Double Circuit Option). Although implementing Alternative 4 (Proposed Alternative) would still involve substantial ground disturbance, with less ground disturbance and less loss of native vegetation cover, the potential for invasive plant species to become established is reduced. Therefore, potential impacts from invasive species are less under Alternative 4 (Proposed Alternative) than the other action alternatives because implementing Alternative 4 would result in the least amount of ground disturbance and native vegetation removal.

The same APMs listed under Impact 4.7-5 (Alt.1) would be incorporated into the project design for Alternative 4 (Proposed Alternative) to minimize, avoid, and reduce potential direct and indirect effects of invasive species. In particular, the applicant will be required to treat known infestations prior to implementation and avoid (or mitigate potential spread through barriers) infestations during all construction activities. The APMs also require that weed-free materials be used and equipment be inspected for invasive plants prior to use, reducing the potential introduction of invasive plants during the use of imported equipment and materials. However, these APMs alone would not necessarily reduce the impact to a less-than-significant level because the project could still conflict with the Forest Service Noxious Weed Management Strategy. This would be a **potentially significant** impact. The following additional measure is necessary to ensure the impacts of invasive plant species are reduced to a less-than-significant level.

## MITIGATION MEASURES

The APMs described previously would reduce potential adverse effects from the spread or introduction of invasive plants. In addition, the following mitigation measure would be implemented to ensure consistency with the Forest Service invasive plant management direction and further reduce potential adverse effects from the spread and introduction of invasive plants.

### Mitigation Measure 4.7-5 (Alt. 4): Utilize Local Native Seed and Notify Noxious Weed Coordinator.

*This Mitigation Measure is the same as Mitigation Measure 4.7-5 (Alt. 1) described above.*

Implementation of the APMs and this mitigation measure would reduce potentially significant impacts from the introduction and spread of invasive plants because the applicant would be required to treat, avoid or mitigate effects from known invasive plant infestations prior to construction; revegetate temporary disturbance areas with native vegetation and locally collected native plants and seeds; clean weed seed and propagules from equipment so they are not introduced as part of construction activities; utilize weed-free materials to prevent new introductions; and monitor after construction is completed to ensure new infestations do not become established. Collectively, these measures would substantially reduce the risk of invasive plant introduction and spread resulting from proposed activities to a **less-than-significant** level.

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<b>IMPACT 4.7-6 (Alt.4)</b>	<b>Disturbance or loss of special-status wildlife species and habitats.</b> Implementation of Alternative 4 (Proposed Alternative) could disturb the foraging and movement patterns of individuals, affect breeding activities and reproductive success, cause direct mortality, and disturb or remove suitable habitat for some of these species. However, with implementation of APMs to avoid, minimize, and compensate for impacts to wildlife resources generally and several special-status species specifically, Alternative 4 (Proposed Alternative) is not expected to substantially affect the distribution, breeding productivity, viability, or the regional population of any special-status species. Therefore, this impact would be less than <b>less than significant</b> .
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Under Alternative 4 (Proposed Alternative), the types of potential impacts to special-status wildlife would be similar to those described for Alternative 1 (PEA Alternative). Please see Impact 4.7-6 (Alt. 1) for a discussion of potential impact mechanisms, biological effects, and anticipated magnitude of effects for each of the 17 special-status wildlife species analyzed. Because Alternative 4 (Proposed Alternative) would eliminate Segments 625-9 and 625-10 and place them into a double-circuit line in Segments 650-1 and 650-2, similar to Alternative 3 (Road Focused Alternative), and much of the impact footprint of Alternative 4 (Proposed Alternative) is within existing roadways that do not contain native vegetation, implementation of Alternative 4 (Proposed Alternative) would result in less removal of wildlife habitats and potential habitat for special-status species compared to Alternative 1 (PEA Alternative), Alternative 2 (Modified Alternative), and Alternative 3 (Road Focused Alternative). Furthermore, the quality of habitat that would be removed under Alternative 4 (Proposed Alternative) is generally lower than that under Alternative 1 (PEA Alternative) or Alternative 2 (Modified Alternative), because much of the Alternative 4 (Proposed Alternative) alignment is located within existing road corridors that are already subject to higher disturbance levels. See Impact 4.7-1 (Alt. 4) and Impact 4.7-2 (Alt. 4) for a discussion and quantification of comparative effects on common and sensitive habitats among the alternatives.

Some potential effects on special-status species under Alternative 4 (Proposed Alternative) would differ more than others when compared to those previously addressed in Impact 4.7-6 (Alt. 1), Impact 4.7-6 (Alt. 2), and Impact 4.7-6 (Alt. 3) for Alternative 1 (PEA Alternative), Alternative 2 (Modified Alternative), and Alternative 3 (Road Focused Alternative), primarily for northern goshawk and California spotted owl. The following summarizes key differences between effects under Alternative 4 (Proposed Alternative) and those previously described for the other action alternatives, followed by a summary of impacts and level of significance for all special-status species analyzed.

Appendix L summarizes the USFS NEPA and ESA effects determinations for species federally listed or proposed for listing as threatened or endangered under the ESA, species designated as a candidate for listing, critical habitat, and Forest Service sensitive species, as analyzed and concluded in the BA and Animal BE.

## **NORTHERN GOSHAWK HABITAT, PACs, AND TRPA DISTURBANCE ZONES**

Implementation of Alternative 4 (Proposed Alternative) would affect the least amount of habitat for northern goshawk among the action alternatives, including habitat within PACs and TRPA disturbance zones. Overall, implementation of Alternative 4 (Proposed Alternative) would initially result in the permanent loss or disturbance of up to 79.3 acres of potential habitat for northern goshawk over the study area (compared to 129.8, 121.1, and 80.6 acres under Alternative 1 [PEA Alternative], Alternative 2 [Modified Alternative], and Alternative 3 [Road Focused Alternative], respectively). Of this total amount, 0.2 acre would occur in the Griff Creek goshawk PAC (compared to 0.1, 0.2, and 0–0.2 [depending on option] acre under Alternative 1 [PEA Alternative], Alternative 2 [Modified Alternative], and Alternative 3 [Road Focused Alternative], respectively), and 1.6 acres would occur within the nonurban portion of three partially-overlapping TRPA disturbance zones (compared to 3.9, 7.1, and 0–1.6 [depending on option] acres under Alternative 1 [PEA Alternative], Alternative 2 [Modified Alternative], and Alternative 3 [Road Focused Alternative], respectively) (Table 4.7-10; Exhibit 4.7-5). Over the long term, because the existing 625 Line would be decommissioned and vegetation would be allowed to reestablish within the existing 20-foot vegetation management corridor, the net permanent disturbance/loss would be reduced to approximately 56.5 acres overall (compared to 109.1, 101.2, and 57.8 acres under Alternative 1 [PEA Alternative], Alternative 2 [Modified Alternative], and Alternative 3 [Road Focused Alternative], respectively); and a net gain or enhancement of 0.3 acre within the nonurban portion of the TRPA disturbance zones would occur (compared to the disturbance/loss of 3.2 and 6.4 acres under Alternative 1 [PEA Alternative] and Alternative 2 [Modified Alternative], and a net gain or enhancement of 0.3– 2.3 acres [depending on option] under Alternative 3 [Road Focused Alternative], respectively).

Overall, implementation of Alternative 4 (Proposed Alternative) would result in the temporary loss or disturbance of up to 62.1 acres of potential habitat for northern goshawk (compared to 68.4, 58.2, and 63.5

acres under Alternative 1 [PEA Alternative], Alternative 2 [Modified Alternative], and Alternative 3 [Road Focused Alternative], respectively); of this amount, none would occur in the Griff Creek goshawk PAC (compared to 0.2, 0, and 0 acre under Alternative 1 [PEA Alternative], Alternative 2 [Modified Alternative], and Alternative 3 [Road Focused Alternative], respectively), and 0.6 acre would occur within the nonurban portion of three partially-overlapping TRPA disturbance zones (compared to 4.4, 1.6, and 0–0.6 [depending on option] acre under Alternative 1 [PEA Alternative], Alternative 2 [Modified Alternative], and Alternative 3 [Road Focused Alternative], respectively) (Table 4.7-10; Exhibit 4.7-5).

## CALIFORNIA SPOTTED OWL HABITAT, PACs, AND HRCAs

Implementation of Alternative 4 (Proposed Alternative) would affect the least total amount of habitat for California spotted owl among the action alternatives. Overall, implementation of Alternative 4 (Proposed Alternative) would initially result in the permanent loss or disturbance of up to 79.3 acres of potential habitat for spotted owl (compared to 129.8, 121.1, and 80.6 acres under Alternative 1 [PEA Alternative], Alternative 2 [Modified Alternative], and Alternative 3 [Road Focused Alternative], respectively); of this amount, up to 0.4 acre would occur in the Griff Creek PAC (compared to 0.1, 0.4, and 0–0.4 [depending on option] acre under Alternative 1 [PEA Alternative], Alternative 2 [Modified Alternative], and Alternative 3 [Road Focused Alternative], respectively), and 2.6 acres would occur in the Mt. Pluto PAC (compared to 6.2, 4.9, and 2.6 acres under Alternative 1 [PEA Alternative], Alternative 2 [Modified Alternative], and Alternative 3 [Road Focused Alternative], respectively) (Table 4.7-11; Exhibit 4.7-5). Within the Mt. Pluto PAC, Segment 625-6 would be constructed within or adjacent to the disturbed Fiberboard Freeway ROW (see Exhibit 4.7-6). In addition to resulting in fewer acres permanently affected within the Mt. Pluto PAC, the existing ROW where the new 625 Line would be constructed under Alternative 4 (Proposed Alternative) is already subject to existing disturbances and habitat degradation as a result of road use, maintenance, and edge effects. Therefore, the quality of spotted owl habitat within the Mt. Pluto PAC affected under Alternative 4 (Proposed Alternative) may be lower than that affected under Alternative 1 (PEA Alternative) or Alternative 2 (Modified Alternative). Effects within the Mt. Pluto PAC under Alternative 4 (Proposed Alternative) would be the same as those under Alternative 3 (Road Focused Alternative).

Over the long term, because the existing 625 Line would be decommissioned and vegetation would be allowed to reestablish within the existing 20-foot vegetation management corridor, the net permanent disturbance/loss would be reduced to approximately 56.5 acres overall (compared to 109.1, 101.2, and 57.8 acres under Alternative 1 [PEA Alternative], Alternative 2 [Modified Alternative], and Alternative 3 [Road Focused Alternative], respectively), and 1.5 acres in the Mt. Pluto PAC (compared to 5.2, 4, and 1.5 acres under Alternative 1 [PEA Alternative], Alternative 2 [Modified Alternative], and Alternative 3 [Road Focused Alternative], respectively). Table 4.7-11 additionally shows the amount of additional habitat affected outside of PACs but within HRCAs (Mt. Pluto, Carnelian, Griff Creek, Twin Crags HRCAs), and impacts to suitable habitat outside of designated PACs or HRCAs.

Overall, implementation of Alternative 4 (Proposed Alternative) would result in the temporary loss or disturbance of up to 62.1 acres of potential habitat for spotted owl (compared to 68.4, 58.2, and 61.3–63.5 acres [depending on option] under Alternative 1 [PEA Alternative], Alternative 2 [Modified Alternative], and Alternative 3 [Road Focused Alternative], respectively); of this amount, none would occur in the Griff Creek PAC (compared to 0.3, 0, and 0 acre under Alternative 1 [PEA Alternative], Alternative 2 [Modified Alternative], and Alternative 3 [Road Focused Alternative], respectively), and 3 acres would occur in the Mt. Pluto PAC (compared to 2.4, 1.7, and 3 acres under Alternative 1 [PEA Alternative], Alternative 2 [Modified Alternative], and Alternative 3 [Road Focused Alternative], respectively) (Table 4.7-11; Exhibit 4.7-5).

## IMPACT SUMMARY

Nine special-status wildlife taxa have been documented in the study area: waterfowl, northern goshawk, California spotted owl, northern harrier, black-backed woodpecker, willow flycatcher, yellow warbler, Pacific marten, and mule deer. Eight additional special-status wildlife species were identified as having a moderate or high potential to occur within the study area: olive-sided flycatcher, long-eared owl, snowshoe hare, pallid bat, western red bat, Sierra Nevada mountain beaver, osprey, and bald eagle. For the same reasons described in Impact 4.7-6 (Alt. 1) for Alternative 1 (PEA Alternative), implementation of Alternative 4 (Proposed Alternative) could disturb the foraging and movement patterns of individuals, affect breeding activities and reproductive success, cause direct mortality or injury, and disturb or remove suitable habitat for some of these species. However, with implementation of APMs to avoid, minimize, and compensate for impacts to wildlife resources generally and several special-status species specifically, Alternative 4 (Proposed Alternative) is not expected to substantially affect the distribution, breeding productivity, viability, or the regional population of any special-status species. Additionally, unlike Alternative 1 (PEA Alternative) and Alternative 2 (Modified Alternative) and similar to Alternative 3 (Road Focused Alternative), a long-term net loss of habitat within TRPA-designated goshawk disturbance zones in nonurban plan areas would not occur under Alternative 4 (Proposed Alternative). Therefore, this impact would be less than **less than significant**.

## MITIGATION MEASURES

*No mitigation measures are required.*

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<b>IMPACT 4.7-7 (Alt.4)</b>	<b>Effects on aquatic habitat.</b> Under Alternative 4 (Proposed Alternative), construction activities such as vegetation clearing, pole installation, pole removal, creation of access ways, and staging near aquatic habitats could temporarily result in adverse impacts to aquatic habitat, including through removal of riparian vegetation; accidental spill and contamination from construction chemicals, fuels, or other hazardous materials; increased erosion, downstream sedimentation, and turbidity; small amounts of fill placed in aquatic habitats; and direct mortality or injury of fish and other aquatic species caused by equipment passing through aquatic habitats. The project's design, construction methods, and incorporation of several APMs designed to protect aquatic resources would minimize, avoid, and partially compensate for these potential impacts to aquatic habitats. However, even with incorporation of the APMs, project construction could result in loss or degradation of stream or riparian habitat protected under Section 1602 of the Fish and Game Code. Any unavoidable disturbance to the bed and bank of a waterway that provides habitat functions would require a Streambed Alteration Agreement from CDFW and be considered a <b>potentially significant</b> impact.
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Under Alternative 4 (Proposed Alternative), potential impacts to aquatic habitats would be similar to those described for Alternative 1 (PEA Alternative). Please see Impact 4.7-7 (Alt. 1) for a discussion of potential impact mechanisms and anticipated magnitude of effect on aquatic habitats. However, in many locations, the Alternative 4 (Proposed Alternative) alignment would be located within existing road corridors that are already subject to higher disturbance levels, provide existing construction access, and require fewer new stream crossings for equipment. Therefore, the amount and quality of aquatic habitats potentially affected under Alternative 4 (Proposed Alternative) are generally lower than that under Alternative 1 (PEA Alternative) or Alternative 2 (Modified Alternative), and similar to that under Alternative 3 (Road Focused Alternative).

The project design and incorporation of applicable APMs described in Impact 4.7-7 (Alt. 1) would reduce project impacts to aquatic resources, and most potential residual impacts to aquatic habitat functions would not be considered substantial. Even with incorporation of the APMs, project construction could result in loss or degradation of stream or riparian habitat protected under Section 1602 of the Fish and Game Code. For

example, equipment operation is not anticipated within stream channels, implementation of APM WQ-7 and other APMs would minimize equipment use and crossing through the bed and bank of a channel, and APM WQ-8 requires CalPeco to obtain permits that would provide compensatory mitigation prior to commencing work in waters of the United States or waters of the state. However, the crossing of small stream channels by vehicles and equipment for construction access, and associated disturbances to riparian and stream habitats protected by CDFW, may be unavoidable in some cases. Although the project design and implementation of APMs would prevent most impacts on aquatic resources from being substantial, any unavoidable disturbance to the bed and bank of a waterway that provides habitat functions would require a Streambed Alteration Agreement from CDFW and be considered a **potentially significant** impact.

## MITIGATION MEASURES

In addition to the applicable APMs, the following mitigation measure will be implemented by CalPeco to minimize, avoid, and compensate for potential adverse effects on aquatic habitats and ensure consistency with Fish and Game Code.

### Mitigation Measure 4.7-7 (Alt. 4): Compensate for Unavoidable Loss of Stream and Riparian Habitat.

*See Mitigation Measure 4.7-7 (Alt. 1) described above for Alternative 1 (PEA Alternative). The same mitigation measure would apply.*

Implementation of Mitigation Measure 4.7-7 (Alt. 4) would reduce potentially significant impacts to aquatic habitats to a **less-than-significant** level because it would ensure that: 1) aquatic habitat is avoided to the extent feasible; 2) aquatic habitats that cannot be avoided are restored following construction; 3) any unavoidable losses would be compensated for in a manner that results in no net loss of aquatic habitats; and 4) project implementation is consistent with the aquatic and riparian habitat protection provisions of Fish and Game Code Section 1602.

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#### IMPACT 4.7-8 (Alt.4)

**Effects on wildlife and fish movement corridors.** Known animal movement corridors in the study area include the migratory route of the Loyalton-Truckee mule deer herd and streams that function as migratory and movement routes for fish. Under Alternative 4 (Proposed Alternative), construction activities could cause temporary disturbances to mule deer and fish movements and habitat use. However, the project would not create local, watershed-, or landscape-level barriers that would impair movement, redirect migration, or prevent the use of traditional habitats throughout a species range. Therefore, any potential impacts to wildlife and fish movement patterns and corridors would be short-term and **less than significant**.

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Known animal movement corridors in the study area include the migratory route of the Loyalton-Truckee mule deer herd and streams that function as migratory and movement routes for fish. Under Alternative 4 (Proposed Alternative), the types of potential impacts to wildlife and fish movement corridors would be similar to those described for Alternative 1 (PEA Alternative), Alternative 2 (Modified Alternative), and Alternative 3 (Road Focused Alternative). Please see Impact 4.7-8 (Alt. 1) for a discussion of potential impact mechanisms, biological effects, and anticipated magnitude of effects on movement corridors. However, similar to Alternative 3 (Road Focused Alternative), much of the Alternative 4 (Proposed Alternative) alignment would be constructed within existing road corridors, including the Fiberboard Freeway and SR 267; these areas are subject to existing disturbances and habitat degradation as a result of road use, maintenance, and edge effects. Existing noise, traffic, and other human presence along these roadways likely deters deer, to some extent, from regularly using parts of the proposed construction area during the daytime. Because these areas are already subject to higher

disturbance levels, provide existing construction access, and require fewer new stream crossings for equipment, the magnitude of potential effects on wildlife and fish movement under Alternative 4 (Proposed Alternative) would be lower than that under Alternative 1 (PEA Alternative) or Alternative 2 (Modified Alternative), and similar to Alternative 3 (Road Focused Alternative). Furthermore, the amount and quality of terrestrial and aquatic habitat that would be affected under Alternative 4 (Proposed Alternative) are lower than that under Alternative 1 (PEA Alternative) or Alternative 2 (Modified Alternative).

For the same reasons described in Impact 4.7-8 (Alt. 1), implementation of Alternative 4 (Proposed Alternative) would not create local, watershed-, or landscape-level barriers that would impair movement, redirect migration, or prevent the use of traditional habitats throughout a species range. Therefore, any potential effects on wildlife and fish movement patterns and corridors under Alternative 4 (Proposed Alternative) would be short-term and **less than significant**.

## MITIGATION MEASURE

*No mitigation measures are required.*

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<b>IMPACT 4.7-9 (Alt.4)</b>	<b>Loss of habitat for Forest Service Management Indicator Species.</b> Implementation of Alternative 4 (Proposed Alternative) could affect habitat for nine Forest Service MISs. With implementation of APMs designed to minimize, avoid, and compensate for impacts to biological resources, project implementation would not result in a substantial loss of habitat for any MIS, alter existing trends in any MIS habitat, or lead to a change in distribution of an MIS across the Sierra Nevada bioregion. Therefore, this impact would be less than <b>less than significant</b> .
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The MIS Report prepared for the project (USFS 2014a) evaluated habitat for 13 MISs required for consideration on national forest lands. The MIS report concluded that representative habitat for the following nine MIS species is present in the project area: aquatic macroinvertebrates (lacustrine/riverine habitat); yellow warbler (riparian habitat); Pacific tree frog (wet meadow habitat); mountain quail (early- and mid-seral coniferous forest); blue grouse (late-seral open-canopy coniferous forest); hairy woodpecker (snags in green forest); and California spotted owl, Pacific marten, and northern flying squirrel (late-seral closed-canopy coniferous forest) (Table 4.7-6).

The detailed MIS analysis concluded that implementation of Alternative 4 (Proposed Alternative), with incorporation of the APMs designed to protect biological resources, would not: 1) result in substantial loss of habitat for any MIS relative to the amount and quality available within and near the study area, or 2) alter existing trends in any MIS habitat or lead to a change in distribution of an MIS across the Sierra Nevada bioregion. Therefore, this impact would be **less than significant**. The full MIS analysis and discussion, including quantification of habitat impacts, are provided in the MIS Report (USFS 2014a).

## MITIGATION MEASURES

*No mitigation measures are required.*

## ALTERNATIVE 5 – NO ACTION/NO PROJECT ALTERNATIVE

### DIRECT AND INDIRECT IMPACTS

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<b>IMPACT 4.7-1 (Alt.5)</b>	<b>Disturbance or loss of common vegetation communities and wildlife habitats.</b> Implementing Alternative 5 (No Action/No Project Alternative) would result in ongoing maintenance within the existing, approximately 20-foot wide vegetation management zone for the 60 kV lines, resulting in intermittent, ongoing disturbance of common habitat. In addition, some near term higher intensity and frequency of vegetation clearance within the existing ROW would be needed to bring the maintenance buffer into compliance with vegetation management standards. Vegetation management within the existing ROW would not substantially reduce the size, continuity, or integrity of any common vegetation community or habitat type. Therefore, this impact would be <b>less than significant</b> .
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Under Alternative 5 (No Action/No Project Alternative), the project would not be implemented and no new or upgraded electric lines would be constructed and no new or improved access roads would be built. Actions associated with this alternative would be limited to the existing operation and maintenance and completion of existing deferred maintenance to raise the system to current standards, including compliance with vegetation clearing requirements and annual inspection requirements. This required near term vegetation removal would be somewhat beyond the magnitude of usual routine vegetation maintenance, but would still be within the scope of the electric system's existing approved vegetation management plans and far below the magnitude of vegetation removal that would occur under the proposed action alternatives. Because specifics of current vegetation maintenance needs are not tracked on an acreage basis, acreage of vegetation removal cannot be quantified for the No Action/No Project Alternative, but mature forest communities do not exist beneath the existing electric lines and most trees that would be removed would be small, immature trees (seedlings and saplings), with the exception of hazard trees outside the existing 20-foot wide tree removal corridor. Vegetation management within the existing ROW would not substantially reduce the size, continuity, or integrity of any common vegetation community or habitat type. This impact would be **less than significant**.

### MITIGATION MEASURES

*No mitigation measures are required.*

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<b>IMPACT 4.7-2 (Alt.5)</b>	<b>Disturbance or loss of sensitive habitats (jurisdictional wetlands, riparian vegetation, and SEZ).</b> Implementing Alternative 5 (No Action/No Project Alternative) would result in continued ongoing vegetation management within the existing, approximately 20-foot wide vegetation management zone for the 60 kV lines. Vegetation maintenance within sensitive habitats would not change under this alternative and no sensitive habitats would be lost. Therefore, the impact would be <b>less than significant</b> .
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Under the No Action/No Project Alternative, vegetation management within sensitive habitats would continue to be carried out in compliance with previously approved management plans and permits and no new electric facilities or roads would be constructed. Actions associated with this alternative would be limited to the existing operation and maintenance and completion of existing deferred maintenance to raise the system to current standards, including compliance with vegetation clearing requirements. All activities would occur within the existing easements. Existing 60 kV power lines have a 20-foot tree removal corridor. This corridor width would remain unchanged under Alternative 5 (No Action/No Project Alternative).

Although a near term increase in the intensity of vegetation removal within the existing 20-foot corridor is expected, completing deferred vegetation management along the ROW is not anticipated to result in a similar increase in the intensity of vegetation removal in sensitive habitats because tree species associated with these habitats (e.g., willow, alder, and dogwood) rarely grow above the minimum clearance for the electric line—approximately 20 feet—and would not differ substantially from existing operation and maintenance activities. Therefore, relative to existing conditions, Alternative 5 would not be expected to result in loss or degradation of sensitive habitats, including federally-protected wetlands, riparian vegetation, and SEZs, or substantially reduce the size, continuity, or integrity of any sensitive habitat type. Therefore, the impact would be **less than significant**.

## MITIGATION MEASURES

*No mitigation measures are required.*

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<b>IMPACT 4.7-3 (Alt.5)</b>	<b>Disturbance or loss of special-status plants.</b> Implementing Alternative 5 (No Action/No Project Alternative) would result in continued ongoing vegetation management within the existing, approximately 20-foot wide vegetation management zone for the 60 kV lines. Continuation of existing management would not result in substantial changes to vegetation or in removal or substantial disturbance of Plumas ivesia or other special-status botanical species. Therefore, this impact would be <b>less than significant</b> .
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Under Alternative 5 (No Action/No Project Alternative), vegetation management within the electric system ROW would continue to be carried out in compliance with previously approved management plans and permits and no new electric facilities or roads would be constructed. Actions associated with this alternative would be limited to the existing operation and maintenance and completion of existing deferred maintenance to raise the system to current standards. All activities would occur within the existing easements. Although some near term increase in the intensity of vegetation clearance within the existing ROW would be needed to bring the maintenance buffer into compliance with vegetation management standards, vegetation management within the existing ROW is not expected to result in substantial changes to vegetation within the electric system ROW and habitat supporting or potentially supporting special-status botanical species would not be lost or substantially degraded. Implementing the No Action/No Project Alternative would not result in loss of suitable habitat that supports Plumas ivesia, Mingan moonwort, and Galena Creek rockcress and known occurrences of these species would not be substantially disturbed as they may under the action alternatives. Therefore, this impact would be **less than significant**.

## MITIGATION MEASURES

*No mitigation measures are required.*

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<b>IMPACT 4.7-4 (Alt.5)</b>	<b>Tree removal and loss of late seral/old growth forest.</b> Under Alternative 5 (No Action/No Project Alternative), ongoing maintenance would occur within the existing, approximately 20-foot wide vegetation management zone for the 60 kV lines, resulting in intermittent, ongoing disturbance of common habitat. In addition, some higher intensity vegetation clearance within the existing ROW would be needed to bring the maintenance buffer into compliance with vegetation management standards. The continuation of existing vegetation management would not result in substantial tree removal, loss of late seral/old growth forest, or conflict with county tree ordinances. Therefore, this impact would be <b>less than significant</b> .
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Under Alternative 5 (No Action/No Project Alternative), the project would not be implemented and no new or upgraded electric lines would be constructed and no new or improved access roads would be built. Actions associated with this alternative would be limited to the existing operation and maintenance and completion of existing deferred maintenance to raise the system to current standards, including compliance with vegetation clearing requirements. In the near term, this required vegetation removal would be somewhat beyond the magnitude of usual routine vegetation maintenance, but would still be within the scope of the electric system's existing approved vegetation management plans and far below the magnitude of vegetation removal that would occur under the proposed action alternatives. Tree removal carried out in compliance with the existing vegetation management plan would not result in substantial tree removal, loss of late seral/old growth forest stands, or conflict with county tree ordinances because mature forest communities do not exist beneath the existing electric lines and most trees that would be removed would be small, immature trees (seedlings and saplings less than 6 inches dbh), with the exception of hazard trees outside the existing 20-foot management corridor. Therefore, this impact would be **less than significant**.

## MITIGATION MEASURES

*No mitigation measures are required.*

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<b>IMPACT 4.7-5 (Alt.5)</b>	<b>Introduction and spread of invasive plants.</b> Under Alternative 5 (No Action/No Project Alternative), ongoing maintenance would occur within the existing, approximately 20-foot wide vegetation management zone for the 60 kV lines. Continuation of existing vegetation management practices has the potential to result in the introduction or spread of invasive plant species through attachment to equipment or personnel. However, the risk of introducing or spreading invasive plants would not increase as a result of Alternative 5 (No Action/No Project Alternative). Therefore, this impact is <b>less than significant</b> .
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Under Alternative 5 (No Action/No Project Alternative), vegetation management within the electric system ROW would continue to be carried out in compliance with previously approved management plans and permits and no new electric facilities or roads would be constructed. Actions associated with this alternative would be limited to existing operations and maintenance within the existing ROW. Therefore, no new vectors would be created and there would be no increased use of surrounding areas as a result of the project. While ongoing vegetation management activities have some potential to introduce or spread invasive plant species, this potential would not be increased beyond existing conditions. Therefore, this impact is **less than significant**.

## MITIGATION MEASURES

*No mitigation measures are required.*

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<b>IMPACT 4.7-6 (Alt.5)</b>	<b>Disturbance or loss of special-status wildlife species and habitats.</b> Under Alternative 5 (No Action/No Project Alternative), the project would not be implemented; no new or upgraded electric lines would be constructed and no new or improved access roads would be built. Actions would be limited to the existing operation and maintenance and completion of existing deferred maintenance to raise the power system to current standards, including compliance with vegetation clearing requirements. The intensity of vegetation removal within the existing 20-foot tree removal corridor is expected to increase somewhat within the near term, but would still be within the scope of the electric system's existing approved vegetation management plans and permits. Vegetation within this corridor is already subject to periodic maintenance, management activities, and associated disturbances; and the corridor is not expected to provide important habitat for any special-status wildlife species. Vegetation management in the ROW is not expected to substantially reduce the quality or
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amount of habitat available for special-status wildlife species relative to existing conditions. Therefore, potential effects of implementing Alternative 5 (No Action/No Project Alternative) on special-status wildlife species or their habitats would be **less than significant**.

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Under Alternative 5 (No Action/No Project Alternative), the project would not be implemented; no new or upgraded electric lines would be constructed and no new or improved access roads would be built. Actions associated with this alternative would be limited to the existing operation and maintenance and completion of existing deferred maintenance to raise the system to current standards, including compliance with vegetation clearing requirements. All activities would occur within the existing easements, with no easement expansion necessary. Existing 60 kV power lines have a 20-foot tree removal corridor (10 feet on either side of the line). This corridor width would remain unchanged under Alternative 5 (No Action/No Project Alternative).

Upgrading the power system to comply with vegetation clearing requirements is expected, in the short term, to increase the intensity of vegetation removal within the existing 20-foot corridor by some amount, but would still be within the scope of the electric system's existing approved vegetation management plans and permits. Vegetation within the existing 20-foot tree removal corridor is already subject to periodic maintenance, management activities, and associated disturbances; and this corridor is not expected to provide important habitat for any special-status wildlife species. Additionally, as described previously in Impact 4.7-1 (Alt. 4) and 4.7-2 (Alt. 4), vegetation management within the existing ROW would not substantially reduce the size, continuity, or integrity of any common or sensitive vegetation community or habitat type. Therefore, continuing existing vegetation management practices in the ROW is not expected to substantially reduce the quality or amount of habitat available for special-status wildlife species. If special-status wildlife species are present where periodic vegetation management would occur, clearing activities could disturb them, particularly during the breeding season. However, the potential for, and general frequency of, implementing these treatments is not expected to be substantially greater than under current conditions. Therefore, any potential effects of implementing Alternative 5 (No Action/No Project Alternative) on special-status wildlife would be **less than significant**.

Appendix L summarizes the USFS NEPA and ESA effects determinations for species federally listed or proposed for listing as threatened or endangered under the ESA, species designated as a candidate for listing, critical habitat, and Forest Service sensitive species, as analyzed and concluded in the BA and Animal BE.

## MITIGATION MEASURES

*No mitigation measures are required.*

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<b>IMPACT 4.7-7 (Alt.5)</b>	<b>Effects on aquatic habitat.</b> Under Alternative 5 (No Action/No Project Alternative), the project would not be implemented; no new or upgraded electric lines would be constructed and no new or improved access roads would be built. Actions would be limited to the existing operation and maintenance and completion of existing deferred maintenance to raise the power system to current standards. With continued implementation of aquatic resource protection measures in CalPeco's current Vegetation Management Plan, vegetation management within the existing ROW under Alternative 5 (No Action/No Project Alternative) would not result in new or substantial effects on aquatic habitat functions. Therefore, potential effects of implementing Alternative 5 (No Action/No Project Alternative) on aquatic habitats would be <b>less than significant</b> .
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Under the No Action/No Project Alternative, the intensity of vegetation removal within the existing 20-foot vegetation management zone for the 60 kV lines are expected to increase in the short term, but would still be within the scope of the electric system's existing approved vegetation management plans and permits. The

proximity of vegetation management activities to aquatic resources, and potential effects on aquatic habitats, are not expected to change under Alternative 5 (No Action/No Project Alternative); they would continue to be minimized, avoided, or mitigated through practices specified in CalPeco's Vegetation Management Plan (CalPeco 2012). As described in the Vegetation Management Plan, necessary vegetation removal operations located within Waterbody Buffer Zones (as defined by the LRWQCB) shall be implemented appropriately to ensure compliance with applicable water quality regulations; and CalPeco will use the following BMPs when performing vegetation management within Waterbody Buffer Zones:

- ▲ avoid removal of any vegetation within 15 feet of the high water mark of perennial streams;
- ▲ avoid the use of mechanical equipment within Waterbody Buffer Zones;
- ▲ direct the felling of trees within a Waterbody Buffer Zone away from the watercourse or lake;
- ▲ avoid the use of herbicides for controlling vegetation growth within Waterbody Buffer Zones;
- ▲ remove all wood, debris, slash, and chips that are produced as a result of vegetation management activities which occur within 15 feet of the high water mark of all perennial, intermittent, and ephemeral streams;
- ▲ retain all stumps and low growing vegetation; and
- ▲ use only pre-existing roads as access to facilities and trees.

With continued implementation of aquatic resource protections in the current Vegetation Management Plan, vegetation management within the existing ROW under Alternative 5 (No Action/No Project Alternative) would not result in new or substantial effects on aquatic habitat functions. Therefore, potential effects of implementing Alternative 5 (No Action/No Project Alternative) on aquatic habitats would be **less than significant**.

## MITIGATION MEASURES

*No mitigation measures are required.*

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<b>IMPACT 4.7-8 (Alt.5)</b>	<b>Effects on wildlife and fish movement corridors.</b> Because no facilities would be constructed, implementing Alternative 5 (No Action/No Project Alternative) would not create any new local, watershed-, or landscape-level barriers that would impair movement, redirect migration, or prevent the use of traditional habitats throughout a species' range. Additionally, no construction-related temporary disturbances to wildlife or fish movement patterns would result from the No Action/No Project Alternative. Therefore, implementing Alternative 5 (No Action/No Project Alternative) would result in <b>no impact</b> to wildlife and fish movement corridors.
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Under Alternative 5 (No Action/No Project Alternative), the project would not be implemented; no new or upgraded electric lines would be constructed and no new or improved access roads would be built. Upgrading the power system to comply with vegetation clearing requirements is expected to temporarily increase the intensity of vegetation removal within the existing 20-foot tree removal corridor by some amount, but would still be within the scope of the electric system's existing approved vegetation management plans and permits. Vegetation within the existing 20-foot corridor is already subject to periodic maintenance, management activities, and associated disturbances.

Because no facilities would be constructed, implementing Alternative 5 (No Action/No Project Alternative) would not create any new local, watershed-, or landscape-level barriers that would impair movement, redirect migration, or prevent the use of traditional habitats throughout a species' range. Additionally, no construction-related temporary disturbances to wildlife or fish movement patterns would result from the No Action/No

Project Alternative. Therefore, implementing Alternative 5 (No Action/No Project Alternative) would result in **no impact** to wildlife and fish movement corridors.

## MITIGATION MEASURES

*No mitigation measures are required.*

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<b>IMPACT 4.7-9 (Alt.5)</b>	<b>Loss of habitat for Forest Service Management Indicator Species.</b> Under Alternative 5 (No Action/No Project Alternative), actions would be limited to the existing operation and maintenance and completion of existing deferred maintenance to raise the power system to current standards, including compliance with vegetation clearing requirements. Vegetation management within the existing ROW under Alternative 5 (No Action/No Project Alternative) would not substantially reduce the size, continuity, or integrity of any common or sensitive vegetation community or habitat type. Additionally, no conversion of any MIS habitat type would occur. Therefore, implementing the No Action/No Project Alternative would not result in the loss of habitat for any MIS, alter existing trends in any MIS habitat, or lead to a change in distribution of an MIS across the Sierra Nevada bioregion. This impact would be <b>less than significant</b> .
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Under Alternative 5 (No Action/No Project Alternative), the project would not be implemented; no new or upgraded electric lines would be constructed and no new or improved access roads would be built. Actions would be limited to the existing operation and maintenance and completion of existing deferred maintenance to raise the power system to current standards, including compliance with vegetation clearing requirements. Meeting vegetation clearing requirements is expected to temporarily increase the intensity of vegetation removal within the existing 20-foot corridor by some amount, but would still be within the scope of the electric system's existing approved vegetation management plans and permits. Vegetation within the existing 20-foot tree removal corridor is already subject to periodic maintenance, management activities, and associated disturbances.

As described previously in Impact 4.7-1 (Alt. 4) and 4.7-2 (Alt. 4), vegetation management within the existing ROW under Alternative 5 (No Action/No Project Alternative) would not substantially reduce the size, continuity, or integrity of any common or sensitive vegetation community or habitat type. Additionally, no conversion of any MIS habitat type would occur. Therefore, implementing the No Action/No Project Alternative would not: 1) result in the loss of habitat for any MIS, 2) alter existing trends in any MIS habitat, or 3) lead to a change in distribution of an MIS across the Sierra Nevada bioregion. This impact would be **less than significant**.

## MITIGATION MEASURES

*No mitigation measures are required.*

## CUMULATIVE IMPACTS

The geographic scope of cumulative impacts for biological resources is the Tahoe-Truckee region. The biological resources issues relevant to cumulative impacts, where the project has the potential to contribute to impacts generated by other projects, are effects related to sensitive habitats, tree removal and loss of late seral/old growth forest, special-status species, introduction and spread of invasive species, aquatic habitats, fish and wildlife movement corridors, and Forest Service MISs. Past, present, and foreseeable future activities that have affected or may affect biological resources in the Tahoe-Truckee Region include logging, grazing, fuels management, recreational development and activities, urban and commercial development, and right-of-way maintenance and operation activities. Other projects that may interact with the proposed project on a cumulative basis are listed in Table 4.1-2 and shown in Exhibit 4.1-1.

## SENSITIVE HABITATS

Implementing any of the action alternatives would result in removal and disturbance of the following sensitive habitat types: montane riparian, wet montane meadow, fresh emergent wetland, and SEZ. Decades of growth and development, Comstock-era logging, hydrologic modification, livestock grazing, and fire suppression activities in the Tahoe-Truckee region have resulted in an overall significant cumulative effect on these sensitive habitat types. It is estimated that 75 percent of marsh habitat and 50 percent of meadow habitats in the Tahoe Basin have suffered some level of functional degradation (TRPA 2012a). Attainment status for meadow, wetland, and riparian hardwood habitats in the Tahoe Basin are somewhat worse than TRPA threshold targets.

Most of the project impacts on sensitive habitats would be short-term construction-related impacts and sensitive habitat impacts would be avoided and minimized through integration of APMs into project design. However, some minimal permanent loss would occur in areas where pole installation within a sensitive habitat could not be avoided, such as within the meadows in Martis Valley. Construction activities under any action alternative would be required to comply with existing federal, State, and local regulations and permitting requirements that protect wetland, riparian, and other sensitive habitats. Within the Tahoe Basin, project construction would be required to comply with TRPA policies regarding SEZs. Integration of APMs and implementation of Mitigation Measures 4.7-2a and 4.7-2b would ensure that project impacts on sensitive habitats are reduced to a less-than-significant level because it would ensure that the project results in no net loss of sensitive habitats. Based on the no net loss standard, the project would not contribute considerably to the overall significant cumulative effect on sensitive habitats in the Tahoe-Truckee Region.

## SPECIAL-STATUS BOTANICAL SPECIES

Implementing any of the action alternatives could result in loss and disturbance of Plumas ivesia and suitable habitat in the Martis Valley (up to approximately 0.01 to 2 acres that contain Plumas ivesia, depending on alternative), and habitat that could support other special-status botanical species. Calflora (2013) reports approximately 140 total occurrences of Plumas ivesia for California, distributed in Plumas, Lassen, El Dorado, Sierra, Nevada, and Placer Counties; however, some of these records may be multiple observations of the same plant populations or duplicate reports from different sources (Calflora 2013). The CNDDDB reports approximately 69 records of Plumas ivesia for California. Both of these data sources probably include historic, nonextant records; therefore, the number of occurrences that are presently extant rangewide and in the Tahoe-Truckee region is not clear. The geographic scope of the cumulative effects analysis, and the Plumas ivesia that would be affected by project implementation, are located in the southern third of the species' range. The loss of populations near the edge of a species' range can affect genetic diversity, resilience or adaptability to environmental drivers that operate latitudinally (e.g., climate change), and overall distribution.

One reasonably foreseeable project identified in Table 4.1-2 and Exhibit 4.1-1, the Martis Valley Trail, has the potential to also affect Plumas ivesia in the Martis Valley. Environmental review completed for that project in 2012 (NFA 2012) concluded that development and use of the Martis Valley Trail would contribute to potential loss of Plumas ivesia; however, with implementation of mitigation measures, the project would not make a substantial contribution to a cumulative loss of Plumas ivesia or any other special-status species.

Implementation of the projects listed in Table 4.1-2, many of which would occur in existing developed areas and would all be subject to environmental review and laws and regulations limiting effects on biological resources, are not expected to result in local extirpation or substantial degradation of Plumas ivesia or other special-status botanical species occurrences, or threaten the species' viability locally or rangewide, individually or cumulatively. Additionally, APMs have been incorporated into the proposed project design to minimize, avoid, and reduce potential direct and indirect impacts on special-status botanical species to a less-than-significant level by identifying special-status species populations and protecting them *in situ* or, if necessary, compensating for losses by salvaging seed and soil, relocating individuals, and restoring habitat to pre-project conditions. As a

result of these avoidance and compensation measures, the proposed project would not make a cumulatively considerable incremental contribution to a significant cumulative effect on special-status botanical species in the Tahoe-Truckee Region.

## **TREE REMOVAL AND LATE SERAL/OLD GROWTH FOREST**

Implementing any of the action alternatives would result in substantial tree removal as defined by TRPA and would include removal of trees that are protected under TRPA and County ordinances. However, the tree species that would be removed are common locally and regionally and occur within common coniferous forest types that are abundant in the region. APMs have been incorporated into the project design to avoid and minimize tree removal to the extent feasible and project tree removal would not result in substantial changes in stand structure or composition or in the distribution or abundance of tree species or forest communities in the region. Furthermore, the recolonization of trees within the decommissioned 625 Line would partially offset losses in the new alignment and CalPeco would implement Mitigation Measure 4.7-4 to further reduce tree removal impacts and compensate for unavoidable losses of trees in compliance with County and TRPA codes. There would be no overall significant cumulative effect on common forest communities in the region due to the abundance of these communities, and the project would not result in a significant contribution to a cumulatively significant effect.

Comstock-era logging and forest clearing for development, combined with past vegetation management practices and fire suppression, has resulted in a preponderance of even-aged forest and substantially reduced the amount of late seral/old growth forest in the Truckee Tahoe Region. Therefore, there has been an overall significant cumulative effect on this particular forest resource. Present and future fuels reduction projects are expected to have a beneficial effect on late seral/old growth forest development, but current attainment status for the late seral/old growth forest threshold in the Tahoe Basin is considerably worse than target. The threshold target is to have 55 percent of forests in a late seral or old growth condition and currently, only about 20 percent of existing forest is in old growth condition (TRPA 2012a).

Implementing any of the action alternatives could result in removal of small amounts (between 0.37 and 0.6 acre) of late seral/old growth forest; therefore, due to the nonattainment status and severity of the existing cumulative impact, any loss of late seral/old growth from project implementation would be cumulatively considerable. As specified in Mitigation Measure 4.7-4, CalPeco would compensate for any unavoidable losses of late seral/old growth forest through development and implementation of a forest management plan to facilitate establishment of late seral/old growth forest stands and enhance existing late seral/old growth forest stands. After mitigation, the project's impacts would be eliminated over time and the project would support achievement of the late seral and old growth threshold target. Accordingly, the projects contribution would be cumulatively considerable in the near term diminishing to no impact over time.

## **INTRODUCTION AND SPREAD OF INVASIVE SPECIES**

Past projects and activities have resulted in the introduction and spread of various invasive species in the project region, resulting in habitat degradation and other adverse effects on biological resources. Existing and foreseeable future projects have the potential to continue this trend, although current policies, regulations, and programs currently minimize the potential for the further spread of invasive species and the introduction of new species. The current presence and spread of invasive species in the project region is considered significant cumulative impact. Implementing any of the action alternatives has the potential to introduce and spread invasive species during project construction and post-construction revegetation activities. Nearby source populations could passively colonize disturbed ground, or attach to personnel or equipment and be transported to the site from an infested area. Soil, vegetation, and other materials transported to the project area from off-site sources for BMP, revegetation, or fill for project construction could contain invasive plant seeds or plant material that could become established in the project area. Additionally, terrestrial and aquatic invasive species

currently present in or near the project area have the potential to be spread by construction disturbances. However, APMs included in the project design, along with Mitigation Measure 4.7-5, would be implemented to avoid and minimize the introduction and spread of invasive species. With these APMs and mitigation measures, the project would not contribute substantially to the establishment and spread of invasive species in the project region, and therefore, would not contribute considerably to an overall significant cumulative impact.

## **SPECIAL-STATUS WILDLIFE AND FOREST SERVICE MANAGEMENT INDICATOR SPECIES**

As described in Impact 4.7-6 for Alternative 1 (PEA Alternative), Alternative 2 (Modified Alternative), Alternative 3 (Road Focused Alternative), and Alternative 4 (Proposed Alternative), implementing any of the action alternatives could disturb the foraging and movement patterns of individuals, affect breeding activities and reproductive success, cause direct mortality or injury, and disturb or remove suitable habitat for special-status wildlife species. Additionally, as described in Impact 4.7-9 for the action alternatives, project implementation would result in the loss of some Forest Service MIS habitats.

Present and probable future projects that would also affect habitat for special-status wildlife and MIS in the project vicinity include residential and commercial development, recreation facilities and resort development, and forest vegetation and fuels treatment projects (see Table 4.1-2 and Exhibit 4.1-1). Development projects that overlap with native habitats would be expected to have some level of adverse effects on these resources; however, forest vegetation and fuels treatment projects are expected to result in long-term habitat enhancement that would benefit wildlife species. When combined with other past, present, and probable future projects with similar biological effects, implementation of the action alternatives could contribute to an adverse cumulative effect on special-status wildlife and MIS. However, with implementation of APMs to avoid, minimize, and compensate for impacts to wildlife resources generally and several special-status species specifically, none of the action alternatives are expected to substantially affect the distribution, breeding productivity, population viability, or the regional population of any special-status species; or cause a change in species diversity locally or regionally. Habitat loss for any special-status species or MIS would occur mostly along a narrow linear corridor, and would be minor relative to the total amount available in the area. Additionally, APMs incorporated into the action alternatives include conducting focused preconstruction surveys for special-status wildlife, which would avoid the loss of individuals, nests, or roost sites of these species during construction.

Because the wildlife habitat types that would be affected are abundant and widely distributed locally and regionally, implementing any of the action alternatives, when combined with past, present, and reasonably foreseeable future projects, would not threaten, regionally eliminate, or contribute to a substantial reduction in the distribution or abundance of habitat for common or special-status wildlife species or MIS associated with these communities in the project region. Additionally, disturbances to breeding activities, effects on reproductive success, and the potential for direct mortality or injury to special-status wildlife would be avoided or minimized through implementation of the APMs. Therefore, implementation of any of the action alternatives would not make a considerable contribution to the cumulative impact on special-status wildlife species or Forest Service MIS.

## **AQUATIC HABITAT**

As described above in the discussion of sensitive habitats, several sensitive habitats that also function as aquatic habitat have been subject to significant adverse cumulative effects from past and current projects. Reasonably foreseeable future projects that encompass, or are near aquatic habitats (see Exhibit 4.1-1), could further contribute to this cumulative effect, although various laws and regulations (e.g., CWA, TRPA Code, Fish and Game Code Section 1602) would minimize these effects.

As described in Impact 4.7-7 for Alternative 1 (PEA Alternative), Alternative 2 (Modified Alternative), Alternative 3 (Road Focused Alternative), and Alternative 4 (Proposed Alternative), construction activities such as vegetation clearing, pole installation, pole removal, creation of access ways, and staging near aquatic habitats could

temporarily result in adverse impacts to aquatic habitat, including removal of riparian vegetation; accidental spill and contamination from construction chemicals, fuels, or other hazardous materials; increased erosion, downstream sedimentation, and turbidity; small amounts of fill placed in aquatic habitats; and direct mortality or injury of fish and other aquatic species caused by equipment passing through aquatic habitat. However, the project's design, construction methods, incorporation of several APMs designed to protect aquatic resources, and implementation of Mitigation Measure 4.7-7 (Alt. 1, 2, 3, and 4) (Compensate for Unavoidable Loss of Stream and Riparian Habitat) would minimize, avoid, and compensate for these potential impacts to aquatic habitats. Specifically, these measures require that: 1) aquatic habitat is avoided to the extent feasible; 2) aquatic habitats that cannot be avoided are restored following construction; 3) any unavoidable losses would be compensated for in a manner that results in no net loss of aquatic habitats; and 4) project implementation is consistent with the aquatic and riparian habitat protection provisions of Fish and Game Code Section 1602. Because any residual effects on aquatic habitats would be minor, temporary, and mitigated; the no net loss standard would be implemented; and there would be no permanent impacts to the quality, amount, or function of aquatic habitats, implementation of any of the action alternatives would not make a considerable contribution to any cumulative impact related to aquatic habitat.

## **WILDLIFE AND FISH MOVEMENT CORRIDORS**

Known animal movement corridors in the study area and project vicinity include the migratory route of the Loyalton-Truckee mule deer herd and streams that function as migratory and movement routes for fish. As described in Impact 4.7-8 for Alternative 1 (PEA Alternative), Alternative 2 (Modified Alternative), Alternative 3 (Road Focused Alternative), and Alternative 4 (Proposed Alternative), implementation of any of the action alternatives could temporarily disturb mule deer and fish movements and habitat use. Because mule deer are highly mobile and adaptive, potential effects of temporary construction activities on movement are expected to be minor. Construction of the project would not create any temporary barriers to movement that would redirect migration during non-working hours. In addition, work in Martis Valley along the 650 Line where historic migratory corridors exist would not span the entire area at any one time, allowing deer to move around areas of construction through nearby low sage and Jeffrey pine habitat. No substantial permanent impacts to mule deer fawning, foraging, or movement habitat throughout the study area are anticipated as a result project implementation, and no habitat loss would occur within any known fawning areas. Because the new 650 and 625 Lines would be placed in the same general areas as the existing lines within the herd's migratory and summer range, and the overhead power lines would not create local or landscape-level barriers to movement that would redirect migration, the project would not introduce any new large linear corridors or other structures that could deter or prevent mule deer from using traditional areas throughout its range.

Pole placement or other construction activities are not expected to occur within streams that provide movement corridors for aquatic species, and implementation of the applicable APMs described in Impact 4.7-7 (Alt. 1, 2, 3, and 4) would further minimize, avoid, or compensate for potential effects on riparian and aquatic habitats. However, as described in Impact 4.7-8 (Alt. 1, 2, 3, and 4), some temporary disturbances to small stream channels that may function as fish movement corridors locally and within watersheds may be unavoidable in some cases. Because such disturbances would be infrequent, temporary, and relatively minor if they occur, they would not substantially impair movement or migratory habitat for aquatic species.

Implementation of the action alternatives would not create local, watershed-, or landscape-level barriers that would impair movement, redirect migration, or prevent the use of traditional habitats throughout a species range; and would not permanently affect any known or potentially significant wildlife movement corridors. Potential effects on wildlife and fish movement patterns and corridors would be short-term and minor. Therefore, implementation of any of the action alternatives would not make a considerable contribution to any cumulative impact on wildlife and fish movement corridors.

## 4.8 RECREATION

This section describes existing recreation facilities and opportunities in the project area and their potential to be affected by the proposed project. The scope of this analysis is limited to recreation facilities and opportunities located within or adjacent to the proposed project area.

### 4.8.1 REGULATORY SETTING

#### FEDERAL

##### US FOREST SERVICE, LAKE TAHOE BASIN MANAGEMENT UNIT AND TAHOE NATIONAL FOREST

The US Forest Service (USFS), Lake Tahoe Basin Management Unit (LTBMU) manages 75 percent of lands within the Lake Tahoe Basin. Management of LTBMU lands in the study area is guided by the LTBMU Forest Plan (USFS 1988). Specific standards and guidelines for recreation resources are also described in the *Sierra Nevada Forest Plan Amendment* (USFS 2004) and Record of Decision, which adopts an integrated strategy for vegetation management, aimed largely at reducing the risk of wildfire. As it pertains to recreation, the *Sierra Nevada Forest Plan Amendment* clarifies how several of the riparian standards apply to recreation activities, uses, and projects, and gives local managers the opportunity to develop mitigation measures for small and varied recreation projects on a project- and site-specific basis.

The USFS Tahoe National Forest Land and Resource Management Plan (Tahoe National Forest 1990), as amended, provides guidance as to the management of the Tahoe National Forest. Its goals are to ensure the wise use and protection of Tahoe National Forest resources, fulfill legislative requirements, and address local, regional, and national issues.

The Recreation Opportunity Spectrum (ROS) system is a means of classifying recreation experiences by the kind of facilities and degree of contact with visitors (Forest Service Manual [FSM] 2330.3). The system is used to assign a variety of existing and potential recreation activities and opportunities to National Forest System lands. The LTBMU 1988 Forest Plan displays the current allocations of ROS classes (USFS 1988).

The USFS' Built Environment Image Guide (BEIG) informs changes within the built environment (FSM 7310). The built environment refers to the administrative and recreation buildings, landscape structures, site furnishings, structures on roads and trails, and signs installed or operated by the USFS, its cooperators, and permittees. The elements of the built environment constructed on national forest lands and grasslands – to the extent practicable- incorporate the principles of sustainability, reflect their place within the natural and cultural landscape, and provide optimal service to USFS customers and cooperators.

Accessibility on National Forest System lands is incorporated through universal design principles. Using universal design principles is USFS policy, as stated in Forest Service Manual (FSM 2330.3). The Architectural Barriers Act (ABA) became law in 1968. The act mandates that all facilities designed, built, altered, bought, rented, or leased by, for, or on behalf of a Federal agency must be accessible. The Forest Service Outdoor Accessibility Guidelines (FSORAG) and Forest Service Trail Accessibility Guidelines (FSTAG) must be used for the design, construction, alteration, purchase, or replacement of recreation sites, facilities, constructed features, and trails that meet FSTAG requirements on the National Forest System (FSM 2330 and FSM 2350).

## **U.S. ARMY CORPS OF ENGINEERS**

### **Martis Creek Lake Master Plan**

The US Army Corps of Engineers' (USACE) Martis Creek Lake Master Plan (USACE 1977) is used to guide the administration and development of land and water within the Master Plan area (Exhibit 3-2 shows the limits of land managed by the USACE in Martis Valley). The Master Plan prescribes the policies, objectives, and programs for the continuation of conservation, enhancement, development, use, and management of land, water, and other resources within the Master Plan area. It identifies the resources of the Master Plan area and describes the manner in which public use needs and other uses of the land and water resources will be met. Facilities development, operation, and management are described and discussed. Segments 650-4 (Alternative 1, PEA Alternative and Alternative 4, Proposed Alternative), 650-4A (Alternative 2, Modified Alternative), and 650-4B (Alternative 3, Road Focused Alternative) pass through this USACE managed property. Project consistency with relevant guidance provided in the Master Plan is considered in Appendix D of this EIS/EIS/EIR.

The Engineering Regulations (ER) identified in the Master Plan include several which have been rescinded, but one is still in effect. ER 1110-2-400 (published May 31, 1988) establishes policy, and guidance for the design of recreation sites, areas, and facilities. The action alternatives do not include design of recreation facilities, and therefore, ER 1110-2-400 does not apply.

## **STATE**

### **BURTON CREEK STATE PARK GENERAL PLAN**

Portions of the existing and proposed 625 Line alignment (specifically Segments 625-2 and 625-3) run along the southern and western edge of Burton Creek State Park (BCSP), which is managed by California State Parks (State Parks). A General Plan for BCSP was prepared in 2005 (State Parks 2005), which also applies to the Dollar Parcel, a 998-acre undeveloped parcel of land adjacent to BCSP. At the request of State Parks, the California Tahoe Conservancy (Conservancy) successfully acquired the Dollar Property in 1989 with the intent of transferring ownership to State Parks for integration into the park. The 2005 BCSP General Plan anticipated this transfer and incorporated this area into the plan. The BCSP General Plan presents the recreation goals and guidelines that apply park-wide.

### **TAHOE REGIONAL PLANNING AGENCY**

TRPA provides basin-wide planning and policy direction related to recreation through its Regional Plan and related implementing ordinances and regulations.

## **REGIONAL PLAN**

The Regional Plan describes the goals and objectives of the Region and provides statements of policy to guide decision making as it affects the Region's resources. The intent of the Regional Plan is to help guide decision-making as it affects the growth and development of the Lake Tahoe Region. The Regional Plan, initially adopted in 1987 and updated in December 2012, includes several relevant documents including the Goals and Policies, Code of Ordinances, Environmental Threshold Carrying Capacities, Plan Area Statements, and Community Plans. Each addresses policies, regulations, and standards relative to recreation as described below.

### **Goals and Policies**

The Goals and Policies of the Regional Plan establish an overall framework for development and environmental conservation in the Lake Tahoe region. This framework allows development of master plans to refine and implement Regional Plan policies appropriate to specific uses (i.e., marinas and ski areas). Chapter 5, "Recreation Element," of the Goals and Policies considers dispersed recreation activities, urban recreation

facilities, and developed recreation facilities. Goals and Policies of the recreation element relevant to the proposed project are evaluated in Section 4.2, Land Use.

## Code of Ordinances

The Code is designed, among other things, to implement the Goals and Policies in a manner that attains and maintains the TRPA environmental thresholds. The Code addresses many subjects, including required permits for development, findings required for approval of projects, development standards, development allocations, resource management, water quality, air quality, and transportation. Chapter 50, Section 50.9 of the Code describes how TRPA regulates the expansion of recreational use in the Lake Tahoe region by identifying targets for recreational use and regulating development to maintain them.

## Environmental Threshold Carrying Capacities

TRPA has established environmental thresholds for nine resources, including recreation. There are two recreation threshold indicators; these correspond to two policy statements in the Recreation Element of the TRPA Goals and Policies document (TRPA 2012).

- ▲ **Quality of Recreation Experience and Access to Recreational Opportunities.** It shall be the policy of the TRPA Governing Body in development of the Regional Plan to preserve and enhance the high quality recreational experience including preservation of high-quality undeveloped shorezone and other natural areas. In developing the Regional Plan, the staff and Governing Body shall consider provisions for additional access, where lawful and feasible, to the shorezone and high quality undeveloped areas for low density recreational uses.
- ▲ **Fair Share Distribution of Recreation Capacity.** It shall be the policy of the TRPA Governing Body in development of the Regional Plan to establish and ensure a fair share of the total Region capacity for outdoor recreation is available to the general public.

Based on the most recent Threshold Evaluation Report completed in 2011, both recreation threshold indicators are in attainment (TRPA 2012).

The first threshold consists of two parts: (1) preservation and enhancement of a high-quality recreation experience and (2) the provision of additional public access to the lake and other natural features. To determine attainment of the first part of this threshold, TRPA relied on recreation user surveys conducted by the USFS to determine whether the standard is being met. Such surveys compare the importance of an identified recreation attribute, such as recreation facilities and conditions, with the experience that the recreationists perceive. To determine attainment of the second part of this threshold, TRPA assessed the extent of public land acquired and the availability of additional amenities that provide public access for low density recreation uses (i.e., trails and trailheads). Based on the majority of satisfied recreational users surveyed (89.8 percent), consistent increase in the amount of public land available for low-density recreational use, and the number of amenities that provide access to that land, the 2011 threshold evaluation determined that the threshold standard has been implemented and is in attainment (TRPA 2012).

The second threshold (i.e., Fair Share of Resource Capacity) is intended to ensure that a fair share of the Region's outdoor recreation capacity is available to the general public. Three indicators provide a mechanism for evaluation of this threshold: cumulative accounts of recreation allocations (expressed as "people at one time," or PAOTs) when applicable; facility development for recreation projects that do not require PAOT allocations; and public acquisition of lands that support recreation purposes. Overall, the TRPA 2001, 2006, and 2011 Threshold Evaluation Reports concluded that an appropriate level of outdoor recreation facility development that is controlled by the PAOT capacity system has been planned (TRPA 2002, 2007, 2012). This project does not propose any facilities that would result in an increase in PAOTs at any recreation sites.

## Community Plans and Plan Area Statements

The Recreation Elements of the Tahoe City Community Plan (Placer County and Tahoe Regional Planning Agency 1994) and Kings Beach Community Plan (Placer County and Tahoe Regional Planning Agency 1996) are supplements to the Recreation Element of the TRPA Goals and Policies. Consistent with the Regional Plan, these elements list the specific recreation objectives and policies applicable to Tahoe City and Kings Beach, respectively.

## LOCAL AGENCIES

### PLACER COUNTY GENERAL PLAN

The 1994 Placer County General Plan contains a Recreational and Cultural Resources Element, which addresses public recreation and parks, private recreation facilities and opportunities, and recreational trails. The recreation goals and policies of the general plan are focused on development and design of parks, development of private recreation facilities, and development of interconnected recreational trail systems.

### MARTIS VALLEY COMMUNITY PLAN

The Martis Valley Community Plan, in combination with the Placer County General Plan, is the official statement of Placer County setting forth goals, policies, assumptions, guidelines, standards, and implementation measures that will guide the physical, social, and economic development of the Martis Valley area to at least the year 2020. The Recreation Element of the Martis Valley Community Plan identifies potential sites for both active and passive recreation and proposes an interconnected system of trails.

### TOWN OF TRUCKEE 2025 GENERAL PLAN

The purpose of the General Plan is to guide development and conservation in the Town of Truckee through 2025, by establishing a policy basis for decision making. Among the Town of Truckee General Plan Conservation and Open Space Element guiding principles is the principle to improve Truckee's parks and recreation facilities and ensure the availability of a diverse range of recreation opportunities for Truckee's existing and future population. The Conservation and Open Space Element also contains goals and policies related to the provision or support of a comprehensive, high quality system of parks and other recreational open space facilities in Truckee. Recreational goals and policies that may be relevant to the project are listed below:

**Goal COS-2:** Preserve and enhance the Truckee River and Donner Lake and the exceptional natural, scenic, economic, and recreational values they provide.

- ▲ **Policy P2.6.** Regulate development and land uses along the Truckee River corridor and Donner Lake to ensure compatibility with their scenic, recreational and habitat values.

**Goal COS-7:** Protect and conserve managed resource open space for its productive resource values, including timber harvesting and grazing uses, and for its recreational, scenic, and biological values.

- ▲ **Policy P7.1.** Work closely with the Forest Service and private property owners to ensure that forest or rangeland areas are preserved, to the extent feasible, for continued managed resource, recreation, scenic or biological resource open space uses.
- ▲ **Policy P7.2.** Work with the Forest Service to coordinate planning on USFS lands within and adjacent to the Town, so as to ensure appropriate land uses, consistent with preservation of the resource, recreational, scenic and biological values of these lands.

## 4.8.2 EXISTING CONDITIONS/AFFECTED ENVIRONMENT

Existing recreation facilities in the project area and their locations relative to the proposed power line alignments and elements are shown in Exhibit 4.8-1.

### LAKE TAHOE BASIN MANAGEMENT UNIT AND TAHOE NATIONAL FOREST

As described above, over 75 percent of the land within the Lake Tahoe Basin is public land managed by the LTBMU. Totalling over 150,000 acres, this land includes beaches, hiking and biking trails, wilderness, historic estates and developed recreation areas such as campgrounds and riding stables (USFS 2012). All segments of the 625 Line are entirely or partially within LTBMU lands, which support extensive year-round recreation use, both developed and dispersed. (Activities that take place in locations where the USFS expends resources on maintenance are considered developed recreation opportunities, while dispersed activities take place in undeveloped areas.) The USFS maintains approximately 265 miles of roads and 350 miles of trails within the Tahoe Basin to provide public and administrative access to National Forest System (NFS) lands. The Fiberboard Freeway (USFS Route 73) and the Tahoe Rim Trail are important recreation resources in the project area and on LTBMU lands, and are discussed separately below. Portions of the 650 Line (Segment 650-1 and 650-2) are also within LTBMU lands. The 64 Acre Recreation Site, also an LTBMU facility, is described below in Tahoe City Recreation. Placer County operates the Tahoe City Transit Center on the 64-Acre Recreation Site under special use permit from LTBMU. The proposed Kings Beach Staging Area and Segment 625-10/DC OH-3 is located just west of the LTBMU Kings Beach off-highway vehicle (OHV) Trails.

In addition to general recreation use by the public, at large, LTBMU permits several organized recreation operations and events, during both winter and summer, each year. Permitted activities and operations that occur within the project area include:

- ▲ Mountain Lake Adventures, a commercial snowmobile outfitter and guide that operates snowmobile tours on designated groomed routes on NFS roads and non-groomed areas on 125 acres in the North Shore area, generally between December and April of each year.
- ▲ Far West Nordic X-Country Ski and Snowshoe Race, which occurs on a 6.6-mile segment of the Fiberboard Freeway, typically on a Saturday in late January, with a course walk-through on the prior Wednesday.
- ▲ Tahoe Big Blue, an annual trail running and mountain biking event, occurs on approximately 5 miles of NFS roads and trails between Tahoe City and Brockway Summit at State Route (SR) 267, on a Saturday in September. Portions of the event also occur on lands administered by California State Parks, California Tahoe Conservancy, Tahoe City Public Utility District, North Tahoe Public Utility District, and Northstar-at-Tahoe.
- ▲ Tahoe City XTerra, a triathlon held on a weekend day in June of each year, holds the trail running leg of the event on approximately 3.5 miles of NSF roads and trails. Portions of the event also occur on Placer County roads and in BCSP, administered by California State Parks.
- ▲ The Great Ski Race, a 30 kilometer cross-country ski race from Tahoe City to Truckee, occurs on NFS roads, including a substantial portion of the Fiberboard Freeway. The event is held the last weekend in February or the first weekend in March of each year.
- ▲ Tahoe City X-C Ski Center, a cross-country ski operator for daily visitors, includes in their trail system the southern portion of Fiberboard Freeway from BCSP to its intersection with private property at Northstar.
- ▲ The Tahoe Rim Trail Through-Hike, a supported hike around the entire 165-mile length of the trail, generally occurs twice per year in the summer months when the trail is snow free. Hikers generally cover 10 to 12 miles per day, and would cover the portion of the trail in the project area (generally from Brockway Summit to Tahoe City) in one to two days.

The Tahoe National Forest is also a very popular recreation forest with winter sports opportunities that include downhill ski areas and extensive snowmobile and cross-country ski trails found throughout the Forest. In the

summer, an extensive array of hiking, OHV, equestrian and mountain biking trails provide access to the lakes, rivers, and mountain tops. Developed recreation sites within the Tahoe National Forest include campgrounds, boat ramps, picnic areas, and nature trails.

Portions of Segment 625-3 and 625-4 of the 625 Line are located within Tahoe National Forest lands and a few segments of the 650 Line (portions of Segment 650-3 and 650-6) are located adjacent to Tahoe National Forest land. As compared to the LTBMU, very little of the project area is within Tahoe National Forest lands or would affect recreation within the Tahoe National Forest (see Exhibit 4.8-1).

## **FIBERBOARD FREEWAY**

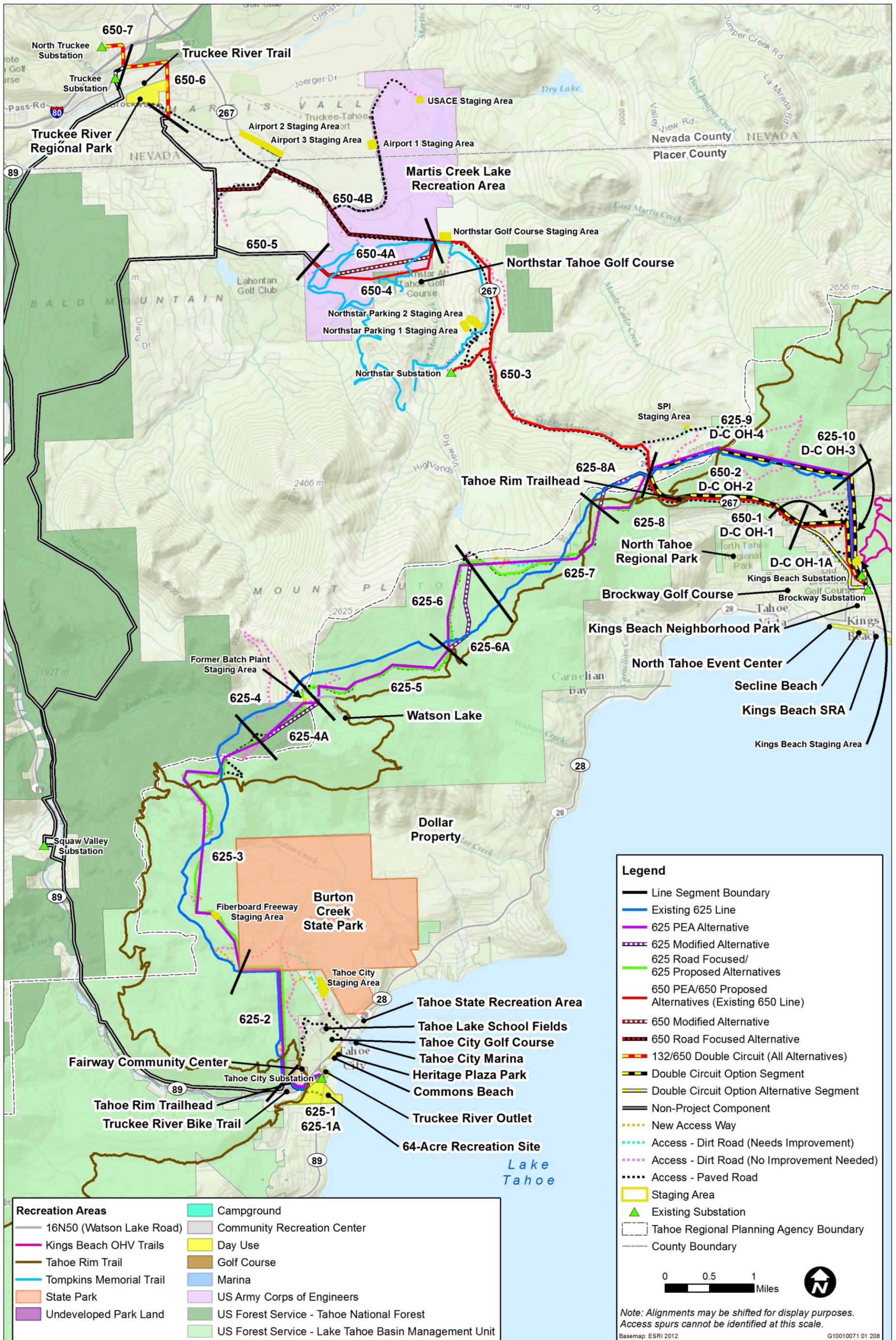
USFS Route 73, also known as the Fiberboard Freeway, extends more than 14 miles from SR 267 at Brockway Summit southwestward through a corner of BCSP and into Tahoe City. The road is paved for the first 12 miles and is seasonally open to street legal vehicles on the first 11 miles from June 1 to November 15 each year (USFS 2011). The remainder of the road is unpaved and open to all vehicles from June 1 to November 15. The Fiberboard Freeway is commonly used as a groomed snowmobile route in the winter when there is sufficient snow (USFS 2012), and connects to other designated snowmobile routes in the area.

This route provides access to motorized vehicles to the area along the northern edge of the Lake Tahoe Basin. It provides access to the Watson Lake Road and to a network of motorized roads and trails that extend all the way to Truckee. The Fiberboard Freeway is also popular with mountain bikers as part of a network of single-track trails and fire roads in the area. Like the Tahoe Rim Trail, the route parallels the existing 625 Line and crosses it several times.

## **TAHOE RIM TRAIL**

The Tahoe Rim Trail, a federally designated National Recreation Trail, is a 165-mile, single-track, multi-use trail encircling Lake Tahoe. Throughout the project vicinity, the trail is located on LTBMU lands and is open to hikers, equestrians, and mountain bikers. Winter use by skiers and snowshoers is also popular. There is a trailhead in Tahoe City near the Community Center on Fairway Drive. The trail climbs up to overlook the Truckee River Canyon, then extends north and east past Watson Lake more than 20 miles to the trailhead on SR 267, 0.5 mile south of Brockway Summit. Along this segment, the trail generally parallels the existing and proposed 625 Lines, crossing under the existing 625 Line twice (see Exhibit 4.8-1). Trail users can cross SR 267 and under the existing 650 Line to a trailhead on the east side of the highway. From there, the trail heads northeastward, crosses under the existing 625 Line again, and continues toward Martis Peak.

The trail is maintained by the USFS in partnership with the Tahoe Rim Trail Association, which also provides trail use opportunities, including numerous special events. As appropriate, some of these events are authorized by the USFS, such as the annual summer through-hikes extending the full 165-mile route around Lake Tahoe. With many access points from trails and roads, the Tahoe Rim Trail forms a backbone of non-motorized recreation opportunity for the north shore of Lake Tahoe, Northstar, and Truckee. Dispersed/primitive camping is allowed within 300 feet of the trail as long as the campsite is 200 feet away from a water source. There are also some minimally-developed facilities (campfire rings and grills) at Lake Watson. Trail users plan up to one year in advance and travel internationally to hike the Tahoe Rim Trail.



Source: Data received from Tri Sage 2012; Adapted by Ascent Environmental in 2012  
**Exhibit 4.8-1**

**Recreation Facilities in the Project Area**



## BURTON CREEK STATE PARK

BCSP contains more than 2,000 acres of forest and meadowland. Facilities consist of a network of dirt roads and trails, two small dams, two water tanks, and a few signs. The roads into BCSP are gated and only State Parks and emergency vehicles are allowed on the roads in the park. The roads and trails are used by hikers and bikers during the summer, and cross-country skiers and snowshoe hikers in the winter. Two existing State Park preserves (Burton Creek and Antone Meadows) are located within BCSP. As described above, the Dollar Property is a 998-acre undeveloped parcel of land adjacent to BCSP that is anticipated for transfer to State Parks. The Dollar Property has a network of informal trails and roads extensively used by local residents. There are about 25 unpaved road and trail segments covering approximately 9 miles.

A portion of Segments 625-2 and 625-3 are located along the southern and western boundaries of BCSP. None of the project alternative alignments or features are located within or adjacent to the Dollar Property.

## TAHOE CITY RECREATION

Portions of the proposed project (Segment 625-1, 625-2, and Tahoe City Substation) are located on or near recreation areas in the Tahoe City area (see Exhibit 4.8-1). Tahoe Lake Elementary School has a play field along Fairway Drive, near the Grove Street intersection. Tahoe City Golf Course is a public 9-hole golf course located next to the school. Fairway Community Center on Fairway Drive is a 2,900 square foot building, which accommodates up to 223 people and has a large dance floor for dancing and movement classes (TCPUD 2009).

Near the southern terminus of the existing 625 Line (Segment 625-1), the alignment runs adjacent to the south side of the Truckee River (between 0 to 10 feet from the top of the bank) for approximately 0.2 mile. This portion of the line is also located within the 64-Acre Recreation Site, which is located on the south side of the Truckee River. Facilities at this site include picnic grounds, parking facilities, a paved bicycle/pedestrian trail that parallels the river and connects to the Truckee River Trail via a bicycle/pedestrian bridge over the river, and a rafting ramp for access to the Truckee River. This park is located on USFS land; however, it is operated and maintained by TCPUD under the terms of a special use permit. The Truckee River Bike Trail passes through the project site and alongside the Truckee River. Elements of the proposed project would be in view from this park and trail.

On the opposite side of the river from the existing 625 Line, there are several commercial rafting operations that run trips down the Truckee River. The rafts depart from piers that project out into the river in this area. Truckee River Outlet Park is located, as the name implies, at the outlet of Lake Tahoe, and in concert with William B. Layton Park (two parks comprise a single property owned by California State Parks and managed by TCPUD) provides public access to the dam, Gatekeeper's Cabin Museum, beach, and river.

Located in downtown Tahoe City, the privately-owned Tahoe City Marina provides boating, dining and shopping on Lake Tahoe's north shore. Built in the 1940s, the marina is one of the largest and oldest marinas on the Lake. Just north of Tahoe City Marina is Commons Beach, a 4-acre park maintained by the Tahoe City Public Utility District with playgrounds, barbecue areas, picnic sites, grass and sand areas, and an amphitheater. Heritage Plaza Park is a 0.8-acre lakefront property just north of Commons Beach, and was the last privately owned, undeveloped parcel in the commercial core. With a grant from the California Tahoe Conservancy and funding from the North Lake Tahoe Resort Association, this property preserves and enhances regional public access and recreation opportunities in the Lake Tahoe Basin. These three recreation areas are located adjacent to or near an existing paved access road that would be utilized for construction and operation of the proposed 625 Line. The existing Tahoe City Substation and a portion of Segment 625-1 is located north/northwest of Heritage Plaza and may be partially visible from Heritage Plaza and Commons Beach.

## **NORTH TAHOE REGIONAL PARK**

North Tahoe Regional Park encompasses approximately 124 acres of predominantly active recreation activities, including a children's playground, five tennis courts, several athletic fields, basketball, handball and sand volleyball courts, a disc golf course, hiking trails, fitness stations, and a bike trail. The park is maintained by North Tahoe Public Utilities District, Recreation and Parks Department (2011).

## **KINGS BEACH RECREATION**

Kings Beach includes several recreation amenities in proximity to portions of the proposed project area. Brockway Golf Course is a nine-hole golf course with 3,400 yards of golfing. Just east of Brockway golf course is Kings Beach Neighborhood Park. Both areas are located less than 0.5-mile south of the existing Brockway Substation and existing Kings Beach Substation. Approximately 100 miles of recreational trail used for snowmobiling and other recreation uses transects several segments of the 625 Line routes. Lake Tahoe Snowmobile Tours, Inc. and Full Throttle are two snowmobile rental/tour businesses that operate out of Kings Beach and utilize this trail. Other recreation facilities located in Kings Beach include the North Tahoe Event Center, Secline Beach, and Kings Beach SRA. These recreation areas are located a 0.5-mile south or more of Brockway Substation.

## **MARTIS CREEK LAKE**

Martis Creek Lake, in the northern portion of the project area, is managed by USACE and provides recreation activities including camping, trails, ranger programs, boating, fishing, and day use facilities. On the west side of SR 267, the Martis Creek Wildlife Area offers a 4.3-mile hiking and biking trail that loops around the valley. There are no policy documents or management manuals for the Martis Creek Lake. A portion of Segment 650-4 goes through this area.

## **TOMPKINS MEMORIAL TRAIL**

The Northstar Community Services District in cooperation with USACE and Northstar-at-Tahoe has constructed and maintains over 14.6 miles of multi-use trails. The Tompkins Memorial Trail is located on the lower portion of the mountain and provides residents and visitors access to the Martis Valley and Porcupine Hill areas. The trail is open to the public for hiking, running and biking (Northstar Community Services District 2011).

## **NORTHSTAR TAHOE GOLF COURSE**

Northstar's 18-hole, par-72 golf course incorporates the mountainous landscapes of Tahoe with the open meadow of Martis Valley into two 9-hole settings (Vail 2012). A portion of Segment 650-4 would cross a northern portion of the property. The proposed Northstar Golf Course Staging Area is located with Segment 650-3, just north of SR 267 where it passes the Northstar Golf Course, and is accessed by a dirt road located approximately 1.4 miles southeast of Martis Creek Road.

## **TRUCKEE RIVER REGIONAL PARK**

Truckee River Regional Park, located just south of Downtown Truckee on SR 267, is a 62-acre park of recreation facilities. These include ball fields, picnic areas, a rodeo arena, a nature trail, tennis, volleyball and basketball courts, amphitheater, a tot lot, skateboard park, disc golf course, and playground equipment (TDRDP 2013). Segment 650-6 is adjacent to the eastern border of the 62-acre Truckee River Regional Park.

## 4.8.3 ENVIRONMENTAL CONSEQUENCES AND RECOMMENDED MITIGATION MEASURES

### SIGNIFICANCE CRITERIA

#### TRPA CRITERIA

The “Recreation” criteria from the TRPA Initial Environmental Checklist were used to evaluate the recreation impacts of the alternatives. The checklist asks whether the project will:

- ▲ Create additional demand for recreation facilities?
- ▲ Create additional recreation capacity?
- ▲ Have the potential to create conflicts between recreation uses, either existing or proposed?
- ▲ Result in a decrease or loss of public access to any lake, waterway, or public lands?

#### NEPA CRITERIA

An environmental document prepared to comply with NEPA must consider the context and intensity of the environmental effects that would be caused by or result from the proposed action. Context means that the significance of the action must be considered in terms of the region as whole, affected interests, and the specific locality. Intensity refers to the severity of an effect.

Under NEPA, the significance of an effect is used solely to determine whether an EIS must be prepared. The factors that are taken into account under NEPA to determine the significance of an action in terms of the context and the intensity of its effects and, in this case, while considering the TRPA and CEQA criteria, also examine the effect to the recreational experience in the context of the project area as whole.

#### CEQA CRITERIA

In accordance with Appendix G of the State CEQA Guidelines, an alternative is determined to result in a significant impact related to recreation resources if it would:

- ▲ 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; or
- ▲ include recreational facilities or require the construction or expansion of recreational facilities that might have an adverse physical effect on the environment.

### ISSUES DISMISSED FROM FURTHER EVALUATION

#### POTENTIAL TO CREATE CONFLICTS BETWEEN RECREATION USES

The project does not propose any parks or recreation facilities, nor would it change the nature or mix of recreation types that occur in the project area. Although temporary closures of trail segments and roads used for recreation purposes could occur during construction of the project, potentially resulting in recreationists using alternative facilities, the temporary closures are projected to occur for only one day or less in any one location and would not displace a sufficient quantity of existing recreationists for a long enough time to result in a conflict with other recreational activities in the project area. Because no element of the project would result in a change in number, type, or character of recreation activities that occur in the project area or an appreciable change in the distribution of recreationists among existing recreational opportunities, the project would not have the potential to create conflicts among recreation user groups and this issue is not discussed further in this draft EIS/EIS/EIR.

## CREATE ADDITIONAL DEMAND AND OR USE OF PARKS AND RECREATION FACILITIES OR CREATE ADDITIONAL RECREATION CAPACITY

Regarding TRPA criteria pertaining to creation of additional demand for recreation facilities, and creation of additional capacity, and the CEQA criterion pertaining to substantial deterioration from increased use of recreation facilities, the project would neither construct residential uses nor result in an increase in population in the project area (see the discussion entitled “Growth-Inducing Impacts of the Proposed Project” in Chapter 5, Other NEPA-, TRPA-, and CEQA-Mandated Sections). During the construction phase, job generation would be temporary and would not cause an increase in permanent residents in the project area (see Section 2.6, Scope and Focus of the EIS/EIS/EIR). As described in Chapter 3, Project Alternatives, construction would occur over five construction seasons, and at peak construction activity, approximately 63 workers are expected to be engaged at any one time. Because the Tahoe region draws approximately 5.7 million visitors each year, and a substantial number of those are summer visitors to the North Shore, even if all workers were to come from outside the region, it would be such a small proportion of overall visitors to the area as to have an immeasurable impact on recreation facilities in the region. The project, therefore, would not result in substantial temporary or permanent population growth that would create additional demand for parks and recreation facilities or result in the need for additional recreation capacity at existing parks and recreation facilities. Therefore, substantial physical deterioration of parks or recreation facilities as the result of increased use at existing parks or recreation facilities would not be created. As such, impacts related to additional demand for recreation facilities and additional recreation capacity are not evaluated further in this draft EIS/EIS/EIR.

## METHODS AND ASSUMPTIONS

The impact analysis considers the potential effects of project construction and operation on developed and dispersed recreation use. Applicant Proposed Measures (APMs) are a commitment by the applicant made prior to initiation of this environmental document and are considered part of the proposed project. Therefore, the following discussions of impact analysis assume that all APMs would be implemented as defined (APMs are described in Table 3-8 in Section 3.7, Applicant Proposed Measures).

## ALTERNATIVE 1 - PEA ALTERNATIVE

### DIRECT AND INDIRECT EFFECTS

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<b>IMPACT 4.8-1 (Alt.1)</b>	<p><b>Result in a substantial decrease or loss of public access to any lake, waterway, or public lands.</b> Construction of Alternative 1 (PEA Alternative) would require temporary trail closures and access restrictions in some portions of the project area during the spring and summer, including on public lands used for recreation, to ensure public safety. Construction activities would not occur in winter months and would not affect winter recreation activities in the project area. Temporary closures may also be necessary on an infrequent basis during project operation for facility maintenance. Regarding recreation impacts, the applicant has committed to avoidance of construction during known, permitted recreation events in the project area; advance notification of all construction activities to the public, USFS, and other agencies with jurisdiction over project area lands; and provision of adequate signage and alternate routes for any longer term closures, estimated to be up to one day in any given location. Construction is projected to occur in such a manner that closures would be short-term and of limited duration while numerous other facilities and trails in the region would remain open for use. Because closures would be temporary with provision of at least a 60-day notice, construction during special events would be avoided, and adequate signage and detours would be provided, the project would result in <b>less than significant</b> impact with regard to access of public lands for recreation.</p>
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As described in Chapter 3, Project Alternatives, construction activities for the proposed project would require: 1) establishment of temporary rights-of-way (ROW) of 65 feet wide during construction for all line segments, to be reduced to 40 feet for single-circuit segments, with the excess restored; 2) establishment of several staging areas to store, stage, and distribute construction equipment and materials; 3) development of additional access ways to facilitate access from existing roads to the power line ROWs for construction and later inspections, maintenance, and repairs; 4) and construction activities involving excavation and construction of pole and anchor foundations, pole assembly and erection, and conductor installation; and 5) activities to remove conductor and existing poles where lines are to be removed.

The following APMs (see Section 3.7, Applicant Proposed Measures for a description of all APMs) have been incorporated into the project design to minimize, avoid, and reduce potential adverse effects to recreation resources and access:

- ▲ **APM REC-1:** A public-liaison will be assigned by CalPeco to provide the public with advance notification of construction activities at least 15 days prior to the start of construction activities. A project website will be developed for the public to ask questions about the construction process and schedule. Concerns related to dust, noise, odor, trail closures, and access restrictions associated with construction activities will be addressed within this program.
- ▲ **APM REC-2:** CalPeco will provide the USFS, in the form of an annual construction plan, advance notice of all construction activities potentially affecting recreation areas and trail systems, including temporary trail closures, within the forest. CalPeco will coordinate with USFS prior to preparation of the plan to avoid conflicts with known, scheduled, permitted events. Such avoidance will be reflected in the annual construction plan. Notification to USFS officials will be provided at least 60 days before construction begins in these areas.
- ▲ **APM REC-3:** Signs advising recreationists of construction activities and directing them to alternative trails or bikeways will be posted at all trail access points or in locations as determined through coordination with the agencies with jurisdiction. Signage describing the closures will be posted at trail access points one week prior to closures, will remain posted during the entire closure period, and will be removed upon completion of construction.
- ▲ **APM REC-4:** Where helicopters will be used for construction, signage advising equestrians of the schedule for helicopter use will be posted at all equestrian trail-access points within the vicinity of the flight paths one week prior to helicopter activity. These signs will be checked and maintained daily until helicopter operation in the area ceases.
- ▲ **APM REC-5:** Pulling of conductor over the Truckee River will occur during the months of April, October, or November to minimize impacts to rafting operations.
- ▲ **APM REC-6:** CalPeco has agreed at the request of California State Parks to complete construction in the vicinity of Burton Creek State Park with no new access and with limited impact to the existing ROW for an agreed upon section of three poles. Excavation for pole installation in Segment 625-2 between southwest corner of Burton Creek State Park and the southernmost portion of Segment 625-3, where the State Park road meets the Fiberboard Freeway, will be done by hand; pole removal and replacement will be carried out by helicopter. All access ways created for the 625-Line between the end of pavement of the Fiberboard Freeway and the east west alignment of the existing 625 Line alignment in the vicinity of the southwest corner of Burton Creek State Park, will be closed to recreational access to prevent non-State Park system route and trail proliferation. This is an approximately 1,800 foot segment of the proposed 625 Line alignment.
- ▲ **APM REC-7:** CalPeco will install access way barriers (e.g., gates where system maintenance and administrative access is anticipated, boulders, logs) and signage along any overland travel ways to minimize the possibility of establishing new recreational paths (both motorized and non-motorized). Other methods to manage recreational use, such as applying layers of mulch to prevent motorized route development,

providing wayfinding signage to direct non-motorized use, and using restoration plantings to screen temporary access ways that are no longer used, can also be employed. Temporary access ways that are no longer used will be permanently blocked. These actions will be completed as prescribed under the Construction Operation and Maintenance Plan for the project that will be prepared by the applicant and approved by the USFS prior to construction.

- ▲ **APM REC-8:** Several APMs address management, protection, and restoration of physical conditions in the project construction zone (e.g., APMs SCE-1, BIO-23, BIO-28, BIO-36, SOILS-2). APM BIO-36 specifically calls for development and implementation of a site Restoration Plan. The Restoration Plan developed under APM BIO-36 will also address final clean-up, stabilization, and reconstruction of recreation areas and access points on NFS lands disturbed by the project. The plan will be consistent with, and implement related commitments and requirements included in the EIS/EIS/EIR project description, other APMs, and mitigation measures. The Restoration Plan will address restoration of the recreation facilities to a pre-construction condition, and will be consistent with the USFS Recreation Opportunity Spectrum (ROS) system, Built Environment Image Guide (BEIG), and accessibility requirements. Restoration activities will be sufficient to result in no permanent net loss of recreation facilities or loss of character to these facilities on NFS lands upon completion of the project.

## 650 LINE

In the Kings Beach portion of the project area, construction activities would occur at the Brockway Substation to decommission the facility, and at the Kings Beach Substation, to convert the facility to 120 kV. These activities would occur under all action alternatives.

Under Alternative 1 (PEA Alternative), the new 650 Line would initially follow the alignment of the existing 650 and 625 Lines, exiting the substation in a southwesterly direction, then trending north within the existing ROW (Segment 650-1). The Kings Beach Staging Area would occupy an approximately 2.1-acre area just east of the alignment during the construction period, and would be fenced. The Kings Beach OHV area, which includes 2.7 miles of easy/moderate trails permitted for motorcycle, all-terrain vehicle, and 4X4 use, is managed by LTBMU and located just east of the proposed Kings Beach Staging Area and power line ROW. Construction activities would be contained within the staging area site and along the ROW and no trail closures or detours would be required; accordingly, access and use would not be affected.

Other recreation resources in the vicinity of Kings Beach include the Brockway Golf Course, Kings Beach Neighborhood Park, North Tahoe Event Center, Secline Beach, and Kings Beach. With the exception of the Kings Beach Neighborhood Park which is approximately 600 feet from the Brockway Substation, these resources are located about 0.5 mile from the project area. In any event, access to these resources would not be affected.

The 650 Line would be replaced along its existing alignment, which turns west, diverging from the 625 Line approximately 0.6 mile north of the Kings Beach Substation, and continuing in the existing ROW to SR 267, then along, and east of SR 267 toward Truckee (Segments 650-2 and 650-3). In Martis Valley, the new 650 Line would diverge from SR 267 and cross—as it currently does—the Martis Creek Lake area, managed by the USACE (Segment 650-4). The alignment in this area would largely be across a flat, montane meadow, and although it would cross the Tompkins Memorial Trail in three locations, the nature of the construction that could require temporary closure (i.e., stringing of new line) is such that it would be very brief (a matter of hours), and the nature of the terrain is such that, if longer closure were necessary, sufficient detours could be established.

The Northstar Golf Course is another important recreation facility in the Martis Valley. The 650 Line alignment would be along SR 267 north of the golf course, and the proposed Northstar Staging Area would occupy an approximately 2.1-acre site to the north of SR 267, across the highway from the golf course proper. No loss of access to the golf course would occur.

In the northern portion of the project area, construction activities would occur at the North Truckee Substation, Truckee Substation (Segment 650-7), and on linear segments, largely along roadways, including Pioneer Trail, Donner Pass Road, Glenshire Drive (Segment 650-6). Where the line would extend south, it would cross the Truckee River and Truckee River Trail where hiking, biking, fishing, rafting and kayaking are popular, and along Riverview Drive, adjacent to the eastern boundary of the Truckee River Regional Park. No construction or staging would occur within the park boundary. Project construction and periodic maintenance activities in this portion of the project area would not result in a decrease or loss of public access to any waterway or public land. These elements of the project would occur under all action alternatives.

## 625 LINE

In the Tahoe City portion of the project area, Alternative 1 (PEA Alternative) would require construction activities at the Tahoe City Substation and along the southern edge of the Truckee River, coincident with the existing 625 Line alignment. Important recreation resources in this area include the Truckee River, the Truckee River Trail (including the Bike Trail Bridge), and the 64-Acre Recreation Site, described above in Section 4.8.2. Activity at the Tahoe City Substation would primarily occur within the existing fence line; however, portable (temporary) transformers would be required during construction, as described in Chapter 3, Project Alternatives. These transformers would be mounted on two trailers, measuring 8 feet wide by 40 feet long and secured by temporary fencing, near the Tahoe City Substation. Temporary power poles would be similar to the existing 60-kilo volt poles (70-foot wooden poles, 61 feet exposed and 9 feet buried) and temporary distribution poles (50-foot wooden poles, 43 feet exposed and 7 feet buried) would be required to maintain distribution capabilities. Upon completion of the Tahoe City Substation upgrade, these temporary power and distribution poles and transformers would be removed and the 625 and 629 Lines would be connected to the new, permanent, transformers. While this use of a portion of the 64-Acre Recreation Site would be temporary and limited to the two 8-foot by 40-foot trailers occupying approximately 6,400 square feet. However, the proposed project would result in a temporary and minimal decrease or loss of access to public lands used for recreation.

From the Tahoe City Substation, the new 625 Line would trend northwest and cross the Truckee River Trail, as it currently does. Because temporary closure of the trail in this location would be required only for stringing of new conductor and not for road clearing or pole placement, such a closure would be of limited duration (a matter of hours), and because several bike trail detour options are readily available in the vicinity, this would not constitute a substantial decrease or loss of access to public lands or trails.

Users of the Tahoe Rim Trail travel from the trailhead near the Fairway Community Center down Fairway Drive to Highway 89, then about 230 feet westward to cross the pedestrian/bike/horse bridge used by the Truckee River Bike Trail. The Tahoe Rim Trail then trends southwest to the Trailhead on the 64-Acre Recreation Site. As described above for the Truckee River Trail, any closure would be of very limited duration and several detour options are readily available. No disruption to users of the Tahoe Rim Trail would occur in this location.

The new 625 Line would cross the Truckee River approximately 1,200 feet downstream of the Tahoe City Substation, in the same location as the existing line. The applicant has committed to stringing new conductor over the river during the months of April, October, or November which would avoid conflicts with river rafting operations. If stringing operations were to occur in April, they would coincide with fishing season, and the Truckee River is a popular fishing location. Cross-river stringing would occur over a period of minutes and would affect an approximately 200 foot length of the river on both sides, during which the public would be prohibited from access. Because this activity would affect such a small area (approximately 200 linear feet on both sides of the river) for a very limited duration (a fraction of an hour), and because substantial portions of the river would remain open to fishing access and activities, cross-river stringing would not result in a decrease or loss of recreational opportunity or access.

Other recreation resources in the vicinity of Tahoe City include the Tahoe State Recreation Area, Tahoe Lake School Fields, Tahoe City Marina, Commons Beach, Heritage Plaza Park, Tahoe City Golf Course, Outlet Park, and William B. Layton Park and the Gatekeepers Museum. These resources are located in the vicinity of highways and roadways that may be used for construction or maintenance access, but no portion of the project would result in direct effects, or decrease or loss of recreational opportunity or access to these resources.

From Tahoe City, the new 625 Line would trend north (Segment 625-2), generally coincident with the existing alignment, west along the southern boundary of BCSP, at which point the new alignment would diverge from the existing (at Segment 625-3). Although the new alignment would not cross BCSP, existing dirt roads (one of which is the southern extension of the Fiberboard Freeway) within park boundaries are identified as access ways for construction and maintenance. An approximately 0.25-mile, very rugged segment of one of these roads is identified as requiring minor improvement (rock and brush clearing) for use as a project access way. Although these dirt roads within BCSP are proposed for use during project construction and maintenance activities, CalPeco has committed to complete the construction with no new access and with limited impact to the existing ROW using helicopter build techniques, in lieu of ground equipment. Closure, if needed, would be short term, estimated to be less than one day. No substantial loss of access would occur.

The proposed Tahoe City Staging Area would occupy approximately 8.9 acres along the dirt road that extends north from Jackpine Street. This staging area would be used as a helicopter landing zone and for material storage and staging (as it was for the recent 629 Line upgrade [line extending along SR 89 from Squaw Valley to Tahoe City]). This area is not used for any recreation purpose and therefore would not result in decrease or loss of recreational opportunity or access to any public lands or recreation resource.

From the southwest corner of BCSP, the 625 Line would continue north for approximately 2.5 miles, then northeast for approximately 6 miles, across SR 267, then east for approximately 2 miles, and finally south for approximately 1.25 miles to Kings Beach. Throughout this area, the new 625 Line would lie almost exclusively on USFS lands. To simplify line construction and maintenance, the new line would be straightened relative to the existing alignment to remove angle points, as described in Chapter 3, Project Alternatives, but would generally follow the existing 625 Line alignment.

Important recreation resources throughout this reach include the Fiberboard Freeway, Tahoe Rim Trail, and other recreational trails described above. The existing 625 Line crosses the Tahoe Rim Trail in three locations: one just west of Tahoe City in Segment 625-2, approximately 0.5-mile northwest of the Tahoe City Substation; one where the alignment generally turns northeast in Segment 625-3; and one east of SR 267 in Segment 625-9. The new alignment would cross the Tahoe Rim Trail in five places: three in the same or similar locations to existing, and two new crossings, one each in Segments 625-7 and 625-8 (see Exhibit 4.8-1). Where public recreation trails cross or fall within the approved ROW and other project related clearance areas, temporary trail closures would be required during timber operations to maintain public safety. Closures are anticipated to be in place for one day at each crossing location. Pole placement would result in shorter term closures of recreational trails and may not require closure at all. Because new poles would be placed an average of about 300 feet apart, pole site preparation would affect relatively small areas around each pole site, and pole placement (likely by helicopter through the forested area) would require only fractions of an hour (10 to 15 minutes), it is possible that any closure of the Tahoe Rim Trail and other trails through this area could be avoided during this phase of project construction.

CalPeco will provide LTBMU with an annual construction plan that—based on early coordination—avoids conflicts with known, scheduled, permitted recreation events in the project area. Construction on weekends and holidays would also be avoided. CalPeco will also provide LTBMU at least 60 days advance notice of all construction activities within its jurisdiction and affecting recreation areas and trail systems, including temporary trail closures, within the forest (see APM REC-2). For any longer term closures (estimated to be up to one day in any given location during timber operations), signage will be posted at all trail access points, or in

locations determined through coordination with the agencies with jurisdiction, advising recreationists of construction activities and directing them to alternative trails or bikeways (see APM REC-3).

Because construction would be planned to avoid USFS-permitted recreation events, substantial advance notice of construction activities would be provided, and adequate informational and directional signage would be provided for any longer term closures of recreational trails or roads, substantial disruption of recreational activities would be avoided and impacts to trail access would be **less than significant**.

Under Alternative 1 (PEA Alternative), the new 625 Line would be closely aligned with the Fiberboard Freeway, which would be used as the primary route for access, staging, construction, and maintenance throughout most of its length, from Segments 625-3 at BCSP, through 625-8 at Brockway Summit. As described above, the Fiberboard Freeway is an important recreation resource, accommodating vehicles, mountain bikers, and hikers during the warmer months, and snowmobile, snowshoe, and cross-country ski activity during the winter months. Project activity would include use of construction vehicles and equipment on the Fiberboard Freeway, grading minor earth work along portions of the road, and establishment of the proposed 0.5-acre Fiberboard Freeway Staging Area in Segment 625-3 and the 0.2-acre Former Batch Plant Staging Area in Segment 625-4. Because the Fiberboard Freeway is approximately 20 feet wide, it generally offers ample room to safely pass construction activities (clearing, staging, pole site preparation, and pole placement) such that temporary closure could be avoided. If closures are required, they are anticipated to be in place for one day in a given location. As described above CalPeco will avoid construction during special, USFS-permitted recreation events on the Fiberboard Freeway, avoid construction on weekends and holidays, provide USFS with at least 60 days advance notice of all construction activities affecting recreation facilities within the forest (APM REC-2), and provide adequate signage advising of construction and alternative routes in the event of temporary closure (APM REC-3). Impacts with regard to access to the Fiberboard Freeway and other recreational trails and features in the vicinity would be **less than significant**.

From SR 267, the 625 Line would generally follow the existing alignment, but with straighter segments and fewer angle points as described above. The line would cross the Tahoe Rim Trail in Segment 625-9, as it currently does. Approximately 2 miles east of SR 267, the new 625 Line would follow the existing alignment, turning south toward Kings Beach. In the Kings Beach portion of the project area, construction and maintenance activities relative to the Brockway Substation, Kings Beach Substation, and Kings Beach Staging Area would be the same as those for the 650 Line, described above. Similarly, the new 625 Line would follow the alignment of the existing 625 and 650 Lines to the Kings Beach Substation. Impacts to recreation facilities in the Kings Beach area would be the same as those described above.

## MITIGATION MEASURES

*No mitigation measures are required.*

<b>IMPACT 4.8-2 (Alt.1)</b>	<b>Diminish quality of recreation experience.</b> Construction of Alternative 1 (PEA Alternative) would require use of passenger vehicles and construction vehicles and equipment, including haul trucks, mowers, excavators, front-end loaders, chain saws, chippers, a helicopter, and other tools and equipment. Such activity has the potential to create air emissions, dust, noise, objectionable odors, and visual impacts that could diminish the quality of the recreation experience for users in the vicinity. Permanent project elements (e.g., steel poles, conductor, new and expanded access ways, vegetation management areas) would also be visible in portions of the project area used for recreation and could contribute to diminished quality of recreation experience. As elements of the project, the applicant has committed to implement APMs relative to recreation, scenic, noise, and air quality to reduce or avoid potential adverse impacts in these areas—areas that affect the quality of recreation experience. Project operation and maintenance activities would be the same as they are currently. Because construction activities would be temporary, limited to smaller areas of
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active construction at any given time, and the project includes environmentally beneficial APMs in a variety of technical areas, impacts related to diminished quality of recreation experience during construction would be less than significant. After construction, although the project has the potential to affect the quality of recreation experience for those to whom permanent project features would appear in the immediate foreground at the 64-Acre Recreation Site and vicinity, the site is within an urban setting (i.e., with roadways, parking areas, structures, and other urban features) and the new project structures would not be out of character with the existing setting. Because the alignment would follow the Fiberboard Freeway, the new, larger power poles would be visible from this roadway. In addition, the alignment—as compared to existing conditions—would make two additional crossings of the Tahoe Rim Trail (for a total of five, as compared to three existing) and power poles and access ways may be more visible to users of the Tahoe Rim Trail, a federally designated National Recreation Trail, in these locations. However, poles and access ways would be placed at substantial distances apart, and would not be dominant features of the landscape; poles would visually blend with the surrounding trees in terms of line, form, and color, and access ways would be maintained with low-growing vegetation so as to blend with the existing environment; and because recreationists are generally mobile (hikers, mountain bikers, skiers, snowmobilers), project features, when visible, would not be visible for long durations. For these reasons, and because implementation of APMs into project design would reduce adverse effects to the degree practicable, overall impacts to recreation experience would be **less than significant**.

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Recreationists (i.e., hikers, equestrians, mountain bikers) making use of the area's trails generally are seeking experiences in natural settings that are removed from urban influences that include disturbances such as engine noise, dust, vegetation disturbance, and scenic degradation. Construction activities associated with the proposed project would involve use of passenger vehicles for transport of personnel to and from work sites, and construction vehicles and equipment for site preparation, power line construction, and power line removal. Specific project construction would involve tree removal, brush clearing, establishment of staging areas, construction of pole foundations, pole placement, stringing of conduit, pole and line removal, and other activities. Construction equipment would include haul trucks, mowers, excavators, front-end loaders, bulldozers, chain saws, log loaders, chippers, chip vans, a helicopter, and other tools and equipment.

Such activities that occur in popular recreation use areas have the potential to diminish the quality of the recreation experience for hikers, mountain bikers, snowmobilers, cross-country skiers, and other recreationists. Depending on the nature, timing, and location of activities being undertaken, the impacts to recreationists' experiences would vary. Most construction activity would take place in the late spring through fall when trails receive the most use by hikers, mountain bikers, equestrians, and OHVs. Use of vehicles and equipment and other construction activity has the potential to create noticeable air emissions, fugitive dust, intermittent noise, objectionable odors (i.e., diesel exhaust), and visual impacts (refer to Section 4.4, Scenic Resources, for a more detailed discussion of viewer sensitivity and expectations in relation to changes in visual conditions).

Permanent project features, including new steel poles, overhead conductor, new and expanded access ways, vegetation management areas, and substation equipment would also be visible in portions of the project area used for recreation, as described below, and could adversely affect the quality of the recreation experience for users in these areas.

The following APMs (see Section 3.7, Applicant Proposed Measures, for a description of all APMs) have been incorporated into the project design to minimize, avoid, and reduce potential adverse effects to recreation resources and thus, quality of the recreation experience:

- ▲ **APM REC-1, APM REC-2, APM REC-3, APM REC-4, APM REC-5, and APM REC-6**, as described above under Impact 4.8-1, would avoid or reduce impacts on recreation.

In addition, the following APMs pertaining to scenic (SCE), noise (NOI), and air quality (AQ) would serve to reduce impacts on recreationists and the quality of their experience:

- ▲ **APM SCE-1:** The following measures will be implemented during construction:
  - // Construction activities will be kept as clean and inconspicuous as practical.
  - // Construction storage and staging will be screened, where practical, with opaque fencing from close-range residential views and public viewing areas.
  - // Slash treatment will be chipping, mastication, or lop and scatter as determined by the applicable land owner/manager.
  - // When “cut-tree” marks are utilized, marks will be placed on back sides of trees or away from views of the travelling public.
  - // Within the immediate to middle-distance foreground (300 feet), log skidding trails will be re-graded, to the degree possible, back to their original, natural contour and rehabilitated with vegetation.
  - // Non-affected timber and ground vegetation will be protected during harvesting and slash treatment.
  - // Trees and vegetation within the “clear zone” that do not pose a risk to power lines will be preserved.
  - // Visual diversity of the ground surface will be maintained through irregular scatter of limbs, seeding, and other means as practicable.
  - // Barriers/boulders/downed logs will be placed in strategic locations to discourage the establishment of user-created trails. Implement restoration of temporary access ways in a manner that minimizes visibility from intersecting roads.
  - // Cut stumps will be 6-inch maximum height measured from the uphill side.
- ▲ **APM SCE-2:** Self-weathering dark brown steel poles (CorTen), or equivalent, will be used for the power lines to reduce potential visual contrast.
- ▲ **APM SCE-3:** Non-specular conductors will be used for the power lines to reduce the potential for new sources of glare. Non-specular conductor has been either mechanically or chemically treated to reduce reflectivity and has a smooth matte finish which blends more naturally with the environment.
- ▲ **APM SCE-5:** Screening through landscaping and non-vegetative means will be installed at the Tahoe City Substation to the degree that the rebuilt substation will not be obvious to the casual observer, and will account for public views of the substation from all sides. Plant material will be appropriate to the local landscape setting and will be consistent with CalPeco’s technical requirements for landscaping in proximity to substation and transmission facilities. More specifically, the following will be implemented:
  - // With the property owner’s permission, native conifer trees will be planted outside of the perimeter fence along the southwest and southeast sides of the substation site. Tree planting will replace existing trees that will be removed and will provide additional screening and landscape backdrop with respect to views from SR 89.
  - // With the property owner’s permission, on the southeast side of the substation, a mixture of trees and tall shrubs will be planted along the recreational trail adjacent to SR 89 to provide additional screening.
  - // With the property owner’s permission, at the western corner of the substation site, a mixture of shrubs will be planted outside of the perimeter fence in order to screen views from the recreation trail.
- ▲ **APM SCE-6:** Poles proposed in the vicinity of the highly visible clearing adjacent to Mount Watson Road will be placed so as to span the clearing or otherwise minimize their visibility from the Fiberboard Freeway.
- ▲ **APM SCE-8:** In cases where replacement poles for the 625 Line are adjacent to the Truckee River and will be visible in unobstructed foreground public views along the river or adjacent trails, poles will be carefully sited to minimize their visibility. The westernmost pole on the south bank of the Truckee River where the power line crosses the river will be placed far enough from the river so as to be substantially unseen from the pedestrian bridge. The remaining poles along the south bank of the river will be located southward, outside the river corridor and behind the trees that line the riverbank such that visibility of the power line is

minimized as viewed from SR 89, the Truckee River, and the pedestrian bridge. Any revised alignment or pole placement will be reviewed and approved by applicable land owners, agencies, and utilities.

- ▲ **APM SCE-9:** In consultation with the USFS and to reduce potential project visibility, selective, site-specific conifer tree planting will be considered in limited areas along the new 625 Line route where relatively unobstructed foreground views of new structures are seen from Mount Watson Road. Placement of new trees will not conflict with project operations or safety requirements.
- ▲ **APM NOI-1:** CalPeco will provide notice of construction to all property owners within 300 feet of the project by mail at least 1 week prior to the start of construction activities. The announcement will state the construction start date, anticipated completion date, hours of operation, and the project's website where questions can be asked and complaints can be received.
- ▲ **APM NOI-2:** CalPeco will post a telephone number for excessive noise complaints in conspicuous locations in the vicinity of the project site when within 1,000 feet of residences.
- ▲ **APM NOI-3:** CalPeco will designate a Disturbance Coordinator, who will be responsible for responding to any local complaints about construction noise. The Disturbance Coordinator will determine the nature of the noise complaint and will propose reasonable measures to correct the problem.
- ▲ **APM NOI-4:** Construction activities, including any blasting, will occur during the times established by local ordinances (and allowing for any exceptions that local agencies and ordinance conditions may provide)—8:00 a.m. to 6:30 p.m. in TRPA jurisdiction; 6:00 a.m. to 8:00 p.m. Monday through Friday and 8:00 a.m. to 8:00 p.m. Saturday and Sunday in Placer County; and 7:00 a.m. to 9:00 p.m. Monday through Saturday and 9:00 a.m. to 6:00 p.m. on Sunday in the Town of Truckee—with the exception of certain activities where nighttime construction activities are necessary. These activities include, but are not limited to, the delivery of substation transformers, filling of substation transformers, system transfers, pouring of foundations, and pulling of the conductor across major roadways, which require continuous operation or must be conducted during off-peak hours per agency requirements.
- ▲ **APM NOI-5:** No blasting will occur within 50 feet of any existing building, or within 250 feet of a residence or other occupied structure, or in a location or manner that would be inconsistent with other APMs. If large rock outcroppings need to be removed and are within 50 feet of a building or 250 feet of an occupied structure, alternative methods to blasting, such as silent chemical demolition, may be used to break apart and remove the rock.
- ▲ **APM NOI-6:** All internal combustion-engine driven equipment will be equipped with intake and exhaust mufflers that are in good condition and appropriate for the equipment.
- ▲ **APM NOI-7:** Stationary noise-generating equipment will be located as far as possible from sensitive receptors when they adjoin or are within 1,000 feet of a construction area.
- ▲ **APM NOI-8:** Quiet air compressors and other stationary equipment will be utilized when possible within the Town of Truckee limits and within developed areas of Tahoe City and Kings Beach.
- ▲ **APM NOI-9:** Helicopter flight patterns will be designed to avoid and minimize flights over residential areas to the extent practical.
- ▲ **APM AQ-1:** The applicant will submit a Construction Emission/Dust Control Plan to the NSAQMD and PCAPCD for approval prior to ground disturbance or vegetation removal associated with construction of the proposed project. The Dust Control Plan will summarize the APMs related to emissions control during construction.
- ▲ **APM AQ-2:** Unpaved areas subject to vehicle access will be stabilized using water at least two times daily, or as needed to control fugitive dust. On NFS lands, unpaved roads will be watered at least as often as specified in Forest Service Handbook 2409.15 (USFS 1992). A locally approved chemical dust palliative, applied according to the manufacturer's recommendations, may be substituted for watering with approval from the applicable land owner/manager.
- ▲ **APM AQ-3:** All inactive, disturbed portions of the project's ROW will be covered, seeded, or watered, as needed to control fugitive dust, until suitable vegetative cover is established.
- ▲ **APM AQ-4:** Prior to any ground disturbance, sufficient water will be applied to the area to be disturbed in order to control fugitive dust emissions.

- ▲ **APM AQ-5:** If wind-driven fugitive dust cannot be stabilized using water or a chemical dust suppressant such that the resulting dust plume crosses the nearest property line, all grading and excavating activities must cease until dust can be effectively controlled.
- ▲ **APM AQ-6:** Exposed stockpiles (e.g., dirt, sand, etc.) will be covered and/or stabilized with water or a locally approved chemical dust stabilizer as needed to control fugitive dust emissions. When loading or unloading stockpiled material, material will be stabilized using water and/or drop heights will be minimized to control fugitive dust.
- ▲ **APM AQ-7:** Traffic speeds on unpaved roads and the ROW will be limited to 15 miles per hour.
- ▲ **APM AQ-10:** Trucks transporting bulk materials off-site will be maintained such that no spillage can occur from holes or other openings in the cargo compartments. Loads will be completely covered or the bulk material will be wetted and loaded to maintain 6 inches of freeboard from the top of the container.
- ▲ **APM AQ-11:** CalPeco will limit actively graded areas to a cumulative total of 5 acres per day in order to control fugitive dust. The total area of disturbance can exceed this acreage so long as the actively graded portion is below this threshold.
- ▲ **APM AQ-14:** Vehicle idling time will be limited to a maximum of 5 minutes for vehicles and construction equipment, except where idling is required for the equipment to perform its task.
- ▲ **APM AQ-15:** All off-road diesel engines with a rated output of greater than 100 horsepower will, at a minimum, meet the Tier II California Emissions Standards for Off-Road Compression Ignition Engines. If reasonably available, Tier III engines will be employed.

Collectively, these measures would substantially reduce the impacts of construction and operational activities in those issue areas that could affect the quality of recreation experience. In addition, project operational activities (i.e., inspection and maintenance) would be infrequent and affect only a small portion of the project area at any given time, and permanent project features (e.g., steel poles, overhead conductor, new and expanded access ways, vegetation management areas) may be visible in some areas, but set back from areas of active recreation in others, rendering them barely visible or not visible.

## 650 LINE

Activities associated with construction of the 650 Line could be audible or visible to recreationists at the Truckee River Regional Park, Truckee River Trail, Martis Creek Lake, Tompkins Memorial Trail, Northstar Tahoe Golf Course, and in the vicinity of Kings Beach, Kings Beach Neighborhood Park, and potentially (depending on the alternative selected), Brockway Golf Course, particularly from Holes 1 and 2. Although project activities may be audible from designated OHV trails, the nature of OHV activities (activities that generate noise and dust) are such that project activities are unlikely to affect the OHV experience. As discussed above, APMs have been incorporated into the project to minimize potential impacts to the recreational experience as a result of noise or dust generated during construction.

Once constructed, the new 650 Line would be visible from the Tahoe Rim Trail at Brockway Summit and potentially from other trails in the vicinity, just as the existing line is currently. Because the new alignment would follow the existing alignment along highway, be visible in the context of other man-made features (the highway itself, vehicles), and be visible from a very limited portion of the recreational features (i.e., at the crossing), this would be essentially the same as the existing condition and not substantially affect quality of recreation experience. From Brockway Summit, the new 650 Line would continue along SR 267 and across the Martis Creek Lake along its existing alignment. The new line would replace the existing wooden poles with larger steel poles, but because the poles would be in the same alignment and viewed in the context of other man-made features (highway, vehicles, golf course), the new line would not be substantially different from the existing condition and would not adversely affect the recreation experience in the Martis Valley.

## 625 LINE

Activities associated with construction of the 625 Line could be audible or visible to recreationists at 64-Acre Recreation Site, Truckee River and Truckee River Trail, BCSP, the Tahoe Rim Trail and Fiberboard Freeway in particular, and other unnamed recreational trails. Potential effects on recreationists and facilities in the vicinity of Kings Beach would be the same as those described above for the 650 Line. Construction activities would be temporary, limited at any one time to smaller portions of the project area, and number of recreationists that may be exposed to project activity at any given place and time is expected to be relatively small, given the remote location as compared to more accessible recreation areas closer to urban areas. Impacts of construction on recreational experiences of visitors to the area would be substantially reduced through APMs (including recreation, scenic, noise, and air quality) and other measures identified as a result of this analysis.

Operational features would be sparse in most areas and maintenance activities would be the same as they are today, infrequent and limited in geography and duration. However, due to increased height and larger size of the poles, the replacement poles used for the 625 Line would be more visible than the existing poles to recreationists along the 625 Line alignment. These include rafters on the Truckee River, and users of the Truckee River Trail (see Exhibit 4.4-10), 64-Acre Recreation Site, Tahoe Rim Trail, and Fiberboard Freeway.

Recreational facilities in the corridor formed by the Truckee River and the area immediately adjacent to the river in Tahoe City are heavily used for recreation. Recreational facilities include the bicycle trails along both sides of the Truckee River and in the 64-Acre Recreation Site, and the river itself, which is used for fishing, rafting, and sightseeing. Because the visual experience contributes to the overall quality of the recreational experience, and this is a heavily used recreation area, the project would result in diminishment of the recreational experience. Adverse effects to the recreation experience associated with permanent facilities would be reduced through implementation of APMs listed above. In particular, APM SCE-8 would reduce impacts to the recreation experience for users of the Truckee River and Truckee River Trail at Tahoe City by selectively siting poles farther to the south to minimize their visibility from the river, pedestrian bridge, SR 89, and the bike/pedestrian trail on the north side of the river. (See Section 4.4, Scenic Resources, for additional discussion.) This action would improve scenic quality and quality of the recreation experience for those along the river corridor and north of the alignment by reducing the visibility of utility lines and poles from the heavily used recreational facilities in and along the river corridor.

While implementation of APM SCE-8 would result in overall improvement to scenic and recreational quality in important, heavily used recreation areas, it would result in diminishment of recreation experience to more southerly uses, specifically those of the 64-Acre Recreation Site. The new utility poles, when viewed in the immediate foreground, would be visually dominant features in this location and would be visible from the paved pedestrian and bicycle trail (see Exhibit 4.4-20), parking areas, and Tahoe City Transit Center. As noted in Section 4.4, Scenic Resources (see Impact 4.4-2), the poles would generally be shorter than the trees in the immediate area and when viewed within the larger landscape context, the poles would visually blend with the surrounding trees in terms of line, form, and color. In addition, the 64-Acre Recreation Site and the vicinity are within an existing urban setting with many characteristics of a developed area (e.g., roadways, vehicles, signage, parking areas, bridges, structures, electrical facilities). Recreationists in this location generally arrive by car or by public transit and may stay and recreate in the vicinity using local facilities (picnic grounds, local parks, and bike trails), in which case the visual and auditory environment offered by an urban setting is in accord with user expectations. In other cases, recreationists may use this area only for parking/staging, and from which to depart for more natural settings beyond the 64-Acre Recreation Site (e.g., forested trails). In either case, although the permanent project features would contribute additional man-made structure at the site and be visually dominant in the foreground, they would not be out of character for the local setting.

As noted above, the new alignment of the 625 Line would more closely follow the Fiberboard Freeway, as compared to existing conditions. Because the new poles would be larger and taller than the existing poles and

would more closely follow the roadway, they are likely to be more visible to recreationists using the Fiberboard Freeway. In addition, as described above and depicted in Exhibit 4.8-1, the 625 Line alignment—as compared to existing conditions—would make two additional crossings of the Tahoe Rim Trail (for a total of five, as compared to three existing [see Exhibit 4.8-1]) and therefore, power poles and access ways may be more visible to users of the Tahoe Rim Trail, a federally designated National Recreation Trail. As described in Chapter 3, Project Alternatives, however, the power poles would be placed at substantial distances apart (approximately 300 feet). Access ways to the power line corridor would be limited to the minimum necessary for line maintenance, and after construction would be maintained in low-growing vegetation so as to blend with the landscape while allowing access by overland vehicles. In addition, poles and access ways may be placed substantially above or below the elevation of the Tahoe Rim Trail or Fiberboard Freeway in any given location. For these reasons, new poles and access ways would be sparse along the alignment and would not be dominant features of the landscape. The poles would visually blend with the surrounding trees in terms of line, form, and color, and access ways would be allowed to revegetate with low-growing vegetation and would not stand in stark contrast to the surroundings. Finally, because recreationists along these linear features are generally mobile (hikers, mountain bikers, skiers, snowmobilers), the poles and access ways, when visible, would not be observed for long durations.

In terms of overall impacts to recreational experience, the 64-Acre Recreation Site and surrounding areas are within an urban setting, and project structures would be visually dominant but not out of character with the existing setting. In addition, project features may be visible to recreationists on the Fiberboard Freeway and Tahoe Rim Trail, but would be sparsely placed and would visually blend with the surrounding environment. For these reasons, and because incorporation of APMs into project design would reduce adverse effects to the degree practicable, the potential diminishment of the recreational experience for users to whom project features would be visible would be **less than significant**.

## MITIGATION MEASURES

*No mitigation measures are required.*

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<b>IMPACT 4.8-3 (Alt.1)</b>	<p><b>Adverse effects associated with new or expanded recreation facilities.</b> The project does not propose new recreation facilities or require the construction or expansion of recreation facilities. The new access ways would not be designated or intended for use as recreational facilities and barriers to access by motorized recreational vehicles would be placed at the entrance to the access ways. However, due to unrestricted public access on NFS land, it is possible that unsanctioned use of the access ways for hiking or skiing could occur. Because such use would likely be opportunistic (i.e., the power line access ways would not be expected to draw additional users that would not already be recreating in the area) and therefore limited in numbers, and signage and barriers would be in place to discourage unauthorized use, the adverse environmental effects from occasional trespass (soil erosion, noise), would be <b>less than significant</b>.</p>
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The project does not propose new recreation facilities or require the construction or expansion of recreation facilities. As discussed above, the project does not include housing or other development that would generate demand for recreation facilities or increase the demand for new recreation facilities. New access ways required as part of the project would not be intended for public access and would not be signed or mapped for recreational use. Where new access ways or the power line ROW connect to or cross existing roads or trails, barriers to access (e.g., boulders, gates, logs, signage) would be placed at the entrance to the access way (see APM REC-7). It is likely, despite these efforts, that some unsanctioned use of project access ways by opportunistic recreationists would occur, particularly during the winter when such barriers are likely to be covered in snow. Nevertheless, barriers would be effective at preventing adverse physical effects associated

with opportunistic recreational use because routes would be blocked so as to prevent access by OHVs during the summer. All other opportunistic recreational uses, such as hiking and winter sports would be limited (due to the unsanctioned nature of the activity), and would result in minimal effects on soil or vegetation because APM REC-7 would prevent opportunistic OHV use. During maintenance and inspection activities any evidence of public use would be noted, and public access barriers would be adjusted, if needed. Therefore, construction and maintenance of Alternative 1 (PEA Alternative) would not facilitate substantial, new unmanaged recreation. Thus, there is little potential for adverse physical effects on the environment associated with new recreation, and the impact would be **less than significant**.

## MITIGATION MEASURES

*No mitigation measures are required.*

## ALTERNATIVE 2 – MODIFIED ALTERNATIVE

### DIRECT AND INDIRECT EFFECTS

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<b>IMPACT 4.8-1 (Alt.2)</b>	<b>Result in a substantial decrease or loss of public access to any lake, waterway, or public lands.</b> Construction of Alternative 2 (Modified Alternative) would require temporary trail closures and access restrictions in some portions of the project area, including on public lands used for recreation. Impacts of such closures would be the same as those described for Alternative 1 (PEA Alternative), above, and would be <b>less than significant</b> .
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### 650 LINE

Under Alternative 2 (Modified Alternative), the new 650 Line would be the same as that described for Alternative 1 (PEA Alternative) with two exceptions. First, Segment 650-4A would replace 650-4 through the Martis Creek Lake. The purpose of this modification would be to avoid sensitive cultural resources areas. Second, rather than the rebuild of a single-circuit of the 650 Line between the Kings Beach Substation and Brockway Summit, Alternative 2 (Modified Alternative) would construct a double-circuit 650/625 Line along the 625 Line alignment proposed in the Alternative 1 (PEA Alternative), thereby removing the power line along SR 267 through this reach. With regard to impacts to recreation resources and access, this alignment of the 650 Line would be the same as the Alternative 1 (PEA Alternative).

### 625 LINE

Under Alternative 2 (Modified Alternative), the new 625 Line would be the same as that described for the Alternative 1 (PEA Alternative) with five exceptions. First, Alternative 2 (Modified Alternative) would relocate the power line along the Truckee River to the southern side of a stand of trees along the river and farther from the viewshed of the Truckee River corridor (Segment 625-1A). Second, Segment 625-4A would replace 625-4 in the vicinity of the Former Batch Plant Staging Area, moving the line upslope of the Fiberboard Freeway to reduce visibility of the line from panoramic views seen by recreational users along the road. Third, Segment 625-6A would replace 625-6, resulting in an alignment would follow Mt. Watson Road along the outer edge of an existing northern goshawk PAC to avoid this sensitive biological area. Fourth, Segment 625-8A would replace Segment 625-8 to follow the existing 625 Line route more closely, allowing greater distance from the Fiberboard Freeway at a location where no utility lines are currently located, and to place the line outside the boundary of the Lake Tahoe Basin. Finally, as described above, Alternative 2 (Modified Alternative) would construct a double-circuit 650/625 Line along the 625 Line alignment proposed in Alternative 1 (PEA Alternative), thereby removing the 650 Line along SR 267 through this reach. These changes would improve scenic and biological resources (goshawk) conditions relative to existing conditions and as compared to Alternative 1 (PEA Alternative), but

would not result in a substantial change with regard to public access to recreation areas. With regard to impacts to recreation resources and access, this alignment of the 625 Line would be the same as the Alternative 1 (PEA Alternative).

Impacts as a result of decreased public access to public lands would be **less than significant**.

## MITIGATION MEASURES

*No mitigation measures are required.*

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<b>IMPACT 4.8-2 (Alt.2)</b>	<b>Diminish quality of recreation experience.</b> Construction and operation of Alternative 2 (Modified Alternative) would require activities and use of equipment that have the potential to diminish the quality of the recreation experience in the project area. Such activities would be the same as those described for the Alternative 1 (PEA Alternative), and for the reasons described above, including implementation of APMs and other measures, would result in a <b>less-than-significant</b> impact.
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## 650 LINE

Because Alternative 2 (Modified Alternative) would not result in substantial changes in distance between new power lines and designated recreation resources, impacts relative to recreation experience for the 650 Line would be essentially the same as those described for the Alternative 1 (PEA Alternative).

## 625 LINE

Under Alternative 2 (Modified Alternative), impacts relative to recreation experience for the 625 Line would be substantially the same as those described for the Alternative 1 (PEA Alternative). Impacts could be slightly reduced, however, as Alternative 2 (Modified Alternative) proposes changes that would reduce scenic effects (i.e., Segment 625-4A), and in one location would move the line farther from the Fiberboard Freeway (Segment 625-8A). (Refer to Section 4.4, Scenic Resources for a more detailed discussion of project effects on visual resources.)

With Alternative 2 (Modified Alternative) the alignment of the 625 Line in Segment 625-1 would be set back from its existing alignment along the Truckee River (modified Segment 625-1A). This alternative would improve the quality of the recreational experience in the heavily used Truckee River corridor by moving the conductors and poles away from the river, but would diminish the quality of recreation experience for more southerly uses, specifically at the 64-Acre Recreation Site. For reasons described above, including local and regional context and implementation of APMs to reduce adverse effects, impacts to the quality of the recreational experience under this alternative would be **less than significant**.

## MITIGATION MEASURES

*No mitigation measures are required.*

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<b>IMPACT 4.8-3 (Alt.2)</b>	<b>Adverse effects associated with new or expanded recreation facilities.</b> The project does not propose new recreation facilities or require the construction or expansion of recreation facilities. However, because public access on NFS land is unrestricted, impacts of such unsanctioned use would be the same as that described for Alternative 1 (PEA Alternative), above, and would be <b>less than significant</b> .
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The project does not propose new recreation facilities or require the construction or expansion of recreation facilities. As discussed above, the project does not include housing or other development that would generate demand for recreation facilities or increase the demand for new recreation facilities. New access ways required as part of the project would not be intended for public access and would not be signed or mapped for recreational use. Where new access ways or power line ROW connect to or cross existing roads or trails, barriers to access (e.g., boulders, gates, logs, signage) would be placed at the entrance to the access way (see APM REC-7). It is likely, despite these efforts, that some unsanctioned use of project access ways by opportunistic recreationists would occur, particularly during the winter when such barriers are likely to be covered in snow. Nevertheless, barriers would be effective at preventing adverse physical effects associated with opportunistic recreational use because routes would be blocked so as to prevent access by OHVs during the summer. All other opportunistic recreational uses, such as hiking and winter sports would be limited (due to the unsanctioned nature of the activity), and would result in minimal effects on soil or vegetation because APM REC-7 would prevent opportunistic OHV use. During maintenance and inspection activities any evidence of public use would be noted, and public access barriers would be adjusted, if needed. Therefore, construction and maintenance of Alternative 2 (Modified Alternative) would not facilitate substantial, new unmanaged recreation. Thus, there is little potential for adverse physical effects on the environment associated with new recreation, and a **less-than-significant** impact would occur.

## MITIGATION MEASURES

*No mitigation measures are required.*

## ALTERNATIVE 3 – ROAD FOCUSED ALTERNATIVE

### DIRECT AND INDIRECT EFFECTS

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<b>IMPACT 4.8-1 (Alt.3)</b>	<b>Result in a substantial decrease or loss of public access to any lake, waterway, or public lands.</b> Construction of Alternative 3 (Road Focused Alternative) would require temporary trail closures and access restrictions in some portions of the project area, including on public lands used for recreation. Impacts of such closures would be the same as those described for Alternative 1 (PEA Alternative), above, and would be <b>less than significant</b> .
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## 650 LINE

Under Alternative 3 (Road Focused Alternative), the new 650 Line would be the same as that described for the Alternative 1 (PEA Alternative), but emphasizes placement near established roadways. Segment 650-4B would replace 650-4 and 650-5 through the Martis Creek Lake and areas west to follow SR 267 and Schaffer Mill Road. Also, rather than the rebuild of a single-circuit of the 650 Line between the Kings Beach Substation and Brockway Summit, Alternative 3 (Road Focused Alternative) would construct a double-circuit 650/625 Line along the 650 Line alignment proposed in the Alternative 1 (PEA Alternative) (largely along SR 267), thereby removing the power line in forested lands through this reach.

With regard to impacts to recreation resources and access, this alignment of the 650 Line would be slightly less than Alternative 1 (PEA Alternative) in that the power line crossing through the Martis Creek Lake would be close to SR 267 instead of deviating from the highway, thereby avoiding up to three crossings of the Tompkins Memorial Trail, and the double-circuit of the 650/625 Lines along SR 267 east of Brockway Summit would remove an existing power line crossing of the Tahoe Rim Trail.

## 625 LINE

Under Alternative 3 (Road Focused Alternative), the new 625 Line would be similar to that described for the Alternative 1 (PEA Alternative) in the segments between Tahoe City and Brockway Summit, except that it would follow even more closely the Fiberboard Freeway. East of Brockway Summit, the 625 Line would be constructed in a double circuit with the 650 Line, as described above, and the existing 625 Line would be removed. With regard to impacts to recreation resources and access, this alignment of the 625 Line would be substantially similar to Alternative 1 (PEA Alternative).

Impacts as a result of decreased public access to public lands would be **less than significant**.

## MITIGATION MEASURES

*No mitigation measures are required.*

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<b>IMPACT 4.8-2 (Alt.3)</b>	<b>Diminish quality of recreation experience.</b> Construction and operation of Alternative 3 (Road Focused Alternative) would require activities and use of equipment that have the potential to diminish the quality of the recreation experience in the project area. Impacts of such activities would be the same as those described for the Alternative 1 (PEA Alternative), and for the reasons described above, including implementation of APMs and other measures, would be <b>less than significant</b> .
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## 650 LINE

As described above, the alignment of the 650 Line under Alternative 3 (Road Focused Alternative) in Martis Valley would follow SR 267 instead of deviating from the highway, thereby avoiding up to three crossings of the Tompkins Memorial Trail, and the double-circuit of the 650/625 Lines along SR 267 east of Brockway Summit would remove an existing power line crossing of the Tahoe Rim Trail. Therefore, impacts of the 650 Line relative to recreation experience would be slightly less as compared to Alternative 1 (PEA Alternative).

## 625 LINE

Under Alternative 3 (Road Focused Alternative), impacts of the 625 Line relative to recreation experience would be substantially the same as those described for Alternative 1 (PEA Alternative). Impacts could be slightly greater west of Brockway Summit as Alternative 3 (Road Focused Alternative) proposes to follow the Fiberboard Freeway more closely, and could be more visible to recreationists using this facility, particularly in Segments 625-3 and 625-7 (see Exhibit 4.8-1). East of Brockway Summit, however, the 650/625 Line would be constructed in a double circuit along SR 267, resulting in removal of the existing 625 Line through the forested area. This would result in slightly improved scenic conditions through this reach, which could improve the recreation experience for users of trails in the vicinity.

With Alternative 3 (Road Focused Alternative), the 625 Line would follow essentially the same alignment as Alternative 1 (PEA Alternative). Adverse effects to the recreation experience associated with permanent facilities would be reduced through implementation of APMs listed above under the PEA Alternative. In

particular, APM SCE-8 would reduce impacts to the recreation experience under this alternative for users of the Truckee River and Truckee River Trail at Tahoe City by selectively siting poles farther to the south to minimize their visibility from the river, pedestrian bridge, SR 89, and the bike/pedestrian trail on the north side of the river. This set back to the south from the south side of the Truckee River in Tahoe City and would have the same effect on the quality of recreational experience as described above. The impacts associated with permanent facilities would be reduced through APMs listed above, and the diminishment of the recreational experience for users of the 64-Acre Recreation Site would be a **less-than-significant** impact.

## MITIGATION MEASURES

*No mitigation measures are required.*

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<b>IMPACT 4.8-3 (Alt.3)</b>	<b>Adverse effects associated with new or expanded recreation facilities.</b> The project does not propose new recreation facilities or require the construction or expansion of recreation facilities. However, because public access on NFS land is unrestricted, impacts of such unsanctioned use would be the same as that described for Alternative 1 (PEA Alternative), above, and would be <b>less than significant</b> .
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The project does not propose new recreation facilities or require the construction or expansion of recreation facilities. As discussed above, the project does not include housing or other development that would generate demand for recreation facilities or increase the demand for new recreation facilities. New access ways required as part of the project would not be intended for public access and would not be signed or mapped for recreational use. Where new access ways or the power line ROW connect to or cross existing roads or trails, barriers to access (e.g., boulders, gates, logs, signage) would be placed at the entrance to the access way (see APM REC-7). It is likely, despite these efforts, that some unsanctioned use of project access ways by opportunistic recreationists would occur, particularly during the winter when such barriers are likely to be covered in snow. Nevertheless, barriers would be effective at preventing adverse physical effects associated with opportunistic recreational use because routes would be blocked so as to prevent access by OHVs during the summer. All other opportunistic recreational uses, such as hiking and winter sports would be limited (due to the unsanctioned nature of the activity), and would result in minimal effects on soil or vegetation because APM REC-7 would prevent opportunistic OHV use. During maintenance and inspection activities any evidence of public use would be noted, and public access barriers would be adjusted, if needed. Therefore, construction and maintenance of Alternative 3 (Road Focused Alternative) would not facilitate substantial, new unmanaged recreation. Thus, there is little potential for adverse physical effects on the environment associated with new recreation, and a **less-than-significant** impact would occur.

## MITIGATION MEASURES

*No mitigation measures are required.*

## ALTERNATIVE 4 – PROPOSED ALTERNATIVE

### DIRECT AND INDIRECT EFFECTS

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<b>IMPACT 4.8-1 (Alt.4)</b>	<b>Result in a substantial decrease or loss of public access to any lake, waterway, or public lands.</b> Construction of Alternative 4 (Proposed Alternative) would require temporary trail closures and access restrictions in some portions of the project area, including on public lands used for recreation. Impacts of such closures would be the same as those described for Alternative 1 (PEA Alternative), above, and would be <b>less than significant</b> .
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### 650 LINE

Under Alternative 4 (Proposed Alternative), the new 650 Line would be the same as that described for the Alternative 1 (PEA Alternative) from Brockway Summit to Truckee, and the same as Alternative 3 (Road Focused Alternative) from Brockway Summit to Kings Beach. As such, the alignment would follow the alignment of the existing 650 Line but a double circuit with the 625 Line from Brockway Summit to Kings Beach. With regard to impacts to recreation resources and access, this alignment of the 650 Line would be the same as Alternative 1 (PEA Alternative).

### 625 LINE

Under Alternative 4 (Proposed Alternative), the new 625 Line would be identical to Alternative 3 (Road Focused Alternative), except for Segment 625-1A, which would be the same as Alternative 2 (Modified Alternative). Segment 625-1A would relocate the power line along the Truckee River to the southern side of a stand of trees along the river and farther from the viewshed of the Truckee River corridor. With regard to impacts to recreation resources and access, this alignment of the 625 Line would be substantially the same as Alternative 3 (Road Focused Alternative). Use of Segment 625-1A in this alternative would improve scenic conditions relative to existing conditions and as compared to Alternative 1 (PEA Alternative) and Alternative 3 (Road Focused Alternative), but would not result in a substantial change with regard to public access to recreation areas.

Impacts as a result of decreased public access to public lands would be **less than significant**.

### MITIGATION MEASURES

*No mitigation measures are required.*

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<b>IMPACT 4.8-2 (Alt.4)</b>	<b>Diminish quality of recreation experience.</b> Construction and operation of Alternative 4 (Proposed Alternative) would require activities and use of equipment that have the potential to diminish the quality of the recreation experience in the project area. Impacts of such activities would be the same as those described for the Alternative 1 (PEA Alternative), and for the reasons described above, including implementation of APMs and other measures, would be <b>less than significant</b> .
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### 650 LINE

As described above, the new 650 Line under Alternative 4 (Proposed Alternative) would be the same as that described for the Alternative 1 (PEA Alternative) from Brockway Summit to Truckee, and the same as Alternative 3 (Road Focused Alternative) from Brockway Summit to Kings Beach. As such, the alignment would follow the alignment of the existing 650 Line but a double circuit with the 625 Line from Brockway Summit to Kings Beach.

Because the alternative would remove one existing crossing of the Tahoe Rim Trail, impacts of the 650 Line relative to recreation experience would be slightly less as compared to Alternative 1 (PEA Alternative).

## 625 LINE

Under Alternative 4 (Proposed Alternative), the new 625 Line would be identical to Alternative 3 (Road Focused Alternative), except for Segment 625-1A, which would be the same as Alternative 2 (Modified Alternative). As such, impacts to recreation experience could be slightly greater than Alternative 1 (PEA Alternative) west of Brockway Summit as the line may be more visible in some areas from the Fiberboard Freeway, and could be slightly less east of Brockway Summit as removal of the single circuit 625 Line would improve scenic conditions in this area (refer to Section 4.4, Scenic Resources, for a more detailed discussion of potential impacts to scenic resources).

Adverse effects to the recreation experience associated with permanent facilities would be reduced through implementation of APMs listed above under the PEA Alternative. The southern setback of Segment 625-1A along the Truckee River in Tahoe City and would have the same effect on the quality of recreational experience as described above for Alternative 2 (Modified Alternative). Impacts associated with permanent facilities would be reduced through APMs listed above and the diminishment of the recreational experience for users of the 64-Acre Recreation Site would be a **less-than-significant** impact.

## MITIGATION MEASURES

*No mitigation measures are required.*

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<b>IMPACT</b> <b>4.8-3</b> <b>(Alt.4)</b>	<b>Adverse effects associated with new or expanded recreation facilities.</b> The project does not propose new recreation facilities or require the construction or expansion of recreation facilities. However, because public access on NFS land is unrestricted, impacts of such unsanctioned use would be the same as that described for Alternative 1 (PEA Alternative), above, and would be <b>less than significant</b> .
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The project does not propose new recreation facilities or require the construction or expansion of recreation facilities. As discussed above, the project does not include housing or other development that would generate demand for recreation facilities or increase the demand for new recreation facilities. New access ways required as part of the project would not be intended for public access and would not be signed or mapped for recreational use. Where new access ways or the power line ROW connect to or cross existing roads or trails, barriers to access (e.g., boulders, gates, logs, signage) would be placed at the entrance to the access way (see APM REC-7). It is likely, despite these efforts, that some unsanctioned use of project access ways by opportunistic recreationists would occur, particularly during the winter when such barriers are likely to be covered in snow. Nevertheless, barriers would be effective at preventing adverse physical effects associated with opportunistic recreational use because routes would be blocked so as to prevent access by OHVs during the summer. All other opportunistic recreational uses, such as hiking and winter sports would be limited (due to the unsanctioned nature of the activity), and would result in minimal effects on soil or vegetation because APM REC-7 would prevent opportunistic OHV use. During maintenance and inspection activities any evidence of public use would be noted, and public access barriers would be adjusted, if needed. Therefore, construction and maintenance of Alternative 4 (Proposed Alternative) would not facilitate substantial, new unmanaged recreation. Thus, there is little potential for adverse physical effects on the environment associated with new recreation, and a **less-than-significant** impact would occur.

## MITIGATION MEASURES

*No mitigation measures are required.*

## ALTERNATIVE 5 – NO ACTION/NO PROJECT ALTERNATIVE

### DIRECT AND INDIRECT EFFECTS

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<b>IMPACT 4.8-1 (Alt.5)</b>	<b>Result in a decrease or loss of public access to any lake, waterway, or public lands.</b> Because no alteration or upgrade to the transmission system would occur under Alternative 5 (No Action/No Project Alternative), no closures or access restrictions to trails or public lands would occur. Therefore, there would be <b>no impact</b> .
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Under Alternative 5 (No Action/No Project Alternative), no upgrades to the North Lake Tahoe Transmission System would be made. Actions associated with this alternative would be limited to the existing operation and maintenance and completion of existing deferred maintenance to raise the system to current standards, including compliance with vegetation clearing requirements and annual inspection requirements. This alternative would leave in place the existing transmission system and associated operation and maintenance procedures. **No impact** would occur.

### MITIGATION MEASURES

*No mitigation measures are required.*

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<b>IMPACT 4.8-2 (Alt.5)</b>	<b>Diminish quality of recreation experience.</b> Because no alteration or upgrade to the transmission system would occur under Alternative 5 (No Action/No Project Alternative), no construction activity would occur and no project features would be constructed that could alter recreation experience. Therefore, there would be <b>no impact</b> .
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Actions associated with this alternative would be limited to the existing operation and maintenance and completion of existing deferred maintenance to raise the system to current standards, including compliance with vegetation clearing requirements and annual inspection requirements. These activities would not differ from existing operation and maintenance activities. Therefore, no new impacts to the quality of recreation experiences would result from this alternative. **No impact** would occur.

### MITIGATION MEASURES

*No mitigation measures are required.*

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<b>IMPACT 4.8-3 (Alt.5)</b>	<b>Adverse effects associated with new or expanded recreation facilities.</b> The No Action/No Project Alternative would not provide for new recreation facilities or require the construction or expansion of recreation facilities. No changes to existing ROWs or access ways would be required. Therefore, there would be <b>no impact</b> .
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Alternative 5 (No Action/No Project Alternative) would not result in the expansion of ROWs or existing access ways and would not contribute to any expansion of potential unsanctioned recreational use. **No impact** would occur.

## MITIGATION MEASURES

No mitigation measures are required.

## CUMULATIVE IMPACTS

Recreation issues relevant to cumulative impacts relate to those direct and indirect effects evaluated for the proposed project, including public access to recreation resources on public lands, quality of recreation experience, and indirect effects of opportunistic use of new or expanded access ways resulting from the project.

For context, the existing condition for recreation in the project area and in the region is positive. USFS lands in the vicinity offer ample recreation opportunities for hiking, biking, OHV and equestrian use, camping, skiing, snowshoeing, snowmobiling, outdoor education, picnicking, and more. Recreational user surveys conducted by USFS show that the majority of recreational users (89.8 percent) are very satisfied with their recreational experience (USFS 2010). The Region has seen a consistent increase in the amount of public land available for low-density recreational use, and the number of amenities that provide access to that land (TRPA 2009 and TRPA 2011). TRPA Recreation Threshold Standards have been implemented and are in attainment, and TRPA partners have made substantial progress in upgrading recreation facilities through the Environmental Improvement Program (TRPA 2012).

The effects of past and present projects on recreation are reflected in the existing conditions of the project area, and over time, these have been both beneficial, as in development of new recreation features and amenities, and adverse, as in development that may have resulted in obstruction of, or otherwise reduced recreation access and opportunities. Probable future projects considered in this analysis are those in the vicinity of proposed project alignments that could be constructed within a similar timeframe as the project and therefore have the potential to result in cumulative impacts (see Table 4.1-2, Cumulative Project List).

Certain of these cumulative projects would provide new recreation opportunities, improve public access to recreation areas, and otherwise enhance the potential for positive recreation experience in the region. These include the Truckee River Corridor Access Plan (hiking, in-line skating, equestrian, and bicycle trails, and angling and boating access from Lake Tahoe to the Martis Valley), Martis Valley Trail (paved multi-use trail from Truckee to Brockway Summit), and Dollar Creek Shared-Use Trail Project (a 2.5-mile shared use trail from Dollar Hill to the Cedar Flats neighborhood).

A number of ski resort projects are proposed at Northstar, Squaw Valley, Alpine Meadows, and Homewood Mountain Resort. Proposed improvements at Northstar include expansion of recreational opportunities (i.e., toboggan ride, widening of existing ski trails, various additions and modifications to ski lifts, trails, recreational amenities, and recreational access) and development of residential units, retail/commercial space, and other features). The Northstar Mountain Master Plan identifies a potential gondola route that would take people from an existing parking lot to the Village. As currently conceptualized, the route would pass over the existing substation. CalPeco is coordinating with Northstar to address any potential conflicts and representatives have met in person to discuss the projects. The gondola is scheduled for construction well after the 625 and 650 Electrical Line Upgrade, and no potential conflicts have been identified by the project proponents. Probable future projects at Squaw Valley include additional lodging and resort amenities at Squaw Valley Village, replacement of an existing chairlift with a larger capacity chairlift, and construction of an alpine coaster attraction. Alpine Meadows proposes replacement of an existing chairlift with a larger capacity chairlift. Homewood Mountain Resort Master Plan proposes redevelopment of mixed-use and residential uses, a lodge, and ski area. In general, these projects would simultaneously create and expand recreational opportunities and increase overall number of residents and visitors in the region.

Probable future projects in the vicinity of Tahoe City include the SR 89 Fanny Bridge Project (a bridge replacement and roadway realignment project at SR 89 and SR 28) and the Tahoe City Vision Plan. The latter is a planning effort for the area contiguous with the Tahoe City Community Plan boundary, which is expected to lead to a new Tahoe City Area Plan in accordance with the recently adopted TRPA Regional Plan Update. Because provision of high-quality recreation opportunities experiences are goals of Placer County and TRPA, it is reasonable to assume that the Tahoe City Vision Plan and subsequent new Tahoe City Area Plan would foster improvements in public access to lakes, waterways, or public lands, and the overall quality of recreation experiences throughout the Tahoe City area.

The SR 89 Fanny Bridge Project, which would construct a new bridge over the Truckee River and potentially realign a segment of SR 89, is currently in the planning, environmental review, and early design phase. Depending on the alternative selected, the project could require rerouting of bike trail facilities, realigning of SR 89 through the 64-Acre Recreation Site, and other changes to local conditions that would alter the recreational experience for those using recreational facilities in the area. Although the SR 89 Fanny Bridge Project would not substantially reduce recreation access (and could enhance access), the project could substantially alter the recreational experience and therefore make a cumulatively considerable contribution to significant cumulative impact at the 64-Acre Recreation Site and vicinity. However, the effects of the CalPeco 625 and 650 Electrical Line Upgrade Project would have only a minor effect on the recreational experience at the 64-Acre Recreation Site and would not make a cumulative considerable contribution to a significant cumulative impact on recreational experience, were one to occur.

Improvements to the Tahoe City Substation proposed as part of the power line project would render it more visible, but mitigation recommended for potential scenic effects (refer to Section 4.4, Scenic Resources) would require substantial screening so as not to be visually evident to the casual observer. As a result, the rebuilt substation would not contribute to cumulative diminished quality of recreation experiences as it would be essentially out of sight.

Generally, probable future projects would have beneficial effects on recreation, improving the cumulative condition, or would result in projects that may result in increased demand, but would not have significant adverse effects on known recreation resources in the project vicinity. Given the generally positive cumulative condition of recreation in the region, and the potential effect of the probable future projects on recreation, implementation of the proposed project (including identified APMs to which the project applicant has committed and mitigation measures recommended for other impact areas that have the potential to affect recreation experience [refer to Section 4.4, Scenic Resources; Section 4.13, Air Quality; and Section 4.14, Noise]), would not result in a considerable contribution to any significant cumulative recreation impacts in the project vicinity or region.

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## 4.9 HERITAGE, CULTURAL, AND PALEONTOLOGICAL RESOURCES

This section analyzes and evaluates the potential impacts of the project on known and unknown heritage and cultural resources and on unknown fossil deposits of paleontological importance. Heritage and cultural resources include districts, sites, buildings, structures, or objects generally older than 50 years and considered to be important to a culture, subculture, or community for scientific, traditional, religious, or other reasons. For purposes of this analysis, heritage and cultural resources are divided into three broad categories: archaeological resources, architectural resources, and resources of special concern to Native Americans.

Archaeological resources are locations where human activity has measurably altered the earth or left deposits of prehistoric or historic-era physical remains (e.g., stone tools, bottles, former roads, house foundations). Architectural resources include standing buildings (e.g., houses, barns, outbuildings, cabins) and intact structures (e.g., dams, bridges). Traditional or ethnographic cultural resources may include Native American sacred sites (traditional cultural properties [TCPs]), traditional cultural places, and traditional resources of any ethnic community that are important for maintaining the cultural traditions of any group. A prehistoric or historic archaeological site, district, built environment resource, or traditional cultural resource that is recognized as historically or culturally significant may be determined to be a “historic property” or a “historical resource” as defined by federal law (36 Code of Federal Regulations [CFR] 800.16[l][1]) or state law (California Public Resources Code [PRC] Section 21084.1; 14 California Code of Regulations [CCR] Section 15064.5[a]).

Paleontological resources include mineralized, partially mineralized, or unmineralized bones and teeth, soft tissues, shells, wood, leaf impressions, footprints, burrows, and microscopic remains that are more than 5,000 years old and occur mainly in Pleistocene or older sedimentary rock units.

Information on the location of heritage and cultural resources in the project area is confidential and is not to be released to the public or other unauthorized entity, consistent with Section 304 of the National Historic Preservation Act (NHPA), Section 9 of Archaeological Resources Protection Act (ARPA), California Office of Historic Preservation guidelines, and US Forest Service (USFS) policy. For this reason, the EIS/EIS/EIR does not contain text, tables, or maps revealing the locations or detailed descriptions of heritage and cultural resources. Decision-makers have access to this information in a confidential appendix to the EIS/EIS/EIR.

### 4.9.1 REGULATORY SETTING

There are numerous federal and state laws and regulations; local ordinances; executive orders (EOs), agency guidelines, and resource management plans that pertain to the protection of heritage and cultural resources. The key federal law is the NHPA and the key state law is the California Environmental Quality Act (CEQA).

#### FEDERAL

##### NATIONAL ENVIRONMENTAL POLICY ACT

In accordance with National Environmental Policy Act (NEPA), an agency must consider:

- ▲ unique characteristics of the geographic area, such as proximity to historic or cultural resources (40 CFR 1508), and
- ▲ the degree to which the action may adversely affect districts, sites, highways, structures, or objects listed in or eligible for listing in the National Register of Historic Places (NRHP) (40 CFR 1508.27[b][8]).

## **NATIONAL HISTORIC PRESERVATION ACT OF 1966**

The NHPA (16 United States Code [USC] 470), as amended, is the principal federal law protecting heritage and cultural resources. Section 106 of the NHPA directs all federal agencies to take into account the effects of their undertakings (i.e., actions, financial support, and authorizations) on properties included in or eligible for the NRHP and to afford the Advisory Council on Historic Preservation (ACHP) a reasonable opportunity to comment on such undertakings (36 CFR Part 800). The regulations at 36 CFR Part 800 implement Section 106 and describe procedures for identifying resources; evaluating their significance; assessing effects; implementing measures to mitigate adverse effects; and consulting with the ACHP, State Historic Preservation Officers (SHPOs), Tribal Historic Preservation Offices (THPOs), Native American groups, and other interested parties.

A Section 106 agreement document may be required by the California SHPO, which in accordance with the requirements of 36 CFR Part 800, would outline procedures, tasks, standards, and responsibilities for complying with Section 106 during planning, construction, operation, and maintenance of the project. The agreement document would be fully executed prior to completion of the NEPA process and signing of a Record of Decision. The agreement document would be consistent with an existing USFS Region 5-wide agreement document prepared to ensure Section 106 compliance on National Forests in California: *First Amended Regional Programmatic Agreement among the U.S.D.A. Forest Service, Pacific Southwest Region, California State Historic Preservation Officer, and Advisory Council on Historic Preservation Regarding the Process for Compliance with Section 106 of the National Historic Preservation Act for Undertakings on the National Forests of the Pacific Southwest Region.*

Section 106 of the NHPA does not apply to paleontological resources unless they are found in a culturally-related context. In addition to the Antiquities Act (16 USC Sections 431-433) of 1906, the preservation and salvage of fossils and other paleontological resources may be protected under the National Registry of Natural Landmarks (16 USC Sections 461-467) and NEPA, which directs federal agencies to “preserve important historic, cultural, and natural aspects of our national heritage.”

## **ARCHEOLOGICAL RESOURCES PROTECTION ACT OF 1979**

The ARPA (43 CFR Section 7) could impose additional requirements on an agency if federal or Indian lands are involved. ARPA: (1) prohibits unauthorized excavation on federal and Indian lands; (2) establishes standards for permissible excavation; (3) prescribes civil and criminal penalties; (4) requires agencies to identify archeological sites; and (5) encourages cooperation between federal agencies and private individuals.

## **AMERICAN INDIAN RELIGIOUS FREEDOM ACT OF 1978**

The American Indian Religious Freedom Act of 1978 (AIRFA) (42 USC Sections 1996 and 1996a) affirms the right of Native Americans to have access to their sacred places. If a place of religious importance to American Indians could be affected by a federal undertaking, AIRFA promotes consultation with Indian religious practitioners, which could be coordinated with Section 106 consultation. Amendments to Section 101 of NHPA in 1992 strengthened the interface between AIRFA and NHPA by clarifying the following: (1) properties of traditional religious and cultural importance to an Indian tribe or Native Hawaiian organization could be determined to be eligible for inclusion in the NRHP; and (2) in carrying out its responsibilities under Section 106, a federal agency shall consult with any Indian tribe or Native Hawaiian organization that attaches religious and cultural significance to properties described under (1).

## **NATIVE AMERICAN GRAVES PROTECTION AND REPATRIATION ACT OF 1990**

For activities on federal lands, the Native American Graves Protection and Repatriation Act of 1990 (NAGPRA) (43 CFR Section 10) requires consultation with “appropriate” Indian tribes (including Alaska Native villages) or

Native Hawaiian organizations prior to the intentional excavation, or removal after inadvertent discovery, of several kinds of cultural items, including human remains and objects of cultural patrimony. For activities on Native American or Native Hawaiian lands, which are defined in the statute, NAGPRA requires the consent of the Indian tribe or Native Hawaiian organization prior to the removal of cultural items. The law also provides for the repatriation of such items from federal agencies and federally assisted museums and other repositories.

The 1992 amendments to the NHPA strengthened NAGPRA by encouraging “protection of Native American cultural items...and of properties of religious or cultural importance to Indian tribes, Native Hawaiians, or other Native American groups” (Section 112[b][3]) and by stipulating that a federal “...agency’s procedures for compliance with Section 106...provide for the disposition of Native American cultural items from federal or tribal land in a manner consistent with Section 3(c) of the Native American Graves Protection and Repatriation Act...”

## **PALEONTOLOGICAL RESOURCES PRESERVATION ACT OF 2009**

The Paleontological Resources Preservation Act as provided in Title VI, Subtitle D, Paleontological Resources Preservation of the Omnibus Public Land Management Act of 2009 (Public Law 111-011) (16 USC Section 1132 note), requires the Secretaries of the Interior and Agriculture to manage and protect paleontological resources on federal land using scientific principles and expertise.

## **EXECUTIVE ORDER 11593: PROTECTION AND ENHANCEMENT OF THE CULTURAL ENVIRONMENT**

Under EO 11593 (36 Federal Register 8921), the federal government shall provide leadership in preserving, restoring, and maintaining the historic and cultural environment of the Nation. This EO addresses the NRHP and provides guidance to those involved with federally controlled or owned properties that should be inventoried and nominated for listing in the NRHP. EO 11593 would only apply to the portions of the project located within the boundaries of federal lands.

## **EXECUTIVE ORDER 13007: PROTECTION AND PRESERVATION OF NATIVE AMERICAN SACRED SITES**

Executive Order 13007 (61 Federal Register 26771–26772) is meant to improve the management of Native American sacred sites on federal lands. The EO strives to protect and preserve Indian religious practices by accommodating access to and ceremonial use of Indian sacred sites by Indian religious practitioners, and by avoiding adversely affecting the physical integrity of such sacred sites. EO 13007 would only apply to the portions of the project located within the boundaries of federal lands.

## **HERITAGE PROGRAM MANAGEMENT**

The Heritage Program Management Forest Service Manual (FSM) 2360 provides direction and requirements pertaining to cultural resources management. It identifies responsibilities, authorities, and internal procedures to improve the management and protection of cultural resources on National Forest System lands. FSM 2360 was most recently updated in 2008.

## **STATE**

### **CALIFORNIA ENVIRONMENTAL QUALITY ACT**

CEQA (PRC Section 21000, *et seq.*; California Environmental Quality Act Guidelines, CCR, Section 1500, *et seq.*) is the principal regulatory control addressing impacts on historical and paleontological resources in California. Projects with the potential to adversely affect significant cultural resources must be reviewed through the CEQA process. As the designated CEQA lead agency for approval of the project, the California Public Utilities Commission (CPUC) is responsible for complying with CEQA’s requirements regarding the identification of

feasible measures to mitigate significant adverse changes to historical and paleontological resources and ensuring that the measures are enforceable through permit conditions, agreements, or other measures.

Whenever a resource (PRC 21083.2) cannot be avoided by project activities, impacts will be addressed and mitigated as outlined in PRC 15126.4 and 15331 of CEQA. The State CEQA Guidelines (PRC 15064.4) also state that when an initial study identifies the existence of, or probable likelihood, of Native American human remains within the project, a lead agency will work with the appropriate Native Americans as identified by the Native American Heritage Commission (NAHC).

In the case of projects that must consider both federal and state laws, regulations and standards, joint environmental documents, time limits for preparation, and cooperation with federal agencies on common documents is encouraged (14 CCR Section 15222, 15225).

## **CALIFORNIA PUBLIC RESOURCES CODE**

PRC Section 5097.5 states that any unauthorized removal or destruction of archaeological, historical, or paleontological resources on sites located on public land is a misdemeanor, except with the express permission of the public agency having jurisdiction over the lands. As used in this section, “public lands” is defined as “lands owned by, or under the jurisdiction of, the state, or any city, county, district, authority, or public corporation, or agency thereof.”

PRC Section 5097.9 prohibits the interference with the free expression of Native American religion as provided in the United States Constitution and the California Constitution; or causing severe or irreparable damage to any Native American sanctified cemetery, place of worship, religious or ceremonial site, or sacred shrine on public property, except on a clear and convincing showing that the public interest and necessity so require.

PRC Section 5097.97 promotes preservation of certain Native American cultural places located on public property, including a sanctified cemetery, place of worship, religious or ceremonial site, or sacred shrine, by ensuring access to these places by Native Americans.

PRC Section 5097.98 requires the NAHC, upon notification by a county coroner, to notify the most likely descendants regarding the discovery of Native American human remains; enables the descendants, within 48 hours of the notification by the commission, to inspect the site of the discovery of Native American human remains and to recommend to the landowner or the person responsible for the excavation work means for treating or disposition, with appropriate dignity, the human remains and any associated grave goods; requires the owner of the land upon which Native American human remains were discovered, in the event that no descendant is identified, or the descendant fails to make a recommendation for disposition, or the landowner rejects the recommendation of the descendant, to reinter the remains and burial items with appropriate dignity of the property in a location not subject to further disturbance.

PRC Section 5097.99 prohibits obtaining or possessing Native American artifacts or human remains taken from a grave or cairn and sets penalties for those actions.

PRC Section 5097.991 states that it is the policy of the State that Native American remains and associated grave artifacts shall be repatriated.

PRC Sections 5097.993-5097.994 (Native American Historic Resource Protection Act) states that it is unlawful to maliciously excavate, remove, destroy, injure, or deface a Native American historic, cultural, or sacred site, that is listed or could be eligible for listing in the California Register of Historical Resources (CRHR) pursuant to PRC Section 5024.1, including any historic or prehistoric ruins, any burial ground, any archaeological or historic site,

any inscriptions made by Native Americans at such a site, any archaeological or historic Native American rock art, or any archaeological or historic feature of a Native American historic, cultural, or sacred site, on public land.

PRC Section 21083.2 states that if a project could affect a resource that has not met with the definition of a historical resource set forth in Section 21084, then the lead agency could determine whether a project would have a significant effect on “unique” archaeological resources; if so an EIR (or, if applicable, an EIS/EIR) shall address these resources. If a potential for damage to unique archaeological resources can be demonstrated, such resources must be avoided; if they cannot be avoided, mitigation measures shall be required. The law also discusses excavation as mitigation; discusses the costs of mitigation for several types of projects; sets time frames for excavation; defines unique and non-unique archaeological resources; provides for mitigation of unexpected resources; and sets financial limitations for this section.

PRC Section 21084.1 indicates that a project could have a significant effect on the environment if it causes a substantial adverse change in the significance of a historical resource; the section further defines a “historical resource” and describes what constitutes a “significant” historical resource.

## CALIFORNIA HEALTH AND SAFETY CODE

California Health and Safety Code (HSC) Section 7050.5 requires that if human remains are discovered during construction outside of a dedicated cemetery, the project owner is required to contact the county coroner and further excavation or disturbance of land cease until the coroner has made a determination. If the coroner determines the remains are Native American, the coroner must contact the NAHC within 24 hours and the procedures outlined in PRC Section 5097.98 must be followed.

## TAHOE REGIONAL PLANNING AGENCY

### REGIONAL PLAN

The Tahoe Regional Planning Agency (TRPA) implements its authority to regulate growth and development in the Lake Tahoe Region through the Regional Plan. The Regional Plan includes Resolution 82-11, Environmental Threshold Carrying Capacities (threshold standards), Goals and Policies, Code of Ordinances, and other guidance documents. Chapter 67, Historic Resource Protection, in the Code of Ordinances provides for the identification, recognition, protection, and preservation of the Region’s significant cultural, historical, archaeological, and paleontological resources.

### Environmental Threshold Carrying Capacities

The TRPA Environmental Threshold Carrying Capacities do not specifically address heritage and cultural resources.

### Goals and Policies

The following goal and policies in the Cultural sub-element of the Regional Plan are applicable to this project.

**GOAL C-1:** Identify and preserve sites of historical, cultural, and architectural significance within the Region.

- ▲ **Policy C-1.1:** Historical or culturally significant landmarks in the Region shall be identified and protected from indiscriminant damage or alteration.
- ▲ **Policy C-1.2:** Sites and structures designated as historically, culturally, or archaeologically significant shall be given special incentives and exemptions to promote the preservation and restoration of such structures and sites.

Refer to Section 4.2, Land Use, for a policy consistency analysis.

## Code of Ordinances

TRPA has adopted guidelines to determine the significance of cultural resources in the Tahoe Basin and impacts on such resources. Section 67.6 of the TRPA Code of Ordinances states that “sites, objects, structures, districts or other resources of historical, cultural, archaeological, paleontological, or architectural significance locally, regionally, state-wide, or nationally” must meet at least one of the following criteria:

- ▲ resources associated with historically significant events such as an important community function or memorable happening in the past, or that contain qualities reminiscent of an early stage of development in the region;
- ▲ resources associated with significant persons, such as buildings or structures associated with a locally, regionally, or nationally known person; notable examples or best surviving works of a pioneer architect; or
- ▲ structures associated with the life or work of significant persons;
- ▲ resources embodying the distinctive characteristics of a type, period, or method of construction; possessing high artistic values; or representing a significant or distinguishable entity;
- ▲ archaeological or paleontological resources protected or eligible for protection under Federal or State regulations; or
- ▲ prehistoric archaeological or paleontological resources that contribute to the knowledge and understanding of early cultural or biological development.

Section 67.3 of the TRPA Code of Ordinances requires the protection of sites, objects, structures, or other resources designated as historic resources, or for which designation is pending. Demolition, disturbance, removal, or significant alterations are prohibited unless TRPA has approved a resource protection plan to protect the historic resources. Section 67.3.3 requires that the resource protection plan be prepared by a qualified professional cultural resources specialist and provide for resource documentation and evaluation. Section 67.3.4 requires protection during construction, which includes prohibiting grading or excavation in designated historic resource areas, except with a TRPA-approved resource protection plan (TRPA 2012).

Section 33.3.7 of the TRPA Code of Ordinances addresses the discovery of historic resources during grading activities. Grading must cease and TRPA must be notified if resources are encountered that appear to be 50 years or older. TRPA will suspend grading and consult with appropriate federal, state, or local entities to determine the significance of the resource, if any. The property owner must protect the materials during the investigation period (TRPA 2012).

## LOCAL AGENCIES

Policies and ordinances of local agencies applicable to the proposed project are described in this section.

## PLACER COUNTY GENERAL PLAN

The Placer County General Plan (1994) contains a Recreational and Cultural Resources Element in Section 5, which addresses historical, archaeological, paleontological, and cultural sites and their contributing environment. The cultural resources goals and policies of the general plan are focused on identifying, protecting, and enhancing the county’s important cultural and paleontological resources. Toward this goal, the county has established a Placer County Official Register of Cultural and Historic Resources (“official register”) of locally significant resources that do not qualify for State or Federal listings pursuant to Chapter 15 of the Placer County Code.

## **TAHOE CITY AREA GENERAL PLAN**

The Tahoe City Area General Plan (1994) has one goal related to cultural resources: preserve buildings and sites that add to the cultural heritage of the Tahoe City area.

## **MARTIS VALLEY COMMUNITY PLAN**

The Martis Valley Community Plan (Placer County 2003), in combination with the Placer County General Plan, is the official statement of Placer County setting forth goals, policies, assumptions, guidelines, standards, and implementation measures that will guide the physical, social, and economic development of the Martis Valley area to at least the year 2020. The goals and policies of the Cultural Resources Element (Section VIII) of the Martis Valley Community Plan are to identify, protect, and enhance the valley's important historical, archaeological, paleontological, and cultural sites and their contributing environment.

## **TOWN OF TRUCKEE 2025 GENERAL PLAN**

The purpose of the Town of Truckee 2025 General Plan (2006) is to guide development and conservation in the Town of Truckee through 2025, by establishing a policy basis for decision making. Among the Town of Truckee General Plan Community Character Element guiding principles and policies is the goal to identify and protect Truckee's historic and cultural resources, including paleontological resources. The Town of Truckee adopted a Historic Preservation Program that primarily addresses design guidelines. The duties and responsibilities of the Historic Preservation Advisory Commission are set forth in Council Resolution No. 99-48 and include maintaining a local inventory of all properties that have been designated as historic or cultural heritage resources.

## **4.9.2 EXISTING CONDITIONS/AFFECTED ENVIRONMENT**

### **INTRODUCTION**

The following section discusses the known heritage and cultural resources that exist within the study area which includes the area within 0.25 mile of all project components associated with the action alternatives. Maps and other location data are not provided for these resources, as described above. In addition, because the USFS ongoing tribal consultation process is not complete and because of extreme sensitivity of information provided by Native Americans, only minimal data are provided in this section about resources of special concern to Native Americans. This section also discusses the regional paleontological record and the potential for paleontological resources within the study area.

### **METHODOLOGY**

#### **BACKGROUND RESEARCH**

The initial background research for the proposed project was conducted by Far Western Anthropological Research Group (Far Western). In August 2007, a records search was conducted at the North Central Information Center (NCIC) in Sacramento for the existing 625 and 650 Lines and the new 625 and 650 Line routes considered at that time, plus a 0.25-mile buffer. The purpose of the records search was to obtain information about previously recorded heritage and cultural resources and past investigations. That same year, staff of the Tahoe National Forest, US Army Corps of Engineers (USACE), and Lake Tahoe Basin Management Unit (LTBMU) were contacted regarding similar information for lands under each agency's jurisdiction (Far Western 2010).

In October 2009, a supplemental records search at the NCIC was conducted to cover ancillary surveys of access routes and staging areas identified after the completion of initial field surveys in 2007 and 2008 (Far Western 2010).

An updated records search was conducted in August 2012 because it had been almost three years since the last search, the alignment of the proposed 625 and 650 Lines identified in the 2010 Proponents Environmental Assessment (PEA) had changed in some locations (as reflected in Alternative 1 [PEA Alternative]), and two additional alternatives (Alternative 2 [Modified Alternative] and Alternative 3, [Road Focused Alternative]) had been added to the analysis (Ascent et al. 2014). Information on heritage and cultural resources and surveys within 0.25 mile of these locations was obtained from the NCIC. In addition, other sources of data were consulted, including lists or databases for National Monuments, National Historic Landmarks, National Historic Trails, National Historic Sites, California Historical Landmarks, California Points of Historical Interest, NRHP, CRHR, Truckee Donner Historical Society, and the North Lake Tahoe Historical Society.

In a meeting with agency staff in June 2012, Tahoe National Forest, LBTMU, and USACE staff agreed to provide recent heritage and cultural resource reports and an ethnographic report for lands under their jurisdiction for purposes of this analysis. The USACE provided a preliminary list of cultural resources in the Martis Creek Lake and available maps of resources locations. The LBTMU Heritage Resources Managers were contacted and information on cultural resources within the LBTMU that would not have been received by the NCIC was provided. Tahoe National Forest staff indicated that not enough of the project area was within the forest to necessitate a records search at the forest office. The information provided by the agencies was reviewed and incorporated into the analysis provided in this section.

In April 2013, a review of the Shorezone records maintained by the TRPA, including the 1987 TRPA Historic Resource Map, indicates one resource is within the Area of Potential Effects (APE) for the project, near the Tahoe City Substation. Listed as the "Mouth of Truckee River," the resource is among the over 50 sites in the Shorezone recognized by TRPA as historically, culturally, or archaeologically significant.

In May 2013, a focused record search was conducted at the NCIC to cover additional staging areas identified after the completion of the supplemental field survey in 2012 (Ascent et al. 2014). A review of the Historic Resources and Architectural Inventory maintained by the Town of Truckee was also completed at this time.

Since Alternative 4 (Proposed Alternative) entirely overlaps with portions of Alternative 1 (PEA Alternative), Alternative 2 (Modified Alternative), and Alternative 3 (Road Focused Alternative), the record searches conducted in support of analysis of these three alternatives fully cover the APE for Alternative 4 (Proposed Alternative).

## FIELD INVENTORY

In 2007, 2008 and 2009 intensive heritage and cultural resource surveys were conducted along the existing 625 and 650 Lines and the new 625 and 650 Line routes proposed at that time. In both cases, the survey area was a 90-foot wide corridor with 300-foot diameter areas near pivot points. Staging areas, access roads and other locations were also surveyed. Approximately 17 percent of the study area had been previously surveyed for heritage and cultural resources and additional survey of this land was unnecessary although any previously recorded cultural resources within those areas were revisited (Far Western 2010).

In 2012, supplemental field surveys of power line corridors and access roads were conducted by POWER Engineers (POWER) in two phases. The first phase was conducted in September 2012 and included federal and state lands as well as private property where right of entry had been granted (Ascent et al. 2014). While Far Western had surveyed a 90 foot-wide corridor (45 feet to either side of centerline) of the Alternative 1 (PEA Alternative) evaluated at that time, it was determined that the APE for each alternative for this EIS/EIS/EIR would be 200 feet (100 feet on each side of the centerline). For areas previously surveyed with a 90 foot-wide corridor, the survey

area was extended as needed to provide the 200 foot-wide survey corridor. For Alternative 2 (Modified Alternative), Alternative 3 (Road Focused Alternative), and Alternative 4 (Proposed Alternative) the entire 200-foot width was surveyed. The APE for new access ways and existing roads that require improvement was 100 feet wide, 50 feet on each side of the centerline.

Because right of entry had not been obtained for all private land within the APE prior to the September 2012 survey, POWER archaeologists returned to the project area in October 2012 to conduct survey on additional private land (Ascent et al. 2014). Survey methods for the second phase of the survey varied from intensive survey similar to that performed on federal and state land to limited inspection from vehicles and public rights-of-way (ROWs) depending on location and whether rights of entry had been granted.

Stringing sites (i.e., sites established periodically along the alignment where conductor would be pulled and tensioned [see Chapter 3, Project Alternatives, for detailed information]) along the Alternative 1 (PEA Alternative) route and five staging areas (Northstar Golf Course, Kings Beach, Former Batch Plant, Fiberboard Freeway, and Tahoe City) were previously surveyed in 2009 by Far Western (2010). After completion of the 2012 field inventory by POWER, stringing sites for Alternative 2 (Modified Alternative), Alternative 3 (Road Focused Alternative), and Alternative 4 (Proposed Alternative) were identified, the Northstar Golf Course Staging Area was moved to avoid a known cultural resource, and seven new potential staging areas were included for consideration; Airport 1-3, USACE, Northstar Parking 1 and 2, and SPI (see Chapter 3, Project Alternatives, for details on the location and characteristics of each staging area). The newly identified stringing sites and staging areas, and the new location for the Northstar Golf Course Staging Area were surveyed by Parus Consulting, Inc. (PCI) archaeologists in July 2013. Note that the Northstar Parking 1 and 2 staging areas would consist of existing paved parking lots and would not involve any ground disturbance.

In June 2013, PCI archaeologists assisted USACE archaeologists in investigating and recording archaeological resources in the Martis Creek Lake. In July 2013, PCI staff also conducted a survey for architectural resources within the APE. In August 2013, PCI archaeologists surveyed an expanded APE on the east side of SR 267 north of Kings Beach (a 2.5-mile linear corridor with a width varying between 100 and 250 feet since portions of the corridor overlap previously surveyed areas). In October 2013, PCI archeologists surveyed additional private parcels where access had been obtained by the applicant.

Subsurface testing was conducted for the project at seven of the previously recorded archaeological sites to determine if intact, buried prehistoric or historic features or deposits are present that may contribute to the eligibility of the sites for listing in the NRHP or CRHR. One site was tested by Far Western in 2011 (Duke and O'Horo 2013), five sites by PCI in September 2013 (Sikes and Arrington 2013b), and one site by Natural Investigations Company, LLC (Natural Investigations) in June 2014 (Sikes et al. 2014). As a result of the testing, six of the sites were recommended not eligible and the portion of the seventh site within the APE as currently designed for proposed pole replacement locations for all four alternatives was found to not contribute to the eligibility of the site as a whole. Additionally, since the boundaries of three sites in the Martis Creek Lake overlap, two of which were tested by PCI, they have been combined by PCI as one archaeological site (Sikes and Arrington 2013b).

The APE for the project, including all four alternatives, encompasses a total of approximately 1,497.6 acres. Less than 3 percent of the APE (less than 40 acres) has not been surveyed because permission to enter by private landowners was not granted<sup>1</sup>. Since 2009, but not as part of this project, USACE archaeologists have been conducting a cultural resources inventory of the Martis Creek Lake USACE owned lands. Portions of the National Recreation Area within the APE (approximately 24.5 acres) were surveyed for this project by Far Western in 2007,

<sup>1</sup> CalPeco has determined that some of the currently unsurveyed area identified as part of the APE will not require surveys because no construction, operations, or maintenance work will occur on the parcels. (An example is in Truckee, where CalPeco knows they will not have any activity on the south side of a particular road.) CalPeco has obtained access permission for some parcels where work will occur, and cultural resource surveys are underway. Where access permission has not been obtained, but work could occur, surveys would be conducted as soon as access is provided for construction (e.g., if condemnation proceedings are needed to allow construction), and/or an archeological monitor would be present during construction.

POWER in 2012, and PCI in 2013. The inventory of the remainder of the National Recreation Area within the APE (approximately 66.2 acres) relies on the survey conducted by USACE.

## **NATIVE AMERICAN CONSULTATION**

In September 2007, Far Western contacted the NAHC and the Washoe Tribe of Nevada and California about the proposed project. The NAHC responded that their review of the sacred lands file failed to indicate the presence of Native American cultural resources in the immediate project area. Since the list of contacts among the Native American community provided by the NAHC was appropriate for western Placer County (traditional Maidu territory), Far Western contacted the Washoe Tribe directly. The then-Washoe THPO, Lynda Shoshone, reported that she did not have any specific information to offer about the study corridor at that time.

Implementing regulations for Section 106 require that Federal agencies identify potentially affected Indian tribes that might have knowledge of sites of religious and cultural significance in the APE and invite them to be consulting parties (36 CFR 800.3[f][2]). In accordance with Section 106 requirements, on behalf of Tahoe National Forest and USACE, as well as the CPUC, the LTBMU contacted the Washoe Tribe regarding the project as currently proposed. Consultation with the current THPO for the Washoe Tribe, Darrell Cruz, regarding the project is ongoing, and has included notification and consultation regarding subsurface testing of one prehistoric archaeological site by Natural Investigations in June 2014 (Sikes et al. 2014).

## **PALEONTOLOGICAL RESOURCES**

Information on the existing paleontological resources in the project area was obtained in 2010 for the 625 and 650 Line Electrical Upgrade Project (Sierra Pacific 2010). Research included a review of records housed at the University of California Museum of Paleontology (UCMP), Nevada Bureau of Mining and Geology, California Department of Conservation, and Sierra Nevada College; a review of geologic maps; and a records search on vertebrate fossils in the project vicinity by the UCMP. An additional review of geologic maps and a search of the database maintained by the UCMP that covered all components of the current project were conducted in April 2013.

## **HERITAGE AND CULTURAL RESOURCES IN THE PROJECT AREA**

### **CULTURAL SETTING**

#### **Prehistory**

The earliest period of human occupation in the project vicinity dates to approximately 9,000 years ago during a time of Early Holocene deglaciation and warming. Large, wide-stemmed projectile points, which imply an emphasis on the hunting of large game, are characteristic of the Tahoe Reach Phase (Elston et al. 1977). The subsequent Spooner Phase lasted from 8,000 to 5,500 years ago during the Middle Holocene. The archaeological record for either phase is sparse. During the Tahoe Reach Phase, a significantly lower water level in Lake Tahoe compared to today may be a contributing factor (Lindström and Hall 1994; Lindström et al. 2007:8). After the extreme drought ended, modern forests developed (Woolfenden 1996), but subsequent rising of the water level could have inundated many archaeological sites from these early occupation phases.

The Martis Complex is the earliest well-documented cultural element in this region. The fundamental subsistence economy during the Martis Complex was hunting and seed collecting, with seasonal movements between the uplands in the spring and summer, and lower elevations in the fall and winter. Projectile points vary in form, and are large, heavy, and roughly flaked. Point types resemble Great Basin forms and include the Martis series, Sierra stemmed triangular points, and Elko series. The most distinguishing characteristic of the Martis Complex is the preferential use of basalt, not chert or obsidian, for the manufacture of chipped stone tools. Other artifacts (e.g., boatstones used with atlatls) from the Martis Complex type site (CA-PLA-5) resemble

Central Valley artifacts and reinforce the hypothesis by Heizer and Elsasser (1953:26) of a relationship between Central Valley cultural patterns and the higher elevation Martis Complex.

Evidenced by about 1,500 years ago during the middle Late Holocene, the Kings Beach Complex is characterized by an economy focused on fishing and gathering. Similar to the preceding Martis Complex, the archaeological record indicates there were seasonal movements between the uplands in the spring and summer, and lower elevations in the fall and winter. Projectile points are smaller and lighter, resemble Cottonwood, Desert Side-notched and Rosegate series, and indicate the use of the bow and arrow. Obsidian and chert, instead of basalt, were mainly used to manufacture flaked tools. This shift in preference, or availability of these types of toolstone, suggests there was an increase in trade during this period. Milling equipment used during this period was predominantly bedrock mortars, with pestles made from cobbles.

After 1,000 years ago, particularly during the Medieval Climatic Anomaly, periods of drought caused water levels in Sierran and other western lakes to drop considerably (Wigand 2005: pp. 26-30). As recently summarized by Lindström et al. (2007: pp.9), many archaeologists have noted this period coincided with major, documented shifts in subsistence and settlement patterns in many areas of California and the Great Basin. Some of these patterns include a decrease in processing of large terrestrial game, an intensification of plant food use, and shifts from occupation of semi-sedentary villages to ephemeral camps. The introduction of Desert side-notched arrow points appears to have coincided with the more ephemeral settlement patterns that developed toward the end of the prehistoric period.

### **Washoe Ethnography**

The Lake Tahoe area is the nucleus of Washoe territory and is considered by the Washoe to be the “physical and spiritual center of the Washoe world” (Lindström and Hall 1994). Prehistoric remains in the traditional Washoe territory are considered by the Washoe to be of their direct ancestors. Washoe Tribe members point to the lack of an oral tradition of migration or mass movement to support that the prehistoric history of the Tahoe Basin is the history of the Washoe Tribe (Lindström et al. 2007). The project area falls within the traditional territory of the northern Washoe, or *Wélmelti’*.

The ethnographic Washoe engaged in a seasonal round, relying on a diverse range of resources (fish, animals, and plants) that were harvested at specific times of the year. This seasonal round was flexible depending upon the availability or abundance of resources. There was a tendency to live on the lakeshore or other lower elevation areas during colder times, and move up to higher elevations in warmer times. Lindström and Hall (1994) note that the Washoe tended to avoid living at sacred places, including one that is close to the current project area.

### **Non-Native History**

Historic-period land use in the project vicinity included mining, transportation (roads and railroads), logging and lumbering, shepherding, ranching and dairying, and recreational and residential development. A few key points are presented, as a context for considering the historic-era resources in the project region.

### ***Mining***

A number of quartz ledges were discovered on the Middle Fork of Martis Creek in the summer of 1863. Several hundred miners flocked to Martis Valley within a few days of the discovery and the area became known as Martis Valley’s “Red, White, and Blue Mining District.” There was a significant influx of people into the area and a search for silver in every direction near the valley. Coyote holes were dug, shafts and tunnels were started, but the quartz ore was not matching the assay values and the ore explorations along Tahoe’s north and east shores were largely sporadic and unproductive. The bonanza was short-lived, as miners abandoned the area in September to join the rumored gold strike near the Reese River in Nevada County. These mining events, however, ushered in the settlement of Tahoe’s north and west shores (Clark 1970, Richards n.d., Scott 1973: pp. 147-150).

While the focus in 1863 was on hard rock mining and silver ore, recent archaeological work has disclosed that industrious miners also engaged in placer mining along Main Martis Creek (Lindström 2011). Bench deposits were worked by ground sluicing, pans, rockers, and long toms. Evidence of placer mining in the Truckee region is extremely rare; the three known placer mining sites are located in Martis Valley.

### **Transportation**

**SR 267 Corridor.** Present-day SR 267 is predominantly two-lane highway that extends through the project area from Truckee to Kings Beach. Also known as the Brockway Road (P-31-003396), this historic route once served as a Washoe and Paiute Indian trail that was charted in 1863 during a survey of alternate trans-Sierran routes. In August of 1869, Truckee stage owner William “Billy” Campbell and mill owner George Schaeffer privately began construction of a new wagon road along the surveyed route between Truckee and Lake Tahoe (Scott 1957: pp.319). Schaeffer’s mill was located on the West Branch of Martis Creek. Folsom and Marlette, whose timber operations lay along the route, also are reported to have contributed “sufficient” funds towards these road improvements (Edwards 1883: pp.94).

This turnpike, known as the Truckee-Hot Springs Road, commenced from Truckee’s transcontinental railroad stop and went eastward across the river into Martis Valley, following the present-day route of SR 267. At Middle Martis Creek the Truckee-Tahoe shortcut intersected with what was later to be Richardson Brother’s sawmill spur. With a crew of laborers, mule and horse-drawn graders and wagons, the job was done in a month. In 1874, a new wagon road was pushed through to Tahoe City by way of Observatory Point. By 1883, Edwards (1883: pp.94), in his *Tourist Guide to the Truckee Basin*, could describe planned improvements on portions of the Truckee-Hot Springs Road to put the road in “first-class turn-pike order.” These upgrades within the SR 267 corridor were undertaken simultaneously with improvements along present SR 28 (along Tahoe’s north shore) and on SR 27/431 (over Mt. Rose). The paving of SR 267 between Truckee and Kings Beach in 1963 really opened the North Tahoe area.

**SR 89 Corridor.** The SR 89 corridor through the Truckee River Canyon was the earliest—beginning in 1852—and most primary access to Tahoe’s north shore. It was originally part of the Placer County Emigrant Road, also known as Scott’s Route. In 1860, John A. Huntington constructed the Tahoe-Truckee Toll Road. Later, the Truckee River and Lake Tahoe Turnpike Company supplanted John Huntington’s Tahoe-Truckee Toll Road organization (Scott 1957: pp.26, 28).

**Lake Tahoe Wagon Road/ Lincoln Highway.** During the Comstock Era, roads in the area were used primarily to provide supplies and lumber to the mines, as well as a route for the miners heading east. The growth in traffic prompted the construction of private toll roads and an increasing number of teamsters in the area. Way stations connected by roads through the Tahoe Basin, most significantly by the Lake Tahoe Wagon Road, were constructed to provide the basic necessities to travelers. The Lake Tahoe Wagon Road was completed in 1863 and provided an alternate route to traffic that normally went over Daggett Pass on Kingsbury Grade. The Lake Tahoe Wagon Road was designated a link in the Lincoln Highway, the pioneering transcontinental automobile road in 1914-1915. Many of the road networks that supplied the Comstock lumbering business were eventually integrated into the highway system. These roads were first re-used as state and national highways around 1910, as well as USFS roads starting in the 1930s.

**Fiberboard Freeway.** The Fiberboard Freeway (P-31-003388) once served as the main travel way between Tahoe City and Brockway Summit. The route crossed the Tahoe Divide and continued north to Sawmill Flat, which was a major early logging camp. Portions of the road parallel or have become forest single-lane dirt road (USFS Roads 16N51, 16N51, and 16N73 or spurs) or the modern road. The majority of the route is shown on the 1940 Truckee USGS map, and appears to have been established between 1900 and the 1920s during the intensive era of fir harvesting. The name of the route reflects the extensive land ownership and logging operations conducted by the Fibreboard Corporation that began in the 1940s and continued into the 1970s along Lake Tahoe’s north shore and north over the divide into Martis Valley.

## ***Logging and Lumbering***

The start of lumbering on the California side of Tahoe's north shore in the mid-1860s was largely coincident with the building of the Central Pacific Railroad and the subsequent opening of markets along its route. West of the California-Nevada state line at North Shore, lumbering tended to be oriented more toward the demands of the railroad; farther east, it served the needs of the Comstock Lode mines. The expansion beyond sawmilling into such facilities as planing mills, box factories, and sash and door establishments meant that self-sufficient communities like Truckee grew up where the larger mills were situated. In this era, the logistics of timber extraction and transport were accomplished by large lumber companies, whose timber holdings locked up immense blocks of land.

In the Martis Valley small-scale sawmilling and shingle production began during the late 1860s and the harvesting of pine stands continued until about 1906 (Lindström 2011). George Schaffer built two mills along main Martis Creek and logged the southwestern side of the valley, while the Richardson Brothers harvested the southeastern part of the valley for their saw mills on West Martis Creek and Middle Martis Creek. The wood was transported mainly via V-flume, wagon and steam tractor. During the late 1890s, the Truckee Lumber Company logged its lands in the eastern part of the watershed, using rolling stock of the Donner & Tahoe Railroad.

Chinese immigrants who had worked on the transcontinental railroad were employed by the lumber and charcoal industry. Chinese camps in the Martis Valley contain Asian ceramics, rock hearths and evidence of V-flumes. The charcoal was used at railroad and smelting works in Truckee, as well as Nevada and Utah. Nearly 200 earthen charcoal kilns have been recorded around Truckee, including one near the mouth of Martis Creek (Lindström 2012).

Early 20th-century logging operations were conducted on a much smaller scale and carried out on a more limited land base than during the prior Comstock Era. With the introduction of paper mills, the fir trees were intensively harvested between 1900 and the 1920s for use as pulpwood by Floriston Pulp and Paper Company, later Crown-Zellerbach Corporation (Lindström 2011). The Fiberboard Corporation began acquiring lands and cutting timber in the 1940s. By the 1950s, the pines that grew after the 1800s logging era were mature enough to harvest. This modern era lumber harvest continued on a reduced scale through the 1970s. By the 1980s, the forests in the Lake Tahoe vicinity were more valuable for recreational uses.

## ***Shepherding, Ranching and Dairying***

The demand for meat and dairy products encouraged Basque immigration to the American West in concert with the expanding populations in the logging camps and mining communities (Douglass and Bilbao 1975: pp.407). More than 500,000 sheep crossed Nevada on their way to California markets during the 1850s, and during the early 1870s, sheep were being moved into the high Sierra Nevada. The Basque immigrants developed a reputation as excellent shepherders, and they became indispensable to the sheep industry of the American West. At places like the abandoned "Sagadi Camp," shepherders continued to use the lower quality grasslands on the margins of Martis Valley well into the 1960s (Lindström 2011).

From the 1870s into the 1960s, the rich meadowlands of Martis Valley were a center for dairying and beef cattle operations (Lindström 2011). Notable land owners included the Joergers and the Cavitts. Joseph Joerger, Sr. may have driven herds to Martis Valley as early as 1856, camping with his men and cattle until 1876 when he homesteaded and built a modest ranch complex in the northern half of the valley near Martis Creek. This homestead is known as the "Old Joerger Ranch" and the road to the ranch (P-31-005360) has been recorded within the APE. Samuel Cavitt established his dairy in Martis Valley in 1905. The Cavitt Ranch complex was situated in the valley's center right on top of a large prehistoric site; the APE transects a portion of this multi-component site (P-31-000617).

## ***Recreation and Residential Development***

Many of the towns that blossomed between the 1860s and 1890s withered and were abandoned as timber in the area declined. A handful of lumbering centers—including Truckee, Incline, Kings Beach, and Tahoe City—built a future primarily on tourism. Lumbering, as well as agriculture, diminished in economic importance as the land became more valuable for residential, commercial, and recreational purposes. These communities survived and continued to prosper, initiating a trend toward increased urbanization and year-round residency (Wilson 1992: pp. 48).

The Tahoe/Truckee area began attracting interest as a pleasure and health destination for tourists during the late 1800s. A variety of resorts appeared along the river and lake shore, and growing numbers of eastern visitors joined San Francisco's elite and the wealthy mining and business interests of the Comstock at the lake's best hotels, such as the Tahoe Inn and Tahoe Tavern in Tahoe City. People of more modest means camped or vacationed in rustic hotels and cottages. The USFS initiated patrols for visitor safety and established fire lookouts, such as Stateline and Martis Peak, and remote guard stations (Bear Trap Cabin, P-31-001945 within the APE) and outpost ranger stations (Tahoe Vista Ranger Station). Early horse trails were improved and telephone lines were installed as part of a fairly extensive system which linked outlying USFS facilities with main offices (Waechter et al. 2010: pp.17).

With the entrance of automobiles into the Tahoe Basin around 1910 and the establishment during the 1930s of a statewide network of engineered and major routes, regional population growth escalated. In 1931, the legalization of gambling made gaming become a significant factor in the economic structure of the Tahoe region. After the 1960 Winter Olympics, an irreversible trend was established with the demand for year-round residency. Thereafter, the ski industry assumed a prominent place, along with gaming, in the economy of the Tahoe Basin.

## **KNOWN HERITAGE AND CULTURAL RESOURCES**

### **Cultural Resources Inventories within the Area of Potential Effects**

According to the records searches, there have been 157 previously conducted heritage and cultural resources investigations within the study area. The study area encompasses the APE and a 0.25 mile buffer area around the APE for all project alternative corridors, staging areas, stringing sites, new access ways, and existing access roads that require improvement. These investigations include archaeological surveys, site-specific investigations, and architectural inventories. Fifty-four of the investigations have been completed in the last 10 years (post-2002). The remaining 103 investigations were conducted between 1952 and 2001, and are considered outdated by the California SHPO. A total of 196 heritage and cultural resources (archaeological sites, linear historic-era resources, isolated finds) have been previously recorded within the study area. This total does not include additional cultural resources that may have been identified by the ongoing inventory by USACE in the Martis Creek Lake.

The APE, which is the area within which the potential direct or indirect impacts of the project may have an effect on cultural resources, is defined as including 200-foot wide corridors for each power line alternative, 100-foot wide corridors for new and improved access roads, staging areas, and stringing sites; the APE covers approximately 1,498 acres. As a result of field surveys by PCI in 2013 and POWER in 2012 (Ascent et al. 2014); by Far Western in 2007, 2008, and 2009 (Far Western 2010); and by the USACE since 2009, it is estimated that approximately 1,430 acres (over 95 percent) have been intensively surveyed for heritage and cultural resources. All land managed by the Tahoe National Forest, LTBMU, USACE, and California State Parks within the APE has been surveyed. Private land was surveyed wherever permission was granted by the owner; of approximately 473 acres of privately owned lands within the APE, right of entry was not available for less than 40 acres.

## Archaeological Resources

A total of 63 archaeological resources have been identified and recorded within the APE (Ascent et al. 2014; Sikes and Arrington 2013b). Fifty-one of the archaeological resources are from the historic era, seven are prehistoric sites, and five sites have both prehistoric and historic components.

The total number of recorded archaeological resources within the APE does not include the existing 625 and 650 Lines, for which formal recordation was not warranted. The lines were constructed in 1971 and 1959, respectively, and the majority of the original poles and equipment along the lines has been modified, repaired, or replaced over the years as a result of damage from normal weathering, unstable soils, or fire. As a result, little, if any, of the original lines remain in place today. Therefore, neither the older 650 Line nor the 625 Line qualify as historic properties or historical resources and are not addressed further in this document.

Forty-eight of the 63 recorded archaeological resources do not qualify as historic properties or historical resources and are not eligible for listing in the NRHP or CRHR (Table 4.9-1) (Sikes and Arrington 2013a, 2013b). These include two historic-era resources that were determined not eligible with SHPO concurrence in 1999, 41 historic-era archaeological sites or linear features, two prehistoric lithic scatters, and three sites with prehistoric and historic components. None of the sites are included in a local register, nor do they qualify as defined in PRC Sections 1520.1(j) or 5024.1. Therefore, any effect of the project to these resources would be less than significant and, except for one documented historic-era cemetery (P-29-003835, Truckee Catholic Cemetery), the NRHP- and CRHR-ineligible resources are not addressed further in this chapter. While the cemetery is located within the APE for the existing and proposed 650 Line and no construction activities are proposed within the cemetery, the potential for the presence of unknown/unmarked burials near and outside the formal cemetery boundaries is addressed below.

Four archaeological sites (two prehistoric, one historic-era, and one with both prehistoric and historic components) identified within the APE have been recommended eligible for NRHP and CRHR inclusion by prior studies (Table 4.9-2) (Ataman 1999; Lindström and Betts 2010; Young and Rosenthal 2013). Each of the sites was recommended eligible under Criterion D for yielding and a potential to yield information important in history or prehistory. Additionally, P-31-000398 was recommended eligible under Criterion A for encompassing historic-era Washoe (*Wélmelti'*) use of a knoll at the site and likely ancestral Washoe connections to the place; and P-31-003876 was recommended eligible under Criterion A for its association with events that have made a significant contribution to the broad patterns of our history and Criterion C for embodying distinctive characteristics of a type, period, or method of construction. The prehistoric components of the two multi-component sites listed in the table (P-31-000131 and P-31-000132) have been recommended eligible, while the minor historic components of the two sites are recommended not eligible. Subsurface testing conducted for the project determined the portion of P-31-000132 within the APE as currently designed for proposed pole replacement locations for all four alternatives does not contain subsurface deposits or features and does not contribute to the eligibility of the site as a whole (Sikes et al. 2014).

The remaining 11 archaeological resources (three prehistoric, seven historic-era, and one with both prehistoric and historic components) identified within the APE have not been formally evaluated but are recommended eligible for NRHP and CRHR inclusion (Table 4.9-3). Evaluation of these resources under the Section 106 process is currently underway (Sikes and Arrington 2013a). Consistent with FSM 2360 (FSM 2363.22), until a formal evaluation of significance is completed and the SHPO and/or Keeper of the National Register have been provided the opportunity to review and comment, all cultural resources that are currently unevaluated are treated as eligible for NRHP inclusion. These 11 archaeological resources are thus recommended eligible for NRHP and CRHR inclusion.

Primary No.	Trinomial	Land Ownership	Resource Age	Resource Description	NRHP/CRHR Status	Resource by Alternative <sup>1</sup>			
						Alternative 1 (PEA Alternative)	Alternative 2 (Modified Alternative)	Alternative 3 (Road Focused Alternative)	Alternative 4 (Proposed Alternative)
P-29-000950	CA-NEV-714H	Private	Historic	Lincoln/ Victory Highway	Determined not eligible	X	X	X	X
P-29-001129	CA-NEV-532H	Private	Historic	Old Truckee Dump ca. 1870-1920	Determined not eligible	X	X	X	X
P-29-001200		Private	Historic	Fence	Recommended not eligible	X	X	X	X
P-29-001202		Private	Historic	SR 267 and culvert	Recommended not eligible	X	X	X	X
P-29-001207		Private	Historic	Trash scatter	Recommended not eligible	X	X	X	X
P-29-001209	CA-NEV-852/H	Private	Prehistoric/ Historic	Lithic scatter; E. River Street Dump	Recommended not eligible	X	X	X	X
P-29-001210	CA-NEV-853H	Private	Historic	F.F. Kearney Chicken Ranch	Recommended not eligible	X	X	X	X
P-29-003835		Private	Historic	Truckee Catholic Cemetery	Recommended not eligible	X	X	X	X
P-29-004375		Private	Historic	Rock retaining wall	Recommended not eligible	X	X	X	X
P-29-004376		Private	Historic	Railroad tie fence	Recommended not eligible	X	X	X	X
P-31-000133	CA-PLA-7	LTBMU	Prehistoric	Lithic scatter	Recommended not eligible (destroyed)	X	X	X	X
P-31-000613/ 003688/ 005616	CA-PLA-487/ 2329/H	USACE	Prehistoric/ Historic	Lithic scatters; trash scatters and historic-era features	Recommended not eligible	X			X
P-31-001940		LTBMU	Historic	Bear Trap to Truckee Trail	Recommended not eligible	X	X	X	X
P-31-001945	CA-PLA-1486/H	LTBMU	Prehistoric/ Historic	Lithic scatter; Bear Trap Cabin, telephone line	Recommended not eligible	X	X	X	X
P-31-001949		Private/ LTBMU	Historic	Old Tahoe City-Truckee Road	Recommended not eligible	X	X	X	X
P-31-001953		Private/ LTBMU	Historic	Watson Snow Tree, fence	Recommended not eligible	X	X	X	X
P-31-001954		LTBMU	Historic	Ditches, dredge piles, property markers	Recommended not eligible	X	X	X	X
P-31-001973		State of California / LTBMU	Historic	Ditch ca. 1907	Recommended not eligible	X	X	X	X
P-31-002591		Private	Historic	Logging road, railroad grade	Recommended not eligible	X	X	X	X
P-31-002592		Private	Historic	Logging road, railroad grade	Recommended not eligible	X	X	X	X
P-31-002593		Private	Historic	Logging road, telegraph line	Recommended not eligible	X	X	X	X

Table 4.9-1 Archaeological Resources within the APE Determined or Recommended Not NRHP or CRHR Eligible									
Primary No.	Trinomial	Land Ownership	Resource Age	Resource Description	NRHP/CRHR Status	Resource by Alternative <sup>1</sup>			
						Alternative 1 (PEA Alternative)	Alternative 2 (Modified Alternative)	Alternative 3 (Road Focused Alternative)	Alternative 4 (Proposed Alternative)
P-31-003247		Tahoe National Forest	Historic	Wagon road	Recommended not eligible	X	X	X	X
P-31-003248		Private	Historic	Wagon road	Recommended not eligible	X	X	X	X
P-31-003352	CA-PLA-2330H	Private	Historic	Trash scatter	Recommended not eligible	X	X	X	X
P-31-003365		LTBMU	Historic	Mt. Watson Road	Recommended not eligible	X		X	X
P-31-003387		State of California / Private / LTBMU	Historic	FS Road 16N71, trash dumps	Recommended not eligible	X	X	X	X
P-31-003388		LTBMU	Historic	Fibreboard Freeway, refuse deposits	Recommended not eligible	X	X	X	X
P-31-003389		LTBMU	Historic	Old Grist Mill Road (FS Road 16N87), roadside dumps	Recommended not eligible	X	X	X	X
P-31-003393		LTBMU	Historic	FS Road 16N99, trash dumps	Recommended not eligible	X	X	X	X
P-31-003396		State of California / LTBMU	Historic	SR 267/Old Brockway Road, trash scatter	Recommended not eligible	X			X
P-31-003681		LTBMU	Historic	Ditch	Recommended not eligible	X		X	X
P-31-003686		LTBMU	Historic	Old Loop Road	Recommended not eligible	X	X	X	X
P-31-003687	CA-PLA-2328	USACE/ Tahoe National Forest	Prehistoric	Lithic scatter	Recommended not eligible	X			X
P-31-003691		LTBMU	Historic	Road segment	Recommended not eligible	X		X	X
P-31-003694		LTBMU	Historic	Road segment	Recommended not eligible	X	X	X	X
P-31-003699		Tahoe National Forest	Historic	Road segment	Recommended not eligible	X		X	X
P-31-003700		Tahoe National Forest	Historic	Road segment	Recommended not eligible	X	X	X	X

Primary No.	Trinomial	Land Ownership	Resource Age	Resource Description	NRHP/CRHR Status	Resource by Alternative <sup>1</sup>			
						Alternative 1 (PEA Alternative)	Alternative 2 (Modified Alternative)	Alternative 3 (Road Focused Alternative)	Alternative 4 (Proposed Alternative)
P-31-003817		Private/ LTBMU	Historic	Trash scatter	Recommended not eligible			X	X
P-31-003818		Private/ LTBMU	Historic	Trash scatter	Recommended not eligible			X	X
P-31-003819		State of California / Private/ LTBMU	Historic	Tahoe City Community Dump ca. 1920s-1960s	Recommended not eligible	X	X	X	X
P-31-003820		State of California / LTBMU	Historic	Roadside dump ca. 1930s	Recommended not eligible	X	X	X	X
P-31-003821		State of California / LTBMU	Historic	Roadside dump ca. 1930s	Recommended not eligible	X	X	X	X
P-31-003822	CA-PLA-2336H	Private/ LTBMU	Historic	Structural remains, roads, refuse scatter	Recommended not eligible	X	X	X	X
P-31-003823		State of California / LTBMU	Historic	Road or railroad grade segment, trash scatter	Recommended not eligible	X	X	X	X
P-31-003824	CA-PLA-2337H	Private/ LTBMU	Historic	Structural remains, refuse scatter	Recommended not eligible	X	X	X	X
P-31-005360		Private/ USACE	Historic	Old Joerger Ranch Road, roadside debris	Recommended not eligible	X	X	X	X
P-31-005612		State of California / LTBMU	Historic	Trash scatter	Recommended not eligible			X	X
P-31-005613		State of California / LTBMU	Historic	Trash scatter	Recommended not eligible	X	X	X	X

Notes: <sup>1</sup> An "X" indicates that the resource was found in the APE for that alternative. Because alternatives share the same staging areas and many of the same route segments and access roads, a resource can occur in the APE for more than one alternative.

Table 4.9-2 Archaeological Resources within the APE Recommended NRHP and CRHR Eligible by Prior Studies									
Primary No.	Trinomial	Resource Age	Land Ownership	Resource Description	NRHP/CRHR Status	Resource by Alternative <sup>1</sup>			
						Alternative 1 (PEA Alternative)	Alternative 2 (Modified Alternative)	Alternative 3 (Road Focused Alternative)	Alternative 4 (Proposed Alternative)
P-31-000131	CA-PLA-5/H	Prehistoric/ Historic	USACE	Lithic scatter; trash scatter	Prehistoric component recommended eligible; historic component recommended not eligible			X	
P-31-000132 <sup>2</sup>	CA-PLA-6	Prehistoric	USACE/Private	Habitation site; minor historic component	Prehistoric component recommended eligible; historic component recommended not eligible <sup>2</sup>	X	X	X	X
P-31-000398	CA-PLA-272	Prehistoric	Tahoe National Forest	Habitation site	Recommended eligible	X			X
P-31-003876	CA-PLA-2352H	Historic	State of California/ LTBMU	Tahoe City Log Chute	Recommended eligible	X	X	X	X

Notes: <sup>1</sup> An "X" indicates that the resource was found in the APE for that alternative. Because alternatives share the same staging areas and many of the same route segments and access roads, a resource can occur in the APE for more than one alternative.  
<sup>2</sup> Subsurface testing conducted for the project determined the portion of P-31-000132 within the APE as currently designed for proposed pole replacement locations for all four alternatives does not contribute to the eligibility of the site as a whole (Sikes et al. 2014).

Table 4.9-3 Unevaluated Archaeological Resources within the APE Recommended NRHP and CRHR Eligible

Primary No.	Trinomial	Land Ownership	Resource Age	Resource Description	NRHP/CRHR Status	Resource by Alternative <sup>1</sup>			
						Alternative 1 (PEA Alternative)	Alternative 2 (Modified Alternative)	Alternative 3 (Road Focused Alternative)	Alternative 4 (Proposed Alternative)
P-31-000606	CA-PLA-480	USACE	Prehistoric	Lithic scatter	Recommended eligible	X	X	X	X
P-31-000607	CA-PLA-481	USACE	Prehistoric	Lithic scatter	Recommended eligible	X	X	X	X
P-31-000617	CA-PLA-491/H	USACE	Prehistoric/ Historic	Lithic scatter; Cavitt Ranch	Recommended eligible	X	X		X
P-31-003107	CA-PLA-2145H	LTBMU	Historic	Griff Creek water system, trash scatter	Recommended eligible	X	X		
P-31-003358		Private	Prehistoric	Lithic scatter	Recommended eligible			X	
P-31-003680		LTBMU	Historic	Logging roads and skid trails	Recommended eligible		X		
P-31-003682		LTBMU	Historic	Road segment	Recommended eligible	X	X		
P-31-003684		LTBMU	Historic	Road segment	Recommended eligible	X	X		
P-31-003685		LTBMU	Historic	Road segment	Recommended eligible	X	X		
P-31-003689	CA-PLA-2331H	LTBMU	Historic	Trash scatters	Recommended eligible	X	X		
P-31-005614		Private	Historic	Trash scatter	Recommended eligible		X		

Notes: <sup>1</sup> An "X" indicates that the resource was found in the APE for that alternative. Because alternatives share the same staging areas and many of the same route segments and access roads, a resource can occur in the APE for more than one alternative.

## **Native American Cultural Resources**

No sites of traditional Native American religious significance, including sacred sites, contemporary use areas, or TCPs, have been identified within the APE through formal processes, as discussed above under the section on Native American Consultation. The ongoing evaluation of known cultural resources and formal consultation being conducted with the Washoe Tribe by the LTBMU on behalf of the USFS, USACE, and CPUC, may, however, result in the identification of previously unknown ethnographic properties or TCPs that may be eligible for inclusion in the NRHP or CRHR.

Recent testing and NRHP evaluation of an archaeological site (P-31-000398), which is within the APE for the 650 Line for Alternative 1 (PEA Alternative) and Alternative 4 (Proposed Alternative) and has been identified by the Washoe, especially the *Wélmelti'* of Martis Valley, as “particularly evocative of the ancestral lifeway and worldview” (Rucks 2011), recommended the site eligible under Criterion A for encompassing historic-era *Wélmelti'* use of a knoll at the site and likely ancestral Washoe connections to the place, as well as under Criterion D for yielding and a potential to yield information important in history or prehistory (Young and Rosenthal 2013). Project design will ensure that the new steel poles will be placed outside the mapped boundaries of this historic property. While important as a Washoe heritage site, this resource has not been identified as a sacred site, contemporary use area, or TCP, or as having traditional Native American religious significance.

## **Architectural Resources**

The APE for all the action alternatives is approximately 0.2 mile from the eastern edge of the Commercial Row-Brickelltown Historic District (P-29-002926) in Truckee. Located outside the APE on roughly the north side of Donner Pass Road from Bridge Street westward for approximately 1,700 feet, the Historic District was listed in the NRHP in 2009.

No significant architectural resources with a potential to be directly or indirectly adversely affected by the project have been identified within the APE.

## **PALEONTOLOGICAL RESOURCES IN THE PROJECT AREA**

Information regarding the geomorphic province and geological specifics of the project are discussed in Section 4.5, Geology, Soils, Land Capability and Coverage.

According to the literature reviews and records searches, no documented paleontological resources have been identified within the study area. Based on paleoflora field research for the Lake Tahoe region, however, there is the possibility that petrified wood and opalized wood scatter may be present in the area. Miocene and Pleistocene vertebrate fossils (mastodon and horse) have been recorded near Boca Reservoir northeast of the project. Recent mapping of the Lake Tahoe-Donner Pass region builds upon earlier studies and shows much of the study area is underlain by andesitic lava flows, lava domes, and volcanoclastic rocks broadly assigned to the Mehrten Formation of late Miocene and Pliocene age (Sylvester et al. 2012). Quaternary glaciers, which left U-shaped valleys, glacial till and outwash, affected most of the higher elevations in the northern Sierra Nevada and may have exposed paleontologically sensitive deposits, including the Mehrten Formation.

The Mehrten Formation has produced Miocene-age plant and vertebrate fossils. Mastodon, horse, ground sloth, saber-toothed cat, camel, rodent, reptile, and bony fish, have been recorded from this geologic rock unit at localities throughout central California and the western Sierra Nevada foothills (University of California Museum of Paleontology 2013). Because this formation has produced significant vertebrate fossils, the Mehrten Formation is considered to have a high sensitivity for paleontological resources using criteria established by the Society of Vertebrate Paleontology (SVP) (2010).

The geologic map of the region (Sylvester et al. 2012) showing the project study area is provided in Appendix I, Additional Geology and Soils Information, of this EIS/EIS/EIR. Mehrten Formation volcanoclastic deposits occur

along Segment 650-3 in the Lookout Mountain area between Brockway Summit and Martis Valley while andesite flows occur along approximately two miles of the 625 Line east of Segments 625-6. Approximately 1-mile of Segment 625-3 is located on Mehrten Formation volcanoclastic deposits that have been exposed by fluvial down cutting action near the headwaters of Burton Creek.

### 4.9.3 ENVIRONMENTAL CONSEQUENCES AND RECOMMENDED MITIGATION MEASURES

#### SIGNIFICANCE CRITERIA

##### TRPA CRITERIA

The “Archeological/Historical” criteria from the TRPA Initial Environmental Checklist were used to evaluate the impacts of the alternatives for TRPA compliance. The checklist asks whether the project would result in the following conditions.

- ▲ Will the proposal result in an alteration of or adverse physical or aesthetic effect to a significant archaeological or historical site, structure, object, or building?
- ▲ Is the proposed project located on a property with any known cultural, historical, and/or archaeological resources, including resources on TRPA or other regulatory official maps or records?
- ▲ Is the property associated with any historically significant events and/or sites or persons?
- ▲ Does the proposal have the potential to cause a physical change which would affect unique ethnic cultural values?
- ▲ Will the proposal restrict historic or pre-historic religious or sacred uses within the potential impact area?

TRPA recognizes sites, objects, structures, districts or other resources eligible for designation as resources of historical, cultural, archeological, paleontological, or architectural significance locally, regionally, state-wide or nationally. Under Section 67.6 of the Code of Ordinances, those resources must meet at least one of the criteria summarized below.

- ▲ Resources Associated with Historically Significant Events and Sites. Resources shall exemplify the broad cultural, political, economic, social, civic, or military history of the region, the states, or the nation, or be associated with events that have made a significant contribution to the broad patterns of history, including regional history. Such resources shall meet one or more of the following: a) Association with an important community function in the past; b) Association with a memorable happening in the past; or c) Contain outstanding qualities reminiscent of an early stage of development in the region.
- ▲ Resources Associated with Significant Persons. Resources that are associated with the lives of persons significant in history, including regional history, such as: a) Buildings or structures associated with a locally, regionally, or nationally known person; b) Notable example or best surviving works or a pioneer architect, designer or master builder; or c) Structures associated with the life or work of significant persons.
- ▲ Resources Embodying Distinctive Characteristics. Resources that embody the distinctive characteristics of a type, period, or method of construction that possess high artistic values or that represent a significant and distinguishable entity but whose components may lack individual distinction. Works of a master builder, designer, or architect also are eligible. Resources may be classified as significant if they are a prototype of, or a representative example of, a period style, architectural movement, or method of construction unique in the region, the states, or the nation.
- ▲ State and Federal Guidelines. Archeological or paleontological resources protected or eligible for protection under state or federal guidelines.

- ▲ Prehistoric Sites. Sites where prehistoric archaeological or paleontological resources that may contribute to the basic understanding of early cultural or biological development in the region.

Under Section 67.4, upon discovery of a site, object, district, structure, or other resource, potentially meeting the criteria of Section 67.6, TRPA shall consider the resource for designation as a historic resource and shall consult with the applicable SHPO and with the Washoe Tribe if it is a Washoe site. If the resource initially is determined to be eligible for designation as a historic resource by the SHPO, TRPA shall consider designation pursuant to Sections 67.6 and 67.5.

## NEPA CRITERIA

An environmental document prepared to comply with NEPA must consider the context and intensity of the environmental effects that would be caused by or result from the proposed action. Under NEPA, the significance of an effect is used solely to determine whether an EIS must be prepared. The factors that are taken into account under NEPA to determine the significance of an action in terms of the context and the intensity of its effects are also encompassed by the TRPA and CEQA criteria used for this analysis.

Under the NHPA and the regulations in 36 CFR 800, the criteria for assessing adverse effects on cultural resources for federal undertakings are guided by the specific legal context of the site's significance as set out in Section 106 of the NHPA (16 USC 470), as amended. To be considered eligible for listing in the NRHP, a resource must meet one or more of the criteria for evaluation defined at 36 CFR 60.4 below.

The quality of *significance* in American history, architecture, archaeology, engineering and culture is present in districts, sites, buildings, structures, and objects that possess integrity of location, design, setting, materials, workmanship, feeling and association and that:

- A. are associated with events that have made a significant contribution to the broad patterns of history;
- B. are associated with the lives of persons significant in the past;
- C. embody the distinctive characteristics of a type, period, or method of construction, represent the work of a master, possess high artistic value, or represent a significant and distinguishable entity whose components may lack individual distinction; or
- D. have yielded, or may be likely to yield, information important in prehistory or history.

In addition, FSM 2360 directs that the "agency official shall treat all cultural resources as National Register-eligible properties until a formal evaluation of significance is completed and the SHPO and/or Keeper of the National Register have been provided the opportunity to review and comment" (FSM 2363.22).

The impact assessment methodology used in this section is consistent with both NEPA and Section 106 of the NHPA, which encourages the integration of its compliance process with that of NEPA. The Section 106 process requires identifying heritage and cultural resources potentially affected by an undertaking, determining the effects of that undertaking on the resources, and identifying measures to avoid, reduce, or otherwise mitigate adverse effects. The NEPA process is not complete until the Section 106 process is complete.

Under Section 106, an adverse effect occurs when an undertaking may alter, directly or indirectly, any of the characteristics of a historic property that qualify it for inclusion in the NRHP in a manner that would diminish the integrity of the property's location, design, setting, materials, workmanship, feeling, or association. Adverse effects on historic properties (36 CFR part 800.5[a] [2]) include, but are not limited to:

- ▲ physical destruction of or damage to all or part of the property;

- ▲ alteration of a property, including restoration, rehabilitation, repair, maintenance, stabilization, hazardous material remediation, and provision of handicapped access, which is not consistent with the *Secretary of the Interior's Professional Standards for the Treatment of Historic Properties* and applicable guidelines;
- ▲ removal of the property from its historic location;
- ▲ change of the character of the property's use or of physical features within the property's setting that contribute to its historic significance;
- ▲ introduction of visual, atmospheric, or audible elements that diminish the integrity of the property's significant historic features;
- ▲ neglect of a property which causes its deterioration, except where such neglect and deterioration are recognized qualities of a property of religious and cultural significance to an Indian Tribe or Native Hawaiian organization; and
- ▲ transfer, lease, or sale of property out of Federal ownership or control without adequate and legally enforceable restrictions or conditions to ensure long-term preservation of the property's historic significance.

For the 625 and 650 Electrical Line Upgrade Project, the most likely types of adverse effects to historic properties would be: 1) physical destruction or damage; 2) change in a property's character or setting; and 3) introduction of visual elements that affect the property's integrity.

Adverse effects can be categorized according to the source of the impact. For this project potential sources of effects to heritage and cultural resources eligible to or listed in the NRHP include:

- ▲ ground disturbance resulting from construction, operation, maintenance, and decommissioning of the power line and related facilities, and from erosion caused by ground disturbance;
- ▲ visual impacts, which can change the setting or character of a resource, resulting from the presence of power structures and other facilities; and
- ▲ vandalism and other disturbance caused by the presence of new and improved access roads and overland access routes.

Heritage and cultural resources within the power line ROW could potentially be subject to both direct (ground disturbance and vandalism) and indirect (visual) impacts.

## CEQA CRITERIA

Under CEQA, a project is considered to have a significant effect on the environment if it causes a substantial adverse change in the significance of a historical resource or unique archaeological resource, would directly or indirectly destroy a unique paleontological resource or site or unique geologic feature, or would disturb any human remains, including those interred outside of formal cemeteries. Substantial adverse change means physical demolition, destruction, relocation, or alteration of the resource or its immediate surroundings such that the significance of the resource would be materially impaired or diminished. Furthermore, it is recommended under CEQA that cultural resources be preserved *in situ* whenever possible through avoidance of the resource. Whenever a historical resource or unique archaeological resource (PRC 21083.2) cannot be avoided by project activities, effects shall be addressed and mitigated as outlined in PRC 15126.4 and §15331 of CEQA.

## Historical Resources

According to CEQA, lead agencies are required to identify historical resources that may be affected by any undertaking that triggers CEQA environmental review. Also, the significance of such resources that may be affected by the undertaking must be evaluated using the criteria for listing in the CRHR (PRC Section 5024.1,

Title 14 CCR Section 4852). Generally, a resource is considered by the lead agency to be historically significant if the resource has integrity and meets the criteria for listing in the CRHR. Resources already listed or determined eligible for the NRHP are by definition eligible for the CRHR.

For a resource to be eligible for the CRHR, it must satisfy each of the following three standards.

- ▲ A property must be significant at the local, state, or national level, under one or more of the following criteria.
  1. It is associated with events or patterns of events that have made a significant contribution to the broad patterns of the history and cultural heritage of California and the United States.
  2. It is associated with the lives of persons important to the nation or California's past.
  3. It embodies the distinctive characteristics of a type, period, region, or method of construction, or represents the work of an important creative individual, or possesses high artistic values.
  4. It has yielded, or may be likely to yield, information important to the prehistory or history of the state or the nation.
- ▲ A resource must retain enough of its historic character or appearance to be recognizable as a historic property, and to convey the reasons for its significance.
- ▲ It must be 50 years old or older (except for rare cases of structures of exceptional significance).

Integrity is defined as the authenticity of a historical resource's physical identity, evidenced by the survival of characteristics that existed during the resource's period of significance. CRHR regulations specify that integrity is a quality that applies to historical resources in seven ways: location, design, setting, materials, workmanship, feeling, and association.

### Unique Archaeological Resources

Under CEQA, the lead agency must also determine whether a proposed project will have a significant effect on unique archaeological resources. PRC 21082.2(g) states: "...a 'unique archaeological resource' means an archaeological artifact, object, or site about which it can be clearly demonstrated that, without merely adding to the current body of knowledge, there is a high probability that it meets any of the following criteria:

1. Contains information needed to answer important scientific research questions and that there is demonstrable public interest in that information.
2. Has a special and particular quality such as being the oldest of its type or the best available example of its type.
3. Is directly associated with a scientifically recognized important prehistoric or historic event or person."

A non-unique archaeological resource does not meet these criteria and does not need to be given further consideration other than simple recording, unless it happens to qualify as a historical resource.

The limitations in PRC 21083.2 relating to unique archaeological resources do not apply to archaeological sites that qualify as "historical resources." PRC 21083.2(l). If a lead agency finds that an archaeological site is a historical resource, impact assessment is governed by PRC 21084.1, which provides standards for identification of historical resources. 14 CCR 15064.5(c)(2). See 13.58, 20.94-20.98. The State CEQA Guidelines also provide that public agencies should seek to avoid effects that could damage a "historical resource of an archaeological nature" when it is feasible to do so. 14 CCR 15126.4(b)(3).

## Paleontological Resources

Paleontological resources are the limited, non-renewable resources of scientific, cultural, and educational value that are protected under CEQA (PRC 21000 et seq.). In accordance with guidelines established by the SVP (2010), assessments of the scientific significance of fossilized remains are based on whether they can provide data on the taxonomy and phylogeny of ancient organisms, the paleoecology and nature of paleoenvironments in the geologic past, or the stratigraphy and age of geologic units. Because most vertebrate fossils are rare, they are considered important paleontological resources. Conversely, marine invertebrates are generally common, the fossil record is well developed and well documented, and they would generally not be considered an important paleontological resource. Substantial damage to or destruction of significant paleontological resources as defined by the SVP (2010) would represent a significant impact.

## ISSUES DISMISSED FROM FURTHER EVALUATION

The TRPA Initial Environmental Checklist asks whether a project will restrict historic or pre-historic religious or sacred uses within the potential impact area. As described above in the discussion of existing conditions and the affected environment, no sites of traditional Native American religious significance, including sacred sites, contemporary use areas, or TCPs, have been identified within the APE. The proposed project would not physically restrict religious or sacred uses in the study area, nor would it change future management of the study area in a way that could restrict access to, or uses of such sites. Therefore, this issue is not evaluated further.

## METHODS AND ASSUMPTIONS

This section includes a joint NEPA/ CEQA/TRPA analysis of impacts to cultural and paleontological resources and evaluates the impacts utilizing NEPA, CEQA, and TRPA criteria.

The existing conditions are based on the following, as detailed above in the methodology section: pre-field research by the NCIC, LTBMU, Tahoe National Forest, and USACE to determine the presence of cultural properties; sacred lands file search by the NAHC and on-going consultation with the Washoe Tribe; a series of pedestrian field surveys; recordation or updating of cultural resources within the APE; subsurface testing of archaeological sites; paleontological resources searches; and on-going consultation with the LTBMU, Tahoe National Forest, and USACE cultural/heritage resources staff.

Impacts or adverse effects by the proposed project may occur to NRHP- and CRHR-eligible resources (historic properties/historical resources). Consistent with FSM 2360 (FSM 2363.22), until a formal evaluation of significance is completed and the SHPO and/or Keeper of the National Register have been provided the opportunity to review and comment, all cultural resources that are currently unevaluated are recommended eligible for NRHP inclusion. Resources determined or recommended ineligible for NRHP and CRHR listing generally require no further consideration under Section 106 or CEQA.

A total of 15 archaeological resources identified within the APE are recommended eligible for NRHP and CRHR inclusion (Tables 4.9-2 and 4.9-3). These include five prehistoric sites, eight historic-era archaeological sites or linear features, and two sites with prehistoric and historic components. These resources are distributed within the APE for the project alternatives, as follows:

- ▲ Alternative 1 (PEA Alternative) APE: 11 resources recommended NRHP/CRHR eligible
- ▲ Alternative 2 (Modified Alternative) APE: 12 resources recommended NRHP/CRHR eligible
- ▲ Alternative 3 (Road Focused Alternative) APE: 6 resources recommended NRHP/CRHR eligible
- ▲ Alternative 4 (Proposed Alternative) APE: 6 resources recommended NRHP/CRHR eligible

All staging and stringing areas are included in the APE for each of the alternatives. As applicable, the APE for each alternative includes the survey corridor for new access roads and existing roads that require improvement. Of the total of 15 resources identified within the APE that are recommended NRHP/CRHR eligible, four occur within the APE for all four alternatives (see Tables 4.9-2 and 4.9-3). Of these, the proposed project activities as currently designed for all four alternatives are anticipated to have no effect on P-31-000132 since subsurface testing conducted for the project determined the portion of the resource within the proposed pole replacement locations does not contribute to the eligibility of the site as a whole (Sikes et al. 2014). However, as of publication of this Final EIS/EIS/EIR, concurrence on this determination has not been received from the SHPO.

For the proposed 625 and 650 Electrical Line Upgrade Project, this analysis considers that direct impacts to heritage and cultural resources or paleontological resources may result from ground disturbance associated with the construction of the power line, staging areas, access roads, or other facilities. These activities would include, but are not limited to, clearing vegetation, grading of roads, overland vehicular travel, stringing and tensioning conductors, and restoration and re-vegetation measures. Such activities can disturb or compact soils, may crush or displace artifacts, and may alter prehistoric and historic features or deposits. Ground-disturbing activities are short-term or temporary, but damage, if any, to non-renewable heritage and cultural resources or paleontological resources would be permanent.

This analysis further considers the possibility for indirect impacts that may result from activities that occur near, but not directly on, heritage and cultural resources. Indirect impacts are separated by time or space from project activities. For example, indirect visual impacts may occur to some types of NRHP or CRHR eligible heritage and cultural resources if power poles are introduced into the viewsheds of these resources. The term “viewshed” refers to an area of land visible from a fixed vantage point. The introduction of modern structures into the viewshed of a heritage and cultural resource may adversely affect the integrity of its historic setting, if the surrounding landscape has changed very little since the period of importance for the resource. Archaeological sites, if they are considered significant because of the scientific data they contain rather than their setting, would likely not be adversely affected by visual intrusions.

Another example of indirect impacts is potential access-related damage to heritage and cultural resources when public accessibility to a previously remote area is increased because of new or improved roads. The likelihood of unauthorized artifact collecting and destruction (intentional or unintentional) of prehistoric and historic features increases with ease of access. Recreational use, overland vehicle travel, and vandalism of archaeological sites and standing structures degrade the integrity of these resources and can affect their eligibility to the NRHP or CRHR.

## ALTERNATIVE 1 - PEA ALTERNATIVE

### DIRECT AND INDIRECT IMPACTS

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<b>IMPACT 4.9-1 (Alt.1)</b>	<b>Damage to or destruction of documented significant heritage and cultural resources.</b> The APE for Alternative 1 (PEA Alternative) contains 11 documented heritage and cultural resources recommended eligible for listing in the NRHP or CRHR. Construction of Alternative 1 (PEA Alternative) could result in a substantial adverse change in the significance of one or more of these resources. This impact would be <b>potentially significant</b> .
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A total of 11 identified significant heritage and cultural resources recommended eligible for listing in the NRHP or CRHR are documented within the APE for the Alternative 1 (PEA Alternative) power line corridor, access roads, and staging areas. One resource is located adjacent to the Northstar Golf Course Staging Area and the staging area, as currently defined, may encroach on the resource. Impact mechanisms include direct disturbance of, or damage to, resources during construction, as well as indirect impacts such as alterations in the visual

character in the vicinity of the resource and increasing available public access to the resource. The specific nature of the impacts would depend on the location and character of each resource, and project activities that would occur in the vicinity of the resource. Overall, construction of Alternative 1 (PEA Alternative) could result in a substantial adverse change in the significance of one or more of the 11 identified heritage and cultural resources in the Alternative 1 (PEA Alternative) APE that are recommended eligible for listing in the NRHP or the CRHR.

Potential impacts to heritage and cultural resources would be reduced to the extent feasible with the implementation of the following APMs.

- ▲ **APM CUL-1:** To the extent feasible, project design will avoid disturbance to significant heritage and cultural resources recommended eligible for listing in the NRHP or CRHR. Avoidance may be achieved by various means such as placing poles outside the resource and spanning conductor across the resource and adjusting access way boundaries to avoid a resource. Resources to be avoided within the APE, or those immediately adjacent to the APE, will be designated as exclusion zones for all construction activity, including tree removal, and will be clearly marked with fencing, staking, flagging, or another appropriate material. Signage will be placed on the markers identifying the exclusion zone and stating that construction vehicles, equipment, and personnel are not permitted in the exclusion zone. If complete avoidance is not feasible, construction and/or tree removal methods will be implemented that minimize potential impacts, such as hand excavating holes with an archeological monitor present to inspect spoils and using a helicopter for pole placement to avoid vehicles passing over the resource. Appropriate construction methods for each situation will be developed in coordination with a qualified archeologist, the land owner/manager, relevant federal or state agencies, and Native American representatives if a Native American site.
- ▲ **APM CUL-2:** The proposed Northstar Golf Course Staging Area is located adjacent to a known heritage and cultural resources site recommended eligible for listing in the NRHP or CRHR. If needed, the boundary of the staging area will be adjusted to provide at least a 10-foot buffer between the edge of the staging area and the identified edge of the resource site. A temporary barrier such as a fence or K-rail will be installed at the edge of the staging area adjacent to the resource site. Signage will be placed on the barrier identifying the exclusion zone and stating that construction vehicles, equipment, and personnel are not permitted in the exclusion zone.
- ▲ **APM CUL-3:** If impacts to known, unevaluated archaeological resources cannot be avoided, a detailed test excavation plan and research design that follows the Secretary of the Interior's standards and guidelines will be developed to evaluate the sites that will be impacted. The plan and research design will be provided to the relevant federal or state agencies and the SHPO for review and approval before implementation. If such sites are determined ineligible for National Register or California Register listing (with concurrence from the SHPO), the sites will require no further consideration. If any of the tested resources are determined eligible to either register (with SHPO concurrence), a detailed data recovery plan will be developed for those parts of the resources that would be damaged or destroyed by the project, and provided to the relevant federal or state agencies and the SHPO for review and approval. Results of test excavations and data recovery will also be provided to Tribal representatives. Data recovery excavations may be sufficient to reduce impacts to the resources to the less-than-significant level.
- ▲ **APM CUL-4:** If impacts to historic-era resources cannot be avoided during project activities, the resources will be evaluated by a qualified historical archaeologist in coordination with relevant federal or state agencies. If the resources are determined ineligible for National Register or California Register listing (with SHPO concurrence), the resources will require no further consideration. If any of the resources are determined eligible to either register (with SHPO concurrence), a detailed treatment plan will be developed for those resources, and provided to the relevant federal or state agencies and the SHPO for review and approval. Treatment may include additional archival research and/or field recordation.
- ▲ **APM CUL-5:** As outlined at 36 CFR part 800, the implementing regulations of Section 106 of the NHPA, if NRHP-eligible heritage and cultural resources will be adversely affected by a proposed undertaking, a

Memorandum of Agreement (MOA) will be developed and signed by appropriate parties (i.e., the LTBMU, Tahoe National Forest, USACE, ACHP, California SHPO, CPUC, interested tribes, local governments, and other parties) to identify appropriate treatment measures and implement procedures for mitigating adverse effects to the resources. If it is determined that the NRHP-eligible resources cannot be avoided or preserved in place through identification of construction exclusion zones, through route/project re-design, or capping an archaeological site with soil, mitigative treatment may include data recovery, archival research, and/or field recordation consistent with APMs CUL-3 and CUL-4, excavation as mitigation (data recovery restricted to the parts of the resource that would be damaged or destroyed by the project), archaeological monitoring during construction, Tribal monitoring, a plan for unanticipated discoveries, curation, reporting, or similar measures. Compliance with the requirements of Section 106 of the NHPA will also result in compliance with Chapter 67 Resource Protection of the TRPA Code of Ordinances, including Section 67.3.3 Resource Protection Plan.

Implementation of the APM elements described above (CUL-1 through CUL-4), coupled with the agreement document if needed (MOA; see CUL-5) that would fulfill Section 106 and also comply with TRPA Code of Ordinances Chapter 67, would prevent significant adverse effects to documented significant heritage and cultural resources. Based on ongoing evaluation of the project and heritage and cultural resources in the APE and coordination with the lead agencies and the Washoe Tribe as part of the Section 106 process, it appears that the project will not have an adverse effect on documented NRHP or CRHR eligible resources. However, as of publication of this Final EIS/EIS/EIR, concurrence on this determination has not been received from the SHPO. Therefore, although avoidance of adverse effects is anticipated, at this time it is considered that there is still the potential that in some instances avoidance would not be feasible; therefore, this impact is considered **potentially significant**.

## MITIGATION MEASURES

*There are no feasible mitigation measures beyond the actions and processes described above as part of the APMs. Although every effort will be made to avoid adverse effects to eligible heritage and cultural resources, and to minimize effects and properly treat resources that cannot be avoided, it cannot be assured at this time that a substantial adverse change in the significance of one or more eligible resources will not occur. Therefore, this impact is considered **significant and unavoidable**.*

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<b>IMPACT 4.9-2 (Alt.1)</b>	<b>Damage to or destruction of undocumented significant heritage and cultural resources.</b> Most of the Alternative 1 (PEA Alternative) APE has been intensively surveyed for heritage and cultural resources. However, there are portions of the APE where surveys have not yet been completed. In areas that have been surveyed, there also remains a potential for unanticipated, previously unidentified subsurface resources to be discovered during construction. Newly discovered heritage and cultural resources could be eligible for listing in the NRHP or CRHR and could be adversely affected during project construction. This impact would be <b>potentially significant</b> .
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Over 95 percent of the APE has been intensively surveyed for the presence of heritage and cultural resources. The unsurveyed percentage is private land for which right of entry was not available (approximately 68 acres). The intensive surface inventories entailed only limited subsurface inspections. It is possible that in some locations, heritage and cultural resources sites may be buried so that no evidence of the sites was visible on the ground surface. In other locations, dense vegetation may have obscured the ground surface such that the presence or absence of cultural material could not be determined. Construction activities in such locations may result in NRHP- or CRHR-eligible heritage and cultural resource being uncovered prior to or during construction-related ground-disturbing activities.

To minimize the potential for project implementation to damage undocumented cultural resources, the applicant has incorporated the following APMs into the project.

- ▲ **APM CUL-6:** CalPeco will ensure completion of heritage and cultural resources survey of all areas within the ultimate project APE of the selected alternative that have not already been surveyed, such as property where access was not previously available, future minor changes in the alignment of the power line and access roads or the location of other components that may be proposed because of engineering constraints, the need to avoid other sensitive resources, and other considerations. Each of these unsurveyed areas will be added to the project's APE as appropriate, and will be intensively surveyed prior to ground disturbance to document and record the presence or absence of heritage and cultural resources. The work may require preparation of a supplemental inventory report for review and approval by the relevant federal or state agencies. Where landowners may legally limit the ability to conduct surveys, the survey area may be restricted to only the area of ground disturbance, or other accommodations made in coordination with lead agencies participating in the Section 106 process (e.g., intensive monitoring during ground disturbance). Prior to any tree removal activities associated with project construction that occur outside of the APE in which cultural resources surveys have been completed, a cultural resources survey of the area will be performed by a professional archaeologist to help ensure no known resources would be impacted. If cultural resources are discovered, they will be treated consistent with the requirements of other applicable APMs.
- ▲ **APM CUL-7:** CalPeco will design and, with agency approval, implement a Worker Environmental Awareness Program (WEAP) that will be provided to all construction personnel and supervisors who will have the potential to encounter and alter heritage and cultural resources. The topics to be addressed in the WEAP will include, at a minimum:

  - // types of heritage and cultural resources expected in the project area;
  - // types of evidence that indicates heritage or cultural resources might be present (e.g., ceramic shards, trash scatters, lithic scatters);
  - // roles and responsibilities of the construction monitors;
  - // importance of avoiding areas flagged or otherwise identified as sensitive;
  - // what to do if a worker encounters a possible resource;
  - // what to do if a worker encounters bones or possible bones; and
  - // penalties for removing or intentionally disturbing heritage and cultural resources, such as those identified in the Archeological Resources Protection Act (ARPA).
- ▲ **APM CUL-8:** Prior to construction, CalPeco will prepare for agency approval a Construction Monitoring and Unanticipated Discovery Plan that will present, in detail, procedures to be implemented during construction (e.g., numbers of archaeological and Native American monitors, the qualifications of monitors [expertise in Washoe cultural resources], buffer zones, work stoppage guidelines). At a minimum, if a potential heritage or cultural resources is discovered, construction will be halted within 50-feet of the site until a qualified archeologist can evaluate the find. If the archeologist can determine at the time that the find would not be eligible for the NRHP or CRHR and does not contain human remains, construction may proceed after the find is properly documented and/or collected. Otherwise, applicable elements of other APMs will be implemented.

The Construction Monitoring and Unanticipated Discovery Plan will also discuss procedures for immediate work stoppage and treatment in the event of discovery of human remains during construction activities.

Implementation of the APMs described above would, in most instances, prevent significant adverse effects to newly discovered eligible heritage and cultural resources. However, there is the potential that in some circumstances, an eligible resource could be sufficiently damaged during discovery/construction that there is a substantial adverse change in the significance of the resource. Therefore, this impact is considered **potentially significant**.

## MITIGATION MEASURES

*There are no feasible mitigation measures beyond the actions and processes described above as part of the APMs. Although every effort will be made to avoid adverse effects to newly discovered eligible heritage and cultural resources, it cannot be assured at this time that a substantial adverse change in the significance of one or more eligible resources will not occur. Therefore, this impact is considered **significant and unavoidable**.*

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<b>IMPACT 4.9-3 (Alt.1)</b>	<b>Unanticipated discovery of human remains during construction.</b> One historic cemetery is located within the APE for the existing and proposed 650 Line. Although there is a low potential for human remains to be discovered during ground disturbance for the project, construction activities would have the potential to disturb unanticipated discoveries of human remains, including those interred outside of formal cemeteries. This impact would be <b>potentially significant</b> .
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One documented historic-era cemetery (P-29-003835; the Truckee Catholic Cemetery) is located within the APE for the existing and proposed 650 Line. No construction activities are proposed within the cemetery, but unknown/unmarked burials could be present near and outside the formal cemetery boundaries. Although no human remains outside of formal cemeteries have been identified within the APE and the potential for the presence of undocumented human remains is generally considered low due to the relative rarity of undocumented interments, it is possible that human remains, including those interred outside of formal cemeteries, could be discovered during ground-disturbing activities, particularly during trenching.

The applicant has incorporated APM CUL-9 into the project to help ensure that human remains that may be encountered during construction are treated in a manner consistent with applicable laws and regulations.

- ▲ **APM CUL-9:** If human remains are discovered, all work within 50 feet of the discovery site will halt immediately. CalPeco will notify the County Coroner, as stipulated in Section 7050.5 of the HSC. The Coroner will determine whether the remains are Native American and, if so, will contact the NAHC by telephone within 24 hours. The commission will follow the stipulations in Section 5097.98 of the PRC, including notification of those persons it believes to be most likely descended from the deceased Native American. If the commission is unable to identify a descendant, the descendant is unable to make a recommendation, or the landowner rejects the recommendation, the NAHC will mediate any dispute between the parties. Where such mediation fails to provide measures acceptable to the landowner, the landowner shall reinter the human remains and associated funerary items with appropriate dignity on the property, in a location not subject to further subsurface disturbance.

If human remains are discovered on federally managed lands, the provisions of NAGPRA will apply. For NAGPRA-associated discoveries, it may be necessary to provide 24-hour, onsite security.

Implementation of the APM described above would, in most instances, prevent significant adverse effects to human remains that might be discovered during project construction. However, there is the potential that in some circumstances, in spite of measures identified in the APM, discovered human remains could be sufficiently disturbed that a significant impact could still result. Therefore, this impact is considered **potentially significant**.

## MITIGATION MEASURES

*There are no feasible mitigation measures beyond the actions and processes described above as part of the APMs. Although every effort will be made to avoid adverse effects to newly discovered human remains, it cannot be assured at this time that a substantial adverse effect will not occur. Therefore, this impact is considered **significant and unavoidable**.*

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<b>IMPACT 4.9-4 (Alt. 1)</b>	<b>Discovery of paleontological resources during construction.</b> Due to the known presence of paleontological resources in the region, construction activities in the Mehrten Formation geologic unit have the potential to disturb or destroy newly discovered paleontological resources. However, implementation of measures within an APM would prevent substantial damage to important paleontological resources. This impact would be <b>less than significant</b> .
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Although no documented paleontological resources have been identified within the APE, paleontological resources are known in the region and the Mehrten Formation is considered to have a high sensitivity for the discovery of Miocene-age vertebrate and plant fossils. Due to the known presence of such resources in the region, there is a potential that construction activities could expose and/or impact previously undocumented important paleontological resources.

The applicant would implement APM CUL-10 to minimize potential impacts to paleontological resources.

- APM CUL-10:** The WEAP prepared for other resources will also address the identification and appropriate treatment of potential fossil finds. If fossils or other paleontological resources are encountered during construction, all work will be halted within a 30-foot radius of the find and a qualified paleontologist will be contacted to examine the find and evaluate its significance. If the find is deemed to have significant scientific value, the paleontologist and CalPeco will formulate a plan to either avoid impacts or to continue construction without disturbing the integrity of the find (e.g., by carefully excavating the material containing the resources under the direction of the paleontologist followed by routine conservation, laboratory preparation, and curation).

With implementation of this APM, any inadvertent discoveries of important paleontological resources would be properly documented and salvaged. Therefore, this impact is considered **less than significant**.

## MITIGATION MEASURES

*No mitigation measures are required.*

## ALTERNATIVE 2 – MODIFIED ALTERNATIVE

### DIRECT AND INDIRECT IMPACTS

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<b>IMPACT 4.9-1 (Alt.2)</b>	<b>Damage to or destruction of documented significant heritage and cultural resources.</b> The APE for Alternative 2 (Modified Alternative) contains 12 documented heritage and cultural resources recommended eligible for listing in the NRHP or CRHR. Construction of Alternative 2 (Modified Alternative) could result in a substantial adverse change in the significance of one or more of these resources. This impact would be <b>potentially significant</b> .
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A total of 12 identified heritage and cultural resources recommended eligible for listing in the NRHP or CRHR are documented within the APE for the Alternative 2 (Modified Alternative) power line corridor, access roads, and staging areas. Impact mechanisms would be the same as those described under Impact 4.9-1 (Alt. 1) for Alternative 1 (PEA Alternative). The specific nature of impacts would depend on the location and character of each resource and the project activities that would occur in the vicinity of the resource. Overall, construction of Alternative 2 (Modified Alternative) could result in a substantial adverse change in the significance of one or more of the 12 identified heritage and cultural resources in the Alternative 2 (Modified Alternative) APE that are recommended eligible for listing in the NRHP or the CRHR.

Potential impacts to heritage and cultural resources would be reduced to the extent feasible with the implementation of APMs CUL-1, CUL-2, CUL-3, CUL-4, and CUL-5 (discussed above and in Chapter 3, Section 3.7, Applicant-Proposed Measures), which include evaluation of known resources that cannot be avoided. These evaluations would be conducted in accordance with the Secretary of the Interior's standards and guidelines in coordination with relevant federal or state agencies, and with concurrence by the SHPO of the evaluation and approval by the SHPO and relevant federal or state agencies of treatment measures for resources determined to be significant (historic properties/historical resources) according to the requirements of 36 CFR part 800 and CEQA. Implementation of these APMs would ensure NRHP/CRHR eligibility evaluations would identify significant resources within the APE and assess adverse effects, if any, prior to the start of construction ground-disturbing activities.

As outlined in the implementing regulations of Section 106 of the NHPA, if NRHP-eligible heritage and cultural resources would be adversely affected by a proposed undertaking, a MOA would be developed and signed by appropriate parties to identify appropriate treatment measures and implement procedures for mitigating adverse effects to the resources (APM CUL-5). Implementation of the APM elements, coupled with the agreement document that would fulfill Section 106 and comply with the TRPA Code of Ordinances, would prevent significant adverse effects to documented significant heritage and cultural resources. Based on ongoing evaluation of the project and heritage and cultural resources in the APE and coordination with the lead agencies and the Washoe Tribe as part of the Section 106 process, it appears that the project will not have an adverse effect on documented NRHP or CRHR eligible resources. However, as of publication of this Final EIS/EIS/EIR, concurrence on this determination has not been received from the SHPO. Therefore, although avoidance of adverse effects is anticipated, there is still the potential that in some instances avoidance would not be feasible; therefore, this impact is considered **potentially significant**.

## MITIGATION MEASURES

*There are no feasible mitigation measures beyond the actions and processes described above as part of the APMs. Although every effort will be made to avoid adverse effects to eligible heritage and cultural resources, and to minimize effects and properly treat resources that cannot be avoided, it cannot be assured at this time that a substantial adverse change in the significance of one or more eligible resources will not occur. Therefore, this impact is considered **significant and unavoidable**.*

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<b>IMPACT 4.9-2 (Alt.2)</b>	<b>Damage to or destruction of undocumented heritage and cultural resources.</b> Most of the Alternative 2 (Modified Alternative) APE has been intensively surveyed for heritage and cultural resources. However, there are portions of the APE where surveys have not yet been completed. In the areas surveyed, there also remains a potential for unanticipated, previously unidentified subsurface resources to be discovered during construction. Newly discovered heritage and cultural resources could be eligible for listing in the NRHP or CRHR and could be adversely affected during project construction. This impact would be <b>potentially significant</b> .
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Potential impacts to undocumented heritage and cultural resources would be similar to those described for Impact 4.9-2 (Alt. 1) because both alternatives would involve construction activities that may result in NRHP- and CRHR-eligible heritage and cultural resource being uncovered prior to or during construction-related ground-disturbing activities. As described under Impact 4.9-2 (Alt. 1), it is estimated that over 95 percent of the APE has been intensively surveyed for heritage and cultural resources. The surveys have been intensive surface inventories with only limited subsurface inspections. It is possible that in some locations, heritage and cultural resources sites may be buried so that no evidence of the sites is visible on the ground surface.

To minimize the potential for project implementation to damage undocumented cultural resources, the applicant would implement APMs CUL-6, CUL-7, and CUL-8, which would require survey of all potential work

areas, training for project construction personnel so that they are equipped to recognize undocumented cultural resources if they are encountered, and a plan for construction monitoring and unanticipated discoveries.

Implementation of the APMs would, in most instances, prevent significant adverse effects to newly discovered eligible heritage and cultural resources. However, there is the potential that in some circumstances, an eligible resource could be sufficiently damaged during discovery/construction that there is a substantial adverse change in the significance of the resource. Therefore, this impact is considered **potentially significant**.

## MITIGATION MEASURES

*There are no feasible mitigation measures beyond the actions and processes described above as part of the APMs. Although every effort will be made to avoid adverse effects to newly discovered eligible heritage and cultural resources, it cannot be assured at this time that a substantial adverse change in the significance of one or more eligible resources will not occur. Therefore, this impact is considered **significant and unavoidable**.*

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<b>IMPACT 4.9-3 (Alt.2)</b>	<b>Unanticipated discovery of human remains during construction.</b> One historic cemetery is located within the APE for the existing and proposed 650 Line. Although there is a low potential for human remains to be discovered during ground disturbance for the project, construction activities have the potential to disturb unanticipated human remains, including those interred outside of formal cemeteries. This impact would be <b>potentially significant</b> .
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This impact would be similar to Impact 4.9-3 (Alt. 1) because both alternatives involve construction activities that have the potential to disturb unanticipated human remains. The presence of a documented historic-era cemetery (P-29-003835) within the APE for the existing and proposed 650 Line is an indication that unknown/unmarked burials could be near but outside the formal cemetery boundaries. Although no human remains were identified within the Alternative 2 (Modified Alternative) APE and the potential for the presence of undocumented human remains is generally considered low due to prior disturbance of the power corridors, access roads, and staging areas, it is possible that human remains including those interred outside of formal cemeteries could be discovered during ground-disturbing activities, particularly during trenching.

If human remains, including those interred outside of formal cemeteries, are discovered during construction, APM CUL-9 (discussed above and in Chapter 3, Section 3.7 Applicant-Proposed Measures), which includes immediate halting of work within 50 feet and treating the remains in a manner consistent with applicable federal (NAGPRA) or state (HSC Section 7050.5, PRC Section 5097.94 and Section 5097.98) laws, would be implemented. Implementation of the APM would, in most instances, prevent significant adverse effects to human remains that might be discovered during project construction. However, there is the potential that in some circumstances, in spite of measures identified in the APM, discovered human remains could be sufficiently disturbed that a significant impact could still result. Therefore, this impact is considered **potentially significant**.

## MITIGATION MEASURES

*There are no feasible mitigation measures beyond the actions and processes described above as part of the APMs. Although every effort will be made to avoid adverse effects to newly discovered human remains, it cannot be assured at this time that a substantial adverse effect will not occur. Therefore, this impact is considered **significant and unavoidable**.*

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<b>IMPACT 4.9-4 (Alt.2)</b>	<b>Discovery of paleontological resources during construction.</b> Due to the known presence of paleontological resources in the region, construction activities have the potential to disturb or destroy newly discovered paleontological resources. This impact would be <b>less than significant</b> .
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Although no documented paleontological resources have been identified within the study area, paleontological resources are known in the region and the Mehrten Formation is considered to have a high sensitivity for the discovery of Miocene-age vertebrate and plant fossils. Due to the known presence of such resources in the region, there is a potential that construction activities could expose and/or impact previously undocumented paleontological resources.

The applicant would implement APM CUL-10 (discussed above and in Chapter 3, Section 3.7 Applicant-Proposed Measures), which includes temporary halting of work in the immediate area if paleontological resources are discovered during construction and contacting a qualified paleontologist to evaluate the resource and make recommendations for proceeding with work in the area of the find. With implementation of this APM any inadvertent discoveries of important paleontological resources would be properly documented and salvaged. Therefore, this impact is considered **less than significant**.

## MITIGATION MEASURES

*No mitigation measures are required.*

## ALTERNATIVE 3 – ROAD FOCUSED ALTERNATIVE

### DIRECT AND INDIRECT IMPACTS

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<b>IMPACT 4.9-1 (Alt.3)</b>	<b>Damage to or destruction of significant documented heritage and cultural resources.</b> The APE for Alternative 3 (Road Focused Alternative) contains six documented heritage and cultural resources recommended eligible for listing in the NRHP or CRHR. Construction of Alternative 3 (Road Focused Alternative) could result in a substantial adverse change in the significance of one or more of these resources. This impact would be <b>potentially significant</b> .
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A total of six identified heritage and cultural resources recommended eligible for listing in the NRHP or CRHR are documented within the APE for the Alternative 3 (Road Focused Alternative) power line corridor, access roads, and staging areas. Impact mechanisms would be the same as those described under Impact 4.9-1 (Alt. 1). The specific nature of impacts would depend on the location and character of each resource and project activities that would occur in the vicinity of the resource. Overall, construction of Alternative 3 (Road Focused Alternative) could result in a substantial adverse change in the significance of one or more of the six identified heritage and cultural resources in the Alternative 3 (Road Focused Alternative) APE that are recommended eligible for listing in the NRHP or the CRHR.

Potential impacts to heritage and cultural resources would be reduced to the extent feasible with the implementation of APMs CUL-1, CUL-2, CUL-3, CUL-4, and CUL-5 (discussed above and in Chapter 3, Section 3.7 Applicant-Proposed Measures), which include evaluation of known resources that cannot be avoided. These evaluations would be conducted in accordance with the Secretary of the Interior's standards and guidelines in coordination with relevant federal or state agencies, and with concurrence by the SHPO of the evaluation and approval by the SHPO and relevant federal or state agencies of treatment measures for resources determined to be significant (historic properties/historical resources) according to the requirements of 36 CFR part 800 and CEQA. Implementation of these APMs would ensure NRHP/CRHR eligibility evaluations would identify significant

resources within the APE and assess adverse effects, if any, prior to the start of construction ground-disturbing activities.

As outlined in the implementing regulations of Section 106 of the NHPA, if NRHP-eligible heritage and cultural resources would be adversely affected by a proposed undertaking, a MOA would be developed and signed by appropriate parties to identify appropriate treatment measures and implement procedures for mitigating adverse effects to the resources (APM CUL-5). Implementation of the APM elements, coupled with the agreement document that would fulfill Section 106 and comply with the TRPA Code of Ordinances, would prevent significant adverse effects to documented significant heritage and cultural resources. Based on ongoing evaluation of the project and heritage and cultural resources in the APE and coordination with the lead agencies and the Washoe Tribe as part of the Section 106 process, it appears that the project will not have an adverse effect on documented NRHP or CRHR eligible resources. However, as of publication of this Final EIS/EIS/EIR, concurrence on this determination has not been received from the SHPO. Therefore, although avoidance of adverse effects is anticipated, at this time there is still the potential that in some instances avoidance would not be feasible; therefore, this impact is considered **potentially significant**.

## MITIGATION MEASURES

*There are no feasible mitigation measures beyond the actions and processes described above as part of the APMs. Although every effort will be made to avoid adverse effects to eligible heritage and cultural resources, and to minimize effects and properly treat resources that cannot be avoided, it cannot be assured at this time that a substantial adverse change in the significance of one or more eligible resources will not occur. Therefore, this impact is considered **significant and unavoidable**.*

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<b>IMPACT 4.9-2 (Alt.3)</b>	<b>Damage to or destruction of undocumented heritage and cultural resources.</b> Most of the Alternative 3 (Road Focused Alternative) APE has been intensively surveyed for heritage and cultural resources. However, there are portions of the APE where surveys have not yet been completed and there is also a potential for unanticipated, previously unidentified subsurface resources to be discovered in the surveyed areas during construction. Newly discovered heritage and cultural resources could be eligible for listing in the NRHP or CRHR and could be adversely affected during project construction. This impact would be <b>potentially significant</b> .
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Potential impacts to undocumented heritage and cultural resources would be similar to those described for Impact 4.9-2 (Alt. 1) because both alternatives involve construction activities that may result in NRHP- and CRHR-eligible heritage and cultural resource being uncovered prior to or during construction-related ground-disturbing activities. As described under Impact 4.9-2 (Alt. 1), it is estimated that over 95 percent of the APE has been intensively surveyed for heritage and cultural resources. The surveys have been intensive surface inventories with only limited subsurface inspections. It is possible that in some locations heritage and cultural resources sites may be buried so that no evidence of the sites is visible on the ground surface.

To minimize the potential for project implementation to damage undocumented cultural resources, the applicant would implement APMs CUL-6, CUL-7, and CUL-8, which would require survey of all potential work areas, training for project construction personnel so that they are equipped to recognize undocumented cultural resources if they are encountered, and a plan for construction monitoring and unanticipated discoveries. Implementation of the APMs would, in most instances, prevent significant adverse effects to newly discovered eligible heritage and cultural resources. However, there is the potential that in some circumstances, an eligible resource could be sufficiently damaged during discovery/construction that there is a substantial adverse change in the significance of the resource. Therefore, this impact is considered **potentially significant**.

## MITIGATION MEASURES

*There are no feasible mitigation measures beyond the actions and processes described above as part of the APMs. Although every effort will be made to avoid adverse effects to newly discovered eligible heritage and cultural resources, it cannot be assured at this time that a substantial adverse change in the significance of one or more eligible resources will not occur. Therefore, this impact is considered **significant and unavoidable**.*

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<b>IMPACT 4.9-3 (Alt.3)</b>	<b>Unanticipated discovery of human remains during construction.</b> One historic cemetery is located within the APE for the existing and proposed 650 Line. Although there is a low potential for human remains to be discovered during ground disturbance for the project, construction activities have the potential to disturb of human remains, including those interred outside of formal cemeteries. This impact would be <b>potentially significant</b> .
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This impact would be similar to Impact 4.9-3 (Alt. 1) because both alternatives would involve construction activities that have the potential to disturb unanticipated discoveries of human remains. The presence of a documented historic-era cemetery (P-29-003835) within the APE for the existing and proposed 650 Line is an indication that unknown/unmarked burials could be near but outside the formal cemetery boundaries. Although no human remains were identified within the Alternative 3 (Road Focused Alternative) APE and the potential for the presence of undocumented human remains is generally considered low due to prior disturbance of the power line corridors, access roads, and staging areas, it is possible that human remains including those interred outside of formal cemeteries could be discovered during ground-disturbing activities, particularly during trenching.

If human remains, including those interred outside of formal cemeteries, are discovered during construction, APM CUL-9 (discussed above and in Chapter 3, Section 3.7 Applicant-Proposed Measures), which includes immediate halting of work within 50 feet and treating the remains in a manner consistent with applicable federal (NAGPRA) or state (HSC Section 7050.5, PRC Sections 5097.94 and 5097.98) laws, would be implemented. Implementation of the APM would, in most instances, prevent significant adverse effects to human remains that might be discovered during project construction. However, there is the potential that in some circumstances, in spite of measures identified in the APM, discovered human remains could be sufficiently disturbed that a significant impact could still result. Therefore, this impact is considered **potentially significant**.

## MITIGATION MEASURES

*There are no feasible mitigation measures beyond the actions and processes described above as part of the APMs. Although every effort will be made to avoid adverse effects to newly discovered human remains, it cannot be assured at this time that a substantial adverse effect will not occur. Therefore, this impact is considered **significant and unavoidable**.*

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<b>IMPACT 4.9-4 (Alt.3)</b>	<b>Discovery of paleontological resources during construction.</b> Due to the known presence of paleontological resources in the region, construction activities have the potential to disturb or destroy newly discovered paleontological resources. This impact would be <b>less than significant</b> .
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Although no documented paleontological resources have been identified within the study area, paleontological resources are known in the region and the Mehrten Formation is considered to have a high sensitivity for the discovery of Miocene-age vertebrate and plant fossils. Due to the known presence of such resources in the region, there is a potential that construction activities could expose and/or impact previously undocumented paleontological resources.

The applicant would implement APM CUL-10 (discussed above and in Chapter 3, Section 3.7 Applicant-Proposed Measures), which includes temporary halting of work in the immediate area if paleontological resources are discovered during construction and contacting a qualified paleontologist to evaluate the resource and make recommendations for proceeding with work in the area of the find. With implementation of this APM any inadvertent discoveries of important paleontological resources would be properly documented and salvaged. Therefore, this impact is considered **less than significant**.

## MITIGATION MEASURES

*No mitigation measures are required.*

## ALTERNATIVE 4 – PROPOSED ALTERNATIVE

### DIRECT AND INDIRECT IMPACTS

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<b>IMPACT 4.9-1 (Alt.4)</b>	<b>Damage to or destruction of documented significant heritage and cultural resources.</b> The APE for Alternative 4 (Proposed Alternative) contains six documented heritage and cultural resources recommended eligible for listing in the NRHP or CRHR. Construction of Alternative 4 (Proposed Alternative) could result in a substantial adverse change in the significance of one or more of these resources. This impact would be <b>potentially significant</b> .
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A total of six identified significant heritage and cultural resources recommended eligible for listing in the NRHP or CRHR are documented within the APE for Alternative 4 (Proposed Alternative) power line corridor, access roads, and staging areas. Impact mechanisms would be the same as those described under Impact 4.9-1 (Alt. 1) for Alternative 1 (PEA Alternative). The specific nature of impacts would depend on the location and character of each resource and the project activities that would occur in the vicinity of the resource. Overall, construction of Alternative 4 (Proposed Alternative) could result in a substantial adverse change in the significance of one or more of the six identified heritage and cultural resources in the Alternative 4 (Proposed Alternative) APE that are recommended eligible for listing in the NRHP or the CRHR.

Potential impacts to heritage and cultural resources would be reduced to the extent feasible with the implementation of APMs CUL-1, CUL-2, CUL-3, CUL-4, and CUL-5 (discussed above and in Chapter 3, Section 3.7 Applicant Proposed Measures), which include evaluation of known resources that cannot be avoided. These evaluations would be conducted in accordance with the Secretary of the Interior's standards and guidelines in coordination with relevant federal or state agencies, and with concurrence by the SHPO of the evaluation and approval by the SHPO and relevant federal or state agencies of treatment measures for resources determined to be significant (historic properties/historical resources) according to the requirements of 36 CFR part 800 and CEQA. Implementation of these APMs would ensure NRHP/CRHR eligibility evaluations would identify significant resources within the APE and assess adverse effects, if any, prior to the start of construction ground-disturbing activities.

As outlined in the implementing regulations of Section 106 of the NHPA, if NRHP-eligible heritage and cultural resources would be adversely affected by a proposed undertaking, a MOA would be developed and signed by appropriate parties to identify appropriate treatment measures and implement procedures for mitigating adverse effects to the resources (APM CUL-5). Implementation of the APM elements, coupled with the agreement document that would fulfill Section 106, and comply with the TRPA Code of Ordinances, would prevent significant adverse effects to documented significant heritage and cultural resources. Based on ongoing evaluation of the project and heritage and cultural resources in the APE and coordination with the lead agencies and the Washoe Tribe as part of the Section 106 process, it appears that the project will not have an adverse effect on documented NRHP or CRHR eligible resources. However, as of publication of this Final EIS/EIS/EIR,

concurrence on this determination has not been received from the SHPO. Therefore, although avoidance of adverse effects is anticipated, at this time there is still the potential that in some instances avoidance would not be feasible; therefore, this impact is considered **potentially significant**.

## MITIGATION MEASURES

*There are no feasible mitigation measures beyond the actions and processes described above as part of the APMs. Although every effort will be made to avoid adverse effects to eligible heritage and cultural resources, and to minimize effects and properly treat resources that cannot be avoided, it cannot be assured at this time that a substantial adverse change in the significance of one or more eligible resources will not occur. Therefore, this impact is considered **significant and unavoidable**.*

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<b>IMPACT 4.9-2 (Alt.4)</b>	<b>Damage to or destruction of undocumented significant heritage and cultural resources.</b> Most of the Alternative 4 (Proposed Alternative) APE has been intensively surveyed for heritage and cultural resources. However, there are portions of the APE where surveys have not yet been completed and there also remains a potential for unanticipated, previously unidentified subsurface resources to be discovered during construction in the areas that have been surveyed. Newly discovered heritage and cultural resources could be eligible for listing in the NRHP or CRHR and could be adversely affected during project construction. This impact would be <b>potentially significant</b> .
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Potential impacts to undocumented heritage and cultural resources would be similar to those described for Impact 4.9-2 (Alt. 1) because both alternatives would involve construction activities that may result in NRHP- and CRHR-eligible heritage and cultural resource being uncovered prior to or during construction-related ground-disturbing activities. As described under Impact 4.9-2 (Alt. 1), it is estimated that over 95 percent of the APE has been intensively surveyed for heritage and cultural resources. The surveys have been intensive surface inventories with only limited subsurface inspections. It is possible that in some locations, heritage and cultural resources sites may be buried so that no evidence of the sites is visible on the ground surface.

To minimize the potential for project implementation to damage undocumented cultural resources, the applicant would implement APMs CUL-6, CUL-7, and CUL-8, which would require survey of all potential work areas, training for project construction personnel so that they are equipped to recognize undocumented cultural resources if they are encountered, and a plan for construction monitoring and unanticipated discoveries. Implementation of the APMs would, in most instances, prevent significant adverse effects to newly discovered eligible heritage and cultural resources. However, there is the potential that in some circumstances an eligible resource could be sufficiently damaged during discovery/construction that there is a substantial adverse change in the significance of the resource. Therefore, this impact is considered **potentially significant**.

## MITIGATION MEASURES

*There are no feasible mitigation measures beyond the actions and processes described above as part of the APMs. Although every effort will be made to avoid adverse effects to newly discovered eligible heritage and cultural resources, it cannot be assured at this time that a substantial adverse change in the significance of one or more eligible resources will not occur. Therefore, this impact is considered **significant and unavoidable**.*

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<b>IMPACT 4.9-3 (Alt.4)</b>	<b>Unanticipated discovery of human remains during construction.</b> One historic cemetery is located within the APE for the existing and proposed 650 Line. Although there is a low potential for human remains to be discovered during ground disturbance for the project, construction activities have the potential to disturb unanticipated discoveries of human remains, including those interred outside of formal cemeteries. This impact would be <b>potentially significant</b> .
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This impact would be similar to Impact 4.9-3 (Alt. 1) because both alternatives involve construction activities that have the potential to disturb unanticipated human remains. The presence of a documented historic-era cemetery (P-29-003835) within the APE for the existing and proposed 650 Line is an indication that unknown/unmarked burials could be near but outside the formal cemetery boundaries. Although no human remains outside of formal cemeteries have been identified within the Alternative 4 (Proposed Alternative) APE and the potential for the presence of undocumented human remains is generally considered low due to prior disturbance of the power line corridors, access roads and staging areas, it is possible that human remains including those interred outside of formal cemeteries could be discovered during ground-disturbing activities, particularly during trenching.

If human remains, including those interred outside of formal cemeteries, are discovered during construction, APM CUL-9 (discussed above and in Chapter 3, Section 3.7 Applicant-Proposed Measures), which includes immediate halting of work within 50 feet and treating the remains in a manner consistent with applicable federal (NAGPRA) or state (HSC Section 7050.5, PRC Sections 5097.94 and 5097.98) laws, would be implemented. Implementation of the APM would, in most instances, prevent significant adverse effects to human remains that might be discovered during project construction. However, there is the potential that in some circumstances, in spite of measures identified in the APM, discovered human remains could be sufficiently disturbed that a significant impact could still result. Therefore, this impact is considered **potentially significant**.

## MITIGATION MEASURES

*There are no feasible mitigation measures beyond the actions and processes described above as part of the APMs. Although every effort will be made to avoid adverse effects to newly discovered human remains, it cannot be assured at this time that a substantial adverse effect will not occur. Therefore, this impact is considered **significant and unavoidable**.*

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<b>IMPACT 4.9-4 (Alt.4)</b>	<b>Discovery of paleontological resources during construction.</b> Due to the known presence of paleontological resources in the region, construction activities have the potential to disturb or destroy newly discovered paleontological resources. This impact would be <b>less than significant</b> .
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Although no documented paleontological resources have been identified within the study area, paleontological resources are known in the region and the Mehrten Formation is considered to have a high sensitivity for the discovery of Miocene-age vertebrate and plant fossils. Due to the known presence of such resources in the region, there is a potential that construction activities could expose and/or impact previously undocumented paleontological resources.

The applicant would implement APM CUL-10 (discussed above and in Chapter 3, Section 3.7 Applicant-Proposed Measures), which includes temporary halting of work in the immediate area if paleontological resources are discovered during construction and contacting a qualified paleontologist to evaluate the resource and make recommendations for proceeding with work in the area of the find. With implementation of this APM any inadvertent discoveries of important paleontological resources would be properly documented and salvaged. Therefore, this impact is considered **less than significant**.

## MITIGATION MEASURES

*No mitigation measures are required.*

## ALTERNATIVE 5 – NO ACTION/NO PROJECT ALTERNATIVE

### DIRECT AND INDIRECT IMPACTS

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<b>IMPACT 4.9-1 (Alt.5)</b>	<b>Damage to or destruction of documented significant heritage and cultural resources.</b> Under Alternative 5 (No Action/No Project Alternative) the 625 and 650 Lines would not be upgraded; therefore, currently documented heritage and cultural resources would not be affected by associated construction activities. Some operations and maintenance activities could involve ground disturbance that could affect cultural resources. However, ground disturbance would be limited, with little opportunity to intersect an existing resource eligible for the NRHP or CRHR. This impact would be <b>less than significant</b> .
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Under Alternative 5 (No Action/No Project Alternative) the 625 and 650 Lines would not be upgraded; therefore, currently documented heritage and cultural resources in the vicinity of the 625 and 650 Lines would not be affected by associated construction activities. Some operations and maintenance activities could involve ground disturbance, such as replacing damaged poles or regrading portions of centerline access roads. In most cases, ground disturbance associated with operations and maintenance activities would affect a relatively small area. In addition, these activities would generally be limited to the existing power line ROWs that have been previously disturbed during past facility construction and operation activities. There is little potential that a heritage or cultural resource eligible for the NRHP or CRHR would occur in the disturbance areas. Therefore, this impact would be **less than significant**.

## MITIGATION MEASURES

*No mitigation measures are required.*

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<b>IMPACT 4.9-2 (Alt.5)</b>	<b>Damage to or destruction of undocumented heritage and cultural resources.</b> Under Alternative 5 (No Action/No Project Alternative) the 625 and 650 Lines would not be upgraded; therefore, there would be no potential to encounter and damage undocumented heritage and cultural resources during construction activities. Some operations and maintenance activities could involve ground disturbance that could uncover and adversely affect undocumented heritage and cultural resources. However, ground disturbance would be limited, with little opportunity to intersect a previously unknown resource eligible for the NRHP or CRHR. This impact would be <b>less than significant</b> .
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The existing ROWs for the 625 and 650 Lines have been surveyed for heritage and cultural resources by Far Western (2010) or by earlier studies. Most of the identified resources appear to be limited to the ground surface or have shallow deposits. It is highly unlikely that there are previously unrecorded heritage and cultural resources observable on the ground surface that would be eligible for listing in the NRHP or CRHR. If there are undocumented heritage and cultural resources in the ROWs for the 625 and 650 Lines, they are likely buried below the ground surface and would only be discovered and potentially damaged during ground-disturbing activities.

Under Alternative 5 (No Action/No Project Alternative) the 625 and 650 Lines would not be upgraded; therefore, currently undocumented heritage and cultural resources in the vicinity of the 625 and 650 Lines would not be affected by construction activities. Some operations and maintenance activities could involve ground

disturbance, such as replacing damaged poles or regrading portions of centerline access roads. In most cases, ground disturbance associated with operations and maintenance activities would affect a relatively small area and would be unlikely to intersect undocumented subsurface heritage and cultural resources. In addition, operations and maintenance activities would generally be limited to the existing power line ROWs that have been previously disturbed during past facility construction and operation activities. There is little potential that an undocumented heritage or cultural resource eligible for the NRHP or CRHR would occur in the disturbance areas. Therefore, this impact would be **less than significant**.

## MITIGATION MEASURES

*No mitigation measures are required.*

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<b>IMPACT 4.9-3 (Alt.5)</b>	<b>Unanticipated discovery of human remains.</b> Under Alternative 5 (No Action/No Project Alternative) the 625 and 650 Lines would not be upgraded; therefore, there would be no potential to encounter human remains during associated construction activities. The limited ground disturbance associated with operations and maintenance activities would be unlikely to uncover and adversely affect undocumented human remains. This impact would be <b>less than significant</b> .
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One documented historic-era cemetery (P-29-003835; the Truckee Catholic Cemetery) is located near the existing 650 Line; however, the line does not pass over or through the cemetery, and no discoveries of human remains have been recorded during past construction of the line or during ongoing operations and maintenance. The existing ROWs for the 625 and 650 Lines have been surveyed for heritage and cultural resources by Far Western (2010) and by earlier studies. No human remains were found during these survey efforts. It is highly unlikely that there are previously unrecorded human remains on the ground surface unless a recent incident (e.g., accident, homicide) placed the remains in the ROW. If there are undocumented human remains in the ROW for the 625 and 650 Lines, they are likely buried below the ground surface and would only be discovered and potentially damaged during ground-disturbing activities.

Under Alternative 5 (No Action/No Project Alternative) the 625 and 650 Lines would not be upgraded; therefore, currently undocumented human remains in the vicinity of the 625 and 650 Lines would not be affected by associated construction activities. Some operations and maintenance activities could involve ground disturbance, such as replacing damaged poles or regrading portions of centerline access roads. In most cases, ground disturbance associated with operations and maintenance activities would affect a relatively small area and would be unlikely to intersect undocumented subsurface human remains. In addition, operations and maintenance activities would generally be limited to the existing power line ROWs that have been previously disturbed during past facility construction and operation activities. There is little potential that undocumented human remains would occur in the disturbance areas. Therefore, this impact would be **less than significant**.

## MITIGATION MEASURES

*No mitigation measures are required.*

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<b>IMPACT 4.9-4 (Alt.5)</b>	<b>Discovery of paleontological resources during construction.</b> Due to the known presence of paleontological resources in the region, ground disturbance within the Mehrten Formation geologic unit would have the potential to disturb or destroy newly discovered paleontological resources. However, the limited ground disturbance associated with operations and maintenance activities would be unlikely to uncover and adversely affect undocumented paleontological resources. This impact would be <b>less than significant</b> .
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Reviews of geologic maps and paleontological resources databases for the existing ROWs of the 625 and 650 Lines were completed in 2010 (Sierra Pacific 2010) and again in 2013 to support this EIS/EIS/EIR. No paleontological resources have been identified within the ROWs or the vicinity as part of the records reviews or during surveys of the existing ROWs for heritage and cultural resources by Far Western (2010) and others. It is highly likely that if there were unrecorded paleontological resources observable on the ground surface, the fossils would have been reported as a result of the surveys since archaeologists are observant and experienced in identifying vertebrate, invertebrate, and macrobotanical remains. It is thus highly unlikely that there are undocumented paleontological resources observable on the ground surface. Under Alternative 5 (No Action/No Project Alternative) the 625 and 650 Lines would not be upgraded; therefore, currently undocumented subsurface paleontological resources in the vicinity of the 625 and 650 Lines would not be affected by associated construction activities. Some operations and maintenance activities could involve ground disturbance, such as replacing damaged poles or regrading portions of centerline access roads. In most cases, ground disturbance associated with operations and maintenance activities would affect a relatively small area and would be unlikely to intersect undocumented paleontological resources. In addition, operations and maintenance activities would generally be limited to the existing power line ROWs that have been previously disturbed during past facility construction and operation activities. There is little potential that undocumented paleontological resources would occur in the disturbance areas. Therefore, this impact would be **less than significant**.

## MITIGATION MEASURES

*No mitigation measures are required.*

## CUMULATIVE IMPACTS

Prehistoric heritage and cultural resources in the project vicinity include lithic scatters and habitation sites. Historic resources are predominantly roads, trash scatters and dumps. Most appear to be associated with logging. Architectural resources in the general project vicinity, including both buildings and structures, are found primarily in the Truckee, Tahoe City, and Kings Beach areas. Most of the documented heritage and cultural resources in the project vicinity are historic rather than prehistoric. Numerous laws and regulations, including NEPA; Section 106 of the NHPA; CEQA; and policies of TRPA, USFS, and USACE provide guidance on how heritage and cultural resources should be protected, managed, and mitigated in regard to projects on federal, state, county, city, or private land in California. Since these laws, regulations, and policies have been in effect (many for over 30 years), the protection and preservation of significant heritage and cultural resources is the typical outcome for most projects. However, instances do occur where full protection of a resource is not feasible, and there has been a net loss or degradation of heritage and cultural resources in the project region. In addition, prior to adoption of current laws, regulations, and policies to protect heritage and cultural resources, little protection was provided to these resources and loss or damage to prehistoric and historic resources was more common.

Present and reasonably foreseeable projects in the project area (Table 4.1-2) include housing, commercial, and recreational developments; roads and bridges; a biomass facility; and forest management activities. Many of these projects have the potential to impact heritage and cultural resources through ground disturbance. The

total extent of ground disturbance by these projects and potential effects on heritage and cultural resources are unknown.

It is assumed that all projects in Table 4.1-2 that could potentially impact heritage and cultural resources would be required to have some level of resource documentation, evaluation, impact assessment, and, if necessary, mitigation consistent with applicable laws, regulations, and policies applicable to the protection of these resources. In some cases, potential impacts may be reduced or eliminated by avoiding significant heritage and cultural resources through project redesign or by implementing data recovery. However, even with these laws and regulations, the prehistoric and historic heritage of the region would still likely be degraded in some instances from the loss of irreplaceable heritage and cultural resources as development proceeds.

Heritage and cultural resources that may be adversely affected by the proposed 625 and 650 Electrical Line Upgrade Project would receive appropriate treatment as required by Section 106 of the NHPA, CEQA, and TRPA policy. Resources eligible for the NRHP or CRHP would be avoided, or impacts would otherwise be minimized or mitigated. As indicated in Tables 4.9-1, 4.9-2, and 4.9-3, heritage and cultural resources found within the APE for the action alternatives are typically not types that are particularly rare or unique in the project region, or of particular significance such as buildings associated with significant events or individuals or Native American TCPs. Therefore, the proposed project would not make a substantial contribution to the cumulative loss or degradation of rare or unique resources in the region. Although construction of the proposed project could make a small contribution to the cumulative loss and degradation of heritage and cultural resources in the region, the minor loss is not considered a significant contribution to a significant cumulative impact related to cultural resources.

## 4.10 HAZARDS AND HAZARDOUS MATERIALS

This section discusses potential hazards and hazardous materials associated with construction, operation, and maintenance of the California Pacific Electric Company (CalPeco) 625 and 650 Electrical Line Upgrade Project. This analysis addresses existing hazardous materials contamination, fire potential, hazards to public and worker health and safety (including airport safety), and physical hazards. In addition, existing laws and regulations relevant to environmental contamination and hazards are described. This section does not address seismic hazards or flooding. Refer to Section 4.5, Geology, Soils, and Land Capability Coverage, for seismic hazards and Section 4.6, Hydrology and Water Quality, for a discussion of flooding.

Portions of the proposed project are located in areas that are subject to avalanche hazard, high-altitude areas with steep terrain along the 625 Line. Although each of the action alternatives relocates the 625 Line to various degrees, none of the modified routes are far enough from the existing line to appreciably alter the potential for avalanche to damage the line relative to existing conditions. In addition, the project does not include any development that places residences, commercial facilities, or other structures in avalanche prone areas that would place people at increased avalanche risk. Given these conditions, avalanche hazard is not addressed further in this section. Additional information on avalanche hazard is provided in Section 4.5, Geology, Soils, Land Capability and Coverage

### 4.10.1 REGULATORY SETTING

A variety of laws and regulations administered by federal and state agencies, the Tahoe Regional Planning Agency (TRPA), and local agencies could apply to the proposed project. These applicable laws and regulations are described below.

#### FEDERAL

##### MANAGEMENT OF HAZARDOUS MATERIALS

Federal laws require planning to ensure that hazardous materials are properly handled, used, stored, and disposed of, and if such materials are accidentally released, to prevent or mitigate injury to health or the environment. The US Environmental Protection Agency (EPA) is the agency primarily responsible for enforcement and implementation of federal laws and regulations pertaining to hazardous materials. Applicable federal regulations pertaining to hazardous materials are primarily contained in Code of Federal Regulations (CFR) Titles 29, 40, and 49. Hazardous materials, as defined in the Code, are listed in 49 CFR 172.101.

Management of hazardous materials is governed by the following laws.

- ▲ The Resource Conservation and Recovery Act of 1976 (RCRA) (42 United States Code [USC] 6901 et seq.) is the law under which EPA regulates hazardous waste from the time the waste is generated until its final disposal (“cradle to grave”).
- ▲ The Comprehensive Environmental Response, Compensation, and Liability Act of 1980 (also called the Superfund Act or CERCLA) (42 USC 9601 et seq.) gives EPA authority to seek out parties responsible for releases of hazardous substances and ensure their cooperation in site remediation.
- ▲ The Superfund Amendments and Reauthorization Act (SARA) of 1986 (Public Law 99-499; USC Title 42, Chapter 116), also known as SARA Title III or the Emergency Planning and Community Right-to-Know Act of 1986 (EPCRA), imposes hazardous materials planning requirements to help protect local communities in the event of accidental release.

- ▲ The Spill Prevention, Control, and Countermeasure (SPCC) rule includes requirements for oil spill prevention, preparedness, and response to prevent oil discharges to navigable waters and adjoining shorelines. The rule requires specific facilities to prepare, amend, and implement SPCC Plans. The SPCC rule is part of the Oil Pollution Prevention regulation, which also includes the Facility Response Plan rule.

## TRANSPORT OF HAZARDOUS MATERIALS

The US Department of Transportation regulates transport of hazardous materials between states and is responsible for protecting the public from dangers associated with such transport. The federal hazardous materials transportation law, 49 USC 5101 et seq. (formerly the Hazardous Materials Transportation Act 49 USC 1801 et seq.) is the basic statute regulating transport of hazardous materials in the United States. Hazardous materials regulations are enforced by the Federal Highway Administration, the US Coast Guard, the Federal Railroad Administration, and the Federal Aviation Administration (FAA).

## HAZARDOUS WASTE MANAGEMENT

RCRA requires a comprehensive regulatory system for handling hazardous wastes in a manner that protects human health and the environment. This regulatory system includes tracking all generators of hazardous waste.

## EXPLOSIVES

Regulation of explosives comes under the jurisdiction of the Department of Justice Bureau of Alcohol, Tobacco, Firearms and Explosives. Regulation of licenses or permits that are required for the manufacture, import, storage, and use of explosives takes place according to Title 27 CFR, Part 555, under Title XI, Regulation of Explosives (18 USC Chapter 40).

## WORKER SAFETY

The federal Occupational Safety and Health Administration (OSHA) is the agency responsible for assuring worker safety in the handling and use of chemicals identified in the Occupational Safety and Health Act of 1970 (Public Law 91-596, 9 USC 651 et seq.). OSHA has adopted numerous regulations pertaining to worker safety, contained in CFR Title 29. These regulations set standards for safe workplaces and work practices, including standards relating to the handling of hazardous materials and those required for excavation and trenching.

Specifically, because the project would involve installation of underground splice vaults and potentially other trenching activities, compliance with OSHA's excavation and trenching standards (CFR Part 1926.650) would require that that all excavations in which employees could potentially be exposed to cave-ins be protected by sloping or benching the sides of the excavation, supporting the sides of the excavation, or placing a shield between the side of the excavation and the work area. Construction phases of the proposed project would be required to comply with OSHA regulations.

## AIRSPACE SAFETY

The FAA is responsible for managing airports and navigable airspace not administered by the Department of Defense. Part 77 of the Federal Aviation Regulations (FAR), "Objects Affecting Navigable Airspace," has been adopted to help ensure that the airspace required for safe operation of aircraft and airports is monitored and protected. Objects that exceed certain specified height limits may constitute airspace obstructions. FAR Section 77.13 requires that the FAA be notified using FAA Form 7460-1, Notice of Proposed Construction or Alteration, of proposed construction or alteration of certain objects within a specified vicinity of an airport, including the following:

- ▲ any construction or alteration of more than 200 feet in height above the ground level at its site; and
- ▲ any construction or alteration of 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 the nearest point of the nearest runway of each public-use airport, public-use airport under construction, or military airport, with at least one runway more than 3,200 feet in actual length, excluding heliports. For runways less than 3,200 feet long the imaginary surface extends outward and upward at a ratio of 50 to 1 for a horizontal distance of 20,000 feet.

Helicopter external lift operations are regulated under Title 14 CFR Part 133, Rotorcraft External-Load Operations, Section 133.33 Operation Rules (FAA 1989). The FAA requires helicopter operators to submit an External Load Lift Plan to the agency for review and approval for public safety purposes prior to lifting external loads over or immediately adjacent to structures and/or roads. In the project area, the plan would specify the following:

- ▲ pilot qualifications and experience (pilots must be qualified in accordance with 14 CFR 133 for Class A and B, external load operations);
- ▲ requirement for an aerial hazard analysis of the construction site;
- ▲ protective clothing/equipment for ground personnel;
- ▲ specifications for all rope used to suspend external loads;
- ▲ specify responsibility for providing load calculations;
- ▲ specify requirements for mission briefing prior to aerial operations;
- ▲ safety considerations from Chapter 11 of the Interagency Helicopter Operations Guide (NFES 2009), adapted to meet the project's requirements; and
- ▲ emergency procedures in the event of a mechanical failure.

The plan would be submitted to and approved by the FAA's Reno Flight Standards District Office. The plan would be required to show the exact routes that the helicopter would use and the proximity of the routes to all nearby roads and structures. If the helicopter must fly over a building, the building must be vacated and if it would fly over a road, all traffic on the road must be temporarily stopped. If external load helicopter operations are conducted in an area away from structures and roads, a waiver may be obtained exempting the operator from submitting a plan

## FUEL REDUCTION AND WILDFIRE PREVENTION

### Multi-Jurisdictional Fuel Reduction and Wildfire Prevention Strategy for the Lake Tahoe Region

The Multi-Jurisdictional Fuel Reduction and Wildfire Prevention Strategy for the Lake Tahoe Region (Fuel Reduction Strategy) provides land management, fire, and regulatory agencies with strategies to reduce the probability of a catastrophic fire in the Region.

The US Forest Service (USFS), Lake Tahoe Basin Management (LTBMU) is the agency with primary responsibility for implementation of the Fuel Reduction Strategy; however, individual land owners and various agencies are responsible for aspects of its implementation. The Fuel Reduction Strategy is a comprehensive plan that combines projects from the following variety of sources:

- ▲ *Fuel Reduction and Forest Restoration Plan for the Lake Tahoe Basin Wildland Urban Interface* – Tahoe Regional Planning Agency (TRPA 2007);
- ▲ USFS Stewardship and Fireshed Assessment;
- ▲ California Department of Forestry and Fire Protection (CAL FIRE) Unit Strategic Fire Plans for the Amador-El Dorado Unit and the Nevada-Yuba-Placer Unit;

- ▲ California State Parks;
- ▲ California Tahoe Conservancy; and
- ▲ Nevada Tahoe Resource Team representing Nevada Division of State Lands, Nevada Division of Forestry, and Nevada State Parks.

Portions of the project area outside of the Lake Tahoe Basin are under the jurisdiction of the Tahoe National Forest. The Tahoe National Forest has a very active fuels management program, treating thousands of acres of vegetation every year to reduce the fire hazard to woodlands and communities adjacent to National Forest lands (USFS Tahoe National Forest 2013).

The US Army Corps of Engineers (USACE) has land management responsibility for the Martis Creek Lake. Primary fire suppression services are provided to the area under a cooperative agreement with CAL FIRE. USFS and Northstar Fire Department also provide fire suppression services through mutual aid arrangements (Growthe, pers. comm., 2013).

## STATE

### MANAGEMENT AND HANDLING OF HAZARDOUS MATERIALS

In California, both federal and state community right-to-know laws are coordinated through the Governor's Office of Emergency Services. The federal law, SARA Title III or EPCRA, is described above under the listing of federal regulations. The purpose of EPCRA is to encourage and support emergency planning efforts at the state and local levels and to provide local governments and the public with information about potential chemical hazards in their communities. Because of the community right-to-know laws, information is collected from facilities that handle (e.g., produce, use, store) hazardous materials above certain quantities. The provisions of EPCRA apply to four major categories:

- ▲ emergency planning,
- ▲ emergency release notification,
- ▲ reporting of hazardous chemical storage, and
- ▲ inventory of toxic chemical releases.

Information gathered in these four categories help federal, state, and local agencies and communities get an idea of the chemical hazards in a particular location or area and what chemicals individual facilities are using, storing, or producing on-site.

The corresponding State law is Chapter 6.95 of the California Health and Safety Code (Hazardous Materials Release Response Plans and Inventory). Under this law, CalPeco would be required to prepare a Hazardous Materials Business Plan, which would include hazardous materials and hazardous waste management procedures and emergency response procedures, including emergency spill cleanup supplies and equipment. This plan would be submitted to the administering agency to implement and enforce, and to the California Public Utilities Commission (CPUC) for oversight. In this case the Placer County Environmental Health Division and the Nevada County Environmental Health Department are the administering agencies (Certified Unified Program Agency [CUPA]).

The California Department of Toxic Substances Control (DTSC), a division of the California Environmental Protection Agency, has primary regulatory responsibility over hazardous materials in California, working in conjunction with EPA to enforce and implement hazardous materials laws and regulations. As required by Section 65962.5 of the California Government Code, DTSC maintains a hazardous waste and substances site list for the State, called the Cortese List.

## TRANSPORT OF HAZARDOUS MATERIALS AND HAZARDOUS MATERIALS EMERGENCY RESPONSE PLAN

The State of California has adopted US Department of Transportation regulations for the movement of hazardous materials originating within the state and passing through the state; state regulations are contained in 26 California Code of Regulations (CCR). State agencies with primary responsibility for enforcing state regulations and responding to hazardous materials transportation emergencies are the California Highway Patrol (CHP) and the California Department of Transportation (Caltrans). Together, these agencies determine container types used and license hazardous waste haulers to transport hazardous waste on public roads.

California has developed an emergency response plan to coordinate emergency services provided by federal, state, and local governments and private agencies. Response to hazardous materials incidents is one part of the plan. The plan is managed by the Governor's Office of Emergency Services, which coordinates the responses of other agencies-in the project area.

## MANAGEMENT OF CONSTRUCTION ACTIVITIES

Through the Porter-Cologne Water Quality Act and the National Pollution Discharge Elimination System (NPDES) program, the Lahontan Regional Water Quality Board (LRWQCB) has authority to require proper management of hazardous materials during project construction. For a detailed description of the Porter-Cologne Water Quality Act, the NPDES program, and the role of the LRWQCB, see Section 4.6, Hydrology and Water Quality.

The portions of the proposed project located within the Lake Tahoe Basin fall under the modified Lake Tahoe Basin NPDES General Construction Stormwater Permit (Order No. R6T-2011-0019, NPDES No. CAG616002) reissued by LRWQCB for the Lake Tahoe Hydrologic Unit in April 2011 based on an updated state General Permit (Order No. 2009-009-DWQ). The state General Permit covers areas that drain to the Truckee River, which addresses the remainder of the proposed project, and establishes a risk-based approach with increased monitoring and oversight. Both construction stormwater permits require that construction projects with greater than 1-acre of disturbance file permit registration documents, including a Notice of Intent and a Storm Water Pollution Prevention Plan (SWPPP) that includes proposed best management practices (BMPs) and a site specific Construction Site Monitoring and Reporting Plan developed by a certified Qualified SWPPP Developer. Although a major focus of the SWPPP is management of stormwater on the construction site, it must also address proper use and storage of hazardous materials, spill prevention and containment, and cleanup and reporting of any hazardous materials releases if they do occur.

The Lake Tahoe Basin General Permit provides for increased monitoring and oversight for construction activities, including daily rather than weekly monitoring, sampling for any discharges from a construction site rather than only during a qualifying storm event, and requiring all projects to be suspended or completed and winterized by October 15th.

## WORKER SAFETY

The California Occupational Safety and Health Administration (Cal/OSHA) assumes primary responsibility for developing and enforcing workplace safety regulations within the state. Cal/OSHA standards are typically more stringent than federal OSHA regulations and are presented in Title 8 of the CCR. Cal/OSHA conducts on-site evaluations and issues notices of violation to enforce necessary improvements to health and safety practices.

## AIRSPACE SAFETY

The state regulates airports under the authority of the Airport Land Use Commission Law, Section 21670 et seq. of the California Public Utilities Code. The *California Airport Land Use Planning Handbook*, published by the Caltrans Division of Aeronautics (Caltrans 2002) supports this law by providing compatibility planning guidance

to airport land use commissions (ALUCs), counties, and cities that have jurisdiction over airport area land uses and airport operators.

The Airport Land Use Commission Law is implemented through ALUCs, which are required in every county with a public-use airport or with an airport served by a scheduled airline. Under the provisions of the law, the ALUC has certain responsibilities and specific duties. Among these are preparing airport land use plans for each of the airports within its jurisdiction (California Public Utilities Code, Section 21674[c] and 21675[a]). For Truckee Tahoe Airport, a multi-county designated body functions as the ALUC that represents both Nevada and Placer Counties, as portions of the airport occur in both counties. The ALUC operates under the name "Truckee Tahoe Airport Land Use Commission."

## **WILDFIRE RESPONSIBILITY AREAS/STATE RESPONSIBILITY AREAS**

CAL FIRE implements statewide laws aimed at reducing wildfire hazards, including in wildland-urban interface areas. The laws are based in large part on hazard assessment and zoning. The laws apply to State Responsibility Areas (SRAs), which are defined as areas of the state in which the state has primary financial responsibility for preventing and suppressing fires, as determined by the State Board of Forestry pursuant to Sections 4125 and 4102 of the California Public Resources Code. Portions of both the 625 Line and 650 Line occur in SRAs. The applicable California Public Resources Code provisions address fire prevention and minimum fire safety standards related to defensible space for industrial operations and other land uses in SRAs (California Public Resources Code Part 2, Chapters 1 and 2). Fire safe regulations address road standards for fire equipment access, standards for signage, minimum water supply requirements for emergency fire use, and fuel breaks and greenbelts, among others. Fire protection outside SRAs is the responsibility of federal or local jurisdictions. These areas are referred to by CAL FIRE as federal responsibility areas and local responsibility areas.

## **2010 STRATEGIC FIRE PLAN FOR CALIFORNIA**

The 2010 Strategic California Fire Plan (Fire Plan) is the state's road map for reducing the risk of wildfire. The Fire Plan is a cooperative effort between the State Board of Forestry and Fire Protection and CAL FIRE. By emphasizing fire prevention, the Fire Plan seeks to reduce firefighting costs and property losses, increase firefighter safety, and to contribute to ecosystem health.

## **POWER LINE SAFETY AND FIRE PREVENTION**

Public Resources Code Sections 4292 and 4293 require power line hazard reduction and power line clearance to reduce wildfire danger. These sections apply to power lines in mountainous and forest covered lands, brush-covered land, or grass-covered land, Section 4292 specifies that a clear area of 10 feet be maintained around and adjacent to any pole and tower that support a switch, fuse, transformer, lightning arrester, line junction, or dead end or corner pole. Section 4293 specifies certain clear areas that must be maintained according to the voltage carried for conductors which carry electric current. For conductors carrying more than 110 kV, the clearance for vegetation in all directions is required to be at least 10 feet.

CCR, Title 14 Division 1.5, Chapter 7, Fire Protection, Section 1250, "Fire Prevention Standards for Electric Utilities," specifies utility-related measures for fire prevention.

California Public Utilities Commission General Order 95, "Rules for Overhead Electric Line Construction," specifies tree trimming criteria to minimize the potential for power line-related fires. These rules also specify uniform statewide requirements for overhead line construction regarding ground clearance, grounding, maintenance, and inspection. Implementing these requirements addresses the safety of the general public and line workers.

## TAHOE REGIONAL PLANNING AGENCY

### REGIONAL PLAN

TRPA implements its authority to regulate growth and development in the Lake Tahoe region through the Regional Plan. The Regional Plan includes Resolution 82-11, the Environmental Threshold Carrying Capacities (threshold standards), Goals and Policies, Code of Ordinances, and other guidance documents.

A Regional Plan Update (RPU) was adopted in December 2012. The RPU includes a Land Use element identifying goals and policies for addressing the Lake Tahoe region's natural hazards (TRPA 2012). Relevant Goals and Policies are listed below. Please see Section 4.2, Land Use, for an analysis of the proposed project's consistency with RPU policies.

### Goals and Policies

The following goal and policies in the Hazards and Hazardous Materials sub-element of the Regional Plan are applicable to this project:

**GOAL NH-1.** Risks from natural hazards (e.g. flood, fire, avalanche, and earthquake, seiche) will be minimized.

Land use in the Tahoe region should be planned with recognition of natural hazards as to help prevent damage to property and to protect public health. Natural hazards or situations can be identified and precautionary measures taken to minimize impacts.

- ▲ **Policy NH-1.3.** Inform residents and visitors of the wildfire hazard associated with occupancy in the region. Encourage use of fire resistant materials and fire preventative techniques when constructing structures, especially in the highest fire hazard areas. Manage forest fuels to be consistent with state laws and other goals and policies of this plan.

### Code of Ordinances

The TRPA Code of Ordinances (Code) is designed, among other things, to implement the Goals and Policies in a manner attaining and maintaining the TRPA environmental thresholds. The Code compiles all the ordinances of TRPA into one document except for certain procedural ordinances such as the ordinances adopting plan amendments. The Code addresses many subjects, including, but not limited to, required permits for development, findings required for approval of projects, environmental impact statements, plan area statements, land use, density and coverage, development standards, allocations of development, the Individual Parcel Evaluation System, shorezone, grading and construction practices, resource management, water quality, air quality and transportation.

Chapter 61, Section 61.3.6 of the Code provides the following guidance related to hazards and hazardous materials potentially relevant to the proposed project:

- ▲ **Vegetation Management to Prevent the Spread of Wildfire:** Within areas of significant fire hazards, as determined by local, State, or federal fire agencies, flammable or other combustible vegetation shall be removed, thinned, or manipulated in accordance with local and state law. Revegetation with approved species or other means of erosion control may be required where vegetative ground cover has been eliminated or where erosion problems may occur.

The Emergency California-Nevada Tahoe Basin Fire Commission Report (Report) was released in May 2008. Beginning in 2008, all permit applications and qualified exempt declarations requiring TRPA review which involve construction must receive pre-approval from the appropriate Lake Tahoe fire protection district or department.

## ENVIRONMENTAL THRESHOLD CARRYING CAPACITY

TRPA has not established any environmental threshold carrying capacities (thresholds) related to hazards and hazardous materials.

## LOCAL/REGIONAL

Policies and ordinances of local agencies applicable to the proposed project are described in this section.

## LAKE TAHOE GEOGRAPHIC RESPONSE PLAN

The Lake Tahoe Geographic Response Plan (LTGRP) (Lake Tahoe Response Plan Area Committee 2007) is the principal guide for agencies within the Lake Tahoe watershed, its incorporated cities, and other local government entities in mitigating hazardous materials emergencies. The LTGRP establishes the policies, responsibilities, and procedures required to protect life, environment, and property from the effects of hazardous materials incidents. The LTGRP establishes the emergency response organization for hazardous materials incidents occurring within the Lake Tahoe watershed. The plan is generally intended to be used for oil spills or chemical releases that impact or could potentially impact drainages entering Lake Tahoe, Lake Tahoe itself, and its outflow at the Truckee River.

## PLACER COUNTY

### Placer County General Plan

The Health and Safety Element of the General Plan includes the following policies relevant to hazardous material and human safety related impacts within Placer County. Refer to Table 4-1 in Chapter 4.1, Land Use, for analysis of the project's consistency with applicable General Plan policies.

- ▲ **Policy 8.C.1.** The County shall ensure that development in high-fire-hazard areas is designed and constructed in a manner that minimizes the risk from fire hazards and meets all applicable state and county fire standards.
- ▲ **Policy 8.C.2.** The County shall require that discretionary permits for new development in fire hazard areas be conditioned to include requirements for fire-resistant vegetation, cleared fire breaks, or a long-term comprehensive fuel management program. Fire hazard reduction measures shall be incorporated into the design of development projects in fire hazard areas.
- ▲ **Policy 8.C.3.** The County shall require that new development meets state, County, and local fire district standards for fire protection.
- ▲ **Policy 8.C.4.** The County shall refer development proposals in the unincorporated County to the appropriate local fire agencies for review for compliance with fire safety standards. If dual responsibility exists, then both agencies shall review and comment relative to their area of responsibility. If standards are different or conflicting, the more stringent standards shall be applied.
- ▲ **Policy 8.G.1.** The County shall ensure that the use and disposal of hazardous materials in the county complies with local, state, and federal safety standards.
- ▲ **Policy 8.G.3.** The County shall review all proposed development projects that manufacture, use, or transport hazardous materials for compliance with the County's Hazardous Waste Management Plan (CHWMP).
- ▲ **Policy 8.G.6.** The County shall require secondary containment and periodic examination for all storage of toxic materials.
- ▲ **Policy 8.G.7.** The County shall ensure that industrial facilities are constructed and operated in accordance with current safety and environmental protection standards.

- ▲ **Policy 8.G.9.** The County shall require that applications for discretionary development projects that will generate hazardous wastes or utilize hazardous materials include detailed information on hazardous waste reduction, recycling, and storage.
- ▲ **Policy 8.G.10.** The County shall require that any business that handles a hazardous material prepare a plan for emergency response to a release or threatened release of a hazardous material.

Kings Beach and Tahoe City are unincorporated communities within the Placer County portion of the Lake Tahoe Basin, and are subject to the Goals and policies listed above. Community plans prepared for these locals do not contain policies that specifically address handling, storage, disposal, or transportation of hazardous materials, or wildfire prevention.

### **Martis Valley Community Plan**

The Martis Valley Community Plan, in combination with the Placer County General Plan, is the official statement of Placer County setting forth goals, policies, assumptions, guidelines, standards, and implementation measures that will guide the development of the Martis Valley area to at least the year 2020. Section VI of the Plan, Public Facilities and Services, addresses development of coordinated response procedures by Truckee FPD and Northstar CSD to all hazard and disasters, including hazardous materials releases and wildfires.

### **Placer County Codes and Regulations**

In Placer County, hazards and hazardous materials are addressed under various county codes and regulations which are described below.

#### ***Certified Unified Program Agency***

Placer County's Environmental Health Division is the designated CUPA authorized pursuant to Section 25502 of Chapter 6.95 of the California Health and Safety Code for all areas of the county except for the City of Roseville. The Unified Program is a consolidation of state environmental programs into one program under the authority of a CUPA. A CUPA can be a county, city, or Joint Powers Authority. This program was established by amendments to the California Health and Safety Code made in SB 1082 in 1994.

Environmental Health's Hazardous Materials Section inspects hazardous materials facilities, hazardous waste facilities, underground storage tank facilities, groundwater monitoring wells, waste tires, and solid waste. Agencies participating with the County in the program are listed below.

- ▲ California Environmental Protection Agency
- ▲ Department of Toxic Substances Control
- ▲ Office of Emergency Services
- ▲ Office of State Fire Marshal
- ▲ State Water Resources Control Board

The Placer County Environmental Health Division is responsible for inspecting all hazardous materials facilities, hazardous waste facilities, underground storage tank facilities, groundwater monitoring wells, waste tire facilities, and solid waste facilities. Programs under the Environmental Health Division include review of Hazardous Waste Business Plans, underground and aboveground storage tank permitting and inspections, the accidental release prevention program, and the hazardous waste generation program.

#### ***Placer County Fire and Life Safety Regulations***

The Placer County Code Chapter 9, Article 9.32 identifies specific fire hazard regulations that apply to properties within the county. These regulations define the standards for building setbacks, maintenance of defensible space, storage of explosives and hydrocarbon liquids, and overall fire protection.

The regulations for storage and use of explosives (e.g., for blasting) in the county are provided in the Placer County Code, Section 9.32.010, which requires a permit from the Placer County Sheriff, pursuant to Health and Safety Code Section 12105. Permits are issued upon presentation of licensing/permit approval by the Department of Justice Bureau of Alcohol, Tobacco, Firearms and Explosives (see Explosives under Federal Regulatory heading above). The Sheriff's Department provides notification of permit issuance to the local fire department or fire protection district (Passmore, pers. comm., 2013).

The Placer County Fire Code has adopted provisions that are included in the California Building Code and Uniform Fire Code, in addition to requirements from PRC 4290, which include road standards for fire equipment access. In addition, the North Tahoe Fire Protection District has developed a fire protection code, which includes provisions for the storage of flammable liquids in aboveground tanks, and liquefied petroleum and natural gas installations.

### ***Placer County Office of Emergency Preparedness***

The Placer County Office of Emergency Services (OES) implements the State's Right-to-Know Ordinance that gives the OES the authority to inventory hazardous materials used by businesses. The OES is responsible for the administration of the Placer County emergency management program on a day-to-day basis and during disasters. The office is charged with providing the necessary planning, coordination, response support, and communications with all agencies affected by large-scale emergencies or disasters. OES works in a cooperative effort with other disciplines such as law enforcement, fire, emergency medical services, state and federal agencies, utilities, private industry and volunteer groups in order to provide a coordinated response to disasters. In any disaster, the OES becomes the single focal point for centralized management and coordination of emergency response and recovery operations during a disaster or emergency affecting the County. The OES will be activated when an emergency situation occurs that exceeds local and/or in field capabilities to adequately respond to and mitigate the incident.

### ***Placer County Local Hazard Mitigation Plan***

The purpose of the Placer County Local Hazard Mitigation Plan is to reduce or eliminate long-term risk to people and property from natural hazards and their effects in Placer County (Placer County 2010: pp. i). The plan was prepared to meet the Disaster Mitigation Act of 2000 requirements in order to maintain Placer County's eligibility for the Federal Emergency Management Agency (FEMA) Pre-Disaster Mitigation and Hazard Mitigation Grant Programs.

The county followed a planning process prescribed by FEMA, which began with the formation of a Hazard Mitigation Planning Committee (HMPC) comprising key county, city, district and stakeholder representatives. The HMPC conducted a risk assessment that identified and profiled hazards that pose a risk to Placer County, assessed the county's vulnerability to these hazards, and examined the capabilities in place to mitigate them. Placer County is vulnerable to several natural hazards that are identified, profiled, and analyzed in the plan including wildfires, floods, severe weather, and drought. The plan has been formally adopted by each participating entity and is required to be updated a minimum of every five years (Placer County 2010: pp. i).

## **NEVADA COUNTY**

The Nevada County Department of Environmental Health is the CUPA authorized pursuant to Section 25502 of Chapter 6.95 of the California Health and Safety Code for all cities and unincorporated areas within Nevada County (Nevada County 2012). The Nevada County Environmental Health Department is responsible for coordination of hazardous waste generator programs, underground storage tank management programs, hazardous materials storage programs, and the solid waste local enforcement agency program. This department is also responsible for managing leaking underground storage tank (LUST) site investigation and cleanup. The Nevada County Emergency Plan incorporates the Town of Truckee Emergency Operations Plan. The plans address each jurisdiction's responsibilities in emergencies associated with natural disaster (including wildfire),

human-caused emergencies (including hazardous materials events), and technological incidents (such as power outages). The plans also provide direction for coordination of response and recovery effort with local, state, and federal agencies.

## TRUCKEE TAHOE AIRPORT LAND USE COMPATIBILITY PLAN

The Airport Land Use Compatibility Plan (ALUCP) is the basis for compatible planning within the vicinity of a public airport. The ALUCP may include land use measures specifying land use, height restrictions, and building standards (PUC Section 21675(a)). The planning boundary of the ALUCP is the “airport influence area.”

The Truckee Tahoe Airport Land Use Commission adopted the Truckee Tahoe ALUCP on October 19, 2010. The Truckee Tahoe ALUCP was created to promote compatibility between the Truckee Tahoe Airport and the surrounding land uses. The Truckee Tahoe ALUCP provides policies specific to the types of actions reviewed by the ALUCP, the project review process, compatibility criteria for land use actions, noise compatibility policies, airspace protection policies, safety compatibility criteria, overflight policies, and general plan consistency with the compatibility plan.

Six Compatibility Zones are identified in the Truckee Tahoe ALUCP; A, B1, B2, C, D, and E; and are shown in Exhibit 4.10-1. Zone A incorporates the runways and has the most restrictive compatibility requirements and Zone E is the farthest from the runways and has a greater range of permissible uses. Within Zones D and E are areas also identified as “Height Review Overlay Zones” with more restrictive height criteria for triggering ALUC review of proposed structures. The Height Review Overlay Zones include any area where ground is within 35 feet of a FAR Part 77 location (FAR Part 77 criteria are described above in the section on “Airspace Safety” in the discussion of federal regulation) plus additional areas where the ground level exceeds 6,300 foot elevation.

Each action alternative passes through the Airport Influence Area and has components located within Compatibility Zones C, D, E, and within the Height Review Overlay Zone. The Road Focused Alternative (Alternative 3) also passes through an area designed as Zone B1. Based upon FAA criteria, proposed objects that would exceed the heights indicated below for the respective Compatibility Zones crossed by the proposed project potentially represent airspace obstructions issues. Development proposals that include any such objects shall be reviewed by the ALUC. Objects of lesser height normally would not have a potential for being airspace obstructions and therefore do not require ALUC review with respect to airspace protection criteria; although depending on proposed land use, noise, safety, and overflight concerns may still be present.

- ▲ Within Compatibility Zone B1, ALUC review is required for any proposed object taller than 35 feet unless the airport controls an easement on the land on which the object is to be located and grants a waiver to height restrictions.
- ▲ Within the Height Review Overlay Zone, ALUC review is required for any proposed object taller than 35 feet above the ground.
- ▲ Within Compatibility Zone C, ALUC review is required for any proposed object taller than 50 feet.
- ▲ Within Compatibility Zones D and E, ALUC review is required for any proposed object taller than 100 feet.

Power lines are not specifically listed as prohibited uses in the Airport Influence Area in the ALUCP. However, structures and land uses considered “hazards to flight” are listed in the ALUCP as prohibited uses in all zones. The term “hazards to flight” is defined as “...physical (e.g., tall objects), visual, and electronic forms of interference with the safety of aircraft operations. Land use development that may cause the attraction of birds to increase is also prohibited.”

## LOCAL FIRE PROTECTION DISTRICTS

Three local fire protection districts are charged with providing fire protection, rescue, emergency medical treatment, hazardous materials control, and response services to the areas crossed by the 625 and 650 Lines, the North Tahoe Fire Protection District, the Northstar Fire Department (part of the Northstar CSD), and the Truckee Fire Protection District.

The North Tahoe Fire Protection District protects an area of 31 square miles on the north and west shores of Lake Tahoe. The district has six stations, located in Alpine Meadows, Tahoe City, Homewood, Dollar Hill, Carnelian Bay, and Kings Beach. The stations are staffed by 50 uniformed and support personnel. Those segments of the 625 and 650 Lines located in and near Tahoe City and Kings Beach fall within the jurisdiction of the North Tahoe Fire Protection District.

The Truckee Fire Protection District protects an area of 125 square miles that includes the Town of Truckee, the Donner Lake and Donner Pass areas. The district has eight stations, including Station 96, located at 10277 Tahoe Truckee Airport Road. This site is shared with CAL FIRE and the Tahoe Truckee Airport. The northern terminus of the project (including the 132 Line and the 650 Line) falls within the jurisdiction of the Truckee Fire Protection District.

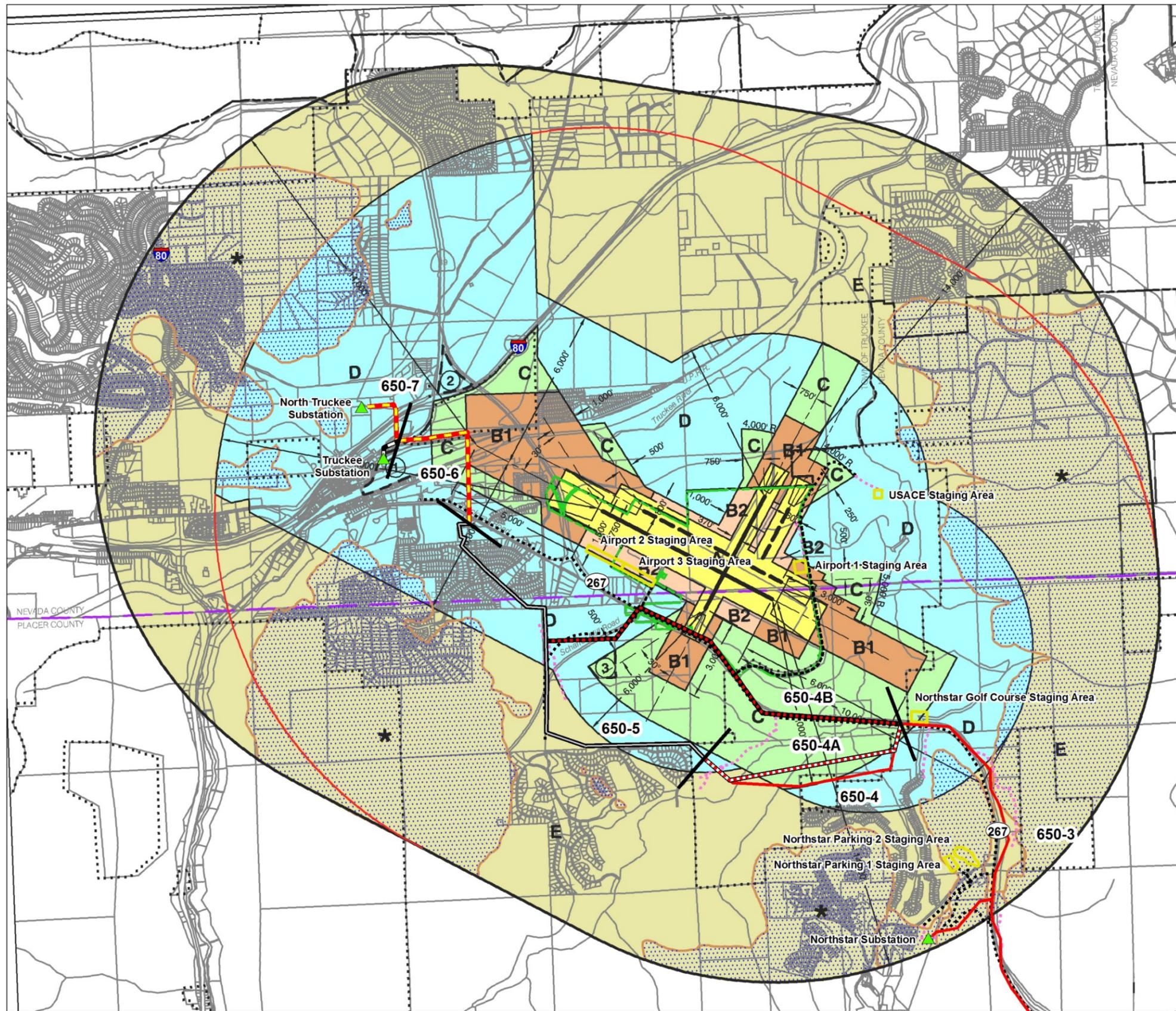
The Northstar Community Services District operates the Northstar Fire Department (NFD), which protects 5 square miles and provides fire prevention and suppression, rescue, and emergency medical services. Each of three shifts is staffed with two captains, two engineers, and one firefighter, divided between Stations 31 and 32. Additionally NFD has one full-time Fire Chief, Fire Prevention Officer, and Forestry Supervisor. Segment 650-3 and the Northstar Substation are within or adjacent to the NFD service area.

## 4.10.2 EXISTING CONDITIONS/AFFECTED ENVIRONMENT

### EXISTING HAZARDOUS MATERIAL SITES

The following subsections describe the types of hazardous materials known to be present within 0.25 mile of the action alternatives. Most of the project components are located in rural areas of Placer County with limited development and industrial uses, where historical land use is not likely to contribute to hazardous materials contamination (primarily within the Tahoe National Forest and LTBMU). Existing hazardous material sites associated with the action alternatives are primarily located in developed areas in and around the Town of Truckee, Kings Beach and Tahoe City.

According to the California DTSC Cortese List (Envirostor Database), EPA National Priorities List, and California LUST/Statewide Spills, Leaks, Investigations, and Cleanups (SLIC) sites (Geotracker Database), 23 sites with past or current hazardous materials cases were identified within 0.25 mile of the action alternatives, as shown in Exhibit 4.10-2 and described in Table 4.10-1.



**Legend**

- Line Segment Boundary
  - 650 PEA/650 Proposed Alternatives (Existing 650 Line)
  - 650 Modified Alternative
  - 650 Road Focused Alternative
  - 650 To Be Removed
  - 132/650 Double Circuit (All Alternatives)
  - Non-Project Component
  - Access - Paved Road
  - Access - Dirt Road (No Improvement Needed)
  - Staging Area
  - ▲ Existing Substation
- Compatibility Zones**
- Airport Influence Area Boundary
  - Zone A
  - Zone B1
  - Zone B2
  - Zone C
  - Zone D
  - Zone E
  - ★ Height Review Overlay Zone
  - Limits of FAR Part 77 Surfaces
  - Ⓝ See Section 3.4 for site-specific exceptions at these locations

**Boundary Lines**

- Airport Property Line
- Nevada / Placer County Line
- Truckee Town Limits
- Truckee Sphere of Influence
- Federal Lands (USFS & Corps of Engineers)

**Notes**

- Airport influence over boundary measured from a point 200 feet beyond runway ends in accordance with FAA airspace protection criteria (FAR Part 77). All other dimensions measured from runway ends and centerlines.
- Height Review Overlay Zone includes any area where ground is within 35 feet of FAR Part 77 Surface, plus additional areas where ground level exceeds an elevation of 6,300 feet MSL.



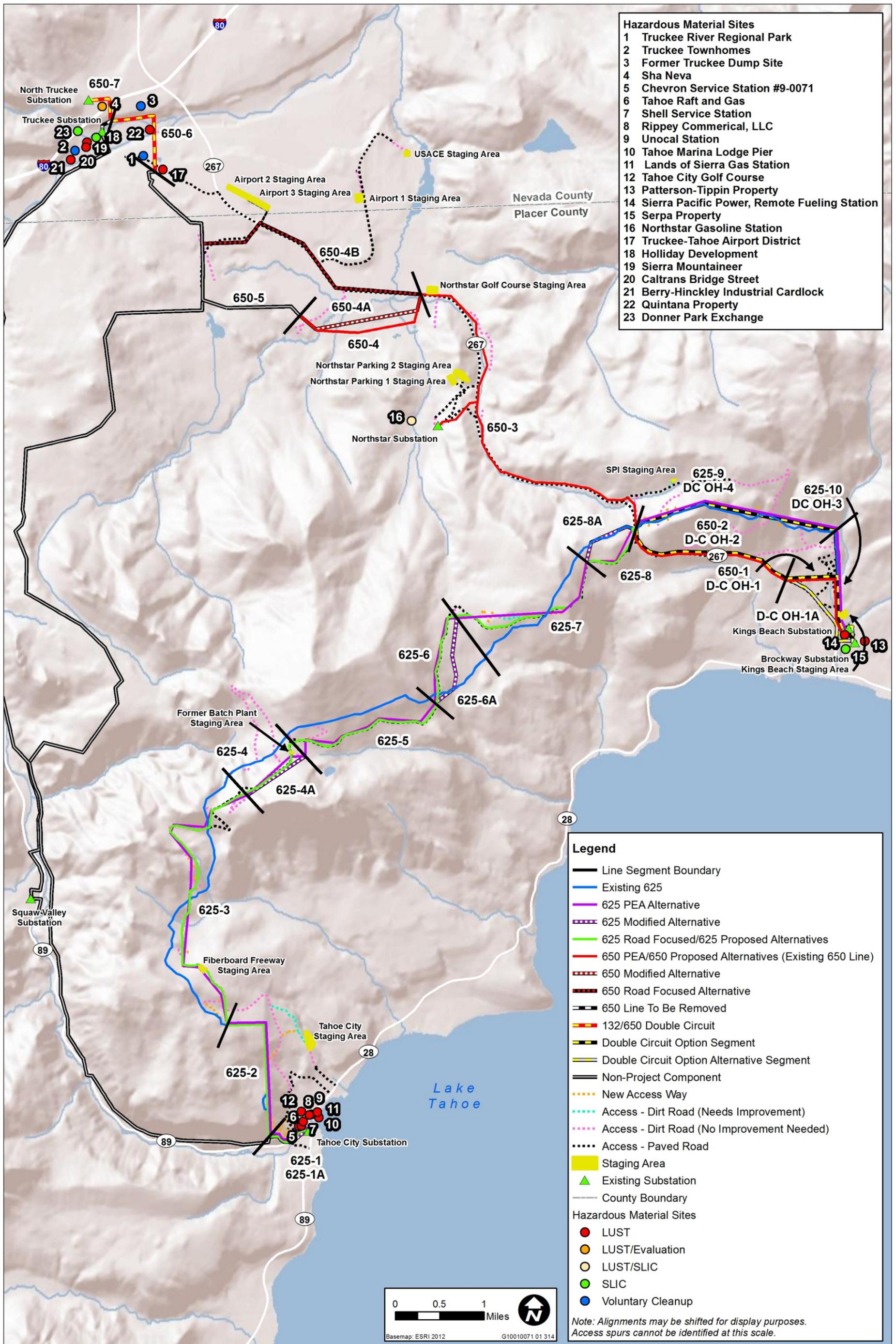
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Source: Adapted by Ascent Environmental 2012

**Exhibit 4.10-1**

**Truckee Tahoe Airport Compatibility Zones**





Source: Data received from POWER (2013); Adapted by Ascent Environmental in 2013

Exhibit 4.10-2

Existing Hazardous Material Sites



**Table 4.10-1 Hazardous Materials Sites Records Review**

Map Identification	Site Name	Site Address	Type of Site	Status
1	Truckee River Regional Park	10570 Brockway Road Truckee, CA	Voluntary Cleanup – Lead, Dioxin	Certified/Operation and Maintenance
2	Truckee Townhomes	10365 East Jibboom Street Truckee, CA	Voluntary Cleanup – Lead	Certified
3	Former Truckee Dump Site	Bounded by I-80 on the north, by Donner Pass Road on the west and Glenshire Road on the south Truckee, CA	Voluntary Cleanup – Lead, Polynuclear Aromatic Hydrocarbons	Certified
4	Sha Neva	10655 Sha Neva Road Truckee, CA	LUST/Evaluation – Gasoline	Completed – Case Closed
5	Chevron Service Station #9-0071	310 River Road Tahoe City, CA	LUST – Gasoline	Open – Remediation
6	Tahoe Raft and Gas	185 River Road SR 89) Tahoe City, CA	LUST	Open – Site Assessment
7	Shell Service Station	300 River Road Tahoe City, CA	LUST – Gasoline	Open – Remediation
8	Ripsey Commercial LLC	140 North Lake Boulevard Tahoe City, CA	LUST – Diesel, Gasoline, Waste Oil/Motor/ Hydraulic/Lubricating	Completed – Case Closed
9	Unocal Station	140 North Lake Boulevard Tahoe City, CA	LUST – Gasoline	Completed – Case Closed
10	Tahoe Marina Lodge Pier	270 North Lake Boulevard Tahoe City, CA	LUST – Gasoline	Open – Remediation
11	Lands of Sierra Gas Station	280 North Lake Boulevard Tahoe City, CA	LUST – Gasoline	Open – Verification Monitoring
12	Tahoe City Golf Course	251 North Lake Boulevard, CA Tahoe City, CA	LUST	Open – Site Assessment
13	Patterson-Tippin Property	712 Bear Street Kings Beach, CA	LUST – Gasoline	Open – Inactive
14	Sierra Pacific Power, Remote Fueling Facility	Deer Street Kings Beach, CA	SLIC – Diesel	Completed – Case Closed
15	Serpa Property	710 Wolf Street Kings Beach, CA	LUST – Gasoline	Completed – Case Closed
16	Northstar Gasoline Station	200 Northstar Drive Truckee, CA	LUST/SLIC – Gasoline	Completed – Case Closed
17	Truckee Tahoe Airport District	10356 Truckee Airport Road Truckee, CA	LUST – Diesel	Completed – Case Closed
18	Holliday Development	4.3-acre parcel west of Balloon Track Truckee, CA	SLIC – Diesel	Open – Inactive
19	Sierra Mountaineer	10019 Jibboom Street Truckee, CA	LUST – Gasoline	Completed – Case Closed
20	Caltrans Bridge Street	10099 Bridge Street Truckee, CA	LUST – Diesel	Completed – Case Closed

**Table 4.10-1 Hazardous Materials Sites Records Review**

Map Identification	Site Name	Site Address	Type of Site	Status
21	Berry-Hinckley Industrial Cardlock	10161 Church Street Truckee, CA	LUST – Gasoline	Open – Remediation
22	Quintana Property	10599 East River Street Truckee, CA	LUST – Heating Oil/Fuel Oil	Completed – Case Closed
23	Donner Park Interchange	Interstate 80 Truckee, CA	SLIC – Diesel	Completed – Case Closed

Notes:

SR – State Route

LUST - Leaking Underground Storage Tank

SLIC - Spills, Leaks, Investigations, and Cleanups

Status Codes:

Certified/Operation and Maintenance – An approved Operations, Maintenance, and Monitoring Plan to address contamination is in place and being implemented.

Certified – Appropriate agency has certified that the voluntary action is complete.

Open – Remediation - A remediation plan has been submitted evaluating long-term remediation options (or corrective actions). A proposal and implementation schedule for an appropriate remediation option has also been submitted. This phase of work may also include preparing and submitting the necessary information for any permits needed prior to implementation of the plan.

Open – Verification Monitoring - Periodic ground water or other monitoring at the site, as necessary, in order to verify and/or evaluate the effectiveness of remedial activities.

Open – Site Assessment - Implementation of a workplan addressing whether groundwater has been, or will be impacted as a result of a release from any underground tanks or associated piping.

Open – Inactive - Groundwater well is not included in groundwater monitoring program.

Completed – Case Closed - The Regional Board and the local responsible agency are in concurrence that no further work is necessary at the site.

Source: Envirostor Database, September 2012; Geotracker Database, September 2012

Of the 23 sites identified, one is crossed by Segment 650-6 of the 650 Line and five are within close proximity (250 feet) to one or more project components. Segment 650-6 of the 650 Line crosses the eastern boundary of the Truckee River Regional Park. An approximately 18-acre portion of the Truckee River Regional Park is a voluntary cleanup site (Site 1 in Table 4.10-1 and Exhibit 4.10-2). An area now within the park, located approximately 400 feet west of the 650 Line, is a former burn dump that may contain traces of lead and dioxin. Following consolidation and capping of the former Truckee Regional Park Burn Dump, a restriction limiting use of the Site to non-irrigated open space was recorded as a Land Use Covenant. In January 2012, the California DTSC received the Operation, Maintenance & Monitoring Annual Report – 2011. The 2011 Annual Report presented a summary of the inspection, maintenance and monitoring conducted during 2011 pursuant to the Operations and Maintenance Agreement (OMA) and Operations Maintenance and Monitoring (OM&M) Plan. Based on groundwater monitoring results and the requirements of the OMA and OM&M Plan, a request for cessation of groundwater monitoring and abandonment of wells has been made.

The Quintana property is located approximately 220-feet west of Segment 650-6 and has been identified as a LUST cleanup site due to potential heating oil contamination (Site 22 in Table 4.10-1 and Exhibit 4.10-2). The case for the Quintana Property has been closed since September 18, 2006.

Two gasoline service stations, a Chevron Service Station and a Shell Service Station, are located approximately 250-feet north of Segment 625-1, on the opposite side of the Truckee River (Sites 5 and 7 in Table 4.10-1 and Exhibit 4.10-2). These facilities were identified as LUST cleanup sites and have open remediation cases as of September 1, 2006 and November 1, 2005, respectively. A third gasoline service station, Tahoe Raft and Gas, is also located across the Truckee River from Segment 625-1 approximately 220 feet north of the proposed alignment (Site 6 in Table 4.10-1 and Exhibit 4.10-2). This facility is also identified as a LUST cleanup site and has an open site assessment case as of June 12, 2012.

The proposed Kings Beach Substation would be located approximately 100-feet west of a site identified as the Sierra Pacific Power Remote Fueling Facility (Site 14 in Table 4.10-1 and Exhibit 4.10-2). This site is associated

with the Kings Beach Diesel Generation Station. This site has been identified as a SLIC site due to potential diesel contamination; however, this case was closed on November 19, 2003.

## NATURALLY OCCURRING ASBESTOS

Naturally occurring asbestos has been identified as a health hazard in some areas of California and elsewhere in the United States. Naturally occurring asbestos is considered a hazard because it is found at or near the ground surface and can result in human exposure to asbestos. Asbestos is a carcinogen that can cause various severe health problems. Naturally occurring asbestos only occurs in areas with specific soil types identified as ultramafic soil. The project area is not mapped as having ultramafic soil and the likelihood of encountering naturally occurring asbestos is extremely low as none is known to exist anywhere near the project site.

## WILDLAND FIRE HAZARDS

The Lake Tahoe region is considered a “fire environment” because of the climate, steep topography, and high level of available fuel. The threat of catastrophic fire is a significant public concern. Prior to fire suppression policies and extensive logging in the Lake Tahoe region and surrounding area, natural fire regimes would have included frequent, low-intensity burns occurring at intervals of approximately five to 18 years which would typically have thinned forest stands and removed hazardous ladder fuels. Fire suppression policies have allowed the development of vegetation complexes that are more susceptible to high-intensity burning (e.g., crown fires). Hazardous fuel conditions coupled with a wildland urban interface/intermix situation in many portions of the project area have resulted in an increased likelihood of ignition and high-intensity wildfire.

In June 2007, the Angora Fire began from an unattended campfire near the North Upper Truckee Road subdivision near Angora Lakes, Fallen Leaf Lake, Echo Lake, and South Lake Tahoe. The fire occurred during some of the most severe fire danger conditions experienced in the region over the last 20 years. The fire initially spread 4 miles in three hours and burned more than 250 structures on private property, including more than 200 homes. Containment required several days. Most of the 3,072 acres within the fire perimeter involved National Forest System lands managed by the USFS; however, about 300 urban lots owned by the USFS, the California Tahoe Conservancy, California State Parks, and El Dorado County; and 231 acres of private property also burned (CAL FIRE 2007).

In California, CAL FIRE has mapped Fire Hazard Severity Zones (FHSZs) for the entire state, including the Lake Tahoe Region. FHSZ delineations are based on an evaluation of fuels, fire history, terrain, housing density, and occurrence of severe fire weather and are intended to identify areas where urban conflagrations could result in catastrophic losses. FHSZs are categorized as: Moderate, High, and Very High. According to CAL FIRE’s Fire Resource Assessment Program FHSZ Geographic Information System data, shown in Exhibit 4.10-3, project facilities would be located within Moderate, High, and Very High FHSZs, which are defined as follows.

- ▲ Moderate: Wildland areas that support areas of typically low fire frequency and relatively modest fire behavior or developed/urbanized areas with a very high density of non-burnable surfaces.
- ▲ High: Wildland areas that support medium to high hazard fire behavior and roughly average burn probabilities or developed/urbanized areas with moderate vegetation cover and more limited non-burnable cover.
- ▲ Very High: Wildland areas that support high to extreme fire behavior or developed/urban areas typically with at least 70 percent vegetation density.

## SCHOOLS

The project area is served by the Tahoe Truckee Unified School District (TTUSD), which oversees 11 schools, including five elementary schools, two middle schools, three high schools, and one alternative school. No proposed TTUSD schools are located within the project area (TTUSD 2013).

The Brockway Substation and the 650 Line to be removed are located approximately 0.2 mile north of the Kings Beach Elementary School and Kings Beach Head Start Preschool (Exhibit 4.10-4). The Forest Charter School is located approximately 0.2 mile east of the North Truckee Substation. In addition, the Truckee Substation is located approximately 0.2 mile northeast of the Church of the Mountains Preschool. The Forest Charter School, Church of the Mountains Preschool, and Truckee Pines Head Start Preschool are situated within 0.25 mile of either Segment 650-6 or 650-7 of the 650 Line.

The Squaw Valley Academy is a boarding school located in Olympic Valley, approximately 0.2 mile southwest of the Squaw Valley Substation. It accommodates students in 6th through 12th grades.

## AIRPORTS AND AIRSTRIPS

The Truckee Tahoe Airport, situated in both Nevada County and Placer County, is located on the east side of State Route (SR) 267 to the north and east of Segments 650-4 and 650-5. Depending on the action alternative, airport property ranges from less than 0.1 mile to roughly 0.8 mile from the 650 Line. The airport is also approximately 1.4 miles southeast of the Truckee Substation, and approximately 1.6 miles southeast of the North Truckee Substation. The Truckee Tahoe Airport is described in further detail in Section 4.12 Traffic and Transportation, and the ALUCP is described above. No private airstrips are located within the project area. The nearest private airstrip (Bailey Ranch) is located approximately 11 miles east of the project area. A heliport associated with the Tahoe Forest Hospital is also located approximately 6,200 feet west of the 650 Line.

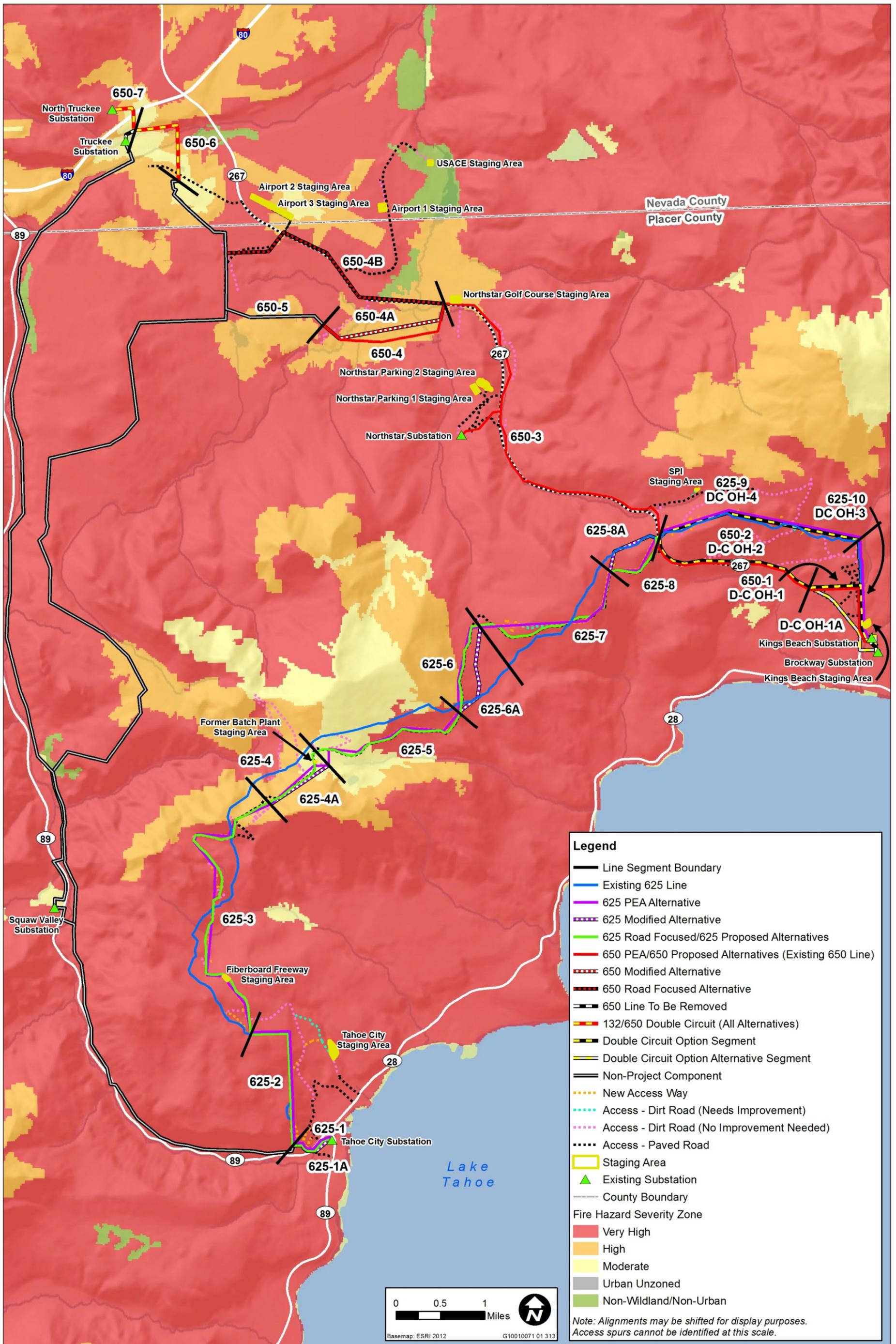
## EMERGENCY/EVACUATION PLANS

### PLACER COUNTY

The Placer County OES implements the Placer Operational Area East Side Emergency Evacuation Plan. This plan was designed to conduct a physical evacuation of one or more communities in the unincorporated Placer County area on the eastern side of the county that is necessitated by a larger incident, most probably a forest fire or flood. In addition, this plan was developed to help increase preparedness and facilitate the efficient and rapid evacuation of threatened communities in the far eastern end of the county. The plan provides details regarding the functions that are normally present in typical evacuation scenarios, which include evacuation alerts, evacuation emergency medical services and public information, traffic control, transportation, communication, and animal services. Interstate 80 (I-80), SR 89, and SR 267 comprise the major evacuation routes in the project area. The plan also describes evacuation responsibilities by local and state agencies.

### NEVADA COUNTY AND TOWN OF TRUCKEE

The Town of Truckee Emergency Operations Plan includes the Nevada County Evacuation Guide. The Evacuation Guide was designed to provide information to emergency responders in order to coordinate and implement the evacuation of citizens from a hazardous area and provides citizens basic information to develop community-based preparedness guidelines. The plan includes evacuation levels one through four, which range from shelter-in-place (level one) to no safe evacuation (level four). The plan provides primary and secondary evacuation routes and road closure levels ranging from an area threatened by an emergency situation (level one) to access restricted to emergency personnel only (level three). I-80 and SRs 267 and 89 are the primary evacuation routes in the project area.

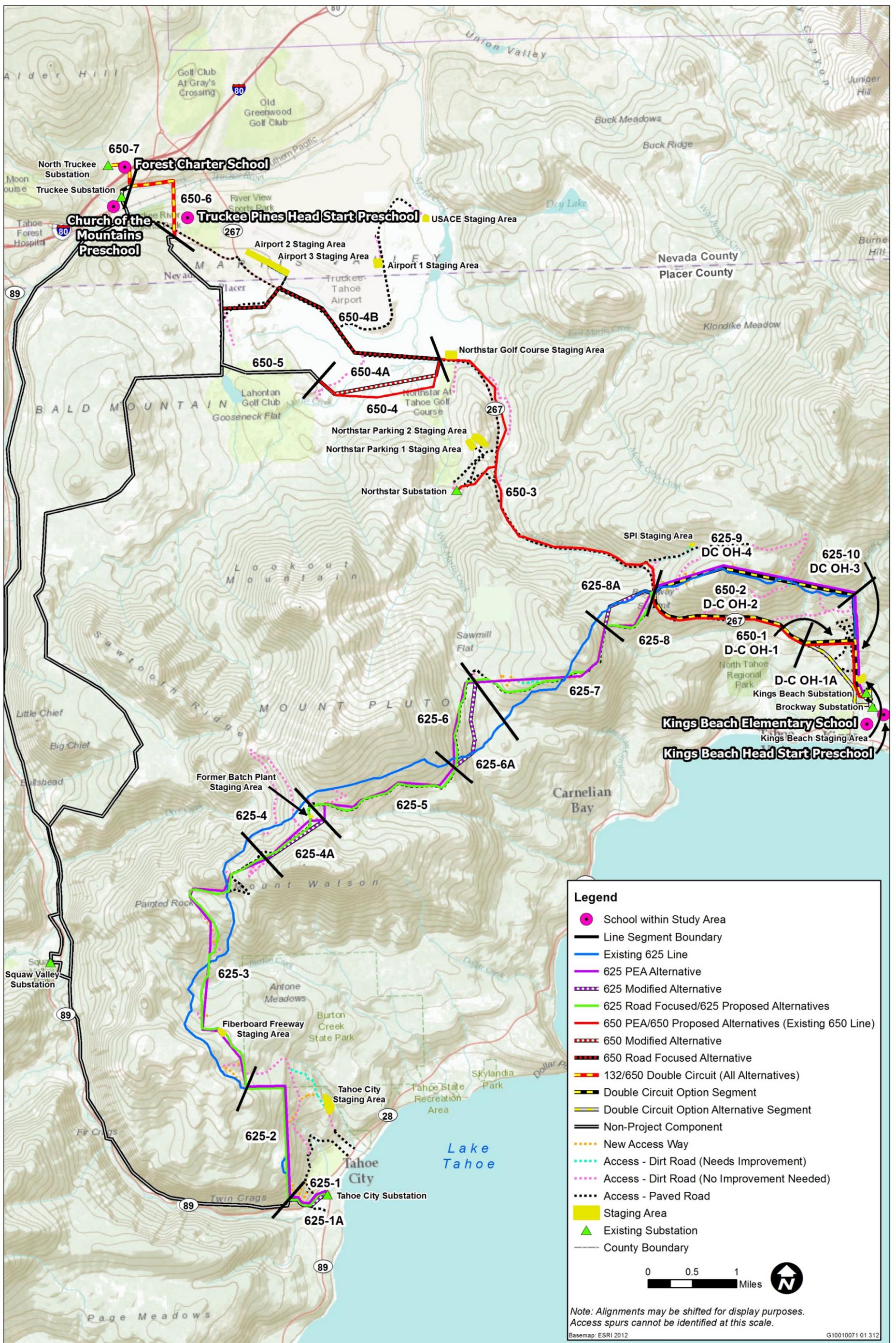


Source: Data downloaded from CAL FIRE (2004); Adapted by Ascent Environmental in 2013

Exhibit 4.10-3

Fire Hazard Severity Zones





Source: Data received from POWER in 2013; Adapted by Ascent Environmental in 2013

Exhibit 4.10-4

Existing School Sites



## ELECTRIC AND MAGNETIC FIELDS

This section does not consider electric and magnetic fields (EMF) in the context of the National Environmental Protection Act (NEPA), California Environmental Quality Act (CEQA), and TRPA regulations and determination of environmental impact, first because there is no agreement among scientists that EMF does create a potential health risk, and second, because there are no defined or adopted CEQA/NEPA or TRPA standards for defining health risk from EMF. To illustrate, on behalf of the CPUC, three scientists that work for the California Department of Health Services were asked to review studies by the National Institutes of Environmental Health Sciences Working Group, the International Agency for Research on Cancer, and the British National Radiological Protection Board regarding possible health problems from electric and magnetic fields from power lines, wiring in buildings, some jobs, and appliances (Neutra et al. 2002). The results of their evaluation noted “important differences between the three Department of Health Services reviewer’s conclusions” and made no recommendations about actions to be taken to address potential health risks (Id.). However, recognizing that there is a great deal of public interest and concern regarding potential health effects from human exposure to EMF from power lines, this document does provide information regarding EMF associated with electric utility facilities and human health and safety. The EMF information presented in this environmental document is presented for the benefit of the public and decision-makers.

EMFs are present wherever electricity flows: around appliances, equipment, wiring, and power lines. Electric fields are present whenever voltage exists on a wire, and are not dependent on current. The magnitude of the electric field is primarily a function of the configuration and operating voltage of the power line and decreases with the distance from the source. The strength of an electric field is measured in volts per meter or kilovolts per meter (kV/m). Electric fields are effectively blocked by most materials, such as trees and walls.

Magnetic fields are present whenever current flows in a conductor, and are not dependent on the voltage of the conductor. The strength of these fields also decreases with distance from the source. However, unlike electric fields, most common materials have little blocking effect on magnetic fields. In the United States, magnetic fields are measured in units called Gauss (G). However, for the low levels normally encountered near electric utility facilities, the field strength is expressed in a much smaller unit, milliGauss (mG), which is one thousandth of a Gauss. Much of the world’s scientific community measures magnetic field strength in units of Tesla (T) and microTesla ( $\mu$ T), where  $10,000 \text{ G} = 1 \text{ T}$ ,  $1 \text{ G} = 100 \mu\text{T}$ , and  $1 \text{ mG} = 0.1 \mu\text{T}$ .

Table 4.10-2 lists estimated average magnetic field exposure from various residential sources. It is noteworthy that some of the common appliances and electrical devices found within the home can generate relatively strong magnetic fields at close distances, exceeding 100 mG. However, the duration of exposure from many appliances is typically much shorter than that from other sources.

Magnetic fields diminish with distance, but can pass through most materials. The rate at which they diminish depends upon the source: fields from compact sources (i.e., those containing coils, such as small appliances and transformers) drop off more gradually, by a factor of 1 with the cube of the distance ( $1/r^3$ , where  $r$  is distance); strength of fields from three-phase power lines with balanced currents drop off by a factor of 1 with the square of the distance ( $1/r^2$ ), and fields from unbalanced currents that flow in paths (such as neutral or ground conductors) fall off in inverse proportion to the distance from the source, a factor of 1 with a unit of distance ( $1/r$ ). Conductor spacing and configuration also affect the rate at which the magnetic field strength decreases, as well as the presence of other sources of electricity. The magnetic field levels of power lines will vary with loading conditions of the power system.

Source	Magnetic Field Strength (mG)		
	1 Foot Away	2 Feet Away	4 Feet Away
Blenders	20	3	-
Digital Clock	8	2	1
Color Televisions	20	8	4
Window Air Conditioners	20	6	4
Washing Machines	30	6	-
Vacuum Cleaners	200	50	10
Drills	40	6	-
Power Saws	300	40	4

Source: EMF Questions & Answers, US National Institute of Environmental Health Services, EMF-RAPID Program, 2002

Schools (public and private) and daycare centers are typically considered receptors of greatest public interest and concern related to EMF. Five schools are located within 0.25 mile of the action alternative alignments (Exhibit 4.10-4); however, all are at least 0.2 mile from the alignment.

In 2006, CPUC updated its EMF Policy in Decision (D.) 06-01-042. The decision re-affirmed that health hazards from exposures to EMF have not been established and that state and federal public health regulatory agencies have determined that setting numeric exposure limits is not appropriate. The CPUC also re-affirmed that the existing “no-cost and low-cost” precautionary measures-based EMF policy should be continued. CPUC D. 93-01-013 established a benchmark for “no-cost and low-cost” measures as follows.

- ▲ Low-cost measures, in aggregate, would: cost in the range of 4 percent of the total project cost; and result in EMF reductions of 15 percent or greater at the utility right-of-way.

The low cost and no cost measures incorporated into this project are described in Chapter 3, Project Alternatives. The complete Field Management Plan for this project is Appendix D.

The California Department of Education (CDE) evaluates potential school sites under a range of criteria, including environmental and safety issues. Proximity to high-voltage power lines is one of the criteria. As the CPUC directed in D.06-01-042, the California investor-owned utilities worked with the CDE to align EMF Design Guidelines with the CDE’s policies to the extent those policies were consistent with the CPUC’s EMF Policy as stated in its D. 06-01-042.

The guidance acknowledges the scientific uncertainty of the health effects of EMFs, the lack of any state or nationally established standard for EMF exposure, and the CPUC’s reconfirmed reliance upon no/low-cost measures targeted to only reduce fields from new power lines. CDE has established the following setback limits for locating any part of a school site property line near the edge of easements for any overhead power lines rated 50 kV and above:

- ▲ 100 feet for 50 - 133 kV power lines (interpreted by CDE up to 200 kV),
- ▲ 150 feet for 220 - 230 kV power lines, and
- ▲ 350 Feet for 500 - 550 kV power lines.

In 1996, a National Research Council committee of the National Academy of Sciences (NAS) released its evaluation of research on potential associations between EMF exposure and cancer, reproduction, development, learning, and behavior. The report concluded:

“Based on a comprehensive evaluation of published studies relating to the effects of power-frequency electric and magnetic fields on cells, tissues, and organisms (including humans), the conclusion of the committee is that the current body of evidence does not show that exposure to these fields presents a human-health hazard. Specifically, no conclusive and consistent evidence shows that exposures to residential electric and magnetic fields produce cancer, adverse neurobehavioral effects, or reproductive and developmental effects.”

The NAS focused primarily on the association of childhood leukemia with the proximity of the child’s home to power lines. The NAS panel found that although a link between EMF exposure and increased risk for childhood leukemia was observed in studies that had estimated EMF exposure using the wire code method; this link was not found in studies that had included actual measurements of magnetic fields at the time of the study.

## SHORT- AND LONG-TERM HEALTH EFFECTS

**Pacemakers.** The potential for pacemaker interference from power line fields depends on the pacemaker manufacturer, model, and implantation method, among other factors. Studies have determined thresholds for interference of the most sensitive units to be about 2,000 to 12,000 mG for magnetic fields and about 1.5 to 2.0 kV/m for electric fields (Sastre 1997). Guidelines for occupational exposure suggest that electric field exposure should not exceed 1.0 kV/m or 1,000 mG for workers with cardiac pacemakers (ACGIH 2001). It is unclear whether reversion to a fixed pacing mode is harmful, since pacemakers are routinely put into reversion with a magnet to test operation and battery life. Some new pacemaker models are dual chamber devices that can be more sensitive to external interference. Some of these dual chamber units may experience inappropriate pacing behavior (prior to reversion to fixed pacing mode) in electric fields as low as 1.2 to 2.0 kV/m, while other models appear unaffected in fields up to 20 kV/m. The biological consequences of brief, reversible pacemaker malfunction are mostly benign. An exception would be an individual who has a sensitive pacer and is completely dependent on it for maintaining all cardiac rhythms. For such an individual, a malfunction that compromised pacemaker output or prevented the unit from reverting to the fixed pacing mode, even brief periods of interference, could be life-threatening (Sastre 1997). The precise coincidence of events (i.e., pacer model, field characteristics, biological need for full function pacing) would generally appear to be a rare event.

**Brain and Breast Cancer.** Numerous occupational studies of adults have also been performed to examine the relationship between magnetic or electric fields and adult cancers including leukemia and brain and breast cancers. These studies have concentrated on occupations presumed to have high exposure to EMF and have varied greatly in study design and exposure assessment methods. These studies published through 2002 are described in the International Agency for Research on Cancer monographs (2002). A consistent relationship between adult cancer and exposure to electric or magnetic fields has not been found (Gammon et al. 1998, Kheifets and Matkin 1999, Wrensch et al. 1999, Laden et al. 2000, Zheng et al. 2000, Davis et al. 2002, London et al. 2003, Schoenfeld et al. 2003, and Forssen et al. 2005).

**Miscarriage.** Studies such as Li et al. (2002) have examined the association between magnetic field exposure and miscarriage in San Francisco, California. No association was found between TWA magnetic field exposure and miscarriages. However, miscarriage risk increased with an increasing level of magnetic field exposure above 16 mG.

## 4.10.3 ENVIRONMENTAL CONSEQUENCES AND RECOMMENDED MITIGATION MEASURES

### SIGNIFICANCE CRITERIA

#### TRPA CRITERIA

The “Risk of Upset” and “Human Health” criteria from the TRPA Initial Environmental Checklist were used to evaluate the hazards and hazardous materials impacts of the alternatives. The checklist asks if the project would result in the following conditions.

- ▲ Involve a risk of explosion or the release of hazardous substances including, but not limited to, oil, pesticides, chemicals, or radiation in the event of an accident or upset condition?
- ▲ Involve possible interference with an emergency evacuation plan?
- ▲ Create any health hazard or potential health hazard (excluding mental health)?
- ▲ Expose people to potential health hazards?

#### NEPA CRITERIA

An environmental document prepared to comply with NEPA must consider the context and intensity of the environmental effects that would be caused by or result from the proposed action. Under NEPA, the significance of an effect is used solely to determine whether an EIS must be prepared. The factors that are taken into account under NEPA to determine the significance of an action in terms of the context and the intensity of its effects are encompassed by the TRPA and CEQA criteria used for this analysis.

#### CEQA CRITERIA

Based on Appendix G of the State CEQA Guidelines, an alternative would have a significant impact related to hazards and hazardous materials if it would:

- ▲ create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials;
- ▲ 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;
- ▲ emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within 0.25 mile of an existing or proposed school;
- ▲ be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 (i.e., the Cortese List) and, as a result, would it create a significant hazard to the public or the environment;
- ▲ 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;
- ▲ 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;
- ▲ impair implementation or physically interfere with an adopted emergency response plan or emergency evacuation plan; or
- ▲ 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.

## ISSUES DISMISSED FROM FURTHER EVALUATION

As stated in the discussion of airports above, there are no private airstrips in the project area. This issue is not evaluated further. Also, as described above, soils that might potentially contain naturally occurring asbestos are not located in the project area, and naturally occurring asbestos is not evaluated further.

## METHODS AND ASSUMPTIONS

This analysis considers the range and nature of foreseeable hazardous materials use, storage, and disposal resulting from the action alternatives and identifies the primary ways that these hazardous materials could expose individuals or the environment to health and safety risks. Compliance with applicable federal, state, and local health and safety laws and regulations by residents and businesses in the vicinity of the Project area would generally protect the health and safety of the public. Local and state agencies would be expected to continue to enforce applicable requirements to the extent that they do so now.

Emergency evacuation and response plans and OES websites for Placer County, Nevada County, and the Town of Truckee were reviewed for data on emergency and evacuation routes. The general plans for Placer County, the Town of Truckee, and Burton Creek State Park, in addition to the TRPA Regional Plan, the USFS Tahoe National Forest Land and Resource Management Plan, and the USFS Lake Tahoe Basin Management Unit Forest Plan, as well as the community plans for Tahoe City, Kings Beach, and Martis Valley, were reviewed for relevant hazards and hazardous materials policies, plans, and programs.

## ALTERNATIVE 1 - PEA ALTERNATIVE

### DIRECT AND INDIRECT IMPACTS

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<b>IMPACT 4.10-1 (Alt.1)</b>	<p><b>Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials.</b> Construction of Alternative 1 (PEA Alternative) and ongoing operations would require the use of certain materials such as fuels, oils, solvents, and other chemical products that, in larger quantities, could pose a potential hazard to the public or the environment if improperly used or inadvertently released. During operations of the project, the potential would exist that a transformer could fail, resulting in a spill of mineral oil. However, use of hazardous materials at the site for construction, operation, and maintenance would be in compliance with multiple federal, state, and local regulations, including federal regulations as outlined in Title 40 CFR Part 112, which require implementation of a SPCC Plan. Therefore, impacts related to creation of significant hazards to the public or the environment through routine transport, use, or disposal of hazardous materials would be <b>less than significant</b>.</p>
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During project construction activities, limited quantities of miscellaneous hazardous substances, such as gasoline, diesel fuel, hydraulic fluid, solvents, and oils would be used to fuel and operate vehicles and motorized equipment and construct facilities. Similar materials would be used, although less frequently and in lesser amounts, as part of operation, maintenance, and repair of the proposed project. In addition, during construction, non-explosive/chemical means may be used to break up rock outcrops where use of blasting is not feasible (use of blasting is addressed below in Impact 4.10-2). In these situations, chemicals that expand when combined with water are poured into cracks in the rock or holes drilled in the rock. As the mixture hardens and expands, the rock is cracked into manageable pieces. Moreover, during operation of substation transformers, a potential would exist that a transformer could fail, resulting in a spill of mineral oil. Construction workers, operational personnel, and the general public could be exposed to hazards and hazardous materials as a result of improper handling or use of these materials during construction, operation, and maintenance, as a result of

accidents during transport of these materials, or releases during a fire or other emergency. The extent of the hazard would depend in large part on type of material, the volume released, and the mechanism of release (e.g., spill on the ground at the project site vs. a spill on a road during transport).

However, all hazardous materials would be used, stored, and disposed of in accordance with applicable federal, state, and local laws. As discussed above in Section 4.10.1, Regulatory Setting, there are multiple regulations, laws, and agencies that address the safe use, handling, transport, and disposal of hazardous materials, including RCRA, SARA, the California Health and Safety Code, DTSC, OSHA, Cal/OSHA, Caltrans, CHP, LRWQCB, the Placer County Environmental Health Division, and the Nevada County Environmental Health Department. In addition, as part of construction, a SWPPP and Construction Site Monitoring and Reporting Plan would be prepared and implemented that would include BMPs and other measures to prevent releases of hazardous materials and contain and clean-up any accidental releases that might occur (e.g., rupture of a hydraulic line on a piece of equipment releasing hydraulic fluid or spill of transformer oil). Detailed BMPs would be required as a condition of the TRPA permit and could include such actions as requiring absorbent pads be placed under vehicles during refueling to capture and contain any fuel that might be spilled and storing hazardous materials in areas with proper containment devices to prevent materials from contacting the soil if a spill were to occur. The project would meet federal SSPCC requirements, as outlined in Title 40 of CFR, Part 112. The applicant would be required to inspect the equipment and any required spill containment facilities on a monthly basis.

In addition, the following Applicant Proposed Measures (APMs) (see Section 3.7, Applicant Proposed Measures for a description of all APMs) have been incorporated into the project design that would further minimize the potential for adverse effects from hazardous materials during construction.

- ▲ **APM HAZ-1:** Prior to construction, all CalPeco, contractor, and subcontractor project personnel will receive training regarding the appropriate work practices necessary to effectively implement the APMs to comply with the applicable environmental laws and regulations associated with hazardous materials.
- ▲ **APM WQ-1:** All refueling will be conducted at least 100 feet away from waterways, within designated refueling stations. If refueling within 100 feet of a waterway is unavoidable, CalPeco will require its contractor to provide spill kits on site, install secondary containment to control accidental spills, and notify an environmental monitor prior to fueling. Environmental monitors will regularly inspect refueling areas in order to help ensure that proper measures are being implemented in accordance with the project’s SWPPP and SPCC Plan.

The protective measures and regulations described above, including Implementation of the SPCC requirements to address potential impacts related to a transformer malfunction oil spill, are sufficient to insure that hazardous materials stored, used, transported, and disposed of as part of the proposed project would not pose a significant hazard to the public or the environment. This impact would be **less than significant**.

**MITIGATION MEASURES**

*No mitigation measures are required.*

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<p><b>IMPACT 4.10-2 (Alt.1)</b></p>	<p><b>Create a significant hazard to the public as a result of blasting activities.</b> Blasting could be conducted as part of project construction to remove or break up rock outcrops. If not conducted properly, blasting could create a hazard to construction personnel and the public. Therefore, impacts related to creation of significant hazards to the public or construction personnel through use of blasting would be <b>potentially significant</b>.</p>
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Blasting may be required as part of project construction to break up or remove rock outcrops that conflict with the placement of project facilities. Where rock outcrops are present in the project right-of-way (ROW), facilities

such as towers and access ways would typically be placed in locations within the ROW that avoid the outcrops. However, there may be circumstances where avoidance would not be possible and a rock outcrop would be broken up or removed to allow construction to proceed. In these instances, if the rock outcrop is large enough, blasting may be needed to break up the outcrop to sizes that would allow construction equipment to remove the remaining material. At this time there are no specific locations where it is known that blasting would be needed; however, blasting is evaluated in this EIS/EIS/EIR in case it may be used during the construction process.

Although intended to address the noise effects of blasting, APM NOI-5, listed below, would reduce potential safety hazards associated with blasting by limiting the use of blasting near structures.

- ▲ **APM NOI-5:** No blasting will occur within 50 feet of any existing building, or within 250 feet of a residence or other occupied structure, or in a location or manner that would be inconsistent with other APMs. If large rock outcroppings need to be removed and are within 50 feet of a building or 250 feet of an occupied structure, alternative methods to blasting, such as silent chemical demolition, may be used to break apart and remove the rock.

However, even with this APM, if not conducted following proper safety precautions, blasting could generate a significant risk of injury or death for construction personnel and other individuals in the surrounding area. Although in areas with a clear safety risk, such as locations where development or public uses are in close proximity to rock outcrops that must be removed, hazards would be avoided by using non-explosive means to break up the rock outcrop, such as chemical agents that expand in rock fissures; even in more remote areas, blasting could still generate a significant hazard to the public (e.g., hikers, mountain bikers) and construction personnel. Therefore, this impact would be **potentially significant**.

### **Mitigation Measure 4.10-2 (Alt. 1): Implement blasting safety measures.**

*If blasting is required as part of project construction, CalPeco shall hire a blasting contractor licensed by the Federal Bureau of Alcohol, Tobacco, and Firearms and who possesses all other necessary licenses and certifications applicable to blasting in the project area. Prior to construction activities that require the use of explosives, the blasting contractor shall prepare and submit a Blasting Safety Plan (or similar document as required) to the Placer County Engineering and Surveying Division and the local fire protection district or department in which the blasting activity will take place. The plan shall, at a minimum, address the following.*

- › *Evidence of licensing as required by the US Department of Justice, Bureau of Alcohol, Tobacco, Firearms and Explosives, experience, and qualifications of all members of the blasting team.*
- › *Pre-blast notifications to the local fire department, residents, landowners, land management agencies, utilities, and others potentially affected by blasting operations.*
- › *The means for safe transportation and on-site storage and security of explosives in accordance with local, state and federal regulations.*
- › *The minimum acceptable weather conditions for blasting.*
- › *Minimum clearance distances between blasting and nearby land uses.*
- › *Traffic control standards and traffic safety measures (if applicable).*
- › *Requirement for provision and use of personal protective equipment.*
- › *Minimum standoff distances and description of blast impact zones and procedures for clearing and controlling access to the impact zones.*

- › *Procedures for handling, setting, wiring, and firing explosives. Also, procedures for handling misfires per federal code.*
- › *Type and quantity of explosives and description of detonation device. Sequence and schedule of blasting rounds, including general method of excavation, lift heights, etc.*
- › *Methods of matting or covering of blast area to prevent flyrock and excessive air blast pressure (where applicable).*
- › *Dust control measures in compliance with applicable air pollution control regulations (to interface with general construction dust control plan).*
- › *Emergency Action Plan to provide emergency telephone numbers and directions to medical facilities. Procedures for action in the event of injury.*
- › *Storage of and access to Material Safety Data Sheets for each explosive or other hazardous materials to be used.*
- › *Description of the insurance for the blasting work.*

Implementation of the above mitigation measure would substantially reduce the hazards to the public and construction personnel from blasting by ensuring that blasting would be conducted by a qualified professional using applicable safety measures for site specific conditions. This impact would be reduced to a **less-than-significant** level.

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<b>IMPACT</b>	<b>Potential human health hazards from exposure to existing on-site hazardous materials.</b>
<b>4.10-3</b>	Construction of Alternative 1 (PEA Alternative) could expose workers and the public to hazardous materials currently in the construction zone, and hazardous materials currently on-site could create environmental health hazards if left in place. This impact would be
<b>(Alt.1)</b>	<b>potentially significant.</b>

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As discussed above in the description of existing conditions, based on a search of available databases of sites with potential hazardous materials contamination (including DTSC's Cortese List), one site is crossed by Segment 650-6 of the 650 Line and five sites are within close proximity (250 feet) to one or more project components. The five sites in close proximity to project components are too far away from the proposed project to interact with construction (i.e., greater than 100-feet) and have been cleaned-up and/or have a physical barrier (e.g., the Truckee River) that would further prevent interaction between the project and any potential contamination.

Segment 650-6 of the 650 Line crosses the eastern boundary of the Truckee River Regional Park. An approximately 18-acre portion of the park is a voluntary cleanup site. The area with potential contamination is a former burn dump located approximately 400 feet west of the 650 Line that may contain traces of lead and dioxin. It is highly unlikely that any project construction activities would interact with contamination from this site. In addition, the site has been capped, and based on groundwater monitoring results and the requirements of the OMA and OM&M Plan, it appears that cleanup goals are complete and a request for cessation of groundwater monitoring and abandonment of wells has been made.

Based on the location and condition of known contaminated sites in the vicinity of the proposed project, there is not a potential for project construction or operation to encounter existing contaminated sites identified in current records and databases that could result in exposing workers or the public to hazardous materials.

The project would also include the decommissioning of the existing Brockway Substation and the removal of all existing equipment. Fuel residues, such as gasoline, diesel, and mineral oil may exist at the substation site and could be encountered in the soil. However, the decommissioning of the site, as currently anticipated, would involve disconnecting equipment from anchors in the existing concrete slabs and removing the equipment with a crane, forklift, or by hand. The existing concrete slabs would be left in place as the future use of vacated Brockway Substation land is unknown at this time. This decommissioning process would require little to no soil disturbance and therefore would have little potential to encounter, disturb, or mobilize existing contamination (if it exists). However, if currently unforeseen ground-disturbing activities are required, the decommissioning of the substation poses a potential risk of releasing existing hazardous substances and exposing people to potential health hazards. The following APMs are incorporated into the project to address this potential issue.

- ▲ **APM HAZ-2:** Prior to the ground disturbance at the Brockway Substation parcel, if disturbance is determined to be necessary, a Phase I environmental site assessment (ESA) will be conducted for the site to determine if there is any surface or subsurface contamination. Recommendations included in the Phase I ESA will be implemented. If hazardous materials are identified, recommendations could include, but would not be limited to, a Phase II ESA and/or cleanup of known identified hazardous wastes. If contamination is found to be present, remediation will occur in accordance with all applicable federal, state, and local regulations.
- ▲ **APM HAZ-3:** During the Brockway Substation decommissioning process, the existing equipment to be removed will be tested in accordance with federal, state, and local standards to determine appropriate recycle, reuse, or disposal alternatives.

With incorporation of these APMs into project design, decommissioning of the Brockway Substation would not expose workers or the public to hazardous materials or leave in place hazardous materials that would create an environmental health hazard. This impact would be less than significant.

Although there are no additional known hazardous materials sites that would be disturbed by project construction or operation, there is the possibility that unknown or undocumented hazardous materials could be present in the project area. Excavation at or near areas of currently unrecorded soil and/or groundwater contamination could result in the exposure of construction workers, the general public, and the environment to hazardous materials that could generate a health risk. Therefore, this impact would be **potentially significant**.

## MITIGATION MEASURES

### Mitigation Measure 4.10-3 (Alt. 1): Prepare and implement a Hazardous Materials Contingency Plan.

*A hazardous materials contingency plan shall be prepared that describes the necessary actions that would be taken if evidence of contaminated soil or groundwater is encountered during construction. The contingency plan shall identify evidence that could indicate potential hazardous materials contamination, including soil discoloration, petroleum or chemical odors, presence of USTs, or buried building material. The plan shall include measures to protect worker safety if signs of contamination are encountered (e.g., stopping work in the vicinity of the potential contamination), identify sampling and analysis protocols for various substances that might be encountered (e.g., volatile organic compounds, hydrocarbons, heavy metals), and list required regulatory agency contacts if contamination is found. The plan shall also identify legal and regulatory processes and thresholds for cleanup of contamination. The project applicant shall retain the services of a qualified environmental contractor to prepare the contingency plan. The plan, and obligations to abide by and implement the plan, shall be incorporated into the construction and contract specifications of the project. The requirements of the plan shall be incorporated in the APM and work practices training that would be implemented as part of APM HAZ-1.*

Incorporation of APM HAZ-1 into project design and implementation of the above mitigation measure would substantially reduce potential hazards to the public and construction personnel from encountering unknown or undocumented hazardous materials during project construction by requiring the avoidance, identification, and treatment of hazardous materials that might be found. This impact would be reduced to a **less-than-significant** level.

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<p><b>IMPACT 4.10-4 (Alt.1)</b></p>	<p><b>Produce hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within 0.25 mile of an existing or proposed school.</b> Construction of Alternative 1 (PEA Alternative) and ongoing operations would require the use of certain materials such as fuels, oils, solvents, and other chemical products that, in larger quantities, could pose a potential hazard to the public or the environment if improperly used or inadvertently released. Six schools are located within 0.25 mile of the project. However, use of hazardous materials at the site would be in compliance with multiple federal, state, and local regulations. Therefore, impacts related to creation of potential health hazards at schools in the vicinity of the project site through routine transport, use, or disposal would be <b>less than significant</b>.</p>
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At school sites many children are present at a single location for many hours a day, making schools a particularly sensitive receptor related to hazardous materials exposure. State CEQA Guidelines, Appendix G specifically asks whether a project would emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within 0.25 mile of a school. As identified above in the description of existing conditions, there are no schools directly adjacent to the project ROW or substations. Six schools are within 0.25 mile of existing and proposed project facilities, although none are closer than 0.20 mile. All schools are located in areas where there is little to no variability among the action alternatives and all action alternatives have the same six schools within 0.25 miles.

As described above under Impact 4.10-1 (Alt. 1), during project construction activities, limited quantities of hazardous substances typically found at construction sites, such as gasoline, diesel fuel, hydraulic fluid, solvents, and oils would be used to fuel and operate vehicles and motorized equipment and construct facilities. Similar materials would be used, although less frequently and in lesser amounts, as part of operation, maintenance, and repair of the proposed project. Also, during operation of substation transformers, a potential would exist that a transformer could fail, resulting in a spill of mineral oil. For the same reasons described for Impact 4.10-1 (Alt. 1), the project would meet federal SPCC Plan requirements, as outlined in Title 40 of CFR, Part 112. Existing protective measures and regulations are sufficient to ensure that hazardous materials stored, used, transported, and disposed of as part of the proposed project would not pose a significant hazard to the public or the environment, including individuals at schools within 0.25 mile of the project site. This impact would be **less than significant**.

**MITIGATION MEASURES**

*No mitigation measures are required.*

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<p><b>IMPACT 4.10-5 (Alt.1)</b></p>	<p><b>Conflict with an airport land use plan and potentially generate a safety hazard for people residing or working in the project area.</b> Under Alternative 1 (PEA Alternative), helicopters would be used for construction, but must follow FAA regulatory requirements that would prevent conflicts with the Truckee Tahoe Airport ALUCP and generation of safety hazards. Portions of Segments 650-3 through 650-7 under Alternative 1 (PEA Alternative) occur in ALUCP Compatibility Zones C, D, and E, and in Height Review Overlay Zones. Although under Alternative 1 (PEA Alternative) new power poles would replace existing poles, and no new poles would be placed within different or more sensitive Compatibility Zones,</p>
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implementation of Alternative 1 (PEA Alternative) would place poles in the Airport Influence Area that are taller than existing poles. Depending on site specific conditions, such as proximity to the runway and topography at the pole site, installing power poles that are taller than the existing poles could generate a safety hazard for aircraft entering or leaving the runways, which could also present a hazard to people residing or working in the project area. This impact would be **potentially significant**.

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As described under Airspace Safety in the Regulatory Section above, for helicopters to be used as part of project construction the FAA requires that a helicopter lift plan be developed by the contractor and coordinated and approved by the FAA Flight Standards District Office for the project area (the District Office in Reno, Nevada serves the project area) (14 CFR Part 133.33). The plan must include an agreement that local officials will exclude unauthorized persons from the area in which the operation will be conducted and must provide a detailed chart depicting the flight routes and altitudes (FAA 1989). Development and implementation of such a plan would prevent conflicts with the Truckee Tahoe Airport ALUCP or generation of safety hazards.

Under Alternative 1 (PEA Alternative), Segments 650-3 through 650-7 occur in the Truckee Tahoe Airport Influence Area. Portions of these segments, as well as the Truckee Substation and the North Truckee Substation, pass through ALUCP Compatibility Zones C, D, and E, and in Height Review Overlay Zones as described below and shown in Exhibit 4.10-1.

- ▲ Segment 650-3 – Compatibility Zones C, D, and E and Height Review Overlay Zones.
- ▲ Segment 650-4 – Compatibility Zones C, D, and E.
- ▲ Segment 650-5 – Compatibility Zones D and E.
- ▲ Segment 650-6 – Compatibility Zones C and D.
- ▲ Segment 650-7 – Compatibility Zone D.
- ▲ Truckee Substation and North Truckee Substation – Compatibility Zone D.

Alternative 1 (PEA Alternative) follows the alignment of the existing 650 Line and there are currently wooden power poles and conductor within these various Compatibility Zones. The existing poles are approximately 52-foot tall. Under Alternative 1 (PEA Alternative), these wooden poles would be replaced with steel poles approximately 7 to 12 feet taller than the existing poles. Therefore, the new poles would be approximately 59- to 64-foot tall. Although there are existing poles within the Airport Influence Area, it is assumed that replacing existing poles with taller poles would trigger applicable ALUC height reviews.

ALUC height review in Compatibility Zones D and E is required for any proposed object taller than 100-feet. Because no project facilities would be greater than 100-foot tall, project implementation within these areas would not trigger an ALUC height review and these portions of the project are considered consistent with the ALUCP and would not constitute a “hazard to flight.” In addition, Segment 650-5 contains an existing power line already upgraded to 120 kV capacity and no new facilities are proposed in this segment. Therefore, no potential conflicts with the ALUCP and generation of flight hazards would occur in Segment 650-5.

Height review is required for structures exceeding 50-feet in Compatibility Zone C, and for structures exceeding 35-feet in Height Review Overlay Zones. New power poles would exceed both of these height standards and it is assumed that an ALUC height review would be triggered for installation of structures in the portions of Segments 650-3, 650-4, and 650-6 that pass through these Compatibility Zones (Exhibit 4.10-1).

The following APM, which has been incorporated into project design, requires appropriate coordination with the ALUC to obtain the height review.

- ▲ **APM HAZ-4:** CalPeco will coordinate with the Truckee Tahoe ALUC to obtain approval of the height increase for the 132/650 Line Double Circuit and the 650 Line in order to help ensure that the project will not create a new airport hazard in accordance with the Truckee Tahoe ALUC Plan.

Conducting an ALUC height review does not guarantee a conclusion that the poles would not be considered a “hazard to flight” and be prohibited. Although new power poles in Segments 650-3 and 650-4 under Alternative 1 (PEA Alternative) would not be located in the direct pathway of runways, poles in Segment 650-6 are within developed areas within the Town of Truckee, and all poles would be a replacement of existing structures in the same location (although approximately 7- to 12-feet taller than existing structures), it cannot be stated at this time what conclusion the ALUC would reach regarding the compatibility of new poles with the ALUCP and the potential for qualifying as a “hazard to flight.” Although unlikely, new poles in Compatibility Zone C and in Height Review Overlay Zones could be considered in conflict with the ALUCP and potentially generate a safety hazard for aircraft and people residing or working in the project area. Therefore, this impact would be **potentially significant**.

## MITIGATION MEASURES

### Mitigation Measure 4.10-5 (Alt. 1): Power line shall be installed in compliance with height requirements approved by the Truckee Tahoe Airport Land Use Commission.

*If, as part of ALUC height review, any proposed power poles are classified as a hazard to flight by the ALUC, the pole heights shall be adjusted to conform with ALUC height requirements, as long as heights do not violate design and safety standards. Minor route adjustments within the existing 200-foot wide resource survey corridor may also be considered to assist in meeting height requirements. If a sufficient height reduction cannot be achieved, the power line in this area shall be installed underground.*

Implementation of the above mitigation measure would result in consistency with the Truckee Tahoe Airport ALUCP, would prevent power poles from generating a potential safety hazard for aircraft entering or leaving the runways, and would therefore also prevent a hazard from aircraft to people residing or working in the project area. This impact would be reduced to a **less-than-significant** level.

If it is determined that ALUC height requirements cannot be feasibly met and undergrounding must be implemented, the excavation and earthmoving associated with undergrounding, the increased construction activity, and the need to import sand and/or gravel for trench bedding and export excess soil could generate their own adverse effects.

Per the requirements of Section 15126.4 of the CEQA Guidelines, stating that:

“If a mitigation measure would cause one or more significant effects in addition to those that would be caused by the project as proposed, the effects of the mitigation measure shall be discussed but in less detail than the significant effects of the project as proposed.”

The following discussion evaluates the potential for Mitigation Measure 4.10-5 (Alt. 1) to result in one or more significant effects not identified elsewhere in this EIS/EIS/EIR as resulting from the action alternatives. Effects could include increased:

- ▲ potential for erosion and sedimentation;
- ▲ effects on groundwater and surface water features that would be otherwise spanned using overhead installation;
- ▲ disturbance to previously undisturbed habitat that supports special-status vegetation communities, plants, and wildlife;

- ▲ potential to disturb currently undocumented hazardous materials sites;
- ▲ potential to disturb known and unknown potentially significant archeological resources and resources of concern to Native American Tribes;
- ▲ air emissions of criteria pollutants due to an increase in required construction equipment for trench activities (e.g., excavators, back hoes), dust generation, and truck trips to haul trench spoils and import bedding and back-fill;
- ▲ construction-related noise both on-site and off-site (i.e., increase in truck trips); and
- ▲ traffic effects on local area roadways from increased truck trips.

Ground disturbance associated with trench excavation would be greater than for the installation of poles and stringing of conductor associated with overhead installation. Therefore, implementation of Mitigation Measure 4.10-5 (Alt. 1) would increase the potential for soil erosion. However, locations where trenching might occur are in relatively level areas that would be less susceptible to erosion. In addition, implementation of APMs and mitigation measures in this EIS/EIS/EIR applicable to all construction activities would also apply to trenching under this mitigation measure, and would prevent trenching from generating a new significant effect related to soil erosion. This same conclusion would apply to the potential for eroded soil to enter waterways and adversely affect water quality.

If groundwater is encountered during trenching and it must be pumped from the trench, this could both adversely affect groundwater quality and surface water if pumped groundwater is discharged into a surface waterway. However, this same impact mechanism is addressed in this EIS/EIS/EIR for installation of power line poles with concrete foundations. This EIS/EIS/EIR includes APMs and mitigation measures to address encountering groundwater during excavations and proper disposal of pumped groundwater. These would also be applied to trenching, if it occurs, and would prevent trenching from generating any new significant effects.

Where the alignment would cross surface waters and drainages, installation of electrical conduit would likely be conducted by boring under the features to reduce surface impacts. Sections 4.6, Hydrology and Water Quality, and 4.7, Biological Resources, include APMs and mitigation measures to address impacts related to construction in proximity to surface waters. Underground installation of the electrical line would not generate any new significant effects related to surface waters not analyzed in this EIS/EIS/EIR.

The increased construction activity associated with underground installation would also result in a commensurate increase in vehicle trip generation (e.g., to import sand and gravel for trench bedding), criteria pollutant and greenhouse gas (GHG) emissions (more vehicle trips, increased use of heavy construction equipment for trench excavation), and noise generation (vehicle trips and use of heavy equipment). However, these increases would be small relative to the project as a whole, particularly for Alternative 1 (PEA Alternative) where little of the project alignment falls within Compatibility Zone C or Height Review Overlay Zones where underground installation might be considered. In addition, APMs and mitigation measures identified elsewhere in this EIS/EIS/EIR would further minimize potential contributions to traffic, air quality, GHG, and noise effects. Potential trenching as a result of Mitigation Measure 4.10-5 (Alt. 1) would contribute to the project's overall effects related to these environmental issue areas, but would not be expected to trigger any new significant effects not already identified in the EIS/EIS/EIR.

Similarly, the increased use of construction equipment associated with underground installation would also result in a greater potential for accidental releases of hazardous materials during construction (e.g., fuels, lubricants, hydraulic fluid). However, as describe elsewhere in this section, during project construction all hazardous materials would be used, stored, and disposed of in accordance with applicable federal, state, and local laws. As discussed above in Section 4.10.1, Regulatory Setting, there are multiple regulations, laws, and agencies that address the safe use, handling, transport, and disposal of hazardous materials. In addition, APMs identified above related to hazardous materials and construction activities would also apply to any trenching

work. Although potential trenching as a result of Mitigation Measure 4.10-5 (Alt. 1) would contribute to the project’s potential to generate hazardous materials releases, it would not trigger any new significant effects not already identified in the EIS/EIS/EIR.

Because of the increased ground disturbance associated with trenching, and the reduced ability to adjust facility siting to avoid resources, underground installation has a greater potential to adversely affect biological resources. For overhead installation there is a certain level of flexibility available in selecting pole locations to allow the conductor to span over sensitive biological resources. This same flexibility is not available for underground installation. Therefore, underground installation that might be implemented as a part of Mitigation Measure 4.10-5 (Alt. 1) would have a greater potential to intersect and disturb sensitive biological resources in the Martis Valley, such as wetlands and rare plant populations. However, APMs and mitigation measures included in Section 4.7, Biological Resources, of this EIS/EIS/EIR would be effective in avoiding, minimizing, and compensating for adverse effects on biological resources from trenching. Although the surface area of biological resources impacts would likely be greater if underground installation were implemented, APMs and mitigation measures would prevent trenching activity from generating any new significant effects not already identified in the EIS/EIS/EIR.

As described above for biological resources, overhead installation of power lines can also allow avoidance of cultural resources sites during pole placement. With overhead installation of power lines, ground disturbance and excavation is typically limited to the tower locations. Accordingly, there is some flexibility in the placement of towers, and if a heritage or cultural resource eligible for listing in the National Register of Historic Places (NRHP) or California Register of Historic Resources (CRHR) is encountered, the tower location can often be moved to avoid or minimize effects on the resource. If the tower cannot be moved out of the resource locations, the disturbance area is relatively small and data collection is often available as a mechanism to mitigate the impact. For undergrounding a power line, a trench 5 to 10 feet wide would be excavated (depending on soil conditions) and any surface or subsurface heritage or cultural resources in the trench path could not be avoided. Therefore, if a resource eligible for listing in the NRHP or CRHR occurs in the construction right-of-way, the potential for damage to the resources is substantially greater. In addition, because the disturbance area for undergrounding would be greater than for overhead installation, there is a greater potential to encounter previously unrecorded subsurface cultural resources. Multiple archeological resources have been recorded in the Martis Creek Lake area, indicating a high potential for resources to be present in other parts of the Martis Valley with undisturbed soils (e.g., not in imported fill associated with construction of a roadway or other infrastructure). The Alternative 1 (PEA Alternative) alignment is known to cross at least one cultural resources site in an area identified as either Compatibility Zone C or as a Height Review Overlay Zone. Therefore, the potential exists that if underground installation were required as part of Mitigation Measure 4.10-5 (Alt. 1), trenching could occur in cultural resources eligible for listing in the NRHP or CRHR. As identified in Section 4.9, Heritage, Cultural, and Paleontological Resources, implementation of Alternative 1 (PEA Alternative) has the potential to adversely affect cultural and heritage resources eligible for listing and that there may be circumstances where mitigation to a less-than-significant level may not be feasible. Therefore, although underground installation has a greater potential to adversely affect heritage and cultural resources, and would have an increased footprint and intensity of disturbance, it would not generate any new significant effects not already identified in the EIS/EIS/EIR.

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<p><b>IMPACT 4.10-6 (Alt.1)</b></p>	<p><b>Impair implementation or physically interfere with an adopted emergency response plan or emergency evacuation plan.</b> Construction of Alternative 1 (PEA Alternative) would create temporary construction-related traffic on local roadways and would require temporary lane/shoulder closures in work zones, resulting in traffic delays that could impair implementation of an emergency response plan or emergency evacuation plan. However, implementation of APMs would reduce the potential for conflicts with implementation of emergency response plans and allow evacuation plans to be implemented if necessary. This impact would be <b>less than significant</b>.</p>
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As described above in Section 4.10.2, Existing Conditions/Affected Environment, Placer County, Nevada County, and the Town of Truckee have evacuation plans that rely on use of SR 267, SR 89, I-80, and local roadways in the project area. Although most roads would remain opened and unimpeded by project activities, as described below, during construction, temporary lane closures, short-term road closures when lines would be pulled across roadways, and slower moving construction trucks on roadways may cause traffic delays that could impair implementation of an emergency response plan or emergency evacuation plan, if one were activated during project construction.

Construction activities such as material deliveries to work sites, removal of trees from the ROW, removing and installing conductor, and removing and installing poles would affect roadway operations, potentially resulting in travel delays on all roadways used to deliver or remove equipment and materials, and to access construction sites. In addition, traffic delays could occur when large trucks enter and exit the road. Roadways affected include, SR 267, SR 89, I-80, and local roadways under the jurisdiction of Nevada County, Placer County, TRPA, the Town of Truckee, and USFS.

During the removal of the existing conductor or stringing of the new conductor, temporary road closures may be required at I-80, SR 267, and SR 89. These roads would typically be closed for 10 to 15 minutes during the pull of each conductor, but I-80 could be closed for up to one hour for the stringing. Traffic flow on local roadways could also be disrupted during conductor stringing, installation of crossing structures, or equipment and material deliveries to the ROW.

Intermittent temporary lane/shoulder closures may be required in some locations for up to one week. During closures, at least one travel lane would be kept open and a flagger or signal at each end would control the traffic flow. See APM AQ-12, which states that traffic would be controlled by flaggers or other methods, as necessary, to improve traffic flow along roadways in the project area. Additionally, APM TRAN-1 would require that the applicant develop and implement a Traffic Control Plan to minimize disruptions to surface travel and protect the safety of workers and the traveling public that would include coordination with local transportation agencies and emergency service providers for temporary lane and road closures, implementation of measures to maintain emergency vehicle access, and the ability to implement emergency response and emergency evacuation plans in the event an evacuation plan were to be activated during the construction period.

With the incorporation of these APMs, project effects on overall traffic flows would be minimized and access for emergency services, including evacuations if needed, would be maintained. This impact would be **less than significant**.

## MITIGATION MEASURES

*No mitigation measures are required.*

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<b>IMPACT 4.10-7 (Alt.1)</b>	<b>Expose people or structures to a significant risk of loss, injury, or death involving wildland fires.</b> Construction of Alternative 1 (PEA Alternative) would increase the amount of human activity in the project area during the construction period. The increase in human presence during fire season could result in an increased risk of fire. However, with integration of APMs as a part of project design that require the implementation of a Construction Fire Prevention and Suppression Plan and include other measures to minimize fire risk, project effects would be <b>less than significant</b> .
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The proposed project does not include the construction of homes, businesses, or other similar structures that would place people in an area with a risk of wildland fire. As part of the project, existing wooden power poles would be replaced with steel poles that would be more resistant to fire. Therefore, service interruption from

wildfire would be reduced by project implementation. Operations and maintenance activities under the proposed project would be the same as under existing conditions, and CalPeco would comply with CPUC vegetation clearance guidance for the higher voltage; therefore, there would not be any change in fire risk associated with the operations and maintenance phase of the project. The following discussion addresses wildland fire risk associated with project construction.

Fire potential in the project area ranges from moderate to very high based on the FHSZ described above under Environmental Setting. The potential for a wildland fire to occur would be increased somewhat during the construction of Alternative 1 (PEA Alternative) due to the increased number of vehicles and personnel on site during construction. Heat or sparks from construction vehicles or equipment, blasting activity, vegetation clearance activity (e.g., chainsaws, chippers), or on-site cigarette smoking by construction crewmembers, have the potential to ignite dry vegetation and cause a fire. The first phase of construction of the new power lines would be removal of woody vegetation from the power line ROW, staging areas, access ways, and other elements of the construction zone (i.e., the temporary construction ROW). The removal of vegetation would reduce the potential for ignition of a wildland fire during the remaining construction phases. In addition, the work to upgrade the existing substations (with the exception of the Kings Beach Substation) would occur within the existing fence lines in areas where vegetation has been removed and the ground surface is typically paved, gravel, or bare dirt. The proposed Kings Beach Substation would require approximately 0.66 acres of additional vegetation clearing.

However, APM HAZ-5 and APM HAZ-6, below, would be integrated into the project design. These APMs require the implementation of a Fire Prevention and Suppression Plan, and allow smoking only in designated cleared areas or enclosed vehicles.

- ▲ **APM HAZ-5:** Prior to construction, CalPeco will prepare a Fire Suppression and Prevention Plan that will discuss necessary fire equipment to be stored at the project staging areas, appropriate protective wear, preconstruction and construction fire prevention measures, fire-fighting methods, and notification procedures in the event of a fire. This plan will be submitted to the USFS and TRPA for review and approval prior to the start of construction.
- ▲ **APM HAZ-6:** Smoking will only be allowed in designated cleared areas or enclosed vehicles to reduce the potential for wildfires.

Based on the conditions described above and the integration of APM HAZ-5 and APM HAZ-6 in project design, implementation of Alternative 1 (PEA Alternative) would not expose people or structures to a significant risk of loss, injury or death involving wildland fires. This impact would be **less than significant**.

## MITIGATION MEASURES

*No mitigation measures are required.*

## ALTERNATIVE 2 – MODIFIED ALTERNATIVE

### DIRECT AND INDIRECT IMPACTS

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<b>IMPACT 4.10-1 (Alt.2)</b>	<p><b>Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials.</b> Construction of Alternative 2 (Modified Alternative) and ongoing operations would require the use of certain materials such as fuels, oils, solvents, and other chemical products that, in larger quantities, could pose a potential hazard to the public or the environment if improperly used or inadvertently released. During operations of the project, a potential would exist that a transformer could fail, resulting in a spill of mineral oil. However, use of hazardous materials at the site for construction and for operations and maintenance would be in compliance with multiple federal, state, and local regulations, including federal regulations as outlined in Title 40 CFR Part 112, which require implementation of a SPCC Plan. Therefore, impacts related to creation of significant hazards to the public or the environment through routine transport, use, or disposal of hazardous materials would be <b>less than significant</b>.</p>
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This impact would be similar to Impact 4.10-1 (Alt.1) described above for Alternative 1 (PEA Alternative) because the same hazardous materials would be used in the same way during project construction, operation, and maintenance; the same APMs would be integrated into project design; and the same federal, state, and local regulations related to hazardous materials would be complied with. For the same reasons as described under Alternative 1 (PEA Alternative) this impact would be **less than significant**.

### MITIGATION MEASURES

*No mitigation measures are required.*

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<b>IMPACT 4.10-2 (Alt.2)</b>	<p><b>Create a significant hazard to the public as a result of blasting activities.</b> Blasting could be conducted as part of project construction to remove or break up rock outcrops. If not conducted properly, blasting could create a hazard to construction personnel and the public. Therefore, impacts related to creation of significant hazards to the public or construction personnel through use of blasting would be <b>potentially significant</b>.</p>
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This impact is similar to Impact 4.10-2 (Alt.1) described above for Alternative 1 (PEA Alternative) because both alternatives could involve the use of blasting and would incorporate the same APMs into the project design. However, there could be a somewhat reduced chance to need blasting under Alternative 2 (Modified Alternative) because placing both the 625 and 650 Lines on a double circuit in Segments 625-9 and 625-10 would reduce the overall mileage where the power line would be installed, and therefore could reduce the potential to encounter rock outcrops that would need to be removed by blasting. Blasting could still be required under Alternative 2 (Modified Alternative), and could generate a significant hazard to the public and construction personnel. Therefore, this impact would be **potentially significant**.

### Mitigation Measure 4.10-2 (Alt. 2): Implement blasting safety measures.

*Implement Mitigation Measure 4.10-2 (Alt. 1): Implement blasting safety measures.*

Implementation of this mitigation measure, described above, would substantially reduce the hazards to the public and construction personnel from blasting by ensuring that blasting is conducted by a qualified professional using applicable safety measures for site specific conditions. This impact would be reduced to a **less-than-significant** level.

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<b>IMPACT 4.10-3 (Alt.2)</b>	<b>Potential human health hazards from exposure to existing on-site hazardous materials.</b> Construction of Alternative 2 (Modified Alternative) could expose workers and the public to hazardous materials currently in the construction zone, and hazardous materials currently on-site could create environmental health hazards if left in place. This impact would be <b>potentially significant</b> .
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This impact is similar to Impact 4.10-3 (Alt.1) described above for Alternative 1 (PEA Alternative) because all alternatives follow the same or similar alignments in the vicinity of recorded hazardous materials sites (see Exhibit 4.10-2). All alternatives also include the same activities at the Brockway Substation and would integrate the same APMs related to this facility into project design. Although there are no known hazardous materials sites that would be disturbed by project construction or operation under any alternative, there would be the possibility that unknown or undocumented hazardous materials could be present in the project area. Excavation at or near areas of currently unrecorded soil and/or groundwater contamination could result in the exposure of construction workers, the general public, and the environment to hazardous materials that could generate a health risk. There could be a somewhat reduced chance of encountering hazardous materials under Alternative 2 (Modified Alternative) because placing both the 625 and 650 Lines on a double circuit in Segments 625-9 and 625-10 would reduce the overall mileage where the power line would be installed, and therefore could reduce the potential to encounter undocumented hazardous materials sites. However, the possibility of encountering such a site during construction still exists; therefore, this impact would be **potentially significant**.

## MITIGATION MEASURES

### Mitigation Measure 4.10-3 (Alt. 2): Prepare and implement a Hazardous Materials Contingency Plan.

*Implement Mitigation Measure 4.10-3 (Alt. 1): Prepare and implement a Hazardous Materials Contingency Plan.*

Implementation of this mitigation measure, described above, would substantially reduce potential hazards to the public and construction personnel from encountering unknown or undocumented hazardous materials during project construction by requiring the avoidance, identification, and treatment of hazardous materials that might be found. This impact would be reduced to a **less-than-significant** level.

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<b>IMPACT 4.10-4 (Alt.2)</b>	<b>Produce hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school.</b> Construction of Alternative 2 (Modified Alternative) and ongoing operations would require the use of certain materials such as fuels, oils, solvents, and other chemical products that, in larger quantities, could pose a potential hazard to the public or the environment if improperly used or inadvertently released. Six schools are located within 0.25 mile of the project. However, use of hazardous materials at the site would be in compliance with multiple federal, state, and local regulations. Therefore, impacts related to creation of potential health hazards at schools in the vicinity of the project site through routine transport, use, or disposal would be <b>less than significant</b> .
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The impact would be similar to Impact 4.10-4 (Alt.1) described above for Alternative 1 (PEA Alternative) because the same hazardous materials would be used in the same way during project construction and operation; the same APMs would be integrated into project design; the same federal, state, and local regulations related to hazardous materials would be complied with, and in the vicinity of existing schools all alternatives follow the

same or similar alignments (see Exhibit 4.10-4). For the same reasons as described under Alternative 1 (PEA Alternative), this impact would be **less than significant**.

## MITIGATION MEASURES

*No mitigation measures are required.*

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<b>IMPACT 4.10-5 (Alt.2)</b>	<b>Conflict with an airport land use plan and potentially generate a safety hazard for people residing or working in the project area.</b> Under Alternative 2 (Modified Alternative), helicopters would be used for construction, but must follow FAA regulatory requirements that would prevent conflicts with the Truckee Tahoe Airport ALUCP and generation of safety hazards. Portions of Segments 650-3 through 650-7 occur in ALUCP Compatibility Zones C, D, and E, and in Height Review Overlay Zones. Although under Alternative 2 (Modified Alternative), most new power poles would replace existing poles along the existing power line alignment, some new poles would be placed within more sensitive Compatibility Zones. All new poles would be taller than existing poles. Depending on site specific conditions, such as proximity to the runway and topography at the pole site, installing poles that are taller than the existing poles could generate a safety hazard for aircraft entering or leaving the runways, which could also present a hazard to people residing or working in the project area. This impact would be <b>potentially significant</b> .
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The impact would be similar to Impact 4.10-5 (Alt.1) described above for Alternative 1 (PEA Alternative) because both alternatives would use helicopters during construction in a similar way and place new poles in ALUCP Compatibility Zones C, D, and E, and in Height Review Overlay Zones (see Exhibit 4.10-1) and ALUC height review would be required for poles in Compatibility Zone C and in the Height Review Overlay Zones. This impact could be somewhat greater for Alternative 2 (Modified Alternative) because Segment 650-4A does not follow the existing alignment of the 650 Line and project implementation in this area would place power poles in a new alignment with more poles in Compatibility Zone C. This could result in a greater potential for a determination of a “hazard to flight.” Because there is the possibility that new poles in Compatibility Zone C and in Height Review Overlay Zones could be considered a conflict with the ALUCP and potentially generate a safety hazard for aircraft and people residing or working in the project area, this impact would be **potentially significant**.

## MITIGATION MEASURES

### **Mitigation Measure 4.10-5 (Alt. 2): Power line shall be installed in compliance with height requirements approved by the Truckee Tahoe Airport Land Use Commission.**

*Implement Mitigation Measure 4.10-5 (Alt. 1): Power line shall be installed in compliance with height requirements approved by the Truckee Tahoe Airport Land Use Commission.*

Implementation of this mitigation measure, described above, would result in consistency with the Truckee Tahoe Airport ALUCP, would prevent power poles from generating a potential safety hazard for aircraft entering or leaving the runways, and would, therefore, also prevent a hazard from aircraft to people residing or working in the project area by installing the power line underground in locations where the ALUC considers the poles a “hazard to flight.” This impact would be reduced to a **less-than-significant** level.

The environmental effects of undergrounding described above for Alternative 1 (PEA Alternative) would also apply to Alternative 2 (Modified Alternative). Under Alternative 2 (Modified Alternative) there would be a greater potential that undergrounding would be required because more of Segment 650-4A passes through Compatibility Zone c and is also closer to the airport runway (see Exhibit 4.10-1). Like Alternative 1 (PEA

Alternative), the alignment for Alternative 2 (Modified Alternative) is known to cross at least one cultural resources site in an area identified as either Compatibility Zone C or as a Height Review Overlay Zone.

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**IMPACT 4.10-6 (Alt.2)** **Impair implementation or physically interfere with an adopted emergency response plan or emergency evacuation plan.** Construction of Alternative 2 (Modified Alternative) would create temporary construction-related traffic on local roadways and would require temporary lane/shoulder closures in work zones, resulting in traffic delays that could impair implementation of an emergency response plan or emergency evacuation plan. However, implementation of APMs would reduce the potential for conflicts with implementation of emergency response plans and allow evacuation plans to be implemented if necessary. This impact would be **less than significant**.

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This impact would be similar to Impact 4.10-6 (Alt.1) described above for Alternative 1 (PEA Alternative) because both alternatives would generate construction traffic and require temporary lane/shoulder closures that could result in traffic delays that could impair implementation of an emergency response plan or emergency evacuation plan if one were activated during project construction. Both alternatives would integrate the same APMs related to traffic control into project design. The potential for this impact could be less for Alternative 2 (Modified Alternative) because placing both the 625 and 650 Lines on a double circuit in Segments 625-9 and 625-10 could minimize construction activities along SR 267 in the Lake Tahoe Basin. This impact would be **less than significant**.

## MITIGATION MEASURES

*No mitigation measures are required.*

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**IMPACT 4.10-7 (Alt.2)** **Expose people or structures to a significant risk of loss, injury, or death involving wildland fires.** Construction of Alternative 2 (Modified Alternative) would increase the amount of human activity in the project area during the construction period. The increase in human presence during fire season could result in an increased risk of fire. However, with integration of APMs as a part of project design that require the implementation of a Construction Fire Prevention and Suppression Plan and include other measures to minimize fire risk, project effects would be **less than significant**.

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The impact is similar to Impact 4.10-7 (Alt.1) described above for Alternative 1 (PEA Alternative) because both alternatives would replace existing wooden poles with steel poles (reducing risk of fire damage), would implement the same project operations and maintenance activities, would implement construction activities in areas at risk of wildland fire, and would integrate the same APMs into project design which would reduce fire risk. For the same reasons as described for Alternative 1 (PEA Alternative), implementation of Alternative 2 (Modified Alternative) would not expose people or structures to a significant risk of loss, injury, or death involving wildland fires. This impact would be **less than significant**.

## MITIGATION MEASURES

*No mitigation measures are required.*

## ALTERNATIVE 3 – ROAD FOCUSED ALTERNATIVE

### DIRECT AND INDIRECT IMPACTS

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<b>IMPACT 4.10-1 (Alt.3)</b>	<p><b>Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials.</b> Construction of Alternative 3 (Road Focused Alternative) and ongoing operations would require the use of certain materials such as fuels, oils, solvents, and other chemical products that, in larger quantities, could pose a potential hazard to the public or the environment if improperly used or inadvertently released. During operations of the project, a potential would exist that a transformer could fail, resulting in a spill of mineral oil. However, use of hazardous materials at the site for construction and for operations and maintenance would be in compliance with multiple federal, state, and local regulations, including federal regulations as outlined in Title 40 CFR Part 112, which require implementation of a SPCC Plan. Therefore, impacts related to creation of significant hazards to the public or the environment through routine transport, use, or disposal of hazardous materials would be <b>less than significant</b>.</p>
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This impact would be similar to Impact 4.10-1 (Alt.1) described above for Alternative 1 (PEA Alternative) because the same hazardous materials would be used in the same way during project construction, operation, and maintenance; the same APMs would be integrated into the project design; and the same federal, state, and local regulations related to hazardous materials would be complied with. For the same reasons as described under Alternative 1 (PEA Alternative), this impact would be **less than significant**.

### MITIGATION MEASURES

*No mitigation measures are required.*

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<b>IMPACT 4.10-2 (Alt.3)</b>	<p><b>Create a significant hazard to the public as a result of blasting activities.</b> Blasting could be conducted as part of project construction to remove or break up rock outcrops. If not conducted properly, blasting could create a hazard to construction personnel and the public. Therefore, impacts related to creation of significant hazards to the public or construction personnel through use of blasting would be <b>potentially significant</b>.</p>
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This impact would be similar to Impact 4.10-2 (Alt.1) described above for Alternative 1 (PEA Alternative) because both alternatives could involve the use of blasting. There could be a somewhat reduced chance to need blasting under Alternative 3 (Road Focused Alternative) because placing both the 625 and 650 Lines on a double circuit in Segments 650-1 and 650-2 would reduce the overall mileage where the power line would be installed, and therefore could reduce the potential to encounter rock outcrops that would need to be removed by blasting. However, this reduction would be offset by increased mileage in Segment 650-4B and bypassing a portion of the existing line in Segment 650-5. Maximizing the placement of power lines adjacent to existing roads under Alternative 3 (Road Focused Alternative) could reduce the potential for encountering rock outcrops that require removal, as rock outcrops could have been removed previously as part of road construction. Blasting could still be required under Alternative 3 (Road Focused Alternative) and could generate a significant hazard to the public and construction personnel. Therefore, this impact would be **potentially significant**.

## MITIGATION MEASURES

### Mitigation Measure 4.10-2 (Alt. 3): Implement blasting safety measures.

*Implement Mitigation Measure 4.10-2 (Alt. 1): Implement blasting safety measures.*

Implementation of this mitigation measure, describe above, would substantially reduce the hazards to the public and construction personnel from blasting by ensuring that blasting was conducted by a qualified professional using applicable safety measures for site specific conditions. This impact would be reduced to a **less-than-significant** level.

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<b>IMPACT 4.10-3 (Alt.3)</b>	<b>Potential human health hazards from exposure to existing on-site hazardous materials.</b> Construction of Alternative 3 (Road Focused Alternative) could expose workers and the public to hazardous materials currently in the construction zone, and hazardous materials currently on-site could create environmental health hazards if left in place. This impact would be <b>potentially significant</b> .
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This impact would be similar to Impact 4.10-3 (Alt.1) described above for Alternative 1 (PEA Alternative) because in the vicinity of recorded hazardous materials sites all alternatives follow the same or similar alignments (see Exhibit 4.10-2). No alternative would be expected to interact with one of these recorded sites. All alternatives also include the same activities at the Brockway Substation and would integrate the same APMs related to this facility into the project design. Although there are no known hazardous materials sites that would be disturbed by project construction or operation under any alternative, there is the possibility that unknown or undocumented hazardous materials could be present in the project area. Excavation at or near areas of currently unrecorded soil and/or groundwater contamination could result in the exposure of construction workers, the general public, and the environment to hazardous materials that could generate a health risk. There could be a somewhat reduced chance of encountering hazardous materials under Alternative 3 (Road Focused Alternative) because placing both the 625 and 650 Lines on a double circuit in Segments 650-1 and 650-2 would reduce the overall mileage where the power line would be installed, and therefore could reduce the potential to encounter undocumented hazardous materials sites. However, this reduction would be offset by increased mileage in Segment 650-4B and bypassing a portion of the existing line in Segment 650-5. Because of the possibility of encountering an unrecorded hazardous materials site during project construction, this impact would be **potentially significant**.

## MITIGATION MEASURES

### Mitigation Measure 4.10-3 (Alt. 3): Prepare and implement a Hazardous Materials Contingency Plan.

*Implement Mitigation Measure 4.10-3 (Alt. 1): Prepare and implement a Hazardous Materials Contingency Plan.*

Implementation of this mitigation measure, described above, would substantially reduce potential hazards to the public and construction personnel from encountering unknown or undocumented hazardous materials during project construction by requiring the avoidance, identification, and treatment of hazardous materials that might be found. This impact would be reduced to a **less-than-significant** level.

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**IMPACT 4.10-4 (Alt.3)** **Produce hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within 0.25 mile of an existing or proposed school.** Construction of Alternative 3 (Road Focused Alternative) and ongoing operations would require the use of certain materials such as fuels, oils, solvents, and other chemical products that, in larger quantities, could pose a potential hazard to the public or the environment if improperly used or inadvertently released. Six schools are located within 0.25 mile of the project. However, use of hazardous materials at the site would be in compliance with multiple federal, state, and local regulations. Therefore, impacts related to creation of potential health hazards at schools in the vicinity of the project site through routine transport, use, or disposal would be **less than significant**.

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The impact would be similar to Impact 4.10-4 (Alt.1) described above for Alternative 1 (PEA Alternative) because the same hazardous materials would be used in the same way during project construction and operation; the same APMs would be integrated into project design; the same federal, state, and local regulations related to hazardous materials would be complied with, and in the vicinity of existing schools all alternatives follow the same or similar alignments (see Exhibit 4.10-4). For the same reasons as described under Alternative 1 (PEA Alternative), this impact would be **less than significant**.

## MITIGATION MEASURES

*No mitigation measures are required.*

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**IMPACT 4.10-5 (Alt.3)** **Conflict with an airport land use plan and potentially generate a safety hazard for people residing or working in the project area.** Under Alternative 3 (Road Focused Alternative), helicopters would be used for construction, but must follow FAA regulatory requirements that would prevent conflicts with the Truckee Tahoe Airport ALUCP or generation of safety hazards. Portions of Segments 650-3 through 650-7 under Alternative 3 (Road Focused Alternative) occur in ALUCP Compatibility Zones B1, C, D, and E, and in Height Review Overlay Zones. Although under Alternative 3 (Road Focused Alternative) many new power poles would replace existing poles along the existing power line alignment, new poles in Segment 650-4B would be placed within a more sensitive Compatibility Zone. All new poles would be taller than existing poles. Depending on site specific conditions, such as proximity to the runway and topography at the pole site, installing poles that are taller than the existing poles could generate a safety hazard for aircraft entering or leaving the runways, which could also present a hazard to people residing or working in the project area. This impact would be **potentially significant**.

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In Segments 650-3, 650-6, and 650-7, this impact would be similar to Impact 4.10-5 (Alt.1) described above for Alternative 1 (PEA Alternative) because both alternatives place new poles in ALUCP Compatibility Zones C, D, and E, and in Height Review Overlay Zones (see Exhibit 4.10-1) and ALUC height review would be required for poles in Compatibility Zone C and in the Height Review Overlay Zones. However, this impact would be greater for Alternative 3 (Road Focused Alternative) because Segment 650-4B would not follow the existing alignment of the 650 Line and project implementation in this area would place power poles in a new alignment with poles in Compatibility Zone B1. Zone B1 has greater sensitivity than Compatibility Zones C, D, and E; with ALUC height review required for structures greater than 35-feet tall and greater restrictions regarding compatible land uses. Under Alternative 3 (Road Focused Alternative) the power line would be several thousand feet closer to airport runways than under Alternatives 1 (PEA Alternative) or 2 (Modified Alternative). This could substantially increase the potential for a determination of a "hazard to flight." Because there is the possibility that new poles in Compatibility Zones B1 and C and in Height Review Overlay Zones could be considered a conflict with the

ALUCP and potentially generate a safety hazard for aircraft and people residing or working in the project area, this impact would be **potentially significant**.

**MITIGATION MEASURES**

**Mitigation Measure 4.10-5 (Alt. 3): Power line shall be installed in compliance with height requirements approved by the Truckee Tahoe Airport Land Use Commission.**

*Implement Mitigation Measure 4.10-5 (Alt. 1): Power line shall be installed in compliance with height requirements approved by the Truckee Tahoe Airport Land Use Commission.*

Implementation of the above mitigation measure would result in consistency with the Truckee Tahoe Airport ALUCP, would prevent power poles from generating a potential safety hazard for aircraft entering or leaving the runways, and would therefore also prevent a hazard from aircraft to people residing or working in the project area. This impact would be reduced to a **less-than-significant** level.

The environmental effects of undergrounding described above for Alternative 1 (PEA Alternative) would also apply to Alternative 3 (Road Focused Alternative). Under Alternative 3 (Road Focused Alternative) there would be a substantially greater potential that undergrounding would be required because Segment 650-4B places poles in a new alignment in Compatibility Zone B1. The alignment for Alternative 3 (Road Focused Alternative) is known to cross at least two cultural resources sites in an area identified as either Compatibility Zone B1, C, or as a Height Review Overlay Zone.

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<b>IMPACT 4.10-6 (Alt.3)</b>	<b>Impair implementation or physically interfere with an adopted emergency response plan or emergency evacuation plan.</b> Construction of Alternative 3 (Road Focused Alternative) would create temporary construction-related traffic on local roadways and would require temporary lane/shoulder closures in work zones, resulting in traffic delays that could impair implementation of an emergency response plan or emergency evacuation plan. However, implementation of APMs would reduce the potential for conflicts with implementation of emergency response plans and allow evacuation plans to be implemented if necessary. This impact is <b>less than significant</b> .
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This impact would be similar to Impact 4.10-6 (Alt.1) described above for Alternative 1 (PEA Alternative) because both alternatives would generate construction traffic and require temporary lane/shoulder closures that could result in traffic delays that could impair implementation of an emergency response plan or emergency evacuation plan if one were activated during project construction. Both alternatives would integrate the same APMs related to traffic control into the project design. The potential for this impact could be greater for Alternative 3 (Road Focused Alternative) because more of the alignment is adjacent to existing roadways and could therefore have more construction activity affecting roadway operations. However, with integration of APMs this impact would be **less than significant**.

**MITIGATION MEASURES**

*No mitigation measures are required.*

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**IMPACT 4.10-7 (Alt.3)**      **Expose people or structures to a significant risk of loss, injury, or death involving wildland fires.** Construction of Alternative 3 (Road Focused Alternative) would increase the amount of human activity in the project area during the construction period. The increase in human presence during fire season could result in an increased risk of fire. However, with integration of APMs as a part of project design that require the implementation of a Fire Prevention and Suppression Plan and include other measures to minimize fire risk project effects would be **less than significant**.

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This impact would be similar to Impact 4.10-7 (Alt.1) described above for Alternative 1 (PEA Alternative) because both alternatives would replace existing wooden poles with steel poles (reducing risk of fire damage), would implement construction activities in areas at risk of wildland fire, would integrate the same APMs into project design to reduce fire risk, and would implement the same project operations and maintenance activities. However, the potential for igniting a wildfire during the construction period could be less for Alternative 3 (Road Focused Alternative) because more of the alignment would be adjacent to existing roadways and less travel on non-paved or non-graveled surfaces would be necessary. For the same reasons as described for Alternative 1 (PEA Alternative), implementation of Alternative 3 (Road Focused Alternative) would not expose people or structures to a significant risk of loss, injury, or death involving wildland fires. This impact would be **less than significant**.

## MITIGATION MEASURES

*No mitigation measures are required.*

## ALTERNATIVE 4 – PROPOSED ALTERNATIVE

### DIRECT AND INDIRECT IMPACTS

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**IMPACT 4.10-1 (Alt.4)**      **Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials.** Construction of Alternative 4 (Proposed Alternative) and ongoing operations would require the use of certain materials such as fuels, oils, solvents, and other chemical products that, in larger quantities, could pose a potential hazard to the public or the environment if improperly used or inadvertently released. However, use of hazardous materials at the site would be in compliance with multiple federal, State, and local regulations. During operations of the project, a potential would exist that a transformer could fail, resulting in a spill of mineral oil. However, use of hazardous materials at the site for construction and for operations and maintenance would be in compliance with multiple federal, state, and local regulations, including federal regulations as outlined in Title 40 CFR Part 112, which requires implementation of a SPCC Plan in the event of a spill. Therefore, impacts related to creation of significant hazards to the public or the environment through routine transport, use, or disposal of hazardous materials would be **less than significant**.

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This impact would be similar to Impact 4.10-1 (Alt.1) described above for Alternative 1 (PEA Alternative) because the same hazardous materials would be used in the same way during project construction, operation, and maintenance; the same APMs would be integrated into the project design; and CalPeco would comply with the same federal, state, and local regulations related to hazardous materials described for Alternative 1 (PEA Alternative). For these reasons, there is not an appreciable difference between the four action alternatives regarding the severity of this impact. For the same reasons as described under Alternative 1 (PEA Alternative), this impact would be **less than significant**.

## MITIGATION MEASURES

*No mitigation measures are required.*

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<b>IMPACT 4.10-2 (Alt.4)</b>	<b>Create a significant hazard to the public as a result of blasting activities.</b> Blasting could be conducted as part of project construction to remove or break up rock outcrops. If not conducted properly, blasting could create a hazard to construction personnel and the public. Therefore, impacts related to creation of significant hazards to the public or construction personnel through use of blasting would be <b>potentially significant</b> .
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This impact would be similar to Impact 4.10-2 (Alt.1) described above for the Alternative 1 (PEA Alternative) because both alternatives could involve the use of blasting. However, there could be a somewhat reduced chance to need blasting under Alternative 4 (Proposed Alternative) because placing both the 625 and 650 Lines on a double circuit in Segments 650-1 and 650-2 would reduce the overall mileage where the power line would be installed, and therefore could reduce the potential to encounter rock outcrops that would need to be removed by blasting. Additionally, maximizing the placement of power lines adjacent to existing roads for the 625 Line segments under Alternative 4 (Proposed Alternative) could reduce the potential for encountering rock outcrops that require removal, as rock outcrops could have been removed previously as part of road construction. The potential to need blasting under Alternative 4 (Proposed Alternative) would be most similar to Alternative 3 (Road Focused Alternative), and would likely be less than the need under Alternative 1 (PEA Alternative) and Alternative 2 (Modified Alternative). Blasting could still be required under Alternative 4 (Proposed Alternative) and could generate a significant hazard to the public and construction personnel. Therefore, this impact would be **potentially significant**.

## MITIGATION MEASURES

### Mitigation Measure 4.10-2 (Alt. 4): Implement blasting safety measures.

*Implement Mitigation Measure 4.10-2 (Alt. 1): Implement blasting safety measures.*

Implementation of this mitigation measure, describe above, would substantially reduce the hazards to the public and construction personnel from blasting by ensuring that blasting would be conducted by a qualified professional using applicable safety measures for site specific conditions. This impact would be reduced to a **less-than-significant** level.

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<b>IMPACT 4.10-3 (Alt.4)</b>	<b>Potential human health hazards from exposure to existing on-site hazardous materials.</b> Construction of Alternative 4 (Proposed Alternative) could expose workers and the public to hazardous materials currently in the construction zone, and hazardous materials currently onsite could create environmental health hazards if left in place. This impact would be <b>potentially significant</b> .
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This impact would be similar to Impact 4.10-3 (Alt.1) described above for Alternative 1 (PEA Alternative) because in the vicinity of recorded hazardous materials sites all action alternatives follow the same or similar alignments (see Exhibit 4.10-2). No alternative would be expected to interact with one of these recorded sites. All action alternatives also include the same activities at the Brockway Substation and would integrate the same APMs related to this facility into project design. Although there are no known hazardous materials sites that would be disturbed by project construction or operation under any alternative, there is the possibility that unknown or undocumented hazardous materials could be present in the project area. Excavation at or near areas of currently unrecorded soil and/or groundwater contamination could result in the exposure of construction

workers, the general public, and the environment to hazardous materials that could generate a health risk. There could be a somewhat reduced chance of encountering hazardous materials under Alternative 4 (Proposed Alternative) because placing both the 625 and 650 Lines on a double circuit in Segments 650-1 and 650-2 would reduce the overall mileage where the power line would be installed, and therefore could reduce the potential to encounter undocumented hazardous materials sites. However, the probability of encountering unrecorded hazardous materials sites is highly dependent on past and present land uses, behaviors of landowners, and other factors, and insufficient data is available to provide a legitimate assessment of whether any one alternative is more or less likely susceptible to this impact. Because of the possibility of encountering an unrecorded hazardous materials site during project construction, this impact would be **potentially significant**.

## MITIGATION MEASURES

### Mitigation Measure 4.10-3 (Alt. 4): Prepare and implement a Hazardous Materials Contingency Plan.

*Implement Mitigation Measure 4.10-3 (Alt. 1): Prepare and implement a Hazardous Materials Contingency Plan.*

Implementation of this mitigation measure, described above, would substantially reduce potential hazards to the public and construction personnel from encountering unknown or undocumented hazardous materials during project construction by requiring the avoidance, identification, and treatment of hazardous materials that might be found. This impact would be reduced to a **less-than-significant** level.

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<b>IMPACT 4.10-4 (Alt.4)</b>	<b>Produce hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within 0.25 mile of an existing or proposed school.</b> Construction of Alternative 4 (Proposed Alternative) and ongoing operations would require the use of certain materials such as fuels, oils, solvents, and other chemical products that, in larger quantities, could pose a potential hazard to the public or the environment if improperly used or inadvertently released. Six schools are located within 0.25 mile of the project. However, use of hazardous materials at the site would be in compliance with multiple federal, state, and local regulations. Therefore, impacts related to creation of potential health hazards at schools in the vicinity of the project site through routine transport, use, or disposal would be <b>less than significant</b> .
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The impact would be similar to Impact 4.10-4 (Alt.1) described above for Alternative 1 (PEA Alternative) because the same hazardous materials would be used in the same way during project construction and operation; the same APMs would be integrated into project design; the same federal, state, and local regulations related to hazardous materials would be complied with; and, in the vicinity of existing schools, all action alternatives follow the same or similar alignments (see Exhibit 4.10-4). For these reasons, there is not an appreciable difference between the four action alternatives regarding the severity of this impact. For the same reasons as described under Alternative 1 (PEA Alternative), this impact would be **less than significant**.

## MITIGATION MEASURES

*No mitigation measures are required.*

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<b>IMPACT 4.10-5 (Alt.4)</b>	<b>Conflict with an airport land use plan and potentially generate a safety hazard for people residing or working in the project area.</b> Under Alternative 4 (Proposed Alternative), helicopters would be used for construction, but must follow FAA regulatory requirements that would prevent conflicts with the Truckee Tahoe Airport ALUCP or generation of safety hazards. Portions of Segments 650-3 through 650-7 would occur in ALUCP compatibility Zones C, D, and E, and in Height Review Overlay Zones. Although under Alternative 4 (Proposed Alternative) new power poles would replace existing poles, and no new poles would be placed within different or more sensitive compatibility zones, implementation would place power poles in the Airport Influence Area that are taller than existing poles. Depending on site specific conditions, such as proximity to the runway and topography at the pole site, installing poles that are taller than the existing poles could generate a safety hazard for aircraft entering or leaving the runways, which could also present a hazard to people residing or working in the project area. This impact would be <b>potentially significant</b> .
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With implementation of Alternative 4 (Proposed Alternative), the impact would be the same as described above for Alternative 1 (PEA Alternative) because both alternatives follow the same alignment in Segments 650-3 through 650-7 and place new poles in ALUCP Compatibility Zones C, D, and E, and in Height Review Overlay Zones (see Exhibit 4.10-1) and ALUC height review would be required for poles in Compatibility Zone C and in the Height Review Overlay Zones.

Alternative 4 (Proposed Alternative) follows the alignment of the existing 650 Line and there are currently wooden power poles and conductor within these various Compatibility Zones. The existing poles are approximately 52-feet tall. Under Alternative 4 (Proposed Alternative), these wooden poles would be replaced with steel poles approximately 7 to 12 feet taller than the existing poles. Therefore, the new poles would be approximately 59- to 64-feet tall. Although there are existing poles within the Airport Influence Area, it is assumed that replacing existing poles with taller poles would trigger applicable ALUC height reviews. Because there is the possibility that new poles in Compatibility Zone C and in Height Review Overlay Zones could be considered a conflict with the ALUCP and potentially generate a safety hazard for aircraft and people residing or working in the project area, this impact would be **potentially significant**.

## MITIGATION MEASURES

### **Mitigation Measure 4.10-5 (Alt. 4): Power line shall be installed in compliance with height requirements approved by the Truckee Tahoe Airport Land Use Commission.**

*Implement Mitigation Measure 4.10-5 (Alt. 1): Power line shall be installed in compliance with height requirements approved by the Truckee Tahoe Airport Land Use Commission.*

Implementation of the above mitigation measure would result in consistency with the Truckee Tahoe Airport ALUCP, would prevent power poles from generating a potential safety hazard for aircraft entering or leaving the runways, and would therefore also prevent a hazard from aircraft to people residing or working in the project area. This impact would be reduced to a **less-than-significant** level.

The environmental effects of undergrounding described above for Alternative 1 (PEA Alternative) would be the same under Alternative 4 (Proposed Alternative) because both alternatives follow the same alignment in Segments 650-3 through 650-7. These two alternatives would be the least likely to require undergrounding. If undergrounding were required, less would be necessary than with implementation of Alternative 2 (Modified Alternative) or Alternative 3 (Road Focused Alternative).

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<b>IMPACT 4.10-6 (Alt.4)</b>	<b>Impair implementation or physically interfere with an adopted emergency response plan or emergency evacuation plan.</b> Construction of Alternative 4 (Proposed Alternative) would create temporary construction-related traffic on local roadways and would require temporary lane/shoulder closures in work zones, resulting in traffic delays that could impair implementation of an emergency response plan or emergency evacuation plan. However, implementation of APMs would reduce the potential for conflicts with implementation of emergency response plans and allow evacuation plans to be implemented if necessary. This impact would be <b>less than significant</b> .
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This impact would be similar to Impact 4.10-6 (Alt.1) described above for Alternative 1 (PEA Alternative) because both alternatives would generate construction traffic and require temporary lane/shoulder closures that could result in traffic delays that could impair implementation of an emergency response plan or emergency evacuation plan if one were activated during project construction. Both alternatives would implement the same APM related to traffic control. The potential for this impact could be greater for Alternative 4 (Proposed Alternative) because more of the alignment is adjacent to existing roadways and could therefore have more construction activity affecting roadway operations. However, it would be less than for Alternative 3 (Road Focused Alternative) because Segment 650-4B is not utilized, lessening the mileage of alignment adjacent to SR 267 and maximizing the use of the already upgraded power line in Segment 650-5 (see Exhibit 4.10-4). For the same reasons as described under Alternative 1 (PEA Alternative), this impact would be **less than significant**.

## MITIGATION MEASURES

*No mitigation measures are required.*

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<b>IMPACT 4.10-7 (Alt.4)</b>	<b>Expose people or structures to a significant risk of loss, injury, or death involving wildland fires.</b> Construction of Alternative 4 (Proposed Alternative) would increase the amount of human activity in the project area during the construction period. The increase in human presence during fire season could result in an increased risk of fire. However, with integration of APMs as a part of project design that require the implementation of a Construction Fire Prevention and Suppression Plan and include other measures to minimize fire risk, project effects would be <b>less than significant</b> .
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This impact would be similar to Impact 4.10-7 (Alt.1) described above for Alternative 1 (PEA Alternative) because both alternatives would replace existing wooden poles with steel poles (reducing risk of fire damage), would implement construction activities in areas at risk of wildland fire, would integrate the same APMs into project design to reduce fire risk, and would implement the same project operations and maintenance activities. However, the potential for igniting a wildfire during the construction period could be less for Alternative 4 (Proposed Alternative) because more of the alignment would be adjacent to existing roadways and less travel on non-paved or non-graveled surfaces would be necessary. Because of the proximity to existing roadways, Alternative 3 (Road Focused Alternative) and Alternative 4 (Proposed Alternative) are the least likely to result in a wildfire ignition during construction. For the same reasons as described for Alternative 1 (PEA Alternative), implementation of Alternative 4 (Proposed Alternative) would not expose people or structures to a significant risk of loss, injury or death involving wildland fires. This impact would be **less than significant**.

## MITIGATION MEASURES

*No mitigation measures are required.*

## ALTERNATIVE 5 – NO ACTION/NO PROJECT ALTERNATIVE

### DIRECT AND INDIRECT IMPACTS

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<b>IMPACT 4.10-1 (Alt.5)</b>	<b>Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials.</b> Under Alternative 5 (No Action/No Project Alternative), operations and maintenance programs and use of vehicles and equipment would continue as they do today. The use of hazardous materials would be unchanged compared to current conditions. There would be <b>no impact</b> .
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Under the Alternative 5 (No Action/No Project Alternative), operations and maintenance programs and use of vehicles and equipment would continue as they currently do and the use of hazardous materials would be unchanged compared to current conditions. Compliance with applicable federal, state, and local regulations related to hazardous materials would continue. The potential for hazards to the public or environmental through the routine transport, use, or disposal of hazardous materials would be minimal and unchanged from existing conditions. Therefore, there would be **no impact**.

### MITIGATION MEASURES

*No mitigation measures are required.*

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<b>IMPACT 4.10-2 (Alt.5)</b>	<b>Create a significant hazard to the public as a result of blasting activities.</b> Under Alternative 5 (No Action/No Project Alternative) no construction would take place and there would be no need to conduct blasting to remove rock outcrops. There would be <b>no impact</b> .
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Under Alternative 5 (No Action/No Project Alternative) no construction would take place. Existing facilities would continue to be used and operations and maintenance would continue with existing programs. Under this alternative there would be no removal of rock outcrops for new construction, and therefore no need for blasting to break up rock outcrops. There would be **no impact**.

### MITIGATION MEASURES

*No mitigation measures are required.*

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<b>IMPACT 4.10-3 (Alt.5)</b>	<b>Potential human health hazards from exposure to existing on-site hazardous materials.</b> Under Alternative 5 (No Action/No Project Alternative) no construction would take place. Although some ground excavation could be required for system maintenance and repairs, it would be minimal and unlikely to encounter currently undocumented hazardous materials sites. This impact would be <b>less than significant</b> .
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Under Alternative 5 (No Action/No Project Alternative) no construction would take place and operations and maintenance would continue with existing programs. There are no recorded hazardous materials sites within the transmission system ROW that could pose a risk to project personnel. It is possible that an undocumented hazardous materials site could be within system ROW; however, given that most facilities are far from developed areas and no evidence of hazardous materials sites have been reported after many years of regular system inspections and maintenance, this is considered unlikely. In addition, system maintenance and repairs seldom involve excavations that would expose contaminated soils, USTs, or other subsurface contamination. Given these conditions, this impact would be **less than significant**.

## MITIGATION MEASURES

*No mitigation measures are required.*

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<b>IMPACT 4.10-4 (Alt.5)</b>	<b>Produce hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within 0.25 mile of an existing or proposed school.</b> Under Alternative 5 (No Action/No Project Alternative), operations and maintenance programs and use of vehicles and equipment would continue as they do today. The use of hazardous materials would be unchanged compared to current conditions. Risks to schools within 0.25 mile of the existing system are minimal, and would be unchanged under Alternative 5 (No Action/No Project Alternative). There would be <b>no impact</b> .
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Six schools are located within 0.25-mile of the existing transmission system; however, none are closer than approximately 0.2-mile. Given these distances, it is extremely unlikely that any activities associated with system maintenance, operations, and repairs would affect school sites. Under Alternative 5 (No Action/No Project Alternative), operations and maintenance programs and use of vehicles and equipment would continue as they do today and the use of hazardous materials would be unchanged compared to current conditions. Compliance with applicable federal, state, and local regulations related to hazardous materials would continue. The potential for hazards to nearby schools from the routine transport, use, or disposal of hazardous materials would be minimal and unchanged from existing conditions. Therefore, there would be **no impact**.

## MITIGATION MEASURES

*No mitigation measures are required.*

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<b>IMPACT 4.10-5 (Alt.5)</b>	<b>Conflict with an airport land use plan and potentially generate a safety hazard for people residing or working in the project area.</b> Under Alternative 5 (No Action/No Project Alternative) the existing transmission system would not be changed. Existing poles within the Truckee Tahoe Airport Influence Area are already approved, have been present for decades, are not designated as a “hazard to flight,” and do not generate a safety hazard for people residing or working in the project area. Project benefits associated with increased reliability of the North Lake Tahoe Transmission System would not occur under Alternative 5 (No Action/No Project Alternative) and the Truckee Tahoe Airport would be subject to a higher risk of power outages. This increased risk would not be sufficient to generate a substantial safety hazard. This impact would be <b>less than significant</b> .
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Under Alternative 5 (No Action/No Project Alternative), no construction would take place and the existing transmission system would not be changed. Existing poles within the Truckee Tahoe Airport Influence Area would be unchanged. These poles are already approved by the ALUC, have been present for decades, are not designated as a “hazard to flight,” and do not generate a safety hazard for people residing or working in the project area due to their presence in the Airport Influence Area. This condition would not change under Alternative 5 (No Action/No Project Alternative).

However, under Alternative 5 (No Action/No Project Alternative), project benefits associated with increased reliability of the North Lake Tahoe Transmission System would not occur. Without the proposed system improvements, the North Lake Tahoe Transmission System service area, including the Truckee Tahoe Airport, would be subject to a higher risk of power outages. Power outages would likely be more frequent, and of longer duration, than if one of the action alternatives were implemented. However, the Truckee Tahoe Airport currently has the potential to experience power outages and has mechanisms in place to address the loss of

electrical service. Power outages at the airport would not generate a substantial safety hazard. Therefore, this impact is considered **less than significant**.

## MITIGATION MEASURES

*No mitigation measures are required.*

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<b>IMPACT 4.10-6 (Alt.5)</b>	<b>Impair implementation or physically interfere with an adopted emergency response plan or emergency evacuation plan.</b> No construction would occur under Alternative 5 (No Action/No Project Alternative) and construction activities would not obstruct the operation of local roadways that could affect the implementation of an emergency response or evacuation plan. Project benefits associated with increased reliability of the North Lake Tahoe Transmission System would not occur under Alternative 5 (No Action/No Project Alternative) and the system's service area would be subject to a higher risk of power outages. Power outages could result in the loss of operation of traffic signals and other infrastructure that could assist in implementation of an emergency response plan or emergency evacuation plan. However, power outages currently occur in the project area and must be accounted for in emergency response plans and emergency evacuation plans. Therefore, this impact would be <b>less than significant</b> .
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Under Alternative 5, (No Action/No Project Alternative), no construction would occur and there would be no changes to the existing transmission system. Construction traffic would not affect local roadways and there would be no construction related lane/shoulder closures. With no effects on the roadway system during construction, there would also be no effects on implementation of an emergency response plan or emergency evacuation plan.

However, under Alternative 5 (No Action/No Project Alternative), project benefits associated with increased reliability of the North Lake Tahoe Transmission System would not occur. Without the proposed system improvements, the North Lake Tahoe Transmission System service area would be subject to a higher risk of power outages. Power outages would likely be more frequent, and of longer duration, than if one of the action alternatives were implemented. Power outages could result in the loss of operation of traffic signals and other infrastructure that could assist in the implementation of an emergency response plan or emergency evacuation plan. However, many of the same conditions that could trigger implementation of an emergency response plan or emergency evacuation plan (e.g., forest fire, severe weather event, seismic event) could also trigger power outages. Emergency response plans and emergency evacuation plans must address implementation when grid power is not available. Therefore, a power outage would not prevent implementation of one of these plans. This impact is considered **less than significant**.

## MITIGATION MEASURES

*No mitigation measures are required.*

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<b>IMPACT 4.10-7 (Alt.5)</b>	<b>Expose people or structures to a significant risk of loss, injury, or death involving wildland fires.</b> Alternative 5 (No Action/No Project Alternative) would not result in any change to existing conditions as they relate to the risk of wildland fire hazards. <b>No impact</b> would occur.
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No construction would occur under Alternative 5 (No Action/No Project Alternative); therefore, no increased wildland fire risk associated with construction activities would occur. Existing transmission system operations and maintenance programs would continue and no changes in wildland fire risk would occur. The increase in the transmission system's resistance to damage from wildland fire by replacing wood poles with steel poles as part

of the proposed project would not occur. However, overall, implementing Alternative 5 (No Action/No Project Alternative) would not result in any changes to existing conditions as they relate to wildland fire. Therefore, there would be **no impact**.

## MITIGATION MEASURES

*No mitigation measures are required.*

## CUMULATIVE IMPACTS

### HAZARDOUS MATERIALS

Although some hazardous materials releases can cover a large area and interact with other releases (e.g., atmospheric contamination, contamination of groundwater aquifers), incidents of hazardous materials contamination are more typically isolated to a small area, such as a LUST or individual business. These relatively isolated areas of contamination typically do not interact in a cumulative manner with other sites of hazardous materials contamination. Although there are numerous sites of past hazardous materials contamination in the project vicinity (see Exhibit 4.10-2) and in the region, and various existing permitted users and generators of hazardous materials (e.g., gas stations, dry cleaners) are present, there are no incidents of widespread hazardous materials contamination with different sources of contamination interacting on a cumulative basis. Future projects would add further businesses and land uses that may use, store, and generate hazardous materials (e.g., commercial elements of the Cold Stream Specific Plan, Northstar Highlands Phase II, Lake Tahoe Passenger Ferry, Village at Squaw Valley Specific Plan [see Table 4.1-2 and Exhibit 4.1-1]); however, these entities would be subject to existing federal, state, and local hazardous materials regulations, limiting the potential for releases and contamination and requiring clean-up when releases/contamination do occur. Given these conditions, there is not a significant cumulative impact related to hazardous materials from past, present, and reasonably foreseeable future projects.

Although the transport, storage, and use of hazardous materials would occur as part of the construction and operation of the proposed project, existing federal, state, and local hazardous materials regulations would apply, limiting the potential for releases and contamination and requiring clean-up when releases/contamination do occur. Various APMs and mitigation measures, as described above in Section 4.10.3, Environmental Consequences and Recommended Mitigation Measures, would further limit the potential for hazardous material releases. Also, as described above, interactions among multiple hazardous materials releases on a cumulative basis often require close proximity between the releases. Only one future project considered in this cumulative analysis, the Northstar Highlands Phase II project, because it is in the immediate vicinity of the proposed project and contains a commercial or other component that could involve the regular use, storage, or generation of hazardous materials (see Exhibit 4.1-1 and Table 4.1-2). Other projects, like the Carnelian Fuels Reduction and Healthy Forest Restoration Project and the Martis Valley Trail may overlap with or occur very near the proposed project, but would be expected to only have a risk of minor hazardous materials releases associated with logging or construction activities. And as stated above, all future projects would be subject to existing federal, state, and local hazardous materials regulations, limiting the potential for releases and contamination and requiring clean-up if releases/contamination occur. Given the limited potential for hazardous materials contamination to occur as a result of the proposed project, the legal requirements to clean up any releases, and the limited potential for any project generated contamination to interact on a cumulative basis with other incidents of contamination, the proposed project would not make a significant contribution to a significant cumulative impact related to hazardous materials.

## WILDLAND FIRE HAZARDS

The project region is a high fire hazard area, with past fires resulting in loss of life, significant losses of property, and substantial damage to habitat and environmental resources. Past fire suppression and other forest land management has allowed fuels to accumulate in many areas, contributing to the severity of wildfires when they do occur. Past development in the forested landscape has increased the risk to life and property when fires do occur, and increased the potential for ignition of wildland fires through increased human presence and activity. Many future projects will continue this trend to varying degrees. Past and future fuels management projects minimize wildland fire risk (such as the Carnelian and Incline Fuels Reduction and Healthy Forest Restoration Projects identified in Table 4.1-2). However, even with these projects, the combination of effects from past, present, and reasonably foreseeable future projects have resulted in a significant cumulative impact related to wildland fire hazard.

The proposed project does not include construction of homes, businesses, or other occupied structures; therefore, it would not contribute to the increased exposure of people to wildland fire risk. Replacement of the existing wood poles with steel poles would make the power lines more resistant to wildfire damage, reducing the risk to property from wildfire. As described above in the discussion of Impact 4.10-7 (Alt.1), various APMs would reduce the potential for construction of the proposed project to ignite a wildland fire to a less-than-significant level and ongoing maintenance and operations would not change wildfire risk relative to existing conditions. Given these circumstances, the proposed project would not make a significant contribution to the significant cumulative impact that currently exists related to wildland fire risk.

## **4.11 PUBLIC SERVICES AND UTILITIES**

This section describes existing public services and utilities in the vicinity of the project area project area and their potential to be affected by the action alternatives. Public services potentially relevant to the impact analysis include law enforcement and fire protection services. Utilities of potential relevance are electrical distribution systems, water supply systems, wastewater collection systems, and construction waste disposal.

### **4.11.1 REGULATORY SETTING**

The following provides an overview of laws and regulations related to public services and utilities that are applicable to the proposed project.

#### **FEDERAL**

##### **TRUCKEE RIVER OPERATING AGREEMENT**

The Truckee River Operating Agreement (TROA), which was approved on September 6, 2008, was developed to formalize, regulate, and monitor water rights and water use within the Tahoe Region, the Truckee River Watershed, and the final outflow areas of Pyramid Lake and the Carson River. This agreement was designed to improve the operational flexibility of Truckee River reservoirs and represents the culmination of 18 years of negotiation. Under the TROA, the interstate allocation caps the total groundwater pumping in California at 32,000 acre-feet per year (afy), less whatever surface water is diverted (surface water is currently limited to 10,000 afy) in the Truckee River Basin (USBR and DWR 2008: pp. 3-130).

#### **STATE**

##### **SECTIONS 4125 AND 4102 OF THE CALIFORNIA PUBLIC RESOURCES CODE**

The California Department of Forestry and Fire Protection (CAL FIRE) implements statewide laws aimed at reducing wildfire hazards in wildland-urban interface areas. The laws are based on fire hazard assessment and zoning. The laws apply to State Responsibility Areas (SRAs), which are defined as areas of the state in which the State has primary financial responsibility for preventing and suppressing fires, as determined by the State Board of Forestry pursuant to Sections 4125 and 4102 of the California Public Resources Code. Portions of both the 625 Line and 650 Line occur in SRAs. The applicable California Public Resources Code provisions address fire prevention and minimum fire safety standards related to defensible space for industrial operations and other land uses in SRAs (California Public Resources Code Part 2, Chapters 1 and 2). Fire safe regulations address road standards for fire equipment access, standards for signage, minimum water supply requirements for emergency fire use, and fuel breaks and greenbelts, among others. Fire protection outside SRAs is the responsibility of Federal or local jurisdictions. These areas are referred to by CAL FIRE as Federal responsibility areas and local responsibility areas, respectively.

##### **TAHOE REGIONAL PLANNING AGENCY**

###### **REGIONAL PLAN**

The Tahoe Regional Planning Agency (TRPA) Regional Plan (Regional Plan) describes the needs and goals of the Lake Tahoe Region, and provides statements of policy to guide decision making as it affects the region's resources and remaining capacities. The intent of the Regional Plan is to help guide decision-making as it affects

the growth and development of the Lake Tahoe Region. The Regional Plan affects the planning activities of numerous governmental jurisdictions and utility service districts.

## Goals and Policies

The Public Services and Facilities Element of the TRPA Regional Plan (update effective February 2013) includes goals and policies related to the provision of adequate public services and utilities to meet the needs of existing and new development, and protection of surface and groundwater from solid and liquid municipal waste, and (TRPA 2012a: Ch. VI). The following goals and policies are relevant to project activities proposed to occur within TRPA jurisdiction:

**GOAL PS-1.** Public services and facilities should be allowed to upgrade and expand to support existing and new development consistent with the Regional Plan. The intent of the Regional Plan is neither to stimulate nor to hinder development through the provision of public services and facilities. Rather, the plan attempts to provide for supportive public services and facilities consistent with the development anticipated under the plan.

- ▲ **Policy PS-1.1.** Public services and facilities should be allowed to upgrade and expand consistent with the land use element of the Regional Plan and federal, state, and local standards.

**GOAL PS-3. Prevent liquid and solid wastes from degrading Lake Tahoe and the surface and groundwaters of the Region.** Although this goal pertains to many of the policies included in the Water Quality Subelement, it also applies to the provision of public services and facilities.

- ▲ **Policy PS-3.1.** The discharge of municipal or industrial wastewaters to the surface and groundwaters of the Tahoe Region is prohibited, except for existing development discharging wastewaters under a state- or TRPA-approved disposal plan.
- ▲ **Policy PS-3.2.** All solid wastes shall be exported from the region. Consolidation and transfer methods shall be developed to achieve a reduction in the volume of wastes being transported to landfills.

The Regional Plan goals support the upgrade and expansion of public services and facilities to meet the needs of existing and new development consistent with the Regional Plan and federal, state, and local standards (Goal PS-1, Policy PS-1).

## CODE OF ORDINANCES

Chapter 33, Grading and Construction, of the TRPA Code applies to grading, excavation, filling, clearing of vegetation, or disturbance of the soil, and protection of vegetation during construction. In accordance with Section 33.3.4 of this chapter, the methods of disposal of solid or liquid materials, including soil, silt, clay, sand, or other organic or earthen materials, shall be reviewed and approved by TRPA. These methods of disposal shall include, but are not limited to: temporary stockpiling of all or some of the top soil on the site for use on areas to be revegetated; disposal of the material at a location approved by TRPA; or export of the materials outside the region (TRPA 2012b: pp. 33-3). Provisions of Chapter 33 regarding disposal of construction materials would apply to those portions of the project located within the area under the land use authority of TRPA.

## ENVIRONMENTAL THRESHOLD CARRYING CAPACITIES

TRPA has not established any environmental threshold standards related to public services and utilities.

## LOCAL AGENCIES

### PLACER COUNTY GENERAL PLAN

The Placer County General Plan (1994) contains a Public Facilities and Services Element, which addresses public facilities and services, water supply, wastewater treatment and disposal, stormwater drainage, landfills, transfer stations, and solid waste recycling, law enforcement, fire protection services, and schools. The following policy, which is contained in the Public Facilities and Services Element, is relevant to the project.

- ▲ **Policy 4.G.2.** The County shall promote maximum use of solid waste source reduction, recycling, composting, and environmentally-safe transformation of wastes.

### KINGS BEACH COMMUNITY PLAN AND TAHOE CITY COMMUNITY PLAN

Kings Beach and Tahoe City are unincorporated communities within the Placer County portion of the Lake Tahoe Basin. The Public Service Elements of the Kings Beach and Tahoe City community plans are supplemental to the Public Services and Facilities Element of the TRPA Regional Plan. Both community plans address fire protection facilities, public utility district functions (including parks and recreation), schools, community centers, Placer County facilities, Caltrans facilities, and other community facilities. Both community plans contain the following Public Services Facilities Goal: Public services and facilities should be upgraded to support existing and new development and to ensure attainment of environmental targets. The community plans contain no policies directly related to the proposed project.

### TOWN OF TRUCKEE GENERAL PLAN

The purpose of the Truckee General Plan is to guide development and conservation in the Town of Truckee through 2025 by establishing a policy basis for decision making, particularly for land use and development. Among the Town of Truckee General Plan Land Use Element Guiding Principles is the principle to ensure adequate provision of public services and infrastructure to support planned residential and non-residential development in suitable locations. The Land Use Element also contains goals and policies related to the provision of adequate public services and infrastructure to serve the needs of Truckee's population as it continues to grow. However, the General Plan contains no policies directly relevant to the proposed project.

## 4.11.2 EXISTING CONDITIONS/AFFECTED ENVIRONMENT

In addition to federal, state and local agencies that provide law enforcement and fire protection services to the project area, a variety of services and utilities in the project area are provided by special districts, including public utility districts (PUDs) and community services districts (CSDs). PUDs and CSDs in the project area construct, own and operate a variety of services, including water, electricity, recreational facilities, drainage facilities, street lighting, and fire protection. Other special districts include single-purpose districts such as sanitary and sanitation districts, which collect, transport and/or treat wastewater; and fire protection districts. The 625 and 650 Electrical Line Upgrade Project area is located within the jurisdiction of the following PUDs, CSDs, and other special districts:

- ▲ Tahoe City PUD,
- ▲ North Tahoe PUD,
- ▲ Northstar CSD,
- ▲ Truckee Sanitary District,
- ▲ Tahoe-Truckee Sanitation Agency (T-TSA),

- ▲ Truckee-Donner PUD,
- ▲ Truckee Fire Protection District, and
- ▲ North Tahoe Fire Protection District.

In addition, the Squaw Valley Substation, which is not directly connected to the 625 or 650 Lines is in the jurisdiction of the Squaw Valley Public Services District. Table 4.11-1 shows the utility and service districts in which the 625 and 650 Line segments are located. These districts and the services provided are described in more detail below.

District	Segments within/ near Service Area	Water Supply & Distribution	Wastewater Collection	Wastewater Treatment	Electricity	Fire Protection	Parks & Recreation	Other
North Tahoe PUD	625-10 650-1 650-2	X	X					
Northstar CSD Northstar FD	650-3 Northstar Substation	X	X			X	X	road maintenance snow removal trail construction
Tahoe City PUD	625-1 625-1A	X	X				X	
Truckee-Donner PUD	650-6 650-7	X			X			
T-TSA				X				
Truckee SD	650-6 650-7		X					
North Tahoe FPD	625-10 650-1 650-2					X		
Truckee FPD	650-6 650-7					X		

Notes: PUD = Public Utility District, CSD = Community Services District, FD = Fire Department, T-TSA = Tahoe-Truckee Sanitation Authority, SD = Sanitation District, FPD = Fire Protection District

## PUBLIC SERVICES

### LAW ENFORCEMENT

#### Placer County Sheriff's Department

The Placer County Sheriff's Department has approximately 120 uniformed officers that provide law enforcement services to all of Placer County's unincorporated areas, including the project area. The Sheriff's Department main office is located in the City of Auburn at 2929 Richardson Drive. The nearest north Lake Tahoe sheriff service center is located at 8645 North Lake Boulevard in Kings Beach, and the nearest sheriff substation is located at 2501 North Lake Boulevard about 1.5 miles east of Tahoe City on State Route (SR) 28. The Tahoe Station has 48 positions and is commanded by a Sheriff's Captain.

The Tahoe Station covers the area from the California/Nevada state line on SR 28 west to the Nevada County line in Truckee and south on SR 89 to the El Dorado County line in Tahoma. The station also covers SR 267 from

Kings Beach to the Nevada County line in Truckee, as well as a small portion of Donner Lake. The communities covered by the station include Kings Beach, Tahoe Vista, Carnelian Bay, Cedar Flat, Dollar Point, Tahoe City, Sunnyside, Pineland, Homewood, Kingswood, Northstar, Martis Valley, Alpine Meadows, Olympic Valley, Lahontan, Timilick, Sierra Meadows, Ponderosa Ranchos, and Murphy Meadows (Placer County 2012).

### **Nevada County and Town of Truckee Law Enforcement Agencies**

The Nevada County Sheriff's Department has approximately 75 uniformed officers that provide patrol services to Nevada County. The Sheriff's Department main office is located in Nevada City at 950 Maidu Avenue. An additional sheriff's office is located in the Town of Truckee at 10879 Donner Pass Road. The Town of Truckee also has a police department, which currently has 24 sworn officers. The Truckee Police Department is located at 10183 Truckee Airport Road.

### **California Highway Patrol**

The project site is located within the patrol area of the California Highway Patrol (CHP), Valley Division's Truckee Area office. A major responsibility of the CHP is to keep important travel routes such as Interstate 80 (along with state and county roads, including SR 89, SR 267, and SR 28 in the vicinity of the project site) open during the winter to allow travelers and supplies to flow smoothly and efficiently. The CHP provides assistance with congestion relief, search and rescue, speed enforcement, and support to local law enforcement.

## **FIRE PROTECTION**

### **Local Fire Protection Districts**

Three local fire protection districts are charged with providing fire protection, rescue, emergency medical treatment, hazardous materials control, and response services to the 625 and 650 Line portions of the project area, the North Tahoe Fire Protection District, the Northstar Fire Department (part of the Northstar CSD), and the Truckee Fire Protection District.

The North Tahoe Fire Protection District protects an area of 31 square miles on the north and west shores of Lake Tahoe. The district has six stations, located in Alpine Meadows, Tahoe City, Homewood, Dollar Hill, Carnelian Bay, and Kings Beach. The stations are staffed by 50 uniformed and support personnel. Those segments of the 625 and 650 Lines located in and near Tahoe City and Kings Beach fall within the jurisdiction of the North Tahoe Fire Protection District.

The Truckee Fire Protection District protects an area of 125 square miles that includes the Town of Truckee, the Donner Lake and Donner Pass areas. The district has eight stations, including Station 96, located at 10277 Tahoe Truckee Airport Road. This site is shared with CAL FIRE and the Tahoe Truckee Airport. The northern terminus of the project (including the 132 Line and the 650 Line) falls within the jurisdiction of the Truckee Fire Protection District.

The Northstar Community Services District operates the Northstar Fire Department (NFD) which protects 5 square miles and provides fire prevention and suppression, rescue, and emergency medical services. Each of three shifts is staffed with two captains, two engineers, and one firefighter, divided between Stations 31 and 32. Additionally NFD has one full-time Fire Chief, Fire Prevention Officer, and Forestry Supervisor. Segment 650-3 and the Northstar Substation are within or adjacent to the NFD service area.

### **State and Federal Fire Protection Agencies**

In addition to areas under the jurisdiction of local fire protection districts, portions of the project area are within SRAs, which are identified by the State Board of Forestry as areas for which CAL FIRE has the primary duty for wildland fire prevention and suppression. Areas on national forest land are under the jurisdiction of the US Forest Service (USFS); areas within the Lake Tahoe Basin are under the jurisdiction of the USFS Lake Tahoe Basin Management Unit (LTBMU), and areas outside of the Lake Tahoe Basin are under the jurisdiction of the Tahoe National Forest. The majority of the alignment of the 625 and 650 Lines crosses National Forest System Lands and

areas within the SRAs in Placer County. The US Army Corps of Engineers (USACE) has land management responsibility for the public land around Martis Creek Lake. Primary fire suppression services are provided to the area under a cooperative agreement with CAL FIRE. USFS and NFD provide fire suppression services to the USACE lands surrounding Martis Lake through mutual aid arrangements (Growthe, pers. comm., 2013).

## **PUBLIC UTILITIES AND SERVICES**

### **WATER SUPPLY**

The North Tahoe PUD and the Tahoe City PUD supply water to the north Lake Tahoe area. The PUDs are members of the Tahoe Water Suppliers Association, which consists of public water suppliers in the Lake Tahoe Region that use Lake Tahoe as their source of drinking water. Combined average daily flow from these two suppliers in 2010-2011 was 1.31 million gallons per day (TRPA 2012c: pp. 3.13-3).

The Northstar CSD is responsible for operation and maintenance of the water systems that serve the Northstar community in Placer County and serves approximately 1,500 residential and commercial customers. Northstar CSD obtains water from wells and mountain springs, and filters and treats the water at the Northstar Treatment Plant. As part of the water system, Northstar CSD operates and maintains a 180 acre foot reservoir, 16.2 miles of water line, 10 pressure reducing stations for four pressure zones, two 1,000,000 gallon water storage tanks, two 275,000 gallon storage tanks, and one 280,000 gallon storage tank.

The Truckee Donner PUD provides water service to portions of the Town of Truckee along with adjacent unincorporated areas of Nevada and Placer counties, including the northern portion of the 625 and 650 Electrical Line Upgrade Project area (Truckee Donner PUD 2011a: pp. 2-1, Figure 2-2). The system is currently served by 13 groundwater wells for potable water and three additional wells for non-potable water demand. The non-potable demands consist primarily of water used for golf course irrigation and construction water for the summer construction season (Truckee Donner PUD 2011a: pp. 3-1). The average potable water production in 2010 was 4.53 million gallons (13.9 acre-feet) per day (Truckee Donner PUD 2011a: pp. 4-7).

Immediately to the south of the Truckee Donner PUDs water system is the Placer County Water Agency (PCWA) Zone 4 service area. All other PCWA facilities are located on the west slope of the Sierra Nevada foothills near Auburn. To minimize operating expenses, PCWA contracts with Northstar CSD to operate the Zone 4 system (Truckee Donner PUD 2011a: pp. 3-1).

Surface water and groundwater use is currently 18,700 afy in the California portion of the Lake Tahoe Basin and 10,370 afy in the Truckee River Basin (of which 2,800 acre-feet is surface water). The operations model assumes that, under TROA, California future water use will be 23,000 afy in the Lake Tahoe Basin and 22,700 afy (of which 4,300 acre-feet is surface water use) in the Truckee River Basin (USBR and DWR 2008: pp. 4-18). Under TROA, the interstate allocation caps the total groundwater pumping in California at 32,000 afy, less whatever surface water is diverted (surface water is currently limited to 10,000 afy) in the Truckee River Basin.

### **WASTEWATER TREATMENT**

T-TSA provides regional wastewater treatment service to several Tahoe-area communities through the agency's five-member sewage collection districts. Lake Tahoe Basin districts maintain export pipelines and pump stations that transport untreated effluent out of the Lake Tahoe Basin to the T-TSA. The member agencies served by T-TSA facilities that are located in the 625 and 650 Electrical Line Upgrade Project area include the following agencies:

- ▲ Tahoe City PUD,
- ▲ North Tahoe PUD, and
- ▲ Truckee Sanitary District,

Northstar CSD is not a member agency of T-TSA, but wastewater from the Northstar CSD is conveyed to T-TSA facilities through an agreement with the Truckee Sanitary District, which is a member agency of T-TSA.

In 2007, the Lake Tahoe Wastewater Infrastructure Partnership was formed to develop, implement, and maintain effective operation, maintenance and capital replacement programs to meet state-of-the-art industry standards, satisfy state and federal requirements, and advocate for the protection of Lake Tahoe as an Outstanding National Resource Water. Members located within the 625 and 650 Electrical Line Upgrade Project area include North Tahoe PUD and Tahoe City PUD.

## **ELECTRICITY**

Electric service territories are established at the state level by regulatory bodies such as the CPUC and LAFCo. Within these territories, the specific utilities operate their system and are required to meet the demand of the territory. Liberty Utilities is the certificated utility for this project territory.

Electrical service for the 625 and 650 Electrical Line Upgrade Project area is provided by CalPeco, an element of Liberty Utilities. Data gathered by Liberty Utilities indicates demand increasing by approximately one percent per year (Matthews, pers. comm., 2012). As indicated in Chapter 2, Purpose and Need, demand in the North Lake Tahoe Transmission System is currently near system capacity, and there are deficiencies in the system related to reliability and resiliency to line outages.

Truckee Donner PUD also provides electric service in the Truckee area, providing retail electric service to 13,167 customer accounts as of December 2011 (Truckee Donner PUD 2011b).

## **SOLID WASTE DISPOSAL**

Tahoe Truckee Sierra Disposal (TTSD) provides solid waste collection services in the project area and operates the Eastern Regional Materials Recovery Facility (MRF) and Transfer Station under contract with Placer County. The MRF, located 3 miles south of Truckee on Cabin Creek Road, separates and recycles marketable materials from municipal solid waste, such as paper, cardboard, plastics, wood waste, metals, and glass. The facility also receives and recycles source-separated wood waste, pine needles, white goods (refrigerators, freezers, washers, ranges, water heaters), and inert materials. The MRF also includes a buy-back facility, where source-separated recyclables are accepted, and a permanent Household Hazardous Waste Facility that accepts hazardous wastes from households and Conditionally Exempt Small Quantity Generators. The MRF also acts as a transfer station; after separation of recyclables, residual solid waste is transported to the Lockwood Regional Landfill in Storey County, Nevada.

The Lockwood Landfill comprises 1,535 acres and accepts municipal solid waste. The capacity of the landfill in the current cell is approximately 40 years, with an additional 200 years of permitted capacity at the site to accommodate the buildout projections for TTSD's service area (Town of Truckee 2011: pp. 4.12-18). TTSD and Eastern Regional MRF and Transfer Station have 76 years remaining on an 80-year contract with Lockwood Regional Landfill for disposal services (Town of Truckee 2011: pp. 4.12-18).

### 4.11.3 ENVIRONMENTAL CONSEQUENCES AND RECOMMENDED MITIGATION MEASURES

#### SIGNIFICANCE CRITERIA

##### TRPA CRITERIA

The “Public Services” and “Utilities” criteria from the TRPA Initial Environmental Checklist (IEC) were used to evaluate the public services and utilities impacts of the action alternatives. As described in Section 4.1.1, the purpose of the TRPA IEC is primarily to determine if an EIS is required and to help define the topics to be evaluated in greater detail. While many of the IEC checklist questions are conducive for use as significance criteria (that is, they include a defined standard, qualitative or quantitative), many are not, such as some of those for public services and utilities. The checklist asks if the project would result in the following conditions.

- ▲ Result in an unplanned effect upon, or result in a need for altered fire or law enforcement protection services.
- ▲ Result in a need for new systems, or substantial alterations to power or natural gas, communication systems, storm water drainage, or solid waste.
- ▲ Utilize additional water that will exceed the maximum permitted capacity of the service provider.
- ▲ Utilize additional sewage treatment capacity that will exceed the maximum permitted capacity of the sewage treatment provider.

The analysis of these issues herein identifies whether these situations would occur under the action alternatives, but also assesses whether and to what degree the alternatives would result in adverse effects to these services and utilities.

##### NEPA CRITERIA

An environmental document prepared to comply with NEPA must consider the context and intensity of the environmental effects that would be caused by, or result from, the proposed action. Under NEPA, the significance of an effect is used solely to determine whether an EIS must be prepared. The factors that are taken into account under NEPA to determine the significance of an action in terms of the context and the intensity of its effects are encompassed by the TRPA and CEQA criteria used for this analysis.

##### CEQA CRITERIA

Based on Appendix G of the State CEQA Guidelines, an alternative would have a significant effect on public services or utilities if implementation of an action alternative would do any of the following:

- ▲ result in substantial adverse physical impacts associated with the provision of or need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts to maintain acceptable service ratios, response times, or other performance objectives for fire and law enforcement protection;
- ▲ create a water supply demand in excess of existing entitlements and resources;
- ▲ result in the determination by the wastewater treatment provider that serves or may serve the project that it does not have adequate capacity to serve the project’s projected demand in addition to the provider’s existing commitments;
- ▲ exceed wastewater treatment requirements of the applicable RWQCB;

- ▲ 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;
- ▲ require or result in the construction of new storm water drainage facilities or expansion of existing facilities, the construction of which could cause significant environmental effects;
- ▲ be served by a landfill with insufficient permitted capacity to accommodate the project's solid waste disposal needs; or
- ▲ not comply with federal, state, and local statutes and regulations related to solid waste.

## ISSUES DISMISSED FROM FURTHER EVALUATION

The project would not directly facilitate an increase in population in the project area (see Growth-Inducing Impacts of the Proposed Project in Chapter 5, Other NEPA-, TRPA-, and CEQA-Mandated Sections) and during the construction phase, job generation would be temporary and would not cause an increase in permanent residents in the project area (see Section 2.6, Scope and Focus of the EIS/EIS/EIR). For these reasons, the project would not result in population growth that would result in the need for new or expanded parks, recreational facilities, schools, libraries or other public facilities, nor increase the long-term demand for these services and facilities. No impact would occur and impacts related to these services are not evaluated further in this draft EIS/EIS/EIR.

In addition, the project would not generate wastewater nor consume water under the operations and maintenance phase of the project. Water use would be limited to the construction period for fire suppression and dust control only. Portable restrooms provided for construction crews during the construction period would be serviced by a contractor and wastewater would be disposed of in accordance with the Placer County on-site sewage manual as required by Chapter 8, Article 8.24 of the Placer County Code. Chapter 20 Part E (Portable Toilet Requirements) of the On-site Sewage Manual states "No water carried sewage shall be placed in portable toilets. Contents of portable toilets shall not be discharged into storm sewers, on the surface of the ground or into protected waters." Waste from portable toilets would be taken to the nearest regional wastewater treatment or water reclamation facility that accepts such waste. Thus, no impacts would occur related to wastewater treatment capacity, meeting wastewater treatment requirements, or construction of new water or wastewater treatment facilities or expansion of existing facilities. These topics are not discussed further in this draft EIS/EIS/EIR.

## METHODS AND ASSUMPTIONS

The information presented in this section was obtained from TRPA and Placer County planning documents, goals, and policies; and through consultation with representatives of public service and utility providers. Any potential effects of the action alternatives on public services and utilities would occur only as a result construction; operational conditions would be the same as existing conditions.

Consistency with TRPA goals and policies is presented in Section 4.2, Land Use, Table 4.2-1, Project Components and Respective Primary Use Category. Project effects on recreational opportunities and facilities are addressed in Section 4.8, Recreation. Effects on drainage, including any stormwater drainage facilities are addressed in Section 4.6, Hydrology and Water Quality.

## ALTERNATIVE 1 - PEA ALTERNATIVE

### DIRECT AND INDIRECT IMPACTS

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<b>IMPACT 4.11-1 (Alt.1)</b>	<p><b>Create the need for new or physically altered government facilities to maintain adequate law enforcement response times.</b> During construction of Alternative 1 (PEA Alternative), potential theft and vandalism at construction sites may increase demand for law enforcement services. However, it is standard practice for contractors to provide nighttime lighting for security at staging and material storage areas, and to employ security staff if needed. Therefore, no substantial increase in demand for law enforcement would occur during construction that would alter government services or create the need for additional government facilities that could cause significant impacts. Operations and maintenance of the upgraded lines would not generate a demand for law enforcement services appreciably different from existing conditions. Therefore, there would be <b>no impact</b> on law enforcement services.</p>
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During the construction period, some law enforcement services may be required for traffic control when oversized materials or equipment are moved to construction sites, when crossing structures are erected, and when the conductor is pulled across roadways. This assistance is expected to be limited to short time periods and CalPeco would provide personnel to assist in traffic control (Applicant Proposed Measure [APM] AQ-11; See Chapter 3, Project Alternatives, for a description of APMs). Materials and equipment would be stored at materials storage yards and staging areas at various locations during the construction period. There would be the potential for theft and vandalism to occur at these locations, increasing calls to law enforcement agencies. However, it is standard practice for contractors to provide nighttime lighting for security at staging and material storage areas, and to employ security staff if needed. Therefore, construction period activities would not result in a substantial increase in demand for law enforcement services that would alter government services or create the need for additional government facilities.

Operations and maintenance of the upgraded lines would not differ from existing conditions, so demand for law enforcement services (e.g., vandalism, theft) would remain unchanged from existing conditions.

Alternative 1 (PEA Alternative) would not generate an increase in demand for law enforcement that would alter government services or create the need for additional government facilities. Therefore, there would be **no impact** to law enforcement services.

### MITIGATION MEASURES

*No mitigation measures are required.*

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<b>IMPACT 4.11-2 (Alt.1)</b>	<p><b>Create the need for new or physically altered governmental facilities to maintain adequate fire protection response times.</b> During construction of Alternative 1 (PEA Alternative), there would be a temporary increase in fire risk as a result of construction activities, which have the potential to ignite dry vegetation. A fire protection plan would be in place and a water truck would be available at all construction sites. Therefore, no substantial increase in demand for fire protection services would occur during construction that would alter government services or create the need for additional government facilities. Operations and maintenance of the upgraded lines would not result in increased demand for fire protection services, and because line access and monitoring ability would be improved in its new location, demand could be less. Therefore, this impact would be <b>less than significant</b>.</p>
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As described in Section 4.10, Hazards and Hazardous Materials, the project is located within moderate to very high fire severity zones, as defined by California Department of Forestry and Fire Protection. During the construction period, dry vegetation surrounding construction sites or staging areas could be inadvertently ignited by heat or sparks from construction equipment or other mechanisms. Implementation of the following APMs would reduce this fire risk.

- ▲ **APM HAZ-5:** Prior to construction, CalPeco will prepare a Fire Suppression and Prevention Plan that will discuss necessary fire equipment to be stored at the project staging areas, appropriate protective wear, preconstruction and construction fire prevention measures, fire-fighting methods, and notification procedures in the event of a fire. This plan will be submitted to the USFS and/or TRPA, or other applicable land management agency for review and approval prior to the start of construction.
- ▲ **APM HAZ-6:** Smoking will only be allowed in designated cleared areas or enclosed vehicles to reduce the potential for wildfires.

In addition, a 12,000-gallon water truck would be available at all construction sites. No substantial increase in demand for fire protection services would occur during construction and maintenance such that additional government facilities would be needed or government services would be altered.

Because the 625 Line would be more accessible for maintenance and more easily monitored for hazardous conditions after its relocation than it is currently, fire risk potential during the operation and maintenance phase would be lower than under existing conditions. Maintenance activities would include vegetation management and annual hazard tree inspections. Under Alternative 1 (PEA Alternative), there would be no substantial increase in fire protection demand during the construction phase or the operations and maintenance phase such that the demand would create the need for additional government facilities or altered government services. Therefore, this impact would be **less than significant**.

## MITIGATION MEASURES

*No mitigation measures are required.*

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<b>IMPACT 4.11-3 (Alt.1)</b>	<b>Create a water supply demand in excess of existing entitlements and resources.</b> Under Alternative 1 (PEA Alternative), water would be required during the construction period for dust abatement and fire suppression. Water would be obtained from existing hydrants in public rights-of-way (ROW) or trucked into areas not served by public water lines. During the operations and maintenance phase, demand for water would be the same as under existing conditions. Overall project water demand would be minor relative to existing available supplies. Therefore, this impact would be <b>less than significant</b> .
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Water required for project construction would likely be obtained from the various utilities serving the region, including North Tahoe PUD, Tahoe City PUD, Northstar CSD, and Truckee Donner PUD. Non-potable water would be obtained through permit(s), metered, and extracted from designated wells or existing hydrants in the public ROW. As described above, total groundwater pumping allocation pursuant to the TROA in California is 32,000 afy, less whatever surface water is diverted in the Truckee River Basin. The current region-wide water demand is approximately 28,079 afy (USBR and DWR 2008: pp. 3-130). Therefore, current available supply is several thousand afy above demand.

Construction activities, including vegetation clearing and development of unpaved access ways, would require water application for dust abatement. The total volume of water required for dust abatement over the full construction period is estimated to be 8,016,000 gallons, or approximately 24.6 acre-feet. Additionally, at least

one water truck would be available at work sites for fire suppression. Approximately 12,000 gallons of water would be required in the event of a fire (Sierra Pacific 2010: pp. 4.8-21).

Conservatively assuming construction occurs in only three seasons in the five year construction window, water demand as a result of project construction would be approximately 8.2 afy. Given the average demand per residential unit in the Lake Tahoe region is 0.3 afy (TRPA 2012c: pp. 3.13-12), this is equivalent to the annual water demand of approximately 27 residential units. Based on coordination and correspondence with water suppliers in the project area, the anticipated, temporary demand during construction can be met by existing supplies available to water service providers (Peddsen 2013, Thomas 2013, Martin 2013, Laliotis 2013). Operations and maintenance of the upgraded lines would not generate a demand for water appreciably different from existing conditions.

Any increases in water demand attributable to Alternative 1 (PEA Alternative) would be temporary and could be accommodated by existing entitlements, resources, or permitted capacity. Therefore, this impact would be **less than significant**.

## MITIGATION MEASURES

*No mitigation measures are required.*

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<b>IMPACT 4.11-4 (Alt.1)</b>	<b>Exceed the capacity of a solid waste disposal facility.</b> Alternative 1 (PEA Alternative) would generate solid waste during the construction phase. Some waste would be reused or recycled, while other waste would be taken to a landfill, and treated wood poles and other hazardous wastes would be transported to an approved facility, such as the US Ecology Nevada, Inc. treatment and disposal facility in Beatty, Nevada. Lockwood Regional Landfill, utilized by TTSD, has adequate capacity to accept construction waste generated by the project. There are numerous facilities available that can accept hazardous waste. Therefore, this impact would be <b>less than significant</b> .
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Alternative 1 (PEA Alternative) would generate construction waste from the removal of the existing power line. Construction waste would consist mainly of wooden poles (treated and untreated wood), hardware from the poles, and the existing conductor. Conductor and related hardware removed from the existing 625 and 650 Lines would be recycled, reused, or disposed of at an appropriate landfill. The old poles would be cut at ground level and transported off site by truck for disposal at an approved facility. Poles that are made of treated wood would be disposed of at a facility approved for hazardous waste treatment and disposal, such as the facility operated by US Ecology Nevada, Inc. in Beatty, Nevada. (As described in Section 4.10, Hazards and Hazardous Materials, potentially hazardous materials would be handled and disposed of according to all applicable state and federal laws.) Poles that are composed of untreated wood could be taken to landfill or could be chipped, and used at biomass energy facilities, or in landscaping or soil stabilization projects, if feasible. Waste that does not require treatment, or that cannot be recycled would be taken to the Lockwood Regional Landfill in Storey County, Nevada.

As described above, the Lockwood Landfill has capacity in the current cell of approximately 40 years, with an additional 200 years of permitted capacity at the site to accommodate the buildout projections for the TTSD service area (Town of Truckee 2011: pp. 4.12-18).

Alternative 1 (PEA Alternative) would not cause the capacity of solid waste facilities to be exceeded. This impact would be **less than significant**.

## MITIGATION MEASURES

*No mitigation measures are required.*

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<b>IMPACT 4.11-5 (Alt.1)</b>	<b>Increase the risk of structural failure of, or substantially interfere with service from, existing utilities.</b> Under Alternative 1 (PEA Alternative), construction activities involving excavation and grading could potentially damage existing underground utilities, including pipelines for natural gas, water, and wastewater. Electrical service disruptions may also occur as lines are moved and replaced. Transfer of co-located utilities to new poles may result in temporary disruption of cable and telecommunication services. This impact would be <b>less than significant</b> .
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Construction activities would include excavation for installation of new poles; grading to construct access roads; and installation of underground distribution lines at the Kings Beach Substation associated with the decommissioning of the Brockway Substation. These activities could potentially damage existing underground utilities, including pipelines for natural gas, water, and wastewater. Heavy equipment or heavy loads may also damage underground utilities located in roadways or beneath staging areas where equipment is stored. Because various underground utilities may be located within or adjacent to the ROW of roads, the relocation of the power line to parallel roadways increases the potential for interference with underground utilities.

Electrical service disruptions may also occur as lines are moved and replaced. Transfer of co-located utilities to new poles may also result in temporary disruption of cable and telecommunication services.

Once the project is operational, there would be beneficial effects as a result of the project, with fewer and shorter electrical service disruptions due to increased system reliability and better access to facilities.

The following APMs have been incorporated into the project to minimize, avoid, and reduce potential adverse effects to existing utilities during construction:

- ▲ **APM UTL-1:** During the project design process, the applicant will coordinate with utility providers in the project area to identify the location of underground facilities in the vicinity of the selected alignment and staging areas. The final excavation and grading plans will avoid existing utilities where possible; and where it is not possible, the applicant will coordinate with service providers to minimize disturbance. Prior to start of construction, the applicant will verify utility locations through field surveys and use of the Underground Service Alert (USA) services. Any buried utility lines will be clearly marked in construction areas.

Prior to start of construction, the applicant will prepare a response plan to provide procedures to be followed in the event of accidental damage to a utility line. The plan will identify chain-of-command rules for notifying authorities and appropriate actions and responsibilities for ensuring the safety of the public and workers. Worker education training in response to such events will be conducted by the contractor.

The applicant will provide adequate notice to utilities and affected customers of planned service disruptions associated with transmission line construction activities.

Implementation of this APM would reduce impacts associated with potential for damage to existing utilities or disruption of utility service to a **less-than-significant** level because the applicant's contractor would be required to identify the location of utilities and avoid existing utility lines where possible, and the applicant would be required to coordinate with utility providers to minimize disturbance.

## MITIGATION MEASURES

*No mitigation measures are required.*

## ALTERNATIVE 2 – MODIFIED ALTERNATIVE

### DIRECT AND INDIRECT IMPACTS

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<b>IMPACT 4.11-1 (Alt.2)</b>	<b>Create the need for new or physically altered governmental facilities to maintain adequate law enforcement response times.</b> During construction of Alternative 2 (Modified Alternative), potential theft and vandalism at construction sites may increase demand for law enforcement services. However, it is standard practice for contractors to provide nighttime lighting for security at staging and material storage areas, and to employ security staff if needed. Therefore, no substantial increase in demand for law enforcement would occur during construction that would alter government services or create a need for additional government facilities. Operations and maintenance of the upgraded lines would not generate a demand for law enforcement services appreciably different from existing conditions. Therefore, there would be <b>no impact</b> to law enforcement services.
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This impact would be the same as the impact described under Alternative 1 (PEA Alternative) Impact 4.11-1 (Alt.1). There would be **no impact** to law enforcement services, for the same reasons described for Alternative 1 (PEA Alternative).

## MITIGATION MEASURES

*No mitigation measures are required.*

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<b>IMPACT 4.11-2 (Alt.2)</b>	<b>Create the need for new or physically altered governmental facilities to maintain adequate fire protection response times.</b> During construction of Alternative 2 (Modified Alternative), there would be a temporary increase in fire risk as a result of construction activities, which would have the potential to ignite dry vegetation. A fire protection plan would be in place and a water truck would be available at all construction sites. Therefore, no substantial increase in demand for fire protection services would occur during construction that would alter government services or create the need for additional government facilities. Operations and maintenance of the upgraded lines would not generate a demand for fire protection services appreciably different from existing conditions, and demand could be less relative to existing conditions. Therefore, this impact would be <b>less than significant</b> .
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This impact would be similar to the impact described under Alternative 1 (PEA Alternative) Impact 4.11-2 (Alt.1) because both alternatives would have similar fire risk. As described for Alternative 1 (PEA Alternative), the applicant would prepare a Fire Suppression and Prevention Plan (APM HAZ-5) that would provide for necessary firefighting equipment to be stored at staging areas and provide for appropriate personnel training. Smoking would be limited to designated cleared areas (APM HAZ-6). In addition, a 12,000-gallon water truck would be available at all construction sites. No substantial increase in demand for fire protection services would occur during construction and maintenance such that additional government facilities would be needed or government services would be altered. This impact would be **less than significant**.

## MITIGATION MEASURES

*No mitigation measures are required.*

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**IMPACT 4.11-3 (Alt.2)** **Create a water supply demand in excess of existing entitlements and resources.** Under Alternative 2 (Modified Alternative), water would be required during the construction period for dust abatement and fire suppression. Water would be obtained from existing hydrants in public ROW or trucked into areas not served by public water lines. During the operations and maintenance phase, there would be minimal demand for water because no aspect of the transmission line project is water dependent. Overall project demand would be minor relative to existing available supplies. Therefore, this impact would be **less than significant**.

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This impact would be the same as the impact described under Alternative 1 (PEA Alternative) Impact 4.11-3 (Alt.1) because both alternatives would require similar amounts of water for construction purposes and operations and maintenance. For the same reasons described for Alternative 1 (PEA Alternative), this impact would be **less than significant**.

### MITIGATION MEASURES

*No mitigation measures are required.*

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**IMPACT 4.11-4 (Alt.2)** **Exceed the capacity of a solid waste disposal facility.** Alternative 2 (Modified Alternative) would generate solid waste during the construction phase. Some waste would be reused or recycled, while other waste would be taken to a landfill and treated wood poles and other hazardous wastes would be transported to an approved facility, such as the US Ecology Nevada, Inc. treatment and disposal facility in Beatty, Nevada. Lockwood Regional Landfill, utilized by TTSD, has adequate capacity to accept construction waste generated by the project. There are numerous facilities available that can accept hazardous waste. No new systems or facilities, or alterations of existing solid waste facilities, would be required as a result of Alternative 2 (Modified Alternative). Therefore, this impact would be **less than significant**.

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This impact would be the same as the impact described under Alternative 1 (PEA Alternative) Impact 4.11-4 (Alt.1) because the construction waste generated by the project would be from the same activities and consist of the same materials and disposal, reuse, and/or recycling methods would be the same for all action alternatives. For the same reasons described in Alternative 1 (PEA Alternative), this impact would be **less than significant**.

### MITIGATION MEASURES

*No mitigation measures are required.*

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**IMPACT 4.11-5 (Alt.2)** **Increase the risk of structural failure of, or substantially interfere with service from, existing utilities.** Under Alternative 2 (Modified Alternative), construction activities involving excavation and grading could potentially damage existing underground utilities, including pipelines for natural gas, water, and wastewater. Electrical service disruptions may also occur as lines are moved and replaced. Transfer of co-located utilities to new poles may result in temporary disruption of cable and telecommunication services. This impact would be **less than significant**.

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This impact would be similar Alternative 1 (PEA Alternative), Impact 4.11-5 (Alt.1) because both alternatives involve construction activities that would potentially disrupt utility service or damage existing utilities. However, this alternative uses an alignment that deviates from SR 267 in Kings Beach (D-C OH-4, Exhibit 3-4b) and would

be less likely to require construction in the vicinity of existing utility lines. For this reason, Alternative 2 (Modified Alternative) would have somewhat less potential to interfere with existing underground utilities that could be located within or adjacent to the ROW of SR 267. APM UTL-1 would be implemented to minimize the potential for increased risk of damage to existing utilities or service disruptions affecting existing utilities during construction. This impact would be **less than significant**.

Similar to Alternative 1 (PEA Alternative), once the project is operational under Alternative 2 (Modified Alternative) there would be fewer and shorter electrical service disruptions due to increased system reliability and better access to facilities. This benefit would be somewhat less under Alternative 2 (Modified Alternative) compared to Alternative 1 (PEA Alternative) because the double-circuit in Segments D-C OH-3 and D-C OH-4 places the 650 Line in a more remote location, making maintenance and repairs more difficult. In addition, putting both lines on the same poles in a double-circuit configuration increases the risk of power interruptions on both lines simultaneously if these poles are damaged. Risk of failure would be managed according to industry standards with regard to access ways and vegetation management (see Chapter 3, Project Alternatives).

## MITIGATION MEASURES

*No mitigation measures are required.*

## ALTERNATIVE 3 – ROAD FOCUSED ALTERNATIVE

### DIRECT AND INDIRECT IMPACTS

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<b>IMPACT 4.11-1 (Alt.3)</b>	<b>Create the need for new or physically altered governmental facilities in order maintain adequate law enforcement response times.</b> During construction of Alternative 3 (Road Focused Alternative), potential theft and vandalism at construction sites may increase demand for law enforcement services. However, it is standard practice for contractors to provide nighttime lighting for security at staging and material storage areas and to employ security staff if needed. Therefore, no substantial increase in demand for law enforcement would occur during construction that would alter government services or create the need for additional government facilities. Operations and maintenance of the upgraded lines would not generate a demand for law enforcement services appreciably different from existing conditions. Therefore, there would be <b>no impact</b> to law enforcement services.
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This impact would be the same as the impact described under Alternative 1 (PEA Alternative) Impact 4.11-1 (Alt.1) because both alternatives would have the same potential for law enforcement service needs. For the same reasons described for Alternative 1 (PEA Alternative), there would be **no impact**.

## MITIGATION MEASURES

*No mitigation measures are required.*

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<b>IMPACT 4.11-2 (Alt.3)</b>	<b>Create the need for new or physically altered governmental facilities to maintain adequate fire protection response times.</b> During construction of Alternative 3 (Road Focused Alternative), there would be a temporary increase in fire risk as a result of construction activities, which have the potential to ignite dry vegetation. A fire protection plan would be in place and a water truck would be available at all construction sites. Therefore, no substantial increase in demand for fire protection services would occur during construction that would alter government services or create the need for additional government facilities. Operations and maintenance of the upgraded lines would not generate a demand for fire
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protection services appreciably different from existing conditions, and demand could be less relative to existing conditions. Therefore, this impact would be **less than significant**.

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This impact would be similar to the impact described under the Alternative 1 (PEA Alternative) Impact 4.11-2 (Alt.1) because both alternatives would have similar fire risk, and both alternatives would implement APM HAZ-5 (Fire Suppression and Prevention Plan) and APM HAZ-6 (smoking in designated areas) to reduce fire risk. For the same reasons described in Alternative 1 (PEA Alternative), this impact would be **less than significant**.

## MITIGATION MEASURES

*No mitigation measures are required.*

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<b>IMPACT 4.11-3 (Alt.3)</b>	<b>Create a water supply demand in excess of existing entitlements and resources.</b> During construction of Alternative 3 (Road Focused Alternative), water would be required for dust abatement and fire suppression. Water would be obtained from existing hydrants in public ROW or trucked into areas not served by public water lines. During the operations and maintenance phase, there would be minimal demand for water. Overall project demand would be minor relative to existing available supplies. Therefore, this impact would be <b>less than significant</b> .
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This impact would be the same as the impact described under the Alternative 1 (PEA Alternative) Impact 4.11-3 (Alt.1) because both alternatives would require similar amounts of water for construction purposes. For the same reasons described in Alternative 1 (PEA Alternative), this impact would be **less than significant**.

## MITIGATION MEASURES

*No mitigation measures are required.*

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<b>IMPACT 4.11-4 (Alt.3)</b>	<b>Exceed the capacity of a solid waste disposal.</b> Alternative 3 (Road Focused Alternative) would generate solid waste during the construction phase. Some waste would be reused or recycled, while other waste would be taken to a landfill. Treated wood poles and other hazardous wastes would be transported to an approved facility, such as the US Ecology Nevada, Inc. treatment and disposal facility in Beatty, Nevada. Lockwood Regional Landfill, utilized by TTSD, has adequate capacity to accept construction waste generated by the project. No new systems or facilities, or alterations of existing solid waste facilities would be required as a result of Alternative 3 (Road Focused Alternative). Therefore, this impact would be <b>less than significant</b> .
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This impact would be the same as the impact described under Alternative 1 (PEA Alternative) Impact 4.11-4 (Alt.1) because the construction waste generated by the project would be from the same activities and consist of the same materials and disposal, reuse, and/or recycling methods would be the same for all action alternatives. For the same reasons described above in Alternative 1 (PEA Alternative), this impact would be **less than significant**.

## MITIGATION MEASURES

*No mitigation measures are required.*

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**IMPACT 4.11-5 (Alt.3)**      **Increase the risk of structural failure of, or substantially interfere with service from, existing utilities.** Under Alternative 3 (Road Focused Alternative), construction activities involving excavation and grading could potentially damage existing underground utilities, including pipelines for natural gas, water, and wastewater. Electrical service disruptions may also occur as lines are moved and replaced. Transfer of co-located utilities to new poles may result in temporary disruption of cable and telecommunication services. This impact would be **less than significant**.

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This impact would be similar to Alternative 1 (PEA Alternative) Impact 4.11-5 (Alt.1) because both alternatives involve construction activities that would potentially disrupt utility service or damage existing utilities. However, because this alternative is roadway focused, it would have a greater potential to interfere with existing underground utilities that are located within road ROW. APM UTL-1 would be implemented to minimize the potential for increased risk of damage to existing utilities or service disruptions from existing utilities during construction. **This impact would be less than significant.**

In addition, because this alternative places more of the project adjacent to roadways, the transmission facilities would be more accessible to maintenance and repair than any of the other action alternative alignments and the existing power line alignment. Therefore, beneficial effects related to increased system reliability and speed of repairs would be somewhat greater.

Under Alternative 3A (Road Focused Alternative with Double Circuit Option) there could be an increased risk to reliability due to the use of a double circuit. If the double circuit is damaged, two lines within the electrical system could be damaged simultaneously. This would be a **less-than-significant** impact because risk of failure would be managed according to industry standards with regard to access ways and vegetation management (see Chapter 3, Project Alternatives).

## MITIGATION MEASURES

*No mitigation measures are required.*

## ALTERNATIVE 4 – PROPOSED ALTERNATIVE

### DIRECT AND INDIRECT IMPACTS

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**IMPACT 4.11-1 (Alt.4)**      **Create the need for new or physically altered governmental facilities to maintain adequate law enforcement response times.** During construction of Alternative 4 (Proposed Alternative), potential theft and vandalism at construction sites may increase demand for law enforcement services. However, it is standard practice for contractors to provide nighttime lighting for security at staging and material storage areas, and to employ security staff if needed. Therefore, no substantial increase in demand for law enforcement would occur during construction that would alter government services or create the need for additional government facilities. Operations and maintenance of the upgraded lines would not generate a demand for law enforcement services appreciably different from existing conditions. Therefore, there would be **no impact** to law enforcement services.

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This impact would be the same as the impact described under Impact 4.11-1 (Alt.1) for Alternative 1 (PEA Alternative) because both alternatives would have the same potential for law enforcement service needs. For the same reasons described for Alternative 1 (PEA Alternative), there would be **no impact**.

## MITIGATION MEASURES

*No mitigation measures are required.*

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<b>IMPACT 4.11-2 (Alt.4)</b>	<b>Create the need for new or physically altered governmental facilities to maintain adequate fire protection response times.</b> During construction of Alternative 4 (Proposed Alternative), there would be a temporary increase in fire risk as a result of construction activities, which could ignite dry vegetation. A fire protection plan would be in place and a water truck would be available at all construction sites. Operations and maintenance of the upgraded lines would not generate a demand for fire protection services appreciably different from existing conditions. Therefore, this impact would be <b>less than significant</b> .
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This impact would be the same as the impact described under Impact 4.11-2 (Alt.1) for Alternative 1 (PEA Alternative) because both alternatives would have similar fire risk, and both alternatives would implement APM HAZ-5 (Fire Suppression and Prevention Plan) and APM HAZ-6 (smoking in designated areas) to reduce fire risk. This impact would be **less than significant** for the same reasons described for Alternative 1 (PEA Alternative).

## MITIGATION MEASURES

*No mitigation measures are required.*

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<b>IMPACT 4.11-3 (Alt.4)</b>	<b>Create a water supply demand in excess of existing entitlements and resources.</b> During construction of Alternative 4 (Proposed Alternative), water would be required for dust abatement and fire suppression. Water would be obtained from existing hydrants in public ROW or trucked into areas not served by public water lines. During the operations and maintenance phase, there would be minimal demand for water. Overall project demand would be minor relative to existing available supplies. Therefore, this impact would be <b>less than significant</b> .
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This impact would be the same as the impact described under Impact 4.11-3 (Alt.1) for Alternative 1 (PEA Alternative) because both alternatives would require similar amounts of water for construction purposes. This impact would be **less than significant** for the same reasons described for Alternative 1 (PEA Alternative).

## MITIGATION MEASURES

*No mitigation measures are required.*

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<b>IMPACT 4.11-4 (Alt.4)</b>	<b>Exceed the capacity of a solid waste disposal.</b> Alternative 4 (Proposed Alternative) would generate solid waste during the construction phase. Some waste would be reused or recycled, while other waste would be taken to a landfill. Treated wood poles and other hazardous wastes would be transported to an approved facility, such as the US Ecology Nevada, Inc. treatment and disposal facility in Beatty, Nevada. Lockwood Regional Landfill, utilized by TTSD, has adequate capacity to accept construction waste generated by the project. No new systems or facilities, or alterations of existing solid waste facilities would be required as a result of Alternative 4 (Proposed Alternative). Therefore, this impact would be <b>less than significant</b> .
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This impact would be the same as the impact described under Impact 4.11-4 (Alt.1) for Alternative 1 (PEA Alternative) because all of the action alternative would consist of the same basic activities, and would consist of

the same materials and disposal, reuse, and/or recycling methods. This impact would be **less than significant** for the same reasons described for Alternative 1 (PEA Alternative).

## MITIGATION MEASURES

*No mitigation measures are required.*

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<b>IMPACT 4.11-5 (Alt.3)</b>	<b>Increase the risk of structural failure of, or substantially interfere with service from, existing utilities.</b> Under Alternative 4 (Proposed Alternative), construction activities involving excavation and grading could potentially damage existing underground utilities, including pipelines for natural gas, water, and wastewater. Electrical service disruptions may also occur as lines are moved and replaced. Transfer of co-located utilities to new poles may result in temporary disruption of cable and telecommunication services. This impact would be <b>less than significant</b> .
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This impact would be similar to Impact 4.11-5 (Alt.1) for Alternative 1 (PEA Alternative) because both alternatives involve construction activities that would potentially disrupt utility service or damage existing utilities. APM UTL-1 would be implemented to minimize the potential for increased risk of damage to existing utilities or service disruptions from existing utilities during construction. However, there could be an increased risk to reliability due to the use of a double circuit because more of the system could be impact by damage to this portion of the alignment. This would be a **less-than-significant** impact because risk of failure would be managed according to industry standards with regard to access ways and vegetation management (see Chapter 3, Project Alternatives).

## MITIGATION MEASURES

*No mitigation measures are required.*

## ALTERNATIVE 5 – NO ACTION/NO PROJECT ALTERNATIVE

### DIRECT AND INDIRECT IMPACTS

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<b>IMPACT 4.11-1 (Alt.5)</b>	<b>Create the need for new or physically altered governmental facilities in order to maintain adequate law enforcement response times.</b> Under Alternative 5 (No Action/No Project Alternative) no construction would take place. Conditions regarding law enforcement demand may be affected by power failures related to the lack of system reliability. However, this would be a continuation of existing conditions. Therefore, there would be <b>no impact</b> to law enforcement services.
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Under Alternative 5 (No Action/No Project Alternative), no upgrades to the North Lake Tahoe Transmission System would be made. Actions associated with this alternative would be limited to the existing operation and maintenance, as well as completion of existing deferred maintenance to raise the system to current standards, including compliance with vegetation clearing requirements and annual inspection requirements. This alternative would leave in place the existing system, and would not resolve problems associated with system reliability described in Chapter 3, Section 3.2.4, System Reliability, Operation and Capacity. The Placer County Sheriff may experience increased calls for assistance during power failures. However, calls for law enforcement assistance during power failures is part of the existing condition and would not create the need for additional government facilities. Therefore, there would be **no impact** to law enforcement service.

## MITIGATION MEASURES

*No mitigation measures are required.*

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<b>IMPACT 4.11-2 (Alt.5)</b>	<b>Create the need for new or physically altered governmental facilities to maintain adequate fire protection response times.</b> Under Alternative 5 (No Action/No Project Alternative), no construction would take place and risk of fire related to construction activities would not occur. Conditions regarding fire protection response times may be affected by the heavy loads in the system and the lack of system reliability. Increased calls may result during power failures, and increased fire hazard may result from the use of alternative lighting sources (e.g., candles, kerosene lanterns) during extended power outages. However, this would be a continuation of existing conditions and it is not anticipated that there would be a substantial increase in service demand during power failures that would affect government services or create the need for additional government facilities, Therefore this impact would be <b>less than significant</b> .
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Under Alternative 5 (No Action/No Project Alternative), no construction would take place and risk of fire related to construction activities would not occur. Existing operation, maintenance, and completion of existing deferred maintenance to raise the system to current standards, including compliance with vegetation clearing requirements and annual inspection requirements would continue. The system would be burdened by high loads with more frequency, which results in a “hot” system that is more likely to ignite a fire. Under this circumstance, additional management of the ROW may be required. This could include clearing of a larger ROW and the addition of roadways into the portions of the 625 Line to which there is limited access.

Conditions regarding fire protection response times may be affected by the lower system reliability. Increased calls for assistance may result during power failures, and increased fire hazard may result from the use of alternative lighting sources (e.g., candles, kerosene lanterns) during extended power outages. However, under Alternative 5 (No Action/No Project Alternative) these potential fire hazards would be a continuation of existing conditions and it is not anticipated that there would be a substantial increase in service demand during power failures that would create the need for additional government facilities. Therefore this impact would be **less than significant**.

## MITIGATION MEASURES

*No mitigation measures are required.*

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<b>IMPACT 4.11-3 (Alt.5)</b>	<b>Create a water supply demand in excess of existing entitlements and resources.</b> Under Alternative 5 (No Action/No Project Alternative) no water would be required for dust abatement and fire suppression for construction activities. Therefore, there would be <b>no impact</b> .
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Under Alternative 5 (No Action/No Project Alternative), no construction would take place and risk of fire related to construction activities, and associated potential water demand for fire suppression, would not occur. Existing operation, maintenance, and completion of existing deferred maintenance to raise the system to current standards, including compliance with vegetation clearing requirements and annual inspection requirements would continue. Water demand for dust abatement and potential fire suppression could occur as part of vegetation removal activities, but would be a continuation of existing maintenance and operations and would not generate a new water demand relative to existing conditions. Therefore, there would be **no impact**.

## MITIGATION MEASURES

*No mitigation measures are required.*

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<b>IMPACT 4.11-4 (Alt.5)</b>	<b>Exceed the capacity of a solid waste disposal facility to serve.</b> Alternative 5 (No Action/No Project Alternative) would not generate solid waste, except for poles and equipment that would be replaced as part of normal maintenance operations. There would be no change from existing conditions; therefore, <b>no impact</b> would occur.
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Under Alternative 5 (No Action/No Project Alternative), the existing power line facilities for the 625 and 650 Lines would remain in place. Solid waste generated would be a result of ongoing pole and equipment replacement as a result of normal maintenance operations. There would be no change from existing conditions; therefore, **no impact** would occur.

## MITIGATION MEASURES

*No mitigation measures are required.*

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<b>IMPACT 4.11-5 (Alt.5)</b>	<b>Increase the risk of structural failure of, or substantially interfere with service from, existing utilities.</b> Alternative 5 (No Action/No Project Alternative) would not have the potential for disruption of existing utilities associated with construction. Actions associated with this alternative would be limited to the existing operation and maintenance activities, and completion of existing deferred maintenance. The existing potential for service loss as a result of power outages would continue. There would be no change from existing conditions, therefore <b>no impact</b> would occur.
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Alternative 5 (No Action/No Project Alternative) would not have the potential for disruption of existing utilities associated with construction because no ground disturbance, excavations, installation of new poles, or substation upgrades would take place. Under Alternative 5 (No Action/No Project Alternative) there would be no changes to the transmission system in the north Tahoe region. Actions associated with this alternative would be limited to the existing operation, maintenance, and completion of existing deferred maintenance to raise the system to current standards, including compliance with vegetation clearing requirements and annual inspection requirements. This alternative would leave in place the existing transmission system, and would not resolve problems associated with system reliability described in Chapter 2, Purpose and Need, and Chapter 3, Section 3.2.4 System Reliability, Operation, and Capacity of this document. The existing potential for service loss as a result of power outages would not change. There would be no change from existing conditions, therefore **no impact** would occur.

## MITIGATION MEASURES

*No mitigation measures are required.*

## CUMULATIVE IMPACTS

Under existing conditions, the Lake Tahoe region is served by multiple PUDs and CSDs, water suppliers, wastewater collection and treatment, and solid waste collection services. Public services, including fire stations, police stations, and schools are provided by multiple federal, state, and local agencies. All public service and utility providers are currently able to meet the needs of residents, workers, and visitors year-round.

Various future projects identified in Table 4.1-2 and Exhibit 4.1-1 that propose new residential and commercial development would contribute to increased utility demand including the Cold Stream Specific Plan, Pollard

Station, Joerger Ranch Specific Plan, Canyon Springs Subdivision, the Northstar Mountain Master Plan, Northstar Highlands Phase II, Village at Squaw Valley Specific Plan, Alpine Sierra Subdivision, and the Homewood Mountain Resort Master Plan. However, the proposed project would not result in a long-term increase in demand for utility services including water supply, and solid waste collection and disposal services because long-term operations and maintenance activities would be similar to existing conditions. Temporary demand as a result of project construction would be far less than the existing capacity of the utility providers. Although the action alternatives would create an incremental increase in water and solid waste disposal demand during construction, they would not create an additional demand for public utilities that could be considered a significant contribution to a cumulative impact. In addition, the project generated increase in demand would cease once construction ended and would not interact further with any utility demand generated by future projects identified in Table 4.1-2. The proposed project would provide enhanced electrical system reliability, and would not contribute to any increased demand for electrical services.

Improved system reliability would decrease the potential for law enforcement and fire service calls related to power outages. The project would not result in a long-term increased demand for law enforcement or fire protection services. Therefore, the proposed project would not create an additional demand for public services that, in combination with existing and reasonably foreseeable future demand, would result in a significant cumulative impact.

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## 4.12 TRAFFIC AND TRANSPORTATION

This section evaluates the potential impacts on the vehicular, transit, bicycle, and pedestrian components of the transportation system that may result from implementation of each of the four action alternatives. The traffic and transportation regulatory framework and existing environmental setting are described, and the impacts of each alternative are identified and assessed. This section focuses on potential impacts to the public circulation system (i.e., non-forest system roads and trails, or forest system roads regularly used for circulation and not primarily for recreation) based on trip volumes, road capacity, and the potential to cause delays. Impacts related to access and quality of recreation experience on the forest system roads and trails network managed by the US Forest Service (USFS) are addressed in Section 4.8, Recreation.

### 4.12.1 REGULATORY SETTING

The following summarizes the transportation and traffic regulations that are applicable to the construction and operation of the proposed project.

#### FEDERAL

##### US FOREST SERVICE, TAHOE NATIONAL FOREST AND THE LAKE TAHOE BASIN MANAGEMENT UNIT

The Tahoe National Forest has a Motorized Travel Management Plan for motorized recreational opportunities (USFS 2010). The Lake Tahoe Basin Management Unit (LTBMU) conducted a Travel Analysis Process (TAP) (Kjar 2011) that provides a strategic management framework to balance access needs with resource impacts of a road system. Projects that alter the forest system roadway network (add, remove, or modify system roads) must undergo a project-level TAP to determine whether the modifications are consistent with USFS guidelines and requirements. Refer to Chapter 3, Alternatives, regarding the TAP associated with the project and its relationship to the access ways and improvements to existing roads proposed as part of the project.

The LTBMU has prepared a Land and Resource Management Plan (USFS 2012) pursuant to the National Forest Management Act. As described under Lands: Non-Recreational Special Uses and Utility Corridors, this plan does not identify corridors for major utilities because of the significance of the basin's recreational and scenic resources, and the difficulty of maintaining water quality.

#### FEDERAL AVIATION ADMINISTRATION

The Federal Aviation Administration (FAA) is responsible for managing airports and navigable airspace not administered by the Department of Defense. Federal Aviation Regulations Part 77.11 through 77.19 require that proposals for construction or alteration of facilities notify the FAA when the facility will be more than 200 feet in height or at a height greater than an imaginary surface extending outward and upward at a slope of 100 to 1 for a horizontal distance of 20,000 feet from the nearest point of the runway.

For helicopters to be used as part of project construction the FAA requires that a helicopter lift plan be developed by the contractor and coordinated and approved by the FAA Flight Standards District Office for the project area (the District Office in Reno, Nevada serves the project area). The plan must include an agreement that local officials will exclude unauthorized persons from the area in which the operation will be conducted (FAA 1989).

## STATE

### CALIFORNIA DEPARTMENT OF TRANSPORTATION

The California Department of Transportation (Caltrans) has a general policy to allow utilities within conventional rights-of-way (ROWs) subject to reasonable conditions to provide for the safety of the traveling public and to permit the improvement of the highway. Caltrans policy allows new utility installations, and adjustment or relocation of existing utilities to cross a freeway or expressway (Caltrans 1999). However, encroachment permits are required for any work that affects traffic on the highways, or places or replaces any utility equipment that is within state highways ROW. The encroachment permit process includes the preparation of a transportation management plan in accordance with Caltrans' *Manual on Uniform Traffic Control Devices* as well as a public outreach component. If any existing poles are within the clear recovery area of the highway (typically a 20-30 foot zone from the outer edge of the highway pavement), they should be replaced outside of that area, if possible.

If the project requires movement of oversized or excessive load vehicles on State roadways, a transportation permit must also be obtained from Caltrans' Transportation Permits Office.

### CALIFORNIA STATE PARKS

The Park Wide Goals and Guidelines for Circulation of the Burton Creek State Park (BCSP) General Plan (California State Parks 2005) notes that the park's road and trail system was developed for logging and unplanned casual recreation. Currently there are no paved or formal access points into the State Park; all access is classified as unpaved service and operational roads and only BCSP and emergency vehicles are allowed on park roads (page 15). The General Plan Parkwide Goals and Guidelines for Circulation (pages 51-53) address preparation of a Road and Trail Management Plan for "guiding the location, distance, use, and operation of existing and future roads." Use of park roads for construction access would require coordination with, and permitting from, State Parks.

### TAHOE REGIONAL PLANNING AGENCY

#### REGIONAL PLAN

The Lake Tahoe Regional Plan, as updated in 2012 (TRPA 2012), provides statements of policy to guide decision making as it affects the region's resources and remaining capacities. Priorities of the bi-state regulatory system are restored water quality, creation of walkable communities with alternative transportation options, and streamlining the permitting process. Chapter 3, Transportation Element, of the Regional Plan provides goals and policies that are intended to establish a safe, efficient, and integrated transportation system that provides quality mobility options for all sectors of the population, supports the region's economic base, enhances quality of life, and maximizes opportunities for environmental benefits. The Transportation Element includes transportation goals, policies, and implementation measures that address multiple aspects of transportation planning and interact to create a successful multi-modal transportation system. The Transportation Element does not contain any goals or policies that would apply directly to the construction or operation of the proposed power line upgrade project.

#### REGIONAL TRANSPORTATION PLAN

The Tahoe Metropolitan Planning Organization's (TMPO's) *Regional Transportation Plan: Mobility 2035* (TRPA and TMPO 2012) is Lake Tahoe's blueprint for a regional transportation system that enhances the quality of life in the Tahoe Region, promotes sustainability, and offers improved mobility options for people and goods.

Important objectives of the plan are to reduce the overall environmental impact of transportation in the region, create walkable, vibrant communities, and provide real alternatives to driving. Mobility 2035 presents 14 goals that are consistent with regional and federal requirements that focus on a reduction in dependency on the automobile and giving preference to projects that increase the capacity of the region's transportation system through public transportation projects and programs. The Regional Transportation Plan focuses on long-range transportation planning and does not contain goals or policies that would apply directly to construction or operation of the proposed power line upgrade project. However, the transportation plan has established the following level of service (LOS) criteria for the region's highway system and signalized intersection during peak periods that could be influenced by construction traffic:

- ▲ LOS C on rural recreational/ scenic roads;
- ▲ LOS D on rural developed area roads and on urban developed area roads;
- ▲ LOS D for signalized intersections; and
- ▲ LOS E during peak periods in urban areas, not to exceed four hours per day.

## **CODE OF ORDINANCES**

The TRPA Code of Ordinances is designed, among other things, to implement the Goals and Policies contained in the Regional Plan in a manner that attains and maintains the TRPA environmental threshold standards. The Code addresses many subjects, including required permits for development, projects subject to TRPA review and approval, findings required for approval of projects, allowable land use, density and land coverage, development standards, grading and construction practices, resource management, water quality, air quality and transportation, and other topics. Changes in daily vehicle trip ends (DVTE) as a result of a change in project operation are discussed in Section 65.2, Traffic and Air Quality Mitigation Program, of the Code of Ordinances. The Code does not address transportation or traffic related to construction activities. However, Section 22.7.6, Traffic Mitigation, does address temporary intersection and lane closures of more than one hour of state or federal highways, which could apply to SR 267 and SR 89 in the project area.

## **LOCAL AGENCIES**

### **PLACER COUNTY CODE**

The Placer County Code governs the placement of any structures on, over, or under county roads. The Code indicates that encroachment permits are required for the construction of any pole, driveway, private road, building, or structure or object of any kind that is placed in, under, over, or adjacent to any portion of County ROW.

### **PLACER COUNTY GENERAL PLAN**

The circulation element of the Placer County general plan provides guidance to help achieve efficiency and economy in the transportation system, and to facilitate the planning required to maintain and expand the existing transportation network. Goal 3.A of the general plan is to provide for the long range planning and development of the county's roadway system. To meet this goal, the county manages its roadway system to maintain a LOS C on all roadways except within 0.5 mile of state highways, where the LOS standard is LOS D.

### **PLACER COUNTY 2035 REGIONAL TRANSPORTATION PLAN DOCUMENT**

The Placer County Transportation Planning Agency (PCTPA) is the designated congestion management agency for Placer County. Through the Regional Transportation Plan, PCTPA establishes goals, objectives, and policies to guide the development and management of the region's transportation systems. It is PCTPA's policy to, where possible,

support jurisdictions' efforts to maintain their adopted LOS on local streets and roads in accordance with the applicable general plan Circulation Element (PCTPA 2010: pp. 5-14).

## **TOWN OF TRUCKEE GENERAL PLAN**

The Town of Truckee has a circulation element in its general plan that is concerned with the safe and efficient movement of people and goods in and around the town by means of a wide range of transportation modes. In order to ensure safe and efficient movement of people and goods, the Town of Truckee aims to establish and maintain LOS D or better on road segments and at intersections in portions of Truckee outside of the Downtown Specific Plan Area and LOS E or better on arterial and collector roads and at intersections within the Downtown Specific Plan Area (Town of Truckee 2006). The Town of Truckee General Plan (Town of Truckee 2006) indicates that although there is some level of congestion during weekday afternoon peak periods under existing conditions, all roads and intersections operate at acceptable LOS.

## **NEVADA COUNTY TRANSPORTATION COMMISSION**

The Nevada County Transportation Commission is a Regional Transportation Planning Agency coordinating transportation planning for Nevada County and the Town of Truckee. The portion of the County that might be affected by project traffic is located in an area defined as a "Community Region" by Nevada County. This Community Region includes the Town of Truckee. It is Nevada County's policy that the minimum acceptable LOS for areas identified as "Community Regions" in the General Plan shall be LOS D or better (Nevada County 2010).

## **TRPA COMMUNITY PLANS**

Community Plans for Tahoe City and Kings Beach maintain a common level of service policy: level of service on major roadways (i.e., arterial and collector routes) shall be LOS D, and signalized intersections shall be at LOS D. LOS E may be acceptable during peak periods, not to exceed four hours per day.

## **TRUCKEE TAHOE AIRPORT LAND USE COMPATIBILITY PLAN**

The Truckee Tahoe Airport Land Use Commission adopted the "Truckee Tahoe Airport Land Use Compatibility Plan" (ALUCP) on October 19, 2010. The ALUCP regulates permissible land uses around the airport. Through ALUCPs, land use standards are adopted that minimize the public's exposure to safety hazards and excessive levels of noise, protect airspace and overflight uses, and prevent the encroachment of incompatible land uses around public-use airports. ALUCP land use standards are used to perform consistency determinations for proposed projects in the area covered by the ALUCP.

## **4.12.2 EXISTING CONDITIONS/AFFECTED ENVIRONMENT**

### **ROADS**

In the project area, the main transportation corridors are Interstate 80 (I-80), State Route (SR) 89, and SR 267. There is also an extensive network of local roads maintained by Placer County and the Town of Truckee. It is possible that project traffic could also utilize some roads maintained by Nevada County. The USFS maintains roads in the Tahoe National Forest and LTBMU. State Parks maintains roads in BCSP.

Table 4.12-1 shows traffic data for various locations along I-80, SR 89, and SR 267 where construction activity or construction traffic for the action alternatives may occur. Traffic data includes peak hour estimates and average annual daily traffic (AADT) calculated by Caltrans. In an area where traffic volumes can vary considerably with the season, peak traffic volumes can noticeably exceed AADT. Peak hour calculations represent an estimate of

the heaviest traffic flow. This value is useful in estimating the amount of congestion experienced and shows how near to capacity the highway is operating. Annual traffic volumes are estimated and averaged to determine the AADT. This information is helpful for the study of traffic trends, and planning and designing highways. Both peak hour and AADT values indicate the volume of traffic in both directions. Caltrans reports these volumes as “back” and “ahead” of the count location relative to the direction of travel on the highways. Exhibit 4.12-1 shows the locations of the traffic data points provided in Table 4.12-1. (For a more comprehensive view of project features and nearby road features see detailed maps of each alternative provided in Appendix B.)

Count Location	Back Peak Hour <sup>1</sup>	Back AADT <sup>2</sup>	Ahead Peak Hour <sup>3</sup>	Ahead AADT <sup>4</sup>
<b>I-80</b>				
1. West Truckee	4,150	33,500	3,000	32,000
2. Jct. SR 89 North, Jct. SR 267 South	3,000	32,000	2,500	27,000
<b>SR 267</b>				
3. Bridge Street Right Turn/Soaring Way-Left Turn	1,300	10,900	1,600	12,600
4. Placer/Nevada County Line	1,600	12,600	1,600	12,600
5. Truckee Tahoe Airport Road	1,450	11,600	1,300	10,400
6. Northstar Drive	1,300	10,400	980	8,300
7. Martis Peak Road	980	8,300	790	8,400
8. Kings Beach, North Avenue	790	8,300	790	8,400
<b>SR 89</b>				
9. Tahoe City Jct. SR 28 east	1,400	11,600	1,400	10,900
Notes: Traffic numbers are for all vehicle types travelling in both directions. AADT = Average Annual Daily Traffic (total volume for the year divided by 365 days) Jct. = Junction <sup>1</sup> Traffic volumes during the hour in which traffic congestion is highest south or west of the count location <sup>2</sup> Traffic south or west of the count location <sup>3</sup> Traffic volumes during the hour in which traffic congestion is highest north or east of the count location <sup>4</sup> Traffic north or east of the county location Source: Caltrans 2012a				

Based on data published by Caltrans and TRPA, the busiest travel days in the project area occur on Fridays in August. Friday traffic levels tend to peak in the afternoon/evening as visitors and part-time residents travel into the region (TRPA and TMPO 2012).

## LEVEL OF SERVICE

Level of service is a qualitative measure that describes the operating performance of transportation facilities. For roadways, LOS is an indicator of traffic flow from the perspective of motorists based on factors such as speed, travel time, delay, freedom to maneuver, volume, and capacity. It is defined on a scale from LOS A, the least congested operating conditions, to LOS F, the most congested operating conditions.

## STATE HIGHWAYS

### Interstate 80

Interstate 80 is a four-lane freeway in the project area operating at a LOS D. Caltrans District 3 has established minimum concept LOS through 2030 for I-80 at LOS D for rural segments and LOS E for urban segments. Lack of

driver familiarity becomes a factor in operation of I-80 in the project area because many drivers visit the area infrequently for recreation. The collision rate is approximately 24 percent more along this portion of I-80 than the state average (Caltrans 2010).

### **State Route 267**

State Route 267 is one of the main northern entrances into the Lake Tahoe Basin. It is a nearly 12 mile, two-lane, undivided mountain highway that connects I-80 at Truckee in Nevada County to SR 28 in Kings Beach in Placer County. The route is of local and regional significance because it provides access to residential, industrial, commercial and recreational land uses. According to the on-line *2009 Annual Average Daily Truck Traffic on the California State Highway System* (Caltrans 2010), trucks constitute approximately three percent of the daily traffic on SR 267 north of SR 28. The collision rate on SR 267 is generally between eight and 25 percent less than the state average (Caltrans 2012b).

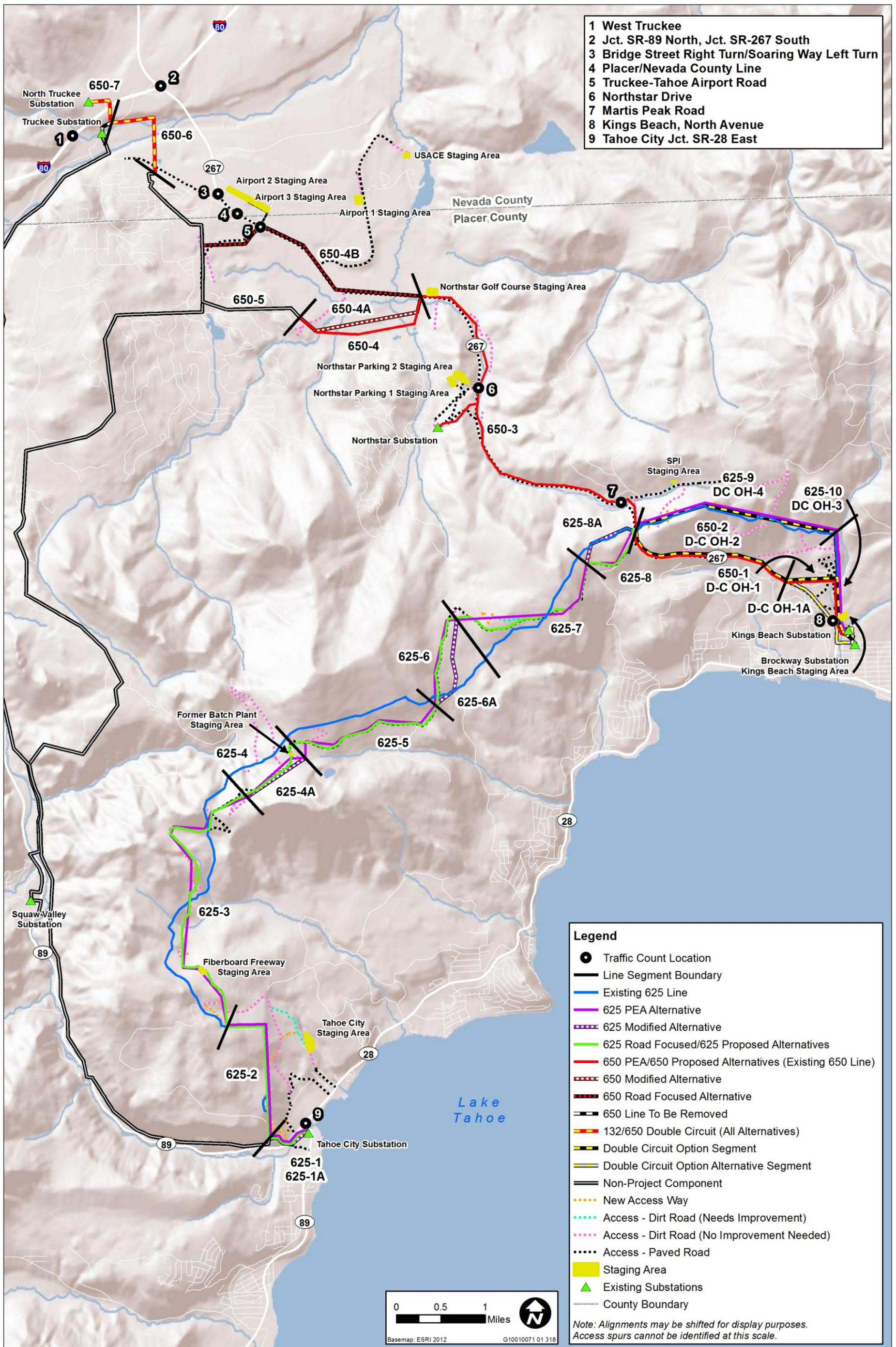
Caltrans District 3 has established concept LOS standards for a 20-year period of LOS D for route segments in rural areas and LOS E for route segments in urban areas. Presently, LOS conditions for SR 267 are at LOS D. This LOS rating is directly attributed to the hilly, mountainous terrain of this rural route, limited sight distance, few passing opportunities, many curves, and steep grades. SR 267 LOS conditions include some delays, occasional unstable traffic flows, and difficult or few passing opportunities. LOS conditions are expected to decline over the 20-year period to LOS E for the portion of SR 267 between I-80 and Brockway Summit unless improvements are made (Caltrans 2012b). The 2011 Nevada County Regional Transportation Plan includes plans to widen SR 267 to four lanes from Brockway Road to the Placer County line, and the Placer County Regional Transportation Plan includes plans to widen SR 267 from the county line to Northstar Drive.

### **State Route 89**

State Route 89 is nearly 90 miles in length, and extends north from the El Dorado/Alpine county line to the Sierra/Plumas county line, passing through the Lake Tahoe Basin. In the project area, it connects Tahoe City in Placer County in the south to I-80 at Truckee in Nevada County. It is primarily a two-lane highway that serves local and visitor vehicles traveling to residential sites, commercial establishments, and recreational facilities. According to the on-line *2009 Annual Average Daily Truck Traffic on the California State Highway System* (Caltrans 2010), trucks constitute approximately seven percent of the daily traffic on SR 89 north of Tahoe City. Between Tahoe City and the Placer/Nevada county line, there are 35 percent fewer collisions on SR 89 than the state average. State Route 89 operates at a LOS D in the project area, and it is considered infeasible to add lanes due to the environmental sensitivity of the area and the topography (Caltrans 2012c).

### **State Route 28**

State Route 28 extends 11 miles from SR 89 at Kings Beach to the California/Nevada border and serves recreational traffic along the North Shore of Lake Tahoe. State Route 28 is a two lane highway between Tahoe City and Tahoe Vista, and transitions to a four lane highway between Tahoe Vista and Kings Beach. According to the on-line *2009 Annual Average Daily Truck Traffic on the California State Highway System* (Caltrans 2010), trucks constitute approximately four percent of the daily traffic on SR 28.



Source: Adapted by POWER Engineers 2012; Caltrans 2012a

Exhibit 4.12-1

Traffic Data Points



## COLLECTORS AND LOCAL/NEIGHBORHOOD STREETS

Collector roadways serve as transition facilities, distributing traffic from arterials and highways to their ultimate destination, and collecting traffic from local roadways. Collector roads serve a dual function by providing access to properties on the roadway and moving moderate traffic volumes for medium-length trips. Local or neighborhood streets are intended to serve as access roads to adjacent properties only. They provide connections to higher order roadways, carry little if any through traffic, and generally have low volumes. Collectors and local/neighborhood streets in the project area are primarily associated with the communities of Tahoe City, Kings Beach, and the Town of Truckee. Volume and capacity information is not readily available for local roadways in these areas. However, additional information on potential local roadways that might be used during project implementation is provided in the discussion of Methods and Assumptions provided below in Section 4.12.3, Environmental Consequences and Recommended Mitigation Measures.

## NATIONAL FOREST SYSTEM ROADS

National Forest System Roads are used for forest management and provide the public with recreational access. Many of the roads are open to the public seasonally, generally between mid-May and mid-November and a smaller subset of the road system is closed to public motor vehicle use. Public motor vehicle access is regulated by the Lake Tahoe Basin Management Unit's Motor Vehicle Use Map. The majority of the road system is Level 2 roads, which are suitable for high clearance vehicles. These roads are maintained for resource protection, but not for passenger cars or user comfort.

## AIRPORTS

Truckee Tahoe Airport is the only airport in the project vicinity and is located in the northern part of the project area straddling the Nevada/Placer county line and is managed by the Truckee Tahoe Airport District. The airport supports general aviation, law enforcement, and California Department of Forestry operations with two paved runways 7,000 and 4,650 feet in length. Through the 3<sup>rd</sup> quarter of 2012 (January through September) at Truckee Tahoe Airport, there were 17,322 aircraft operations including piston (single and twin), turbo propeller, jet, helicopter and glider aircraft. This is a fifteen percent increase compared to the same time in 2011 (Truckee Tahoe Airport 2012).

## RAIL

Amtrak operates the "California Zephyr" passenger train route, which includes a stop at the Truckee Amtrak station (Amtrak 2013). The Union Pacific Railroad (UPRR) provides freight rail operations in the project area (Union Pacific Railroad 2013) and both Amtrak and UPRR operate along the same set of tracks, which generally follow the I-80 corridor east and west of Truckee. The section of tracks in the project area is located approximately 1,000 feet south of I-80, 600 feet north of the Truckee Substation, and is crossed by the existing 650 Line.

## TRANSIT

Transit service to the project area is fairly robust, when considered in relation to population and density (Caltrans 2012c). Tahoe Area Regional Transit is operated by Placer County Department of Public Works and provides fixed-route year round bus service along SR 89, seasonal bus service along SR 267, and paratransit service (Placer County 2013). The North Lake Tahoe Express offers service from Tahoe City to several ski resorts along the SR 89 corridor. The Truckee Trolley provides fixed-route year round and seasonal shuttle service in and around the Town of Truckee (Tahoe's Best 2013).

## BIKEWAYS

The project area contains an extensive network of bicycle routes. The Town of Truckee *Trails and Bikeways Master Plan* (Town of Truckee 2012), *Placer County Regional Bikeway Plan* (PCTPA 2002), *the Nevada County Bicycle Master Plan* (Nevada County 2007) and the *Lake Tahoe Region Bicycle and Pedestrian Plan* (TRPA and TMPO 2010) provide an inventory of existing bicycle facilities in the Tahoe-Truckee area, as well as recommendations for future bicycle facilities. The project area contains separated ROW paths (Class I), bike lanes (Class II), and shared use bike routes (Class III) in multiple locations including the Town of Truckee, Martis Valley, Kings Beach, and Tahoe City. Bikes are permitted on SR 89 and SR 267, but are prohibited on I-80 between SR 89 and SR 267 (Caltrans 2011). The TRPA Mobility 2030 Regional Transportation Plan includes plans to construct Class II bike lanes on SR 267 from Brockway Summit to SR 28 (Caltrans 2012b). There is an existing Class I bike path along SR 89 north of Tahoe City (TRPA and TMPO 2012). The 2001 Placer County Regional Bikeway Plan includes plans to upgrade the bike lanes to Class II from Squaw Valley to Truckee along SR 89. There is an existing Class I bike path along SR 28 through Tahoe City (TRPA and TMPO 2012).

Opportunities for mountain biking and recreational biking in remote areas (e.g., Fiberboard Freeway) in the project vicinity are considered a recreational activity and not a transportation/transit issue and are addressed in Section 4.8, Recreation.

### 4.12.3 ENVIRONMENTAL CONSEQUENCES AND RECOMMENDED MITIGATION MEASURES

#### SIGNIFICANCE CRITERIA

##### TRPA CRITERIA

The “Transportation/Circulation” criteria from the TRPA Initial Environmental Checklist (IEC) for Determination of Environmental Impact were used to evaluate the transportation impacts of the alternatives for TRPA compliance. The checklist asks if the project would result in the following conditions.

- ▲ Generation of 100 or more new DVTE during operation?
- ▲ Changes to existing parking facilities, or demand for new parking?
- ▲ Substantial impact upon existing transportation systems, including highway, transit, bicycle, or pedestrian facilities?
- ▲ Alterations to present patterns of circulation or movement of people and/or goods?
- ▲ Alterations to waterborne, rail, or air traffic?
- ▲ Increase in traffic hazards to motor vehicles, bicyclists, or pedestrians?

##### NEPA CRITERIA

An environmental document prepared to comply with NEPA must consider the context and intensity of the environmental effects that would be caused by or result from the proposed action. Under NEPA, the significance of an effect is used solely to determine whether an EIS must be prepared. The factors that are taken into account under NEPA to determine the significance of an action in terms of the context and the intensity of its effects are encompassed by the TRPA and CEQA criteria used for this analysis.

## CEQA CRITERIA

Based on Appendix G of the State CEQA Guidelines, an alternative would have a significant impact on traffic and transportation if it would:

- ▲ 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;
- ▲ conflict with an applicable congestion management program, including, but not limited to, LOS standards and travel demand measures, or other standards established by the county congestion management agency for designated roads or highways;
- ▲ 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;
- ▲ substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment);
- ▲ result in inadequate emergency access; or
- ▲ conflict with adopted policies, plans, or programs regarding public transit, bicycle, or pedestrian facilities, or otherwise decrease the performance or safety of such facilities.

## ISSUES DISMISSED FROM FURTHER EVALUATION

No alternative would result in increasing, creating, or interfering with waterborne or rail traffic. Although the 625 Line crosses the Truckee River in a location where river rafting takes place in Tahoe City, installation of the new conductor would not require any restrictions to rafting operations as stringing the new conductor over the river would take less than an hour and would be conducted during a time or season when rafting is not occurring. Similarly, stringing a new conductor over the UPRR tracks in the Town of Truckee would be done rapidly between train passages and would not affect rail traffic. The 625 and 650 Lines currently cross these ROWs and installation of the upgraded lines would not add additional facilities that could alter waterborne or rail traffic. Therefore, the project alternatives would have no impact on waterborne or rail traffic and these issues are not discussed further in the EIS/EIS/EIR.

The TRPA thresholds require consideration of any potential alterations to air traffic. Safety hazards to people residing or working in the project area as a result of potential conflicts with the Tahoe Truckee Airport Land Use Plan are evaluated in Section 4.10, Hazards and Hazardous Materials, and are not discussed in this section.

## METHODS AND ASSUMPTIONS

The proposed upgrade of the 625 and 650 Lines would be expected to have the potential to affect transportation facilities or increase traffic during the construction phase, but would have little effect on transportation facilities and traffic conditions during the operation and maintenance phase. Typically, the operation of power lines and substations generates very little vehicular traffic. Operation and maintenance associated with the upgraded and relocated power lines and modified substations would generate a similar amount of vehicle trips that occur under existing conditions. The substations would be accessed via existing access roads or public roadways for all of the alternatives. Consequently, the transportation analysis focuses on the project's construction phase.

The applicant will establish access routes that would be used to transport people and materials in the project area. Additional effects to traffic during construction could occur where the project footprint would be adjacent to, or would cross, public roadways. Most of the roads potentially affected by the 625 and 650 Electrical Line

Upgrade Project would be local roads. The following analysis reflects the use and proposed relationship to public roadways identified below in Table 4.12-2. State Route 28 between Tahoe City and Kings Beach would not be used for construction purposes.

<b>Table 4.12-2 Public Roads Potentially Used, Crossed, or Paralleled During Construction</b>				
<b>Public Road</b>	<b>Use and Proposed Relationship</b>			
	<b>Alternative 1 (PEA Alternative)</b>	<b>Alternative 2 (Modified Alternative)</b>	<b>Alternative 3 (Road Focused Alternative)</b>	<b>Alternative 4 (Proposed Alternative)</b>
Bristol Circle	Access	Access	Access	Access
Brockway Road	Access; Crossed	Access; Crossed	Access; Crossed	Access; Crossed
Bunker Road	Access	Access	Access	Access
Cambridge Drive	Access	Access	Access; Crossed (Option 3A only)	Access
Canterbury Drive	Access	Access	Access	Access
Commonwealth Drive	Access; Crossed	Access; Crossed	Access; Crossed	Access; Crossed
Comstock Drive	Paralleled and Crossed	Paralleled and Crossed	Paralleled and Crossed	Paralleled and Crossed
Deer Street	Access; Paralleled and Crossed	Access; Paralleled and Crossed	Access; Paralleled and Crossed	Access; Paralleled and Crossed
Donner Pass Road	Paralleled and Crossed	Paralleled and Crossed	Paralleled and Crossed	Paralleled and Crossed
East Main Street	Crossed	Crossed	Crossed	Crossed
East River Street	Crossed	Crossed	Crossed	Crossed
Estates Drive	Crossed	Crossed	Crossed	Crossed
Fairway Drive	Access	Access	Access	Access
Fiberboard Freeway (Carnelian Woods Avenue, Mt. Watson Road)	Access; Paralleled and Crossed	Access; Paralleled and Crossed	Access; Paralleled and Crossed	Access; Paralleled and Crossed
Gas Line Road	Access; Crossed	Access; Crossed	Access; Crossed	Access; Crossed
Glenshire Drive	Paralleled and Crossed	Paralleled and Crossed	Paralleled and Crossed	Paralleled and Crossed
Griff Lane	None	None	Crossed (Option 3A only)	None
Grove Street	Access	Access	Access	Access
Hastings Lane	Access	Access	Access	Access
Highlands View Road	Access; Paralleled and Crossed	Access; Paralleled and Crossed	Access; Paralleled and Crossed	Access; Paralleled and Crossed
I-80	Crossed	Crossed	Crossed	Crossed
Keiser Avenue	Paralleled and Crossed	Paralleled and Crossed	Paralleled and Crossed	Paralleled and Crossed
Lake Vista Road	Access	Access	Access	Access
Martis Peak Road	Access; Crossed	Access; Crossed	Access; Crossed	Access; Crossed
Northstar Drive	Access	Access	Access	Access

Public Road	Use and Proposed Relationship			
	Alternative 1 (PEA Alternative)	Alternative 2 (Modified Alternative)	Alternative 3 (Road Focused Alternative)	Alternative 4 (Proposed Alternative)
Parsimony Lane	Access	Access	Access	Access
Red Cedar Street	Access	Access	Access	Access
Riverview Drive	Paralleled	Paralleled	Paralleled	Paralleled
Rusty Lane	None	None	Crossed (Option 3A only)	None
Salisbury Lane	Access	Access	Access	Access
Schaffer Mill Road	Access	Access	Access; Paralleled and Crossed	Access
Speckled Street	Access; Paralleled and Crossed	Access; Paralleled and Crossed	Access; Paralleled and Crossed	Access; Paralleled and Crossed
SR 267	Access; Paralleled and Crossed	Access; Paralleled and Crossed	Access; Paralleled and Crossed	Access; Paralleled and Crossed
SR 89	Crossed	Crossed	Crossed	Crossed
Stewart Way	Access	Access	Access; Crossed (Option 3A only)	Access
Wolf Street	None	None	Crossed (Option 3A only)	None

**ALTERNATIVE 1 - PEA ALTERNATIVE**

**DIRECT AND INDIRECT EFFECTS**

**IMPACT 4.12-1 (Alt.1)** Create an adverse effect on existing transportation systems including highway, transit, bicycle, or pedestrian facilities. Construction of Alternative 1 (PEA Alternative) would generate temporary construction-related traffic on the road network in the project area and would require temporary lane/shoulder closures in work zones resulting in traffic delays. Construction period impacts could result in a temporary disruption to various modes of surface travel (transit, automobile, truck, bicycle, and pedestrian); however, implementation of various applicant proposed measures would prevent and minimize adverse effects on the performance of these systems. This impact would be **less than significant**.

**Construction Phase**

Construction activities such as material deliveries to work sites, removal of trees from the ROW, removing and installing conductor, and removing and installing poles would affect roadway operations, potentially resulting in travel delays on all roadways used to deliver or remove equipment and materials, and to access construction sites. As summarized in Table 4.12-2, various public roads are anticipated to be used to access the project footprint under Alternative 1 (PEA Alternative): Speckled Street, Deer Street, SR 267, Cambridge Drive, Commonwealth Drive, Canterbury Drive, Bristol Circle, Salisbury Lane, Hastings Lane, Lake Vista Road, Stewart Way, Gas Line Road, Fairway Drive, Mt. Watson Road, Bunker Road, Grove Street, Red Cedar Street, Carnelian Woods Avenue, Martis Peak Road, Highlands View Road, Northstar Drive, Schaffer Mill Road, Parsimony Lane, and Old Brockway Road. In addition to delays due to increased traffic volumes, traffic delays could occur when large trucks enter and exit the road at designated access points. These construction-related transportation effects would be localized and temporary in nature.

Construction of power lines across I-80, SR 267, and SR 89 would require an encroachment permit (TR-0100) from Caltrans. Traffic control would be implemented in conjunction with this permit. For I-80, rolling breaks (i.e., highway patrol vehicles slowing traffic behind them to provide a break in traffic where work could be conducted) of durations sufficient for construction personnel to install pull rope and string conductors across the freeway would be required. At crossings with SR 267, SR 89, and local roadways, flaggers may temporarily hold traffic during stringing activities and reconductoring work. These roads would typically be closed for 10 to 15 minutes during the pull of each conductor, but I-80 could be closed for up to one hour for the stringing.

Intermittent, temporary lane/shoulder closures may be required in some locations for up to one-week duration. Lane or shoulder closures could occur on any of the roads identified in Table 4.12-2, but are most likely along the roads that the alignment would parallel for some distance. During closures, at least one travel lane would be kept open and a flagger or signal at each end would control the traffic flow. This would be consistent with Applicant Proposed Measure (APM) AQ-12 calling for use of flaggers or other traffic control measures. (See Section 3.7, Applicant Proposed Measures for a description of APMs, which are measures that were developed and agreed to by the project applicant to reduce or avoid adverse environmental effects of the action alternatives.) Although APM AQ-12 was developed to reduce vehicle emissions during project construction by minimizing traffic stoppages and related idling, it would also benefit traffic management. In addition, consistent with APM AQ-13, lane/shoulder closures would generally occur outside of the peak commute hours in more populated areas to minimize impacts to traffic flow. Again, although APM AQ-13 was developed to reduce vehicle emissions during project construction, it would also benefit traffic management.

Construction of Alternative 1 (PEA Alternative) would also involve the use of USFS roads. As discussed above, these roads within the project area are used seasonally for recreation and have variable capacity; they are not part of the integrated regional transportation system in that they are not typically used for worker commute trips or other non-recreational transportation purposes (with the potential exception of a limited number of trips on the Fiberboard Freeway). Prior to the initiation of construction, some minor maintenance to existing USFS roads would be required, such as filling depressions with gravel or culvert cleaning or repair. Following construction, the applicant would repair any damages caused by construction. No substantial impacts on roadway operations, from a traffic flow perspective, are anticipated on these roads (see Section 4.8, Recreation, for an evaluation of project effects on recreational uses of USFS roads). Construction activity would be dispersed in the project area over five construction seasons, so there would not be a single, large-scale effect on the roadway system. The three phase construction schedule for the project estimates that the 650 Line would be upgraded in 2014 and the 650 Line substations would be upgraded in 2016, while the 625 Line and substations would be upgraded in 2018 and 2019. Within these project areas during the three phases, only certain roads where construction is occurring or access is needed at a particular time would be affected for temporary periods. Once construction is completed at a particular location, the roads would resume normal operation.

Transit users, bicyclists, and pedestrians would experience temporary delays and closures similar to motorists using the area's roadways when construction activities necessitate temporary road or lane closures. Bicycle routes potentially affected include a Class II bicycle route on SR 267 (Segments 650-2 and -3, Segments 625-8 and -9) where the power line would parallel and/or cross the highway; and a pedestrian path and Class I and Class III bicycle facility near Tahoe City along SR 89 (Segment 625-1). In the Town of Truckee, Segment 650-6 would parallel and cross a number of streets that could potentially be used by bicyclists and pedestrians. Similarly, various streets would be paralleled and crossed in Tahoe City (Segment 650-1) and Kings Beach (Segments 625-10 and 650-1).

The applicant would obtain applicable encroachment permits from agencies for work within the ROWs of roadways in the project area; and would perform work according to permit requirements. The applicant would also implement the following APM, which would further reduce the potential for construction traffic to have an adverse effect on the existing transportation system.

- ▲ **APM TRAN-1:** The applicant will develop and implement a Traffic Control Plan to minimize disruptions to surface travel and protect the safety of workers and the traveling public. The Traffic Control Plan will include, but not be limited to, the following:
- /// coordination with local transportation agencies and emergency service providers for temporary lane and road closures and implementation of measures to maintain emergency vehicle access;
  - /// provide mechanisms to prevent construction activities from interfering with emergency response or emergency evacuation plans in the event an evacuation plan were to be activated during the construction period;
  - /// identification of any time restrictions on construction activities that could affect roadways;
  - /// traffic control measures (flagging methods, signage, reduced speeds in work zones, parking restrictions);
  - /// provision for maintaining safe pedestrian and bicycle travel (e.g., signage to direct pedestrians and bicyclists to safe routes around construction areas); and
  - /// public outreach advising the travelling public of construction activity and travel restrictions.

The Traffic Control Plan measures will be monitored by the applicant for effectiveness and adjustments will be made as needed to the implementation of the Traffic Control Plan to further minimize travel disruptions and maintain safety. The Traffic Control Plan will meet the requirements of agencies with jurisdiction over the roadways being affected, such as Caltrans for I-80 and SR 267 effects, and TRPA if any actions trigger TRPA code 22.7.6 Traffic Mitigation requirements within the Lake Tahoe Basin.

APM TRAN-1, in addition to other APMs adopted by the applicant and the dispersed nature of construction activities, would effectively minimize the adverse effects of project construction on the performance of transportation systems in the project area and temporary disruptions to various modes of surface travel (transit, automobile, truck, bicycle, and pedestrian). These construction period impacts on transportation system operations are considered **less than significant**.

### Operation and Maintenance Phase

As described previously in Chapter 3, Project Alternatives, operations and maintenance activities for the upgraded 625 and 650 Lines and related facilities would be the same as under existing conditions. Maintenance and repair of the access ways used to access project facilities would take place as part of routine operations. Vehicle trips would be generated on local roadways when trucks travel along the system for annual patrols, annual hazard tree inspections, vegetation management, and to find and respond to unexplained outages. Additionally, pole-climbing inspections are conducted once every five years and substations are inspected quarterly. Typically, any part of the overall system would be visited between five and 10 times per year. Because of the limited number of trips generated by operation and maintenance activities, and the fact that this is a continuation of existing activities that generate vehicle trips under existing conditions, operations and maintenance would not alter the effectiveness or performance of transportation systems in the project area or result in substantial disruptions to the various modes of surface travel. Inspection of the permitted road system and best management practices BMPs would occur on an annual cycle. Maintenance would be prioritized based upon inspections to maintain BMPs for resource protection and to maintain the road system to the applicable Road Management Objective (RMO) defined in the project level TAP. Therefore, there would be **no impacts** from operation on transportation systems.

### MITIGATION MEASURES

*No mitigation measures are required.*

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<b>IMPACT 4.12-2 (Alt.1)</b>	<b>Conflict with an applicable congestion management program, including, but not limited to LOS standards and travel demand measures or generate 100 or more new DVTE in the Lake Tahoe Basin.</b> Construction under Alternative 1 (PEA Alternative) would add traffic temporarily to the area roadway network. The amount of additional temporary traffic may exceed 100 new DVTE in the Lake Tahoe Basin during construction; however, these DVTE would be generated on a short term and temporary basis, and would be spread over different locations and times of day. Given these conditions, the existing roadway network in the overall project area is expected to have adequate capacity to accept the temporary localized increases in DVTE due to construction of the project components. This impact would be <b>less than significant</b> .
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Vehicle trips generated by construction activities are typically associated with construction personnel driving to and from the worksite; materials and equipment being delivered to the worksite; materials and waste being removed from the worksite; and, in the case of long linear projects, equipment and personnel moving between different portions of the project area. For the purpose of this analysis, it is assumed that each construction worker would commute to and from the project in a personal vehicle and that there would be no carpooling. However, it is assumed that personnel would frequently park personal vehicles at staging areas and then ride together in crew trucks or other vehicles to sites along the alignment where construction is underway.

Based on the estimate of 65 construction personnel on site during peak construction periods, approximately 130 DVTE are assumed to result from construction personnel commutes. The maximum DVTE anticipated for vehicles entering and leaving the project footprint for material delivery and removal and other activities, including moving between active construction areas in the project footprint, under Alternative 1 (PEA Alternative) would be: 25 DVTE for Phase 1; 65 DVTE for Phase 2; and 49 DVTE for Phase 3. (See Chapter 3, Project Alternatives, for details on construction vehicle/truck trips). This estimate does not include the employee vehicle trips described above. With the addition of the 130 DVTE employee trips to the site, Alternative 1 (PEA Alternative) would result in approximately 195 DVTE on local roadways during peak construction periods.

Construction of the 625 and 650 Electrical Line Upgrade Project could generate more than 100 DVTE, which is the threshold for trips generated from project operations in the first TRPA IEC question; "Generation of 100 or more new DVTE during operation?." The trips generated by the project would occur only during construction and on generally lightly travelled roadways, often during hours of the day when the roadways are particularly lightly travelled. During periods of peak construction activity, when the most DVTEs would be generated, construction activity would be occurring in multiple locations that would be accessed from a variety of local roadways. This may result from activity occurring on both the lines and substations simultaneously, or by construction occurring simultaneously in different locations along a single line, such as tree removal being undertaken on one portion of the line while poles are installed in another area where tree removal is already complete. Construction trip generation would also be spread over the day, with employee commute trips primarily occurring in the early morning and late afternoon while material deliveries and removal, and vehicle trips between different portions of the construction site, would occur throughout the day. Many of the vehicle trips between different portions of the project would occur on lightly travelled USFS roads that can accommodate additional vehicle trips without significant adverse effects on performance.

The only highway that would be regularly used to access the project footprint is SR 267, which is a two-lane, undivided highway. Although the highway is at a LOS D overall, the roadway currently operate at LOS E from the Truckee Tahoe Airport through the Town of Truckee. This is consistent with the current Caltrans standard of LOS E in urban areas and LOS D in rural areas. As shown in Table 4.12-3, the anticipated traffic increases on SR 267 during construction would not degrade the LOS at any point along the highway.

Table 4.12-3 Potential Construction Impacts to LOS on SR 267

Count Location	Current Conditions		Estimated Project Construction <sup>3</sup>	
	Back Peak Hour/ Ahead Peak Hour <sup>1</sup>	LOS <sup>2</sup>	Back Peak Hour/ Ahead Peak Hour	LOS <sup>2</sup>
Bridge Street Right Turn/Soaring Way-Left Turn	1,300/1,600	E	1,400/1,700	E
Placer/Nevada County Line	1,600/1,600	E	1,700/1,700	E
Truckee Tahoe Airport Road	1,450/1,300	E	1,550/1,400	E
Northstar Drive	1,300/980	D	1,400/1,080	D
Martis Peak Road	980/790	D	1,080/890	D
Kings Beach, North Avenue	790/790	D	890/890	D

## Notes:

<sup>1</sup> Source: Caltrans 2012a<sup>2</sup> Based on highway LOS Standards for a two-lane, undivided highway. Maximum weekday peak hour traffic volume to achieve specified LOS: LOS C = 700; LOS D = 1,430; LOS E = 2,740. Source: 2010 Highway Capacity Manual (Transportation Research Board).<sup>3</sup> Assuming the projected 200 DVTE occur during peak hours and add an even 100 trips in each direction.

As described above, operations and maintenance activities for the upgraded 625 and 650 Lines and related facilities would be the same as under existing conditions. Vehicle trips would be generated on local roadways when trucks travel along the system for annual patrols, annual hazard tree inspections, vegetation management, and to find and respond to unexplained outages (generally resulting in 10 or less annual visits to any one location). Because of the limited number of trips generated by operation and maintenance activities, and the fact that this is a continuation of existing activities that generate vehicle trips under existing conditions, operations and maintenance would not contribute vehicle trips that could impact LOS. Therefore, operation and maintenance would have no impact on applicable plans, ordinances, or policies establishing measures of effectiveness for the performance of the circulation system.

Given these conditions, the existing roadway network in the overall project area is expected to have adequate capacity to accept the temporary localized increases in DVTE due to construction of the project components. However, implementation of APM TRAN-1 would further reduce potential project effects through identification of time restrictions on construction activities to minimize effects on local roadways. If needed, construction traffic on specific roadways could be limited or prohibited during peak commute hours, peak periods of tourist travel, or when local events that generate heavy traffic occur. Requirements for public outreach and to obtain encroachment permits from agencies with jurisdiction over local roadways would help ensure that peak traffic periods are identified and responded to in the traffic control plans. Requirements for the project applicant to monitor implementation of the traffic control plan and adjust the plan if it is found not to be effective would result in an appropriate response if traffic conflicts are discovered during the construction process. Implementation of this APM would further reduce the potential for project-generated DVTEs to alter the effectiveness or performance of transportation systems in the project area. This impact would be **less than significant**.

## MITIGATION MEASURES

*No mitigation measures are required.*

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<b>IMPACT 4.12-3 (Alt.1)</b>	<b>Increased motor vehicle, bicyclist, and pedestrian traffic hazards.</b> Construction of Alternative 1 (PEA Alternative) could create temporary increases in traffic hazards on the road network in the project area as a result of temporary lane/shoulder closures and construction-related traffic in work zones. The construction period traffic hazards could affect all modes of surface travel (transit, automobile, truck, bicycle, and pedestrian); however, implementation of a traffic control plan and other measures included as part of the project would reduce potential hazards. This impact would be <b>less than significant</b> .
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The project would not modify the public circulation system, and as such would not increase hazards due to a design feature (e.g., sharp curves or dangerous intersections). Construction activities in and along roadways in the project area could result in increased traffic hazards. Lane and shoulder closures resulting in decreased roadway width, if not managed appropriately, could increase hazards for vehicles, as well as bicyclists if they also travel on the particular roadway segment.

The greatest potential for hazards is assumed to occur on area highways, where unfamiliar motorists may travel at high speeds. The proposed crossing of I-80 is between SR 89 and SR 267 in the Town of Truckee. Although this area currently experiences a high collision rate, construction activities with potential to impact traffic would occur during off hours and would be completed in one (less than one hour) period. Bicyclists and pedestrians are prohibited from I-80 and would not be impacted.

The alignment would cross SR 89 southwest of Tahoe City, approximately 0.25 mile from the intersection of SR 89 with SR 28. Although this highway is a main access point for residents and visitors to Lake Tahoe, it has a low collision rating. Construction would slow or halt traffic (potentially including public transportation services such as Tahoe Area Regional Transit and Lake Tahoe Express) for a brief period, but is not expected to contribute to a substantial traffic hazard. Bike lanes along SR 89 are Class I, separated paths and temporary highway closure is not anticipated to pose a hazard to bicyclist.

State Route 267 is the only highway that would be used to access the project footprint. In addition, Alternative 1 (PEA Alternative) would roughly follow SR 267 for over 6 miles and would cross the highway five times. State Route 267 is not heavily used by trucks, has a low collision rating, and operates at an acceptable LOS. The addition of construction traffic and potential lane and shoulder closures could adversely affect traffic (including Tahoe Area Regional Transit). Bicyclists are currently permitted along SR 267, and any lane closures or detours could increase hazards to these users.

The movement of construction equipment, including oversized vehicles, along the roadways could reduce travel speeds, and potentially increase hazardous passing moves and the risk of collision. Where construction activities occur across or along designated bicycle and pedestrian trails, and in urbanized areas traveled by bicyclists and pedestrians, the movement and use of construction equipment could pose a hazard. Implementation of APM TRAN-1 would reduce this impact to a **less-than-significant** level because it would employ traffic control measures and public outreach to reduce construction-caused traffic conflicts and provide for safe travel conditions through the construction zones for all modes of transportation.

## MITIGATION MEASURES

*No mitigation measures are required.*

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<b>IMPACT 4.12-4 (Alt.1)</b>	<b>Result in changes to existing parking facilities, or demand for new parking.</b> Construction of Alternative 1 (PEA Alternative) would necessitate parking vehicles and construction equipment along the power line routes, at substations, at staging areas, and along roads. Alternative 1 (PEA Alternative) would not require changes to existing parking facilities or create a demand for new permanent parking facilities. Therefore, there would be <b>no impact</b> .
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Construction of Alternative 1 (PEA Alternative) would necessitate parking vehicles and construction equipment along the power line routes, at substations, and at staging areas. When power line construction activities cross or parallel existing roadways, it is also possible that the shoulders of these roadways, or established on-street or off-street parking areas in urbanized areas, could temporarily be used for parking. However, the various staging areas would serve as the primary locations for parking of construction personnel's personal vehicles, as well as construction vehicles and equipment. Construction of the power lines would occur in a linear fashion and, except for at staging areas, vehicles would generally be parked in different locations each day or for only a short number of consecutive days in the same work area.

During project operations, parking would occur within substations and along the power line ROW. There would be no changes in parking demand. The upgraded conductor may cross some existing parking areas in urban locations, and is identified as crossing a parking area serving the Tahoe Rim Trail near SR 267. However, having a power line crossing over a vehicle parking area does not adversely affect the continued use of the parking area and an access way for construction, operation, or maintenance would not need to be constructed in the parking area as the existing asphalt or other level, hardened surface would be sufficient to support these activities.

Given the conditions described above, Alternative 1 (PEA Alternative) would not require changes to existing parking facilities or create a demand for new permanent parking facilities. There would be **no impact** on parking with Alternative 1 (PEA Alternative).

## MITIGATION MEASURES

*No mitigation measures are required.*

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<b>IMPACT 4.12-5 (Alt.1)</b>	<b>Result in the alteration of air traffic patterns.</b> The proposed project could result in a temporary increase in air traffic levels at the Truckee Tahoe Airport if helicopter flights during construction utilize airport facilities. Helicopter use must comply with applicable FAA regulations and airport operation requirements. Project construction would be unlikely to result in the alteration of air traffic patterns, and would not result in any alterations that would result in a substantial safety risk. This impact would be <b>less than significant</b> .
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Helicopters would be used to deliver and remove construction material from areas with rugged terrain and where ground access would not safely accommodate the required construction equipment and vehicles. At least one staging area of either side of SR 267 would be used to stage helicopter operations. Although staging areas would be the primary location for helicopter operations, there is the possibility that helicopters used for project construction could occasionally take-off from, or land at the Truckee Tahoe Airport, resulting in a temporary increase in air traffic levels.

However, helicopter use of the Truckee Tahoe Airport would not be frequent and would not add a substantial number of flights to overall airport operations. For helicopters to be used as part of project construction, the FAA requires that a helicopter lift plan be developed by the contractor and coordinated and approved by the FAA Flight Standards District Office for the project area (the District Office in Reno, Nevada serves the project area). Development of the lift plan would require coordination with the Truckee Tahoe Airport and consideration of airport operations. In addition, helicopters used for the project would not be flown in the dark

and would be operated consistent with construction time restrictions in local noise ordinances. Given these conditions, helicopters used for construction of the proposed project would not result in a change in air traffic patterns that would result in a substantial safety risk. This impact would be **less than significant**.

## MITIGATION MEASURES

*No mitigation measures are required.*

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<b>IMPACT 4.12-6 (Alt.1)</b>	<b>Result in inadequate emergency access.</b> Construction of Alternative1 (PEA Alternative) would create temporary construction-related traffic on the road network in the project area and would require temporary lane/shoulder closures in work zones resulting in traffic delays that may affect emergency access. However, through implementation of a traffic control plan and other measures included as part of the project, project effects on the roadway network would not have a substantial adverse effect on emergency access. The impact would be <b>less than significant</b> .
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In general, most roads would remain open and unimpeded by project activities during construction. However, temporary lane closures, short-term road closures when lines are pulled across roadways, and slower moving construction trucks on roadways may cause traffic delays that could affect emergency access for police, fire or ambulance service. With the implementation of APM TRAN-1, this impact would be **less than significant**, because coordination with emergency service providers and implementation of measures to maintain emergency vehicle access would be required by the Traffic Control Plan.

## MITIGATION MEASURES

*No mitigation measures are required.*

## ALTERNATIVE 2 – MODIFIED ALTERNATIVE

### DIRECT AND INDIRECT EFFECTS

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<b>IMPACT 4.12-1 (Alt.2)</b>	<b>Create an adverse effect on existing transportation systems including highway, transit, bicycle, or pedestrian facilities.</b> Construction of Alternative 2 (Modified Alternative) would generate temporary construction-related traffic on the road network in the project area and would require temporary lane/shoulder closures in work zones resulting in traffic delays. Construction period impacts could result in a temporary disruption to various modes of surface travel (transit, automobile, truck, bicycle, and pedestrian); however, implementation of various APMs would prevent and minimize adverse effects on the performance of these systems. This impact would be <b>less than significant</b> .
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The impacts associated with Alternative 2 (Modified Alternative) would be similar to that of Impact 4.12-1 (Alt.1) described above. Alternative 2 (Modified Alternative) would cross and parallel the same roads as Alternative 1 (PEA Alternative). Although Alternative 2 (Modified Alternative) would use different USFS roads and temporary access ways, the same public roads would be used to access the project footprint as identified above for Alternative 1 (PEA Alternative). These public roads could experience increased congestion as a result of construction traffic. (See Section 4.8, Recreation, for an evaluation of project effects on recreational uses of USFS roads.)

Segment 625-1A would cross SR 89 (Class I and III bicycle facility) at a different location than Alternative 1, (PEA Alternative), although the crossing would still occur. Construction of Segments 625-9 and 625-10 of the double-

circuit 625/650 Line east of Brockway Summit would reduce temporary construction traffic impacts along SR 267 compared to Alternative 1 (PEA Alternative), although topping of the existing poles in Segments 650-1 and 650-2 would still be required (see Exhibit 3-8 in Chapter 3, Project Alternatives). SR 267 between Brockway Summit and Kings Beach would still be used by construction-related vehicles to transport workers, equipment, and materials. Although construction period impacts on existing transportation systems would be somewhat less than under Alternative 1 (PEA Alternative) in some areas, substantial disruptions to various modes of surface travel and adverse effects on the performance of the transportation system would still occur. Because construction traffic controls implemented through the Traffic Control Plan (APM TRAN-1) would minimize potential adverse effects on transportation systems in the project area and reduce disruptions to applicable modes of surface travel, the impact would be **less than significant**.

## MITIGATION MEASURES

*No mitigation measures are required.*

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<b>IMPACT 4.12-2 (Alt.2)</b>	<b>Conflict with an applicable congestion management program, including, but not limited to LOS standards and travel demand measures or generate 100 or more new DVTE in the Lake Tahoe Basin.</b> Construction of Alternative 2 (Modified Alternative) would temporarily add traffic to the area roadway network. The amount of additional temporary traffic may exceed 100 new DVTE in the Lake Tahoe Basin during construction; however, these DVTE would be generated on a short term and temporary basis, and would be spread over different locations and times of day. Given these conditions, the existing roadway network in the overall project area is expected to have adequate capacity to accept the temporary localized increases in DVTE due to construction of the project components. This impact would be <b>less than significant</b> .
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This impact would be similar to that of Impact 4.12-2 (Alt.1). The maximum DVTE anticipated for vehicles entering and leaving the project footprint for material delivery and removal and other activities, including moving between active construction areas in the project footprint, under Alternative 2 (Modified Alternative) would be: 21 DVTE for Phase 1; 65 DVTE for Phase 2; and 50 DVTE for Phase 3. Although the overall generation of construction vehicle trips under Alternative 2 (Modified Alternative) may be somewhat less than Alternative 1 (PEA Alternative) during Phase 1 of construction because of the incorporation of a double-circuit segment (resulting in fewer linear miles of line construction), the 100 DVTE threshold may still be exceeded.

Given the amount and characteristics of anticipated trip generation under Alternative 2 (Modified Alternative) and the available roadway system, the existing roadway network in the overall project area is expected to have adequate capacity to accept the temporary, localized increases in DVTE due to construction of the project components. However, there is the possibility that during specific times individual roadway segments or intersections may experience a substantial adverse effect on the performance. Implementation of APM TRAN-1 would reduce this impact to a **less-than-significant** level because implementation would further reduce the potential for project-generated DVTEs to alter the effectiveness or performance of transportation systems in the project area.

## MITIGATION MEASURES

*No mitigation measures are required.*

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**IMPACT 4.12-3 (Alt.2)** **Increased motor vehicle, bicyclist, and pedestrian traffic hazards.** Construction of Alternative 2 (Modified Alternative) could create a temporary increase in traffic hazards on the road network in the project area as a result of temporary lane/shoulder closures and construction-related traffic in work zones. The construction period traffic hazards could affect all modes of surface travel (transit, automobile, truck, bicycle and pedestrian); however, implementation of a traffic control plan and other measures included as part of the project would reduce potential hazards. This impact would be **less than significant**.

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This impact would be similar to Impact 4.12-3 (Alt.1). However, traffic hazards along SR 267 would be somewhat reduced with Alternative 2 (Modified Alternative) compared to Alternative 1 (PEA Alternative) because the double-circuit option would result in construction of both the 625 and 650 Lines along Segments 625-9 and 625-10 and would reduce construction activity along SR 267 between Kings Beach and Brockway Summit. Alternative 2 (Modified Alternative) would roughly parallel SR 267 for over 4 miles and would cross SR 267 five times. Hazards would be similar to Alternative 1 (PEA Alternative) along other roadways.

Implementation of APM TRAN-1 would reduce this impact to a **less-than-significant** level because it would employ traffic control measures and public outreach to reduce construction-caused traffic conflicts and provide for safe travel conditions through the construction zones for all modes of transportation.

## MITIGATION MEASURES

*No mitigation measures are required.*

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**IMPACT 4.12-4 (Alt.2)** **Result in changes to existing parking facilities, or demand for new parking.** Construction of Alternative 2 (Modified Alternative) would necessitate parking vehicles and construction equipment throughout the project footprint. This alternative would not require changes to existing parking facilities or create a demand for new permanent parking facilities. Therefore, there would be **no impact**.

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This impact would be similar to Impact 4.12-4 (Alt.1). However, the potential need for parking along SR 267 would be less with Alternative 2 (Modified Alternative) compared to Alternative 1 (PEA Alternative) because the double-circuit option places construction of both the 625 and 650 Lines along Segments 625-9 and 625-10 and reduces construction activity along SR 267 by approximately 2 miles between Kings Beach and Brockway Summit. Alternative 2 (Modified Alternative) would not require changes to existing parking facilities or create a demand for new permanent parking facilities. There would be **no impact** on parking with this alternative.

## MITIGATION MEASURES

*No mitigation measures are required.*

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**IMPACT 4.12-5 (Alt.2)** **Result in the alteration of air traffic patterns.** Implementation of Alternative 2 (Modified Alternative) could result in a temporary increase in air traffic levels at the Truckee Tahoe Airport if helicopter flights during construction utilize airport facilities. However, helicopter use must comply with applicable FAA regulations and airport operation requirements. Project construction would be unlikely to result in the alteration of air traffic patterns, and would not result in any alterations that would result in a substantial safety risk. This impact would be **less than significant**.

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Alternative 2 (Modified Alternative) would not result in power structures that exceed height limits established by the FAA, or other structures that could disrupt traffic patterns.

Impacts associated with effects of helicopter operations on air traffic patterns under Alternative 2 (Modified Alternative) would be the same as Impact 4.12-5 (Alt.1). Both alternatives would generate a similar number of helicopter trips and would use the same facilities for helicopter operations. For the reasons described for Alternative 1 (PEA Alternative), helicopters used for construction of Alternative 2 (Modified Alternative) would not result in a change in air traffic patterns. This impact would be **less than significant**.

## MITIGATION MEASURES

*No mitigation measures are required.*

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<b>IMPACT 4.12-6 (Alt.2)</b>	<b>Result in inadequate emergency access.</b> Construction of Alternative 2 (Modified Alternative) would create temporary construction-related traffic on the road network in the project area and would require temporary lane/shoulder closures in work zones resulting in traffic delays that may affect emergency access. However, through implementation of a traffic control plan and other measures included as part of the project, project effects on the roadway network would not have a substantial adverse effect on emergency access. The impact would be <b>less than significant</b> .
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This impact would be similar to Impact 4.12-6 (Alt.1). However, the potential for construction activity to affect emergency access would be less with Alternative 2 (Modified Alternative) compared to Alternative 1 (PEA Alternative) because the double-circuit option places construction of both the 625 and 650 Lines along Segments 625-9 and 625-10 off of public roads and reduces construction activity along SR 267 between Kings Beach and Brockway Summit. Temporary lane closures, short-term road closures when lines are pulled across roadways, and slower moving construction trucks on roadways would still occur under Alternative 2 (Modified Alternative) and could cause traffic delays that could affect emergency access for police, fire, or ambulance service. With the implementation of APM TRAN-1, this impact would be **less than significant** because coordination with emergency service providers and implementation of measures to maintain emergency vehicle access would be required by the Traffic Control Plan.

## MITIGATION MEASURES

*No mitigation measures are required.*

## ALTERNATIVE 3 – ROAD FOCUSED ALTERNATIVE

### DIRECT AND INDIRECT EFFECTS

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<b>IMPACT 4.12-1 (Alt.3)</b>	<b>Create an adverse effect on existing transportation systems including highway, transit, bicycle, or pedestrian facilities.</b> Construction of Alternative 3 (Road Focused Alternative) would generate temporary construction-related traffic on the road network in the project area and would require temporary lane/shoulder closures in work zones resulting in traffic delays. Construction period impacts could result in a substantial (although temporary) disruption to various modes of surface travel (transit, automobile, truck, bicycle, and pedestrian); however, implementation of various APMs would prevent and minimize adverse effects on the performance of these systems. This impact would be <b>less than significant</b> .
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The impacts associated with Alternative 3 (Road Focused Alternative) would be similar to those of Impact 4.12-1 (Alt.1), described above. Although Alternative 3 (Road Focused Alternative) would use different USFS roads and temporary access ways from the other action alternatives, the same public roads would be used to access the project footprint as identified above for Alternative 1 (PEA Alternative). These access ways could experience increased congestion as a result of construction traffic.

There would be increased construction activity immediately adjacent to the Fiberboard Freeway, as the proposed Alternative 3 (Road Focused Alternative) route closely follows the roadway, but the overall length of affected roadway would not change. In the Kings Beach area, Alternative 3A (Road Focused Alternative with Double Circuit Option) would result in five additional crossings of local roads not required under any of the other action alternatives (see Table 4.12-2). Alternative 3 (Road Focused Alternative) and Alternative 3A (Road Focused Alternative with Double Circuit Option) are also the only action alternatives that would be located near, and cross, Schaffer Mill Road south of Truckee. Among the four action alternatives, this alternative would also have the greatest effect on traffic on SR 267, since the alignment has the greatest extent of power line that parallels SR 267 (over 8 miles for Alternative 3 and over 9 miles for Alternative 3A). This alternative could result in substantial disruptions to various modes of surface travel and adverse effects on the performance of the transportation system. However, because construction traffic controls implemented through the Traffic Control Plan (APM TRAN-1) would minimize potential adverse effects on transportation systems in the project area and reduce disruptions to applicable modes of surface travel, the impact would be **less than significant**.

## MITIGATION MEASURES

*No mitigation measures are required.*

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<b>IMPACT 4.12-2 (Alt.3)</b>	<b>Conflict with an applicable congestion management program, including, but not limited to LOS standards and travel demand measures or generate 100 or more new DVTE in the Lake Tahoe Basin.</b> Construction under Alternative 3 (Road Focused Alternative) would temporarily add traffic to the area roadway network. The amount of additional temporary traffic may exceed 100 new DVTE in the Lake Tahoe Basin during construction; however, these DVTE would be generated on a short term and temporary basis, and would be spread over different locations and times of day. Given these conditions, the existing roadway network in the overall project area is expected to have adequate capacity to accept the temporary localized increases in DVTE due to construction of the project components. This impact would be <b>less than significant</b> .
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This impact would be similar to that of Impact 4.12-2 (Alt.1). The maximum DVTE anticipated for vehicles entering and leaving the project footprint for material delivery and removal and other activities, including moving between active construction areas in the project footprint, under Alternative 3 (Road Focused Alternative) would be: 26 DVTE for Phase 1; 67 DVTE for Phase 2; and 44 DVTE for Phase 3. The overall generation of construction vehicle trips under Alternative 3 (Road Focused Alternative) may be somewhat less than Alternative 1 (PEA Alternative) because of the incorporation of a double-circuit segment (resulting in fewer linear miles of line construction and slightly more trips attributable to the first two phases of construction), the 100 DVTE threshold may still be exceeded.

Given the amount and characteristics of anticipated trip generation under Alternative 3 (Road Focused Alternative) and the available roadway system, the existing roadway network in the overall project area is expected to have adequate capacity to accept the temporary localized increases in DVTE due to construction of the project components. However, there is the possibility that during specific times individual roadway segments or intersections may experience a substantial adverse effect on the performance. Implementation of APM TRAN-1 would reduce this impact to a **less-than-significant** level because it would further reduce the potential for project-generated DVTEs to alter the effectiveness or performance of transportation systems in the project area.

## MITIGATION MEASURES

*No mitigation measures are required.*

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<b>IMPACT 4.12-3 (Alt.3)</b>	<b>Increased motor vehicle, bicyclist, and pedestrian traffic hazards.</b> Construction of Alternative 3 (Road Focused Alternative) could create a temporary increase in traffic hazards on the road network in the project area as a result of temporary lane/shoulder closures and construction-related traffic in work zones. The construction period traffic hazards could affect all modes of surface travel (transit, automobile, truck, bicycle and pedestrian); however, implementation of a traffic control plan and other measures included as part of the project would reduce potential hazards. This impact would be <b>less than significant</b> .
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This impact would be similar to Impact 4.12-3 (Alt.1). However, traffic hazards along SR 267 would be somewhat greater with Alternative 3 (Road Focused Alternative) compared to Alternative 1 (PEA Alternative) and Alternative 2 (Modified Alternative) because of the increased mileage of power line to be installed along the highway in Segments 650-1 and 650-2 between Kings Beach and Brockway Summit, and in the Martis Valley. There would also be increased construction activity along the Fiberboard Freeway. Hazards would be similar to Alternative 1 (PEA Alternative) along other roadways and pedestrian and trails. Implementation of APM TRAN-1 would reduce this impact to a **less-than-significant** level because it would employ traffic control measures and public outreach to reduce construction-caused traffic conflicts and provide for safe travel conditions through the construction zones for all modes of transportation.

## MITIGATION MEASURES

*No mitigation measures are required.*

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<b>IMPACT 4.12-4 (Alt.3)</b>	<b>Result in changes to existing parking facilities, or demand for new parking.</b> During construction of Alternative 3 (Road Focused Alternative), vehicles and construction equipment would be parking in the project footprint. This alternative would not require changes to existing parking facilities or create a demand for new permanent parking facilities. Therefore, there would be <b>no impact</b> .
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This impact would be similar to Impact 4.12-4 (Alt.1). The potential need for parking along SR 267 would be greater with Alternative 3 (Road Focused Alternative) compared to Alternative 1 (PEA Alternative) and Alternative 2 (Modified Alternative) because of greater mileage of power line along the highway. However, this alternative still would not require changes to existing parking facilities or create a demand for new permanent parking facilities. There would be **no impact** on parking with this alternative.

## MITIGATION MEASURES

*No mitigation measures are required.*

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<b>IMPACT 4.12-5 (Alt.3)</b>	<b>Result in the alteration of air traffic patterns.</b> Implementation of Alternative 3 (Road Focused Alternative) could result in a temporary increase in air traffic levels at the Truckee Tahoe Airport if helicopter flights during construction utilize airport facilities. However, helicopter use must comply with applicable FAA regulations and airport operation requirements. This impact would be <b>less than significant</b> .
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Alternative 3 (Road Focused Alternative) and Alternative 3A (Road Focused Alternative with Double Circuit Option) are the only action alternatives that would be located adjacent to the Truckee Tahoe Airport. This alternative would not result in power structures that exceed height limits established by the FAA, or other structures that could disrupt traffic patterns. Impacts associated with effects of helicopter operations on air traffic patterns under Alternative 3 (Road Focused Alternative) would be similar to those described for Impact 4.12-5 (Alt.1), although somewhat less because the increased road access under Alternative 3 (Road Focused Alternative) would reduce the overall number of required helicopter flights. For the reasons described for Alternative 1 (PEA Alternative), use of helicopters for construction of Alternative 3 (Road Focused Alternative) would not result in changed in air traffic patterns. Impacts to air traffic patterns would be **less than significant**.

## MITIGATION MEASURES

*No mitigation measures are required.*

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<b>IMPACT 4.12-6 (Alt.3)</b>	<b>Result in inadequate emergency access.</b> Construction of Alternative 3 (Road Focused Alternative) would create temporary construction-related traffic on the road network in the project area and would require temporary lane/shoulder closures in work zones resulting in traffic delays that may affect emergency access. However, through implementation of a traffic control plan and other measures included as part of the project, project effects on the roadway network would not have a substantial adverse effect on emergency access. The impact would be <b>less than significant</b> .
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This impact would be similar to Impact 4.12-6 (Alt.1). However, the potential for construction activity to affect emergency access would be greater with Alternative 3 (Road Focused Alternative) compared to Alternative 1 (PEA Alternative) because of the greater mileage of power line construction along SR 267 in Segments 650-1 and 650-2 and in the Martis Valley. Temporary lane closures, short-term road closures when lines are pulled across roadways, and slower moving construction trucks on roadways would occur under Alternative 3 (Road Focused Alternative) and could cause traffic delays that could affect emergency access for police, fire, or ambulance service. With the implementation of APM TRAN-1, this impact would be **less than significant** because coordination with emergency service providers and implementation of measures to maintain emergency vehicle access would be required by the Traffic Control Plan.

## MITIGATION MEASURES

*No mitigation measures are required.*

## ALTERNATIVE 4 – PROPOSED ALTERNATIVE

### DIRECT AND INDIRECT EFFECTS

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<b>IMPACT 4.12-1 (Alt.4)</b>	<b>Create an adverse effect on existing transportation systems including highway, transit, bicycle, or pedestrian facilities.</b> Construction of Alternative 4 (Proposed Alternative) would generate temporary construction-related traffic on the road network in the project area and would require temporary lane/shoulder closures in work zones resulting in traffic delays. Construction period impacts could result in a substantial (although temporary) disruption to various modes of surface travel (transit, automobile, truck, bicycle, and pedestrian); however, implementation of various APMS would prevent and minimize and adverse effects on the performance of these systems. This impact would be <b>less than significant</b> .
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Impacts to transportation systems associated with construction of Alternative 4 (Proposed Alternative) would be similar to those discussed above under Impact 4.12-1 (Alt.1). Alternative 4 (Proposed Alternative) would use the same public roads for access and would be located near or across the same roads as the other action alternatives. These access ways could experience increased congestion as a result of construction traffic and temporary closures.

Alternative 4 (Proposed Alternative) would parallel SR 267 for over 6 miles, the same distance as Alternative 1 (PEA Alternative). As discussed for Alternative 3 (Road Focused Alternative), there would be increased construction activity immediately adjacent to the Fiberboard Freeway, as the route closely follows the roadway, but the overall length of affected roadway would not change when compared to the other action alternatives. Because construction traffic controls implemented through the Traffic Control Plan (APM TRAN-1) would minimize potential adverse effects on transportation systems in the project area and reduce disruptions to applicable modes of surface travel, the impact would be **less than significant**.

## MITIGATION MEASURES

*No mitigation measures are required.*

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<b>IMPACT 4.12-2 (Alt.4)</b>	<b>Conflict with an applicable congestion management program, including, but not limited To LOS standards and travel demand measures or generate 100 or more new DVTE in the Lake Tahoe Basin.</b> Construction under Alternative 4 (Proposed Alternative) would temporarily add traffic to the area roadway network that may exceed 100 new DVTE. The existing roadway network in the overall project area is expected to have adequate capacity to accept the temporary, localized increases in DVTE due to construction of the project components. This impact would be <b>less than significant</b> .
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This impact would be similar to that of Impact 4.12-2 (Alt.1). The maximum DVTE anticipated for vehicles entering and leaving the project footprint for material delivery and removal and other activities, including moving between active construction areas in the project footprint, under Alternative 4 (Proposed Alternative) would be: 21 DVTE for Phase 1; 65 DVTE for Phase 2; and 44 DVTE for Phase 3. Although similar to the overall trip volumes expected for the other action alternatives, Alternative 4 (Proposed Alternative) is expected to result in the fewest construction trips due to the proximity of the double circuit in Kings Beach to SR 267 and the alignment of the 625 Line near the Fiberboard Freeway.

Given the amount and characteristics of anticipated trip generation under Alternative 4 (Proposed Alternative) and the available roadway system, the existing roadway network in the overall project area is expected to have adequate capacity to accept the temporary, localized increases in DVTE due to construction of the project components. However, there is the possibility that roadway segments or intersections may experience a substantial adverse effect on performance. Implementation of APM TRAN-1 would reduce this impact to a **less-than-significant** level because it would further reduce the potential for project-generated DVTEs to the benefit of the effectiveness or performance of transportation system in the project area.

## MITIGATION MEASURES

*No mitigation measures are required.*

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**IMPACT 4.12-3 (Alt.4)** **Increased motor vehicle, bicyclist, and pedestrian traffic hazards.** Construction of Alternative 4 (Proposed Alternative) could create a temporary increase in traffic hazards on the road network in the project area as a result of temporary lane/shoulder closures and construction-related traffic in work zones. The construction period traffic hazards would affect all modes of surface travel (transit, automobile, truck, bicycle and pedestrian); however, implementation of a traffic control plan and other measures included as part of the project would reduce potential hazards. This impact would be **less than significant**.

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This impact would be similar to Impact 4.12-3 (Alt.1), with the potential exception of increased construction activity along the Fiberboard Freeway. Hazards would be similar to Alternative 1 (PEA Alternative) along other roadways and pedestrian trails. Implementation of APM TRAN-1 would reduce this impact to a **less-than-significant** level because it would employ traffic control measures and public outreach to reduce construction-caused traffic conflicts and provide for safe travel conditions through the construction zones for all modes of transportation.

### MITIGATION MEASURES

*No mitigation measures are required.*

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**IMPACT 4.12-4 (Alt.4)** **Result in changes to existing parking facilities, or demand for new parking.** During construction of Alternative 4 (Proposed Alternative), vehicles and construction equipment would be parking in the project footprint. This alternative would not require changes to existing parking facilities or create a demand for new permanent parking facilities. Therefore, there would be **no impact**.

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This impact would be similar to Impact 4.12-4 (Alt.1). Alternative 4 (Proposed Alternative) would not require changes to existing parking facilities or create a demand for new permanent parking facilities. There would be **no impact** on parking with this alternative.

### MITIGATION MEASURES

*No mitigation measures are required.*

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**IMPACT 4.12-5 (Alt.4)** **Result in the alteration of air traffic patterns.** Implementation of Alternative 4 (Proposed Alternative) could result in a temporary increase in air traffic levels at the Truckee Tahoe Airport if helicopter flights during construction utilize airport facilities. However, helicopter use must comply with applicable FAA regulations and airport operation requirements. This impact would be **less than significant**.

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Impacts associated with effects of helicopter operations on air traffic patterns under Alternative 4 (Proposed Alternative) would be similar to those described for Impact 4.12-5 (Alt.1), although somewhat less because the increased road access under Alternative 4 (Proposed Alternative) would reduce the overall number of required helicopter flights. For the reasons described for Alternative 1 (PEA Alternative), use of helicopters for construction of Alternative 4 (Proposed Alternative) would not result in a change in air traffic patterns. This impact would be **less than significant**.

### MITIGATION MEASURES

*No mitigation measures are required.*

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<b>IMPACT 4.12-6 (Alt.4)</b>	<b>Result in inadequate emergency access.</b> Construction of Alternative 4 (Proposed Alternative) would create temporary construction-related traffic on the road network in the project area and would require temporary lane/shoulder closures in work zones resulting in traffic delays that may affect emergency access. However, through implementation of a traffic control plan and other measures included as part of the project, project effects on the roadway network would not have a substantial adverse effect on emergency access. The impact would be <b>less than significant</b> .
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This impact would be similar to Impact 4.12-6 (Alt.1). Temporary lane closures, short-term road closures when lines are pulled across roadways, and slower moving construction trucks on roadways would occur, which may cause traffic delays that could affect emergency access for police, fire, or ambulance service. With the implementation of APM TRAN-1, this impact would be **less than significant** because coordination with emergency service providers and implementation of measures to maintain emergency vehicle access would be required by the Traffic Control Plan.

### MITIGATION MEASURES

*No mitigation measures are required.*

## ALTERNATIVE 5 – NO ACTION/NO PROJECT ALTERNATIVE

### DIRECT AND INDIRECT EFFECTS

Under Alternative 5 (No Action/No Project Alternative), no upgrades to the 625 and 650 Lines and substations would occur. Activities related to operation and maintenance of the existing power lines and substations would not result in significant adverse traffic effects because there would be no change to existing conditions. The number of trips by authorized personnel to these facilities would remain the same as under existing conditions, and would not result in increased traffic or exceed LOS standards. No changes in air traffic patterns, increase in hazards, changes to emergency access and parking capacity, or conflict with alternative transportation programs would occur.

However, as the existing infrastructure ages, there could be an increased potential for transportation impacts related to failure of the power supply system. Loss of power can negatively affect signalized intersections, and highway and street lighting.

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<b>IMPACT 4.12-1 (Alt.5)</b>	<b>Create an adverse effect on existing transportation systems including highway, transit, bicycle, or pedestrian facilities.</b> No construction traffic would be generated along the area roadway network under this alternative, as construction would not occur. <b>No impact</b> would occur.
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No temporary traffic impacts such as lane/shoulder closures, reduced speed limits in work zones, and travel delays would occur, as there would be no construction. There would be **no impact** to existing transportation facilities.

### MITIGATION MEASURES

*No mitigation measures are required.*

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**IMPACT 4.12-2 (Alt.5)** Conflict with an applicable congestion management program, including, but not limited to LOS standards and travel demand measures or generate 100 or more new DVTE in the Lake Tahoe Basin. No construction traffic would be created along the area roadway network under this alternative, as construction would not occur. **No impact** would occur.

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Without construction to generate additional trips, the effectiveness of the area roadway network is expected to remain at current levels of operation. **No impact** would occur.

## MITIGATION MEASURES

*No mitigation measures are required.*

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**IMPACT 4.12-3 (Alt.5)** Increased motor vehicle, bicyclist, and pedestrian traffic hazards. No construction would occur under this alternative. Therefore, no change in existing roadway hazard conditions would occur as a result of construction. **No impact** would occur.

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Without construction to generate additional trips or alter transportation system operations, there would be no change in roadway hazard conditions. **No impact** would occur. However, as noted above, there could be transportation hazards related to an increased potential for power outages, which could negatively affect signalized intersections and street lighting.

## MITIGATION MEASURES

*No mitigation measures are required.*

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**IMPACT 4.12-4 (Alt.5)** Result in changes to existing parking facilities, or demand for new parking. No construction necessitating parking vehicles and construction equipment would occur under this alternative. Current needs for parking associated with operations and maintenance would continue, with existing facilities meeting parking needs. **No impact** would occur.

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Under this alternative no construction would take place; therefore, no demand associated with parking of construction personnel and construction equipment would occur. Current needs for parking associated with operations and maintenance would remain the same and would continue to be met by existing facilities, such as substation parking lots and the power line centerline access ways. There would be no increase in parking demand and no change in the availability of parking facilities. **No impact** would occur.

## MITIGATION MEASURES

*No mitigation measures are required.*

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**IMPACT 4.12-5 (Alt.5)** Result in the alteration of air traffic patterns. Under this alternative no construction activity would occur in the vicinity of Truckee Tahoe Airport. There would be no increase in the use of helicopters or other aircraft above existing conditions. **No impact** would occur.

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Under this alternative, no changes to the existing power line and poles would be made, there would be no increased use of helicopters to support project construction, use of aircraft for system inspections would continue at existing levels, and air traffic operations would not be altered by project implementation. **No impact** would occur.

## MITIGATION MEASURES

*No mitigation measures are required.*

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<b>IMPACT</b> <b>4.12-6</b> <b>(Alt.5)</b>	<b>Result in inadequate emergency access.</b> No construction would occur under this alternative. Therefore, no change in existing roadway conditions would occur. There would be <b>no impact</b> on emergency access.
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No construction would occur under this alternative and current emergency access conditions would be maintained. Therefore, no change from existing conditions would occur. There would be **no impact** on emergency access.

## MITIGATION MEASURES

*No mitigation measures are required.*

## CUMULATIVE IMPACTS

At the present time, the regional roadway network serving the project area is operating at acceptable levels. During construction of the project, cumulative impacts could occur if any of the action alternatives (Alternatives 1 through 4) were under construction simultaneously with other traffic-generating projects identified in Table 4.1-2 that would use the same roads as the 625 and 650 Electrical Line Upgrade Project for access or require closures of the same or nearby roads. The developments described in the cumulative scenario are spread out in three primary areas: Truckee, Tahoe City, and Kings Beach. The following projects those considered most likely to result in a cumulative interaction with the proposed project related to transportation and traffic:

- ▲ The Martis Valley Trail, which would parallel SR 267 for approximately 5 miles between Truckee and Northstar. Construction will be a multi-year effort, with construction of Phase 1 (Shaffer Mill Road to the wildlife viewing area along SR 267) to begin in 2014.
- ▲ The SR 89/Fanny Bridge Community Revitalization Project, which would include construction of a new bridge over the Truckee River, repair or replacement of Fanny Bridge, and various other improvements. Construction target is 2014-2015.
- ▲ The Homewood Mountain Resort Master Plan, which would develop mixed use and residential features at the existing Homewood Mountain Resort in phases between 2015 and 2022.
- ▲ Kings Beach Commercial Core Improvement Project, which involves reducing SR 28 in Kings Beach from a four-lane highway to a three-lane highway with a roundabout. Placer County requires additional funding to complete project. Therefore, completion date is unknown at the time of writing of this document.

Construction of the Martis Valley Trail is planned to begin the same year as the 650 Line upgrades are proposed. These projects could contribute to a cumulative effect on local traffic volumes and hazards, particularly under Alternative 3 (Road Focused Alternative). The bridge work on SR 89 is planned to occur several years before the 625 Line upgrades would begin (projected to be some time in the 2020's depending on the rate of system load growth); therefore, no cumulative impacts to traffic would occur. In fact, the completed SR 89/Fanny Bridge Community Revitalization Project may reduce the potential for traffic impacts in this area. The Homewood Mountain Resort is located on SR 89 between Tahoe City and South Lake Tahoe; construction traffic and visitors may access the site from the north via I-80 or from the south via Highway 50. Although traffic generated by the resort that travels south on SR 89 through Tahoe City could be present at the time that construction occurs in this area for the 625 Line rebuild, there is limited potential for these projects to generate a cumulatively considerable traffic impact. The Homewood Mountain Resort Master Plan includes traffic monitoring through

approximately 2042 to mitigate potential traffic impacts. Construction of the Kings Beach Commercial Improvements Project could overlap with upgrade of the 625 Line in Kings Beach. However, since construction has already begun, the project would likely be complete before work on the 625 Line commences.

As described previously, the proposed project would temporarily contribute relatively small numbers of vehicle trips to individual roadway segments and intersections intermittently during the construction phase. With implementation of mitigation measures, any adverse effects of project generated construction traffic would be further reduced. Given these conditions, the proposed project would not make a considerable contribution to a significant cumulative impact.

## 4.13 AIR QUALITY AND CLIMATE CHANGE

This section describes the existing air quality and climatic conditions and applicable air quality and climate change-related regulations in the project area. This section also analyzes potential short-term and long-term air quality and climate change impacts that could result from implementation of the action alternatives.

### 4.13.1 REGULATORY SETTING

The proposed project is located in the Lake Tahoe Air Basin (LTAB) and Mountain Counties Air Basin (MCAB). The proposed facility upgrades would occur in Nevada and Placer Counties, and the communities of Truckee, Kings Beach, and Tahoe City. Air quality in the project area is regulated by the Tahoe Regional Planning Agency (TRPA), US Environmental Protection Agency (EPA), California Air Resources Board (ARB), Northern Sierra Air Quality Management District (NSAQMD), and Placer County Air Pollution Control District (PCAPCD). Each of these agencies develops rules, regulations, policies, and/or goals to comply with applicable legislation. Although EPA regulations may not be superseded, state and local regulations may be more stringent.

#### FEDERAL

EPA has been charged with implementing national air quality programs. EPA's air quality mandates are drawn primarily from the federal Clean Air Act (CAA), which was enacted in 1970. The most recent major amendments made by Congress were in 1990.

#### CRITERIA AIR POLLUTANTS

The CAA required EPA to establish National Ambient Air Quality Standards (NAAQS). As shown in Table 4.13-1, EPA has established primary and secondary NAAQS for the following criteria air pollutants (CAPs): ozone, carbon monoxide (CO), nitrogen dioxide (NO<sub>2</sub>), sulfur dioxide (SO<sub>2</sub>), respirable and fine particulate matter less than 10 microns and 2.5 microns in diameter (PM<sub>10</sub> and PM<sub>2.5</sub>), and lead. The primary standards protect the public health and the secondary standards protect public welfare. The CAA also required each state to prepare an air quality control plan, referred to as a state implementation plan (SIP), for areas that do not attain the NAAQS. The federal Clean Air Act Amendments of 1990 (CAAA) added requirements for states with areas that are not in attainment of all NAAQSs to revise their SIPs to incorporate additional control measures to reduce air pollution. The SIP is modified periodically to reflect the latest emissions inventories, planning documents, and rules and regulations of the air basins as reported by their jurisdictional agencies. EPA is responsible for reviewing all SIPs to determine whether they conform to the mandates of the CAA and its amendments, and whether implementation will achieve air quality goals. If EPA determines a SIP to be inadequate, a federal implementation plan that imposes additional control measures may be prepared for the nonattainment area. If an approvable SIP is not submitted or implemented within the mandated time frame, sanctions may be applied to transportation funding and permitting of stationary air pollution sources in the nonattainment air basin.

In addition, general conformity requirements were adopted by Congress as part of the CAAA and were implemented by EPA regulations in 1993, which were amended most recently in 2010. General conformity requires that all federal actions conform to the SIP as approved or promulgated by EPA. The purpose of the general conformity program is to ensure that actions taken by the federal government do not undermine state or local efforts to achieve and maintain NAAQS. Before a federal action is taken, it must be evaluated for conformity with the SIP. All reasonably foreseeable emissions, both direct and indirect, that are predicted to result from the action are taken into consideration. The location and quantity of emissions must be identified. If it is found that the action would create emissions above *de minimis* threshold levels specified in EPA

regulations, the action cannot proceed unless mitigation measures are specified that would bring the project into conformance.

## HAZARDOUS AIR POLLUTANTS

Air quality regulations also focus on toxic air contaminants (TACs) or, in federal parlance, hazardous air pollutants (HAPs). In general, for those TACs that may cause cancer, there is no concentration that does not present some risk. In other words, there is no threshold level below which adverse health impacts may not be expected to occur. (By contrast, for CAPs, acceptable levels of exposure can be determined and ambient standards have been established [Table 4.13-1].) Instead, EPA and ARB regulate HAPs and TACs, respectively, through statutes and regulations that generally require the use of the maximum available control technology or best available control technology for TACs to limit emissions. (See the discussion of TACs under “State” above for a description of ARB’s efforts.) These, in conjunction with additional rules set forth by NSAQMD and PCAPCD, described under “Local” establish the regulatory framework for TACs.

EPA has programs for identifying and regulating HAPs. Title III of the CAA directed EPA to promulgate national emissions standards for HAPs (NESHAP). The national emissions standards for HAPs may differ for major sources and for area sources of HAPs. Major sources are defined as stationary sources with potential to emit more than 10 tons per year (TPY) of any HAP or more than 25 TPY of any combination of HAPs; all other sources are considered area sources. The emissions standards are to be promulgated in two phases. In the first phase (1992–2000), EPA developed technology-based emission standards designed to produce the maximum emission reduction achievable. These standards are generally referred to as requiring maximum available control technology for toxics. For area sources, the standards may be different, based on generally available control technology. In the second phase (2001–2008), EPA is required to promulgate health risk–based emissions standards, where deemed necessary, to address risks remaining after implementation of the technology-based NESHAP standards.

The CAA also required EPA to issue vehicle or fuel standards containing reasonable requirements that control toxic emissions of, at a minimum, benzene and formaldehyde. Performance criteria were established to limit mobile-source emissions of toxics, including benzene, formaldehyde, and 1,3-butadiene. In addition, Section 219 required the use of reformulated gasoline in selected areas with the most severe ozone nonattainment conditions to further reduce mobile-source emissions.

## GREENHOUSE GASES

The Supreme Court of the United States ruled on April 2, 2007, that CO<sub>2</sub>, a greenhouse gas (GHG), is an air pollutant as defined under the CAA, and that EPA has the authority to regulate emissions of GHGs. The ruling in this case resulted in EPA taking steps to regulate GHG emissions. In response to the mounting issue of climate change, EPA has taken actions to regulate, monitor, and potentially reduce GHG emissions. EPA has adopted GHG permitting requirements that apply to stationary sources of emissions whereby certain facilities are required to report their GHG emissions and to obtain permits before commencing construction. In addition, EPA and the National Highway Transportation Safety Administration adopted greenhouse gas standards and national vehicle fuel economy standards, respectively, which will result in reduced GHG emissions from motor vehicles.

### Greenhouse Gas Permitting Requirements

While the proposed project is not considered a stationary source of emissions, permitting requirements from ARB and EPA are relevant because they provide insight regarding what level of GHG emissions is cumulatively considerable.

Table 4.13-1 Ambient Air Quality Standards and Attainment Status									
Pollutant	Averaging Time	California Attainment Status		California <sup>a,b</sup>		National Attainment Status		National <sup>c</sup>	
		LTAB	MCAB			LTAB	MCAB	Primary <sup>b,d</sup>	Secondary <sup>b,e</sup>
Ozone	1-hour	LTAB NT	MCAB N	0.09 ppm (180 µg/m <sup>3</sup> )		-		- <sup>e</sup>	Same as primary standard
	8-hour			0.070 ppm (137 µg/m <sup>3</sup> )		LTAB U/A	MCAB N <sup>h,i</sup>	0.075 ppm (147 µg/m <sup>3</sup> )	
Carbon monoxide (CO)	1-hour	LTAB A	MCAB U	20 ppm (23 mg/m <sup>3</sup> )		U		35 ppm (40 mg/m <sup>3</sup> )	Same as primary standard
	8-hour			LTAB 6 ppm <sup>f</sup> (7 mg/m <sup>3</sup> )	MCAB 9.0 ppm (10 mg/m <sup>3</sup> )			9 ppm (10 mg/m <sup>3</sup> )	
Nitrogen dioxide (NO <sub>2</sub> ) <sup>g</sup>	Annual arithmetic mean	A		0.030 ppm (57 µg/m <sup>3</sup> )		U		53 ppb (100 µg/m <sup>3</sup> )	Same as primary standard
	1-hour			0.18 ppm (339 µg/m <sup>3</sup> )				100 ppb (188 µg/m <sup>3</sup> )	-
Sulfur dioxide (SO <sub>2</sub> )	Annual arithmetic mean	A		-		LTAB A	MCAB U	0.030 ppm	-
	24-hour			0.04 ppm (105 µg/m <sup>3</sup> )				0.14 ppm	
	3-hour			-				-	0.5 ppm (1300 µg/m <sup>3</sup> )
	1-hour			0.25 ppm (655 µg/m <sup>3</sup> )				75 ppb (196 µg/m <sup>3</sup> )	-
Respirable particulate matter (PM <sub>10</sub> )	Annual arithmetic mean	LTAB N	MCAB N	20 µg/m <sup>3</sup>		U		-	Same as primary standard
	24-hour			50 µg/m <sup>3</sup>				150 µg/m <sup>3</sup>	
Fine particulate matter (PM <sub>2.5</sub> )	Annual arithmetic mean	LTAB A	MCAB N	12 µg/m <sup>3</sup>		U		12.0 µg/m <sup>3</sup>	15.0 µg/m <sup>3</sup>
	24-hour			-				35 µg/m <sup>3</sup>	

**Table 4.13-1 Ambient Air Quality Standards and Attainment Status**

Pollutant	Averaging Time	California Attainment Status	California <sup>a,b</sup>	National Attainment Status	National <sup>c</sup>	
					Primary <sup>b,d</sup>	Secondary <sup>b,e</sup>
Lead <sup>g</sup>	Calendar quarter	A	–	U	1.5 µg/m <sup>3</sup>	Same as primary standard
	30-Day average		1.5 µg/m <sup>3</sup>		–	–
	Rolling 3-Month Average		–		0.15 µg/m <sup>3</sup>	Same as primary standard
Hydrogen sulfide	1-hour	U	0.03 ppm (42 µg/m <sup>3</sup> )	No national standards		
Sulfates	24-hour	A	25 µg/m <sup>3</sup>			
Vinyl chloride <sup>g</sup>	24-hour	–	0.01 ppm (26 µg/m <sup>3</sup> )			
Visibility-reducing particulate matter	8-hour	U	Extinction of 0.23 per km statewide, and 0.07 per km in LTAB, respectively			

Notes: µg/m<sup>3</sup> = micrograms per cubic meter; km = kilometers; MCAB = Mountain Counties Air Basin; ppb = parts per billion; ppm = parts per million; LTAB = Lake Tahoe Air Basin.  
 Unclassified (U): a pollutant is designated unclassified if the data are incomplete and do not support a designation of attainment or nonattainment.  
 Attainment (A): a pollutant is designated attainment if the standard for that pollutant was not violated at any site in the area during a 3-year period.  
 Nonattainment (N): a pollutant is designated nonattainment if there was a least one violation of a standard for that pollutant in the area.  
 Nonattainment-Transitional (NT): a subcategory of the nonattainment designation. An area is designated nonattainment/transitional to signify that the area is close to attaining the standard for that pollutant.  
 Maintenance (M): any area previously designated nonattainment pursuant to the CAAA of 1990 and subsequently redesignated to attainment subject to the requirement to develop a maintenance plan under Section 175A of the CAA, as amended.

<sup>a</sup> California standards for ozone, SO<sub>2</sub> (1- and 24-hour), NO<sub>2</sub>, particulate matter, and visibility-reducing particles are values that are not to be exceeded. All others are not to be equaled or exceeded. California ambient air quality standards are listed in the Table of Standards in Section 70200 of Title 17 of the California Code of Regulations.  
<sup>b</sup> Concentration expressed first in units in which it was issued. Equivalent units given in parentheses are based on a reference temperature of 25 degrees Celsius (°C) and a reference pressure of 760 torr. Most measurements of air quality are to be corrected to a reference temperature of 25 °C and a reference pressure of 760 torr; ppm in this table refers to ppm by volume, or micromoles of pollutant per mole of gas.  
<sup>c</sup> National standards (other than ozone, particulate matter, and those based on annual averages or annual arithmetic means) are not to be exceeded more than once a year. The ozone standard is attained when the fourth highest 8-hour concentration in a year, averaged over 3 years, is equal to or less than the standard. The PM<sub>10</sub> 24-hour standard is attained when 99% of the daily concentrations, averaged over 3 years, are equal to or less than the standard. The PM<sub>2.5</sub> 24-hour standard is attained when 98% of the daily concentrations, averaged over 3 years, are equal to or less than the standard.  
<sup>d</sup> National primary standards: The levels of air quality necessary, with an adequate margin of safety, to protect the public health.  
<sup>e</sup> National secondary standards: The levels of air quality necessary to protect the public welfare from any known or anticipated adverse effects of a pollutant.  
<sup>f</sup> Applicable in the Lake Tahoe Air Basin.  
<sup>g</sup> The California Air Resources Board has identified lead and vinyl chloride as toxic air contaminants with no threshold of exposure for adverse health effects determined. These actions allow for the implementation of control measures at levels below the ambient concentrations specified for these pollutants.  
<sup>h</sup> The portion of the Mountain Counties Air Basin in Placer County is part of the Sacramento Federal Ozone Nonattainment Area and is designated as severe nonattainment with respect to the national ambient air quality standard for ozone (Chang, pers. comm., 2013).  
<sup>i</sup> The western portion of Nevada County (west of a line near Soda Springs) is designated a marginal non-attainment area with respect to the national ambient air quality standard for ozone. The eastern portion of Nevada County, including the Town of Truckee and the project area, is in attainment with the national ambient air quality standard for ozone (EPA 2012a ; NSAQMD [no date]).

Sources: ARB 2011a, ARB 2012a ; EPA 2012a ; EPA 2012c

New major stationary emissions sources and major modifications at existing stationary sources are required by the CAA to obtain an air pollution permit before commencing construction. On May 13, 2010, EPA issued the Prevention of Significant Deterioration and Title V Greenhouse Gas Tailoring Rule (EPA 2011a). This final rule sets thresholds for GHG emissions that define when permits under the New Source Review Prevention of Significant Deterioration (PSD) and Title V Operating Permit programs are required for new and existing industrial facilities.

PSD permitting requirements now cover new construction projects that emit GHG emissions of at least 100,000 tons (90,718 metric tons [MT]) per year even if they do not exceed the permitting thresholds for any other attainment pollutant. Modifications at existing facilities that increase GHG emissions by at least 75,000 tons (68,039 MT) per year will be subject to PSD requirements, even if they do not significantly increase emissions of any other attainment pollutant. Title V Operating Permit requirements apply to sources based on their GHG emissions even if they would not apply based on emissions of any other pollutant. Facilities that emit at least 100,000 tons (90,718 MT) per year of carbon dioxide equivalent (CO<sub>2</sub>e) will be subject to Title V permitting requirements. CO<sub>2</sub>e is a measurement used to account for the fact that different GHGs have different potentials to retain infrared radiation in the atmosphere and contribute to the greenhouse effect. This potential, known as the global warming potential of a GHG, is dependent, in large part, on the lifetime, or persistence, of the gas molecule in the atmosphere. For example, as described in Appendix C, "Calculation References," of the General Reporting Protocol of the California Climate Action Registry (CCAR) (CCAR 2009), 1 ton of methane (CH<sub>4</sub>) has the same contribution to the greenhouse effect as approximately 21 tons of CO<sub>2</sub>. Therefore, CH<sub>4</sub> is a much more potent GHG than CO<sub>2</sub>. Expressing emissions in CO<sub>2</sub>e takes the contributions of all GHG emissions to the greenhouse effect and converts them to a single unit equivalent to the effect that would occur if only CO<sub>2</sub> were being emitted.

## **Mandatory Greenhouse Gas Reporting Rule**

On September 22, 2009, EPA issued a final rule for mandatory reporting of GHGs from large GHG emissions sources in the United States. In general, this national reporting requirement will provide EPA with accurate and timely GHG emissions data from facilities that emit 25,000 MT or more of CO<sub>2</sub>e per year. This publicly available data allows the reporters to track their own emissions, compare them to similar facilities, and aid in identifying cost-effective opportunities to reduce emissions in the future. Reporting is conducted at the facility level, except that certain suppliers of fossil fuels and industrial GHGs along with vehicle and engine manufacturers will report at the corporate level. An estimated 85 percent of the total US GHG emissions, from approximately 10,000 facilities, are covered by this final rule.

## **STATE**

ARB is the agency responsible for coordination and oversight of state and local air pollution control programs in California and for implementing the California Clean Air Act (CCAA). California law authorizes ARB to set ambient (outdoor) air pollution standards (California Health & Safety Code section 39606) in consideration of public health, safety and welfare (California Ambient Air Quality Standards [CAAQS] (Table 4.13-1).

## **CRITERIA AIR POLLUTANTS**

ARB has established CAAQS for sulfates, hydrogen sulfide, vinyl chloride, visibility-reducing particulate matter, and the above-mentioned CAPs. In most cases the CAAQS are more stringent than the NAAQS. Differences in the standards are generally explained by the health effects studies considered during the standard-setting process and the interpretation of the studies. In addition, the CAAQS incorporate a margin of safety to protect sensitive individuals.

The CCAA requires that all local air districts in the state endeavor to achieve and maintain the CAAQS by the earliest date practical. The act specifies that local air districts should focus particular attention on reducing the

emissions from transportation and area-wide emission sources, and provides districts with the authority to regulate indirect sources.

Among ARB's other responsibilities are overseeing local air district compliance with federal and state laws, approving local air quality plans, submitting SIPs to EPA, monitoring air quality, determining and updating area designations and maps, and setting emissions standards for new mobile sources, consumer products, small utility engines, off-road vehicles, and fuels.

## **TOXIC AIR CONTAMINANTS**

TACs in California are regulated primarily through the Tanner Air Toxics Act (Assembly Bill [AB] 1807, Chapter 1047, Statutes of 1983) and the Air Toxics Hot Spots Information and Assessment Act of 1987 (AB 2588, Chapter 1252, Statutes of 1987). AB 1807 sets forth a formal procedure for ARB to designate substances as TACs. Research, public participation, and scientific peer review are required before ARB can designate a substance as a TAC. To date, ARB has identified more than 21 TACs, including diesel PM, and adopted EPA's list of HAPs as TACs.

Once a TAC is identified, ARB then adopts an airborne toxics control measure for sources that emit that particular TAC. If a safe threshold standard exists for a substance at which there is no toxic effect, the control measure must reduce exposure below that threshold standard. If no safe threshold standard exists, the measure must incorporate best available control technology for toxics to minimize emissions.

ARB has adopted diesel exhaust control measures and more stringent emission standards for various on-road mobile sources of emissions, including transit buses, and off-road diesel equipment (e.g., tractors, generators). Recent milestones included the low-sulfur diesel fuel requirement and tighter emissions standards for heavy-duty diesel trucks (effective in 2007 and subsequent model years) and off-road diesel equipment (2011) nationwide. Over time, replacing older vehicles will result in a vehicle fleet that produces substantially lower levels of TACs than under current conditions. Mobile-source emissions of TACs (e.g., benzene, 1-3-butadiene, diesel PM) in California have been reduced substantially over the last decade; such emissions will be reduced further through a progression of regulatory measures (e.g., low emission vehicle/clean fuels and Phase II reformulated-gasoline regulations) and control technologies.

The Hot Spots Act requires that existing facilities that emit toxic substances above a specified level prepare an inventory of toxic emissions, prepare a risk assessment if emissions are significant, notify the public of significant risk levels, and prepare and implement risk reduction measures.

## **GREENHOUSE GASES**

### **Executive Order S-3-05**

Executive Order S-3-05, which was signed by Governor Arnold Schwarzenegger in 2005, proclaims that California is vulnerable to the impacts of climate change. It declares that increased temperatures could reduce the Sierra Nevada snowpack, further exacerbate California's air quality problems, and potentially cause a rise in sea levels. To combat those concerns, the Executive Order established total greenhouse gas emission targets for the State. Specifically, emissions are to be reduced to the 2000 level by 2010, the 1990 level by 2020, and to 80 percent below the 1990 level by 2050.

### **Assembly Bill 32, the California Global Warming Solutions Act of 2006**

In September 2006, Governor Schwarzenegger signed the California Global Warming Solutions Act of 2006 (AB 32). AB 32 establishes regulatory, reporting, and market mechanisms to achieve quantifiable reductions in GHG emissions and a cap on statewide GHG emissions. AB 32 requires that statewide GHG emissions be reduced to 1990 levels by 2020.

## AB 32 Climate Change Scoping Plan

In December 2008, ARB adopted its Climate Change Scoping Plan, which contains the main strategies California will implement to achieve reduction of approximately 118 million metric tons (MMT) of CO<sub>2</sub>-equivalent emissions, or approximately 22 percent from the state's projected 2020 emission level of 545 MMT of CO<sub>2</sub>e under a business-as-usual scenario (this is a reduction of 47 MMT CO<sub>2</sub>e, or almost 10 percent, from 2008 emissions). ARB's original 2020 projection was 596 MMT CO<sub>2</sub>e, but this revised 2020 projection takes into account the economic downturn that occurred in 2008 (ARB 2011b). The Scoping Plan reapproved by ARB in August 2011 includes the Final Supplement to the Scoping Plan Functional Equivalent Document, which further examined various alternatives to Scoping Plan measures. The Scoping Plan also includes ARB-recommended GHG reductions for each emissions sector of the state's GHG inventory. ARB estimates the largest reductions in GHG emissions to be achieved by implementing the following measures and standards (ARB 2011b):

- ▲ improved emissions standards for light-duty vehicles (estimated reductions of 26.1 MMT CO<sub>2</sub>e),
- ▲ the Low-Carbon Fuel Standard (15.0 MMT CO<sub>2</sub>e),
- ▲ energy efficiency measures in buildings and appliances (11.9 MMT CO<sub>2</sub>e),
- ▲ a renewable portfolio and electricity standards for electricity production (23.4 MMT CO<sub>2</sub>e), and
- ▲ the Cap-and-Trade Regulation (discussed further below).

## Regulation for the Mandatory Reporting of Greenhouse Gas Emissions

Reporting of GHGs by stationary sources is also required by the Mandatory Reporting of Greenhouse Gas Emissions Regulation, which is part of the AB 32 mandate. Revisions to the regulation were approved by the California Office of Administrative Law, and became effective on January 1, 2012. The revised regulation affects industrial facilities, suppliers of transportation fuels, natural gas, natural gas liquids, liquefied petroleum gas, and carbon dioxide, operators of petroleum and natural gas systems, and electricity retail providers and marketers. ARB's Regulation for the Mandatory Reporting of Greenhouse Gas Emissions (Title 17, California Code of Regulations, sections 95100-95157) incorporated by reference certain requirements promulgated by the EPA in its Final Rule on Mandatory Reporting of Greenhouse Gases (Title 40, Code of Federal Regulations, Part 98), discussed above. The regulation establishes mandatory GHG reporting requirements for owners and operators of certain facilities that directly emit GHG, including facilities that emit 25,000 MT CO<sub>2</sub>e per year.

## Cap-and-Trade Program

In 2011, ARB adopted the Cap-and-Trade regulation and the cap-and-trade program commenced on January 1, 2013. The Cap-and-Trade Program covers major sources of GHG emissions in the State such as refineries, power plants, industrial facilities, and transportation fuels. The Cap-and-Trade Program includes an enforceable emissions cap that will decline over time. The state distributes allowances, which are tradable permits, equal to the emissions allowed under the cap. Sources under the cap will need to surrender allowances and offsets equal to their emissions at the end of each compliance period. The Cap-and-Trade Program relies on data collected through the Mandatory Reporting of Greenhouse Gas Emissions Regulation to identify major sources of GHGs in California. Most industrial facilities that emit 10,000 or greater MT CO<sub>2</sub>e/year are required to report their GHGs whereas, the subset of industrial facilities with annual emissions equal to or greater than 25,000 metric tons of CO<sub>2</sub>e are required to comply with the Cap-and-Trade Program (ARB 2012d: pp. 13).

## Senate Bills SB X1 2

Senate Bill (SB) X1 2 requires all California utilities to generate 33 percent of their electricity from renewables by 2020. SB X1 2 sets a three-stage compliance period requiring all California utilities, including independently owned utilities, energy service providers, and community choice aggregators, to generate 33 percent of their electricity from renewables by 2020 (20 percent by December 31, 2013, 25 percent by December 31, 2016, 33 percent by December 31, 2020). SB X1 2 also requires the RPS to be met increasingly with renewable energy that is supplied to the California grid and is located within or directly proximate to California. SB X1 2 mandates that renewables from this category make up at least 50 percent for the 2011-2013 compliance period, at least 65

percent for the 2014-2016 compliance period, and at least 75 percent for 2016 and beyond. The bill also sets rules for the use of Renewable Energy Credits and eliminates the Market Price Referent.

## Senate Bill 97

As directed by SB 97, the California Resources Agency adopted Amendments to the California Environmental Quality Act (CEQA) Guidelines, including GHG analysis in the requirements for environmental review under CEQA, on December 30, 2009. The Amendments became effective on March 18, 2010.

## TAHOE REGIONAL PLANNING AGENCY

The TRPA Regional Plan includes the following elements related to air quality: Environmental Threshold Carrying Capacities adopted in 1982 and evaluated every 5 years since 1991 (TRPA 2012a); Goals and Policies (Air Quality Subelement); the TRPA Code of Ordinances.

### ENVIRONMENTAL THRESHOLD CARRYING CAPACITIES

In August 1982, TRPA adopted Resolution No. 82-11, which included Environmental Threshold Carrying Capacities (threshold standards) related to air quality and other resource topics for the Lake Tahoe Region. TRPA conducts a comprehensive evaluation every five years to determine whether each threshold standard is being achieved and/or maintained, makes specific recommendations to address problem areas, and directs general planning efforts for the next four-year period. The most recent evaluation was completed in 2012 (TRPA 2012a).

TRPA threshold standards address CO, ozone, regional and sub-regional visibility, and nitrate deposition. Numerical standards have been established for each of these parameters, and management standards have been developed that are intended to assist in attaining the threshold standards. The management standards include reducing particulate matter, maintaining levels of oxides of nitrogen (NO<sub>x</sub>), reducing traffic volumes on US Highway 50 (US 50), and reducing vehicle miles traveled. These threshold standards and associated management standards are described in more detail below. In addition, the TRPA Compact between California and Nevada states that the Regional Plan shall provide for attaining and maintaining federal, state, or local air quality standards, whichever are strictest, in the respective portions of the region for which the standards are applicable.

Thresholds and standards for air quality are listed below and in Table 4.13-2 (TRPA 2012a). Threshold standards related to vehicle miles traveled and traffic volume are addressed further in Section 4.12, Traffic and Transportation. Attainment status and trends of each air quality indicator are summarized in Table 4.13-3.

#### AQ-1, Carbon Monoxide

- ▲ **Numerical Standard:** Maintain CO concentrations at or below 6 ppm averaged over 8 hours.
- ▲ **Management Standard:** Reduce traffic volumes on the US 50 Corridor by 7 percent during the winter from the 1981 base year between 4:00 p.m. and 12:00 midnight, provided that those traffic volumes shall be amended as necessary to meet the respective state standards.

#### AQ-2, Ozone

- ▲ **Numerical Standard:** Maintain ozone concentration below 0.08 ppm averaged over 1 hour.
- ▲ **Numerical Standard:** Maintain NO<sub>x</sub> emissions at or below the 1981 level.

#### AQ-3, Visibility

- ▲ **Numerical Standards:**
  - /// Achieve an extinction coefficient of 25 inverse mega meters (Mm<sup>-1</sup>) at least 50 percent of the time as calculated from aerosol species concentrations measured at the Bliss State Park monitoring site (visual range of 156 kilometer, 97 miles).

- /// Achieve an extinction coefficient of  $34 \text{ Mm}^{-1}$  at least 90 percent of the time as calculated from aerosol species concentrations measured at the Bliss State Park monitoring site (visual range of 115 kilometers, 71 miles). Calculations will be made on three year running periods. Beginning with the existing 1991-93 monitoring data as the performance standards to be met or exceeded.
- /// Achieve an extinction coefficient of  $50 \text{ Mm}^{-1}$  at least 50 percent of the time as calculated from aerosol species concentrations measured at the South Lake Tahoe monitoring site (visual range of 78 kilometers, 48 miles).
- /// Achieve an extinction coefficient of  $125 \text{ Mm}^{-1}$  at least 90 percent of the time as calculated from aerosol species concentrations measured at the South Lake Tahoe monitoring site (visual range of 31 kilometers, 19 miles); and calculations will be made on three year running periods. Beginning with the existing 1991-93 monitoring data as the performance standards to be met or exceeded.
- /// PM<sub>10</sub> 24-hour Standard: Maintain PM<sub>10</sub> at or below 50 micrograms per cubic meter ( $\mu\text{g}/\text{m}^3$ ) measured over a 24-hour period using gravimetric or beta attenuation methods or any equivalent procedure which can be shown to provide equivalent results at or near the level of air quality standard.
- /// PM<sub>10</sub> Annual Arithmetic Average - Maintain PM<sub>10</sub> at or below annual arithmetic average of  $20 \mu\text{g}/\text{m}^3$  using gravimetric or beta attenuation methods or any equivalent procedure which can be shown to provide equivalent results at or near the level of air quality standard.
- /// Particulate Matter<sub>2.5</sub> 24-hour Standard – Maintain PM<sub>2.5</sub> at or below  $35 \mu\text{g}/\text{m}^3$  measured over a 24-hour period using gravimetric or beta attenuation methods or any equivalent procedure which can be shown to provide equivalent results at or near the level of air quality standard.
- /// Particulate Matter<sub>2.5</sub> Annual Arithmetic Average – Maintain PM<sub>2.5</sub> at or below annual arithmetic average of  $12 \mu\text{g}/\text{m}^3$  using gravimetric or beta attenuation methods or any equivalent procedure which can be shown to provide equivalent results at or near the level of air quality standard.

**AQ-4, Nitrate Deposition**

**▲ Management Standards:**

- /// Reduce the transport of nitrates into the Basin and reduce oxides of nitrogen (NO<sub>x</sub>) produced in the Basin consistent with the water quality thresholds.
- /// Reduce vehicle miles of travel in the Basin by 10 percent of the 1981 base year values.

**AQ-5, Odor**

**▲ Policy Statement**

- /// It is the policy of the TRPA Governing Board in the development of the Regional Plan to reduce fumes from diesel engines to the extent possible.

<b>Pollutant</b>	<b>Kilograms</b>	<b>Pounds</b>
Nitrogen dioxide (NO <sub>2</sub> )	11.0	24.2
Respirable particulate matter (PM <sub>10</sub> )	10.0	22.0
Volatile organic compounds (Reactive Organic Gases [ROG])	57.0	125.7
Sulfur dioxide (SO <sub>2</sub> )	6.0	13.2
Carbon monoxide (CO)	100.0	220.5

Notes: PM<sub>10</sub> = respirable particulate matter; TRPA = Tahoe Regional Planning Agency  
 Source: TRPA 2012b (Table II in Code Section 65.1.6)

**Table 4.13-3 TRPA Air Quality Indicator Attainment Status and Trends**

Threshold Indicator Reporting Category	1991 Attainment Status	1996 Attainment Status	2001 Attainment Status	2006 Attainment Status	2011 Attainment Status <sup>1</sup>	Trend
Carbon monoxide (CO)	Non-attainment	Attainment	Attainment	Non-attainment	Considerably better than target	Rapid improvement
Ozone	Non-attainment	Non-attainment	Non-attainment	Non-attainment	At or somewhat better than target	Little or no change
Visibility	Attainment	Non-attainment	Non-attainment	Attainment	Considerably better than target	Moderate improvement
Particulate matter	Non-attainment	Non-attainment	Attainment	Non-attainment	At or somewhat better than target	Little or no change
Nitrate deposition	Unknown	Unknown	Unknown	Unknown	Implemented <sup>2</sup>	Unknown
Odor	No Designation	No Designation	No Designation	No Designation	Implemented <sup>2</sup>	Unknown

Notes: <sup>1</sup> Change in terminology occurred in 2011 Threshold Evaluation.  
<sup>2</sup> "Implemented" refers to implementation of a management standard rather than monitoring the achievement of a numerical standard.  
Source: TRPA 2007:2-8; TRPA 2012a.

## GOALS AND POLICIES

The Goals and Policies are designed to achieve and maintain adopted environmental threshold standards and are implemented through the Code, the Environmental Improvement Program, and the Transportation Improvement Plan (with the Tahoe Metropolitan Planning Organization). The Land Use Element of the Goals and Policies document consists of seven subelements, one of which is the Air Quality Subelement.

TRPA has jurisdiction within the LTAB portion of Placer and El Dorado Counties in regard to air quality. Therefore, the Air Quality Subelement of the Goals and Policies document has focused on achieving the NAAQS and CAAQS, as well as special TRPA-adopted regional and sub-regional visibility standards, and on reducing the deposition of nitrate from NO<sub>x</sub> emitted by vehicles. The Code and the RTP contain specific measures designed to monitor and achieve the air quality objectives of the Regional Plan. NSAQMD and PCAPCD rules and regulations (discussed below) also have certain application in the Lake Tahoe area.

## CODE OF ORDINANCES

Applicable provisions of Chapter 65 (Air Quality and Transportation) of the Code of Ordinances (TRPA 2012b) are described below.

### Chapter 65.1—Air Quality Control

The provisions of Chapter 65.1 apply to direct sources of air pollution in the Lake Tahoe region, including certain motor vehicles registered in the region, combustion heaters installed in the region, open burning and stationary sources of air pollution, and idling combustion engines. Provisions potentially applicable to the proposed project are provided below.

- ▲ Section 65.1.3, "Vehicle Inspection and Maintenance Program," states that to avoid duplication of effort in implementation of an inspection/maintenance program for certain vehicles registered in the CO nonattainment area, TRPA shall work with the affected state agencies to plan for applying state inspection/maintenance programs to the Lake Tahoe region.
- ▲ Section 65.1.6, "Environmental Assessment," states that any new stationary source of air pollution that produces emissions for the peak 24-hour period beyond any of the limits in Table II, reproduced as Table

4.13-2, shall be considered to have a significant adverse environmental impact. New stationary sources that have a significant adverse environmental impact shall be prohibited.

- ▲ Section 65.1.8, “Idling Restrictions,” states that no person shall cause a combustion engine in a parked auto, truck, bus, or boat to idle for more than 30 consecutive minutes in the designated plan areas (with limited exemptions).

## **GREENHOUSE GASES**

The Lake Tahoe Region received a grant from the California Strategic Growth Council. With this grant award, a partnership of agencies and organizations, known as the Sustainability Collaborative, formed and are working on a Region-wide Sustainability Plan, which will address primary sources of GHG emissions (i.e., transportation, energy use and efficiency, water supply and conservation, and solid waste). The Sustainability Plan is not available at this time.

## **LOCAL AGENCIES**

Policies and ordinances of local agencies applicable to the proposed project are described in this section.

### **PLACER COUNTY AIR POLLUTION CONTROL DISTRICT AND NORTHERN SIERRA AIR QUALITY MANAGEMENT DISTRICT**

#### **Criteria Air Pollutants**

NSAQMD and PCAPCD (“air districts”) attain and maintain air quality conditions in Nevada and Placer counties, respectively, through a comprehensive program of planning, regulation, enforcement, technical innovation, and promotion of the understanding of air quality issues. The clean air strategy of the air districts includes preparing plans for the attainment of ambient air quality standards, adopting and enforcing rules and regulations concerning sources of air pollution, and issuing permits for stationary sources of air pollution. Air districts also inspect stationary sources of air pollution and responds to citizen complaints, monitor ambient air quality and meteorological conditions, and implement programs and regulations required by the CAA, CAAA, and CCAA.

All projects in the respective counties are subject to adopted air district rules and regulations in effect at the time of construction. Specific rules applicable to the construction of the proposed project may include but are not limited to the following:

- ▲ NSAQMD and PCAPCD Rule 202—Visible Emissions,
- ▲ NSAQMD Rule 227 and PCAPCD Rule 217—Cutback and Emulsified Asphalt Paving Materials,
- ▲ PCAPCD Rule 218—Application of Architectural Coatings,
- ▲ NSAQMD Rule 226 and PCAPCD Rule 228—Fugitive Dust, and
- ▲ NSAQMD Rule 401 and 501 and PCAPCD Rule 501—Permit Requirements.

#### **Toxic Air Contaminants**

At the local level, air districts may adopt and enforce ARB’s airborne toxic control measures. Under NSAQMD Rules 401 and 501 and PCAPCD Rule 501 (“Permit Requirements”), PCAPCD Rule 502 (“New Source Review”), and NSAQMD Rule 522 and PCAPCD Rule 507 (“Federal Operating Permit”), all sources that possess the potential to emit TACs are required to obtain permits from the district. Permits may be granted to these operations if they are constructed and operated in accordance with applicable regulations, including new source review standards and air toxics control measures. The air districts limit emissions and public exposure to TACs through a number of programs.

Sources that require a permit are analyzed by the applicable air district (e.g., health risk assessment) based on their potential to emit TACs. If it is determined that the project will emit toxics in excess of district threshold standard of significance for TACs (identified below), sources have to implement the BACT for TACs to reduce emissions. If a source cannot reduce the risk below the threshold standard of significance even after the BACT has been implemented, the air district will deny the permit required by the source. This helps to prevent new problems and reduces emissions from existing older sources by requiring them to apply new technology when retrofitting with respect to TACs.

## Odors

The air districts have determined some common types of facilities that have been known to produce odors: wastewater treatment facilities, chemical manufacturing plants, painting/coating operations, feed lots/dairies, composting facilities, landfills, and transfer stations. Because offensive odors rarely cause any physical harm, and federal and state air quality regulations do not contain any requirements for their control, NSAQMD and PCAPCD have no rules or standards related to odor emissions other than their nuisance rules:

- ▲ **NSAQMD and PCAPCD Rule 205—Nuisance.** A person shall not discharge from any source whatsoever such quantities of air contaminants or other material which cause injury, detriment, nuisance or annoyance to any considerable number of persons, or to the public, or which endanger the comfort, repose, health or safety of any such persons, or the public, or which cause to have a natural tendency to cause injury or damage to business or property. The provisions of Rule 205 do not apply to odors emanating from agriculture operations necessary for the growing of crops or raising of fowl or animals.

Any actions related to odors are based on citizen complaints to local governments and the air districts.

## Greenhouse Gases

At the time of writing, there are no local regulations in effect pertaining to GHGs from construction activity.

### 4.13.2 EXISTING CONDITIONS/AFFECTED ENVIRONMENT

The LTAB comprises portions of El Dorado and Placer counties on the California side of the Lake Tahoe Basin, and Washoe County, Douglas County, and the Carson City Rural District on the Nevada side. The MCAB comprises Amador, Calaveras, El Dorado, Mariposa, Nevada, central Placer, Plumas, Sierra, and Tuolumne Counties. The proposed project is located in Nevada and Placer counties.

The ambient concentrations of air pollutant emissions are determined by the amount of pollutants emitted and the atmosphere's ability to transport and dilute such emissions. Natural factors that affect transport and dilution include terrain, wind, atmospheric stability, and the presence of sunlight. Therefore, existing air quality conditions in the area are determined by such natural factors as climate, meteorology, and topography, in addition to the level of emissions by existing air pollutant sources. These factors are discussed separately below.

## CLIMATE, METEOROLOGY, AND TOPOGRAPHY

The MCAB includes the central and northern Sierra Nevada. Elevations range from several hundred feet in the foothills to over 10,000 feet above mean sea level along the Sierra crest. Lake Tahoe lies in a depression between the crests of the Sierra Nevada and Carson ranges on the California-Nevada border at a surface elevation of approximately 6,260 feet above mean sea level. The LTAB is defined by the 7,000-foot contour, which is continuous around the Lake, except near Tahoe City. The mountains surrounding the Lake are approximately 8,000–9,000 feet in height on average, with some reaching 10,000 feet.

Pollutants from local sources are trapped by frequent inversions in the LTAB and MCAB, greatly limiting the volume of air into which the pollutants are mixed (e.g., diluted), which results in accumulation and elevated

concentrations of pollutants. A second important meteorological regime is the transport of pollutants from the Sacramento Valley and San Francisco Bay Area because winds from these areas move upslope in the Sierra Nevada and the lake is located directly east of the Sierra Nevada crest (Cahill and Cliff 2000: pp. 1).

The project area generally experiences warm, dry summers and wet and snowy winters. Local climatology of the project site can be best represented by measurements at the Tahoe City, Squaw Valley Lodge and Truckee Airport stations (WRCC 2012a; WRCC 2012b). Climate data collected at the Tahoe City station, which is located inside the Lake Tahoe Basin, indicate that maximum temperatures occur during July and reach approximately 78 degrees Fahrenheit on average. Minimum temperatures at Tahoe City can be as low as 19 degrees Fahrenheit on average during winter months. Average annual precipitation of approximately 31 inches (191 inches of snowfall) occurs primarily during the months of November through March. Climate data collected at meteorological stations at Squaw Valley Lodge and the Truckee Airport indicate climate conditions for the northern portion of the project area, which is north of and outside of the Lake Tahoe Basin. Here maximum temperatures occur during July and reach 80 degrees Fahrenheit on average. Minimum temperatures can be as low as 15 degrees Fahrenheit on average during winter months. Average annual precipitation of approximately 51 inches (247 inches of snowfall) occurs primarily during the months of November through March. Average annual wind speed is approximately 4 miles per hour from the south.

## CRITERIA AIR POLLUTANTS

Concentrations of ozone, CO, NO<sub>2</sub>, SO<sub>2</sub>, PM<sub>10</sub> and PM<sub>2.5</sub>, and lead are used as indicators of ambient air quality conditions and are referred to as criteria air pollutants. Criteria air pollutants are air pollutants for which acceptable levels of exposure can be determined and for which an ambient air quality standard has been set.

A brief description of each criteria air pollutant—source types, health effects, and future trends—is provided below and summarized in Table 4.13-4 along with a description of monitoring data at those monitoring stations located closest to the project site.

### OZONE

Ozone is a photochemical oxidant (a substance whose oxygen combines chemically with another substance in the presence of sunlight) and the primary component of smog. Ozone is not directly emitted into the air in large amounts, but is formed through complex chemical reactions between precursor emissions of ROG and NO<sub>x</sub> in the presence of sunlight. ROG are volatile organic compounds that are photochemically reactive. ROG emissions result primarily from incomplete combustion and the evaporation of chemical solvents and fuels. NO<sub>x</sub> are a group of gaseous compounds of nitrogen and oxygen that result from the combustion of fuels. Emissions of the ozone precursors ROG and NO<sub>x</sub> have decreased over the past several years because of more stringent motor vehicle standards and cleaner burning fuels (ARB 2009).

### NITROGEN DIOXIDE

NO<sub>2</sub> is a brownish, highly reactive gas that is present in all urban environments. The major human-made sources of NO<sub>2</sub> are combustion devices, such as boilers, gas turbines, and mobile and stationary reciprocating internal combustion engines. Combustion devices emit primarily nitric oxide (NO), which reacts through oxidation in the atmosphere to form NO<sub>2</sub>. The combined emissions of NO and NO<sub>2</sub> are referred to as NO<sub>x</sub> and are reported as equivalent NO<sub>2</sub>. Because NO<sub>2</sub> is formed and depleted by reactions associated with photochemical smog (ozone), the NO<sub>2</sub> concentration in a particular geographical area may not be representative of the local sources of NO<sub>x</sub> emissions (EPA 2012b).

## PARTICULATE MATTER

Respirable particulate matter with an aerodynamic diameter of 10 micrometers or less is referred to as PM<sub>10</sub>. PM<sub>10</sub> consists of particulate matter emitted directly into the air, such as fugitive dust, soot, and smoke from mobile and stationary sources, construction operations, fires and natural windblown dust, and particulate matter formed in the atmosphere by reaction of gaseous precursors (ARB 2009). Fine particulate matter (PM<sub>2.5</sub>) includes a subgroup of smaller particles that have an aerodynamic diameter of 2.5 micrometers or less. PM<sub>10</sub> emissions are dominated by emissions from area sources, primarily fugitive dust from vehicle travel on unpaved and paved roads, farming operations, construction and demolition, and particles from residential fuel combustion. Direct emissions of PM<sub>10</sub> have increased slightly over the last 20 years, and are projected to continue to increase. PM<sub>2.5</sub> emissions have remained relatively steady over the last 20 years and are projected to increase slightly through 2020 (ARB 2009).

**Table 4.13-4 Sources and Health Effects of Criteria Air Pollutants**

Pollutant	Sources	Acute <sup>1</sup> Health Effects	Chronic <sup>2</sup> Health Effects
Ozone	Secondary pollutant resulting from reaction of ROG and NO <sub>x</sub> in presence of sunlight. ROG emissions result from incomplete combustion and evaporation of chemical solvents and fuels; NO <sub>x</sub> results from the combustion of fuels	increased respiration and pulmonary resistance; cough, pain, shortness of breath, lung inflammation	permeability of respiratory epithelia, possibility of permanent lung impairment
Carbon monoxide (CO)	Incomplete combustion of fuels; motor vehicle exhaust	headache, dizziness, fatigue, nausea, vomiting, death	permanent heart and brain damage
Nitrogen dioxide (NO <sub>2</sub> )	combustion devices; e.g., boilers, gas turbines, and mobile and stationary reciprocating internal combustion engines	coughing, difficulty breathing, vomiting, headache, eye irritation, chemical pneumonitis or pulmonary edema; breathing abnormalities, cough, cyanosis, chest pain, rapid heartbeat, death	chronic bronchitis, decreased lung function
Sulfur dioxide (SO <sub>2</sub> )	coal and oil combustion, steel mills, refineries, and pulp and paper mills	Irritation of upper respiratory tract, increased asthma symptoms	Insufficient evidence linking SO <sub>2</sub> exposure to chronic health impacts
Respirable particulate matter (PM <sub>10</sub> ), Fine particulate matter (PM <sub>2.5</sub> )	fugitive dust, soot, smoke, mobile and stationary sources, construction, fires and natural windblown dust, and formation in the atmosphere by condensation and/or transformation of SO <sub>2</sub> and ROG	breathing and respiratory symptoms, aggravation of existing respiratory and cardiovascular diseases, premature death	alterations to the immune system, carcinogenesis
Lead	metal processing	reproductive/developmental effects (fetuses and children)	numerous effects including neurological, endocrine, and cardiovascular effects

Notes: NO<sub>x</sub> = oxides of nitrogen; ROG = reactive organic gases.

<sup>1</sup> "Acute" refers to effects of short-term exposures to criteria air pollutants, usually at fairly high concentrations.

<sup>2</sup> "Chronic" refers to effects of long-term exposures to criteria air pollutants, usually at lower, ambient concentrations.

Sources: EPA 2012b.

## MONITORING STATION DATA AND ATTAINMENT AREA DESIGNATIONS

Concentrations of CAPs are measured at several monitoring stations in the LTAB and MCAB. The measurements at the Truckee Fire Station, South Lake Tahoe Airport Station, and the South Lake Tahoe-Sandy Way Station are presented here and are generally representative of ambient air quality in the vicinity of the study area. Table 4.13-5 summarizes the air quality data from these stations for 2009–2011.

<b>Ozone<sup>1,2</sup></b>	<b>2009</b>	<b>2010</b>	<b>2011</b>
Maximum concentration (1-hour/8-hour, ppm)	0.077/0.071	0.065/0.053	0.058/0.053
Number of days state standard exceeded (1-hour/8-hour)	0/1	0/0	0/0
Number of days national standard exceeded (1-hour/8-hour)	0/0	0/0	0/0
<b>Respirable Particulate Matter (PM<sub>10</sub>)<sup>3</sup></b>	<b>2009</b>	<b>2010</b>	<b>2011</b>
Maximum Concentration ( $\mu\text{g}/\text{m}^3$ ) (California)	52.8	71.4	55.8
Number of days state standard exceeded (measured <sup>4</sup> )	1	2	3
Number of days national standard exceeded (measured <sup>4</sup> )	*	*	*
<b>Fine Particulate Matter (PM<sub>2.5</sub>)<sup>1</sup></b>	<b>2009</b>	<b>2010</b>	<b>2011</b>
Maximum Concentration ( $\mu\text{g}/\text{m}^3$ ) (California)	34.4	31.7	68.9
Annual Average ( $\mu\text{g}/\text{m}^3$ ) (California)	5.9	4.8	6.6
Number of days national standard exceeded (measured <sup>4</sup> )	0	0	0
Notes: $\mu\text{g}/\text{m}^3$ = micrograms per cubic meter; – = data not available; ppm = parts per million; * = Insufficient data to determine the value.			
<sup>1</sup> Data from the Truckee Fire Station (2010-2011 only).			
<sup>2</sup> Data from the South Lake Tahoe–1901 Airport Road Station (2009 only).			
<sup>3</sup> Data from the South Lake Tahoe–Sandy Way Station.			
<sup>4</sup> Measured days are those days that an actual measurement was greater than the level of the state daily standard or the national daily standard. Calculated days are the estimated number of days that a measurement would have been greater than the level of the standard had measurements been collected every day. The number of days above the standard is not necessarily the number of violations of the standard for the year.			
Sources: ARB 2012b			

## TOXIC AIR CONTAMINANTS

Concentrations of TACs are also used to indicate the quality of ambient air. A TAC is defined as an air pollutant that may cause or contribute to an increase in mortality or in serious illness, or that may pose a hazard to human health. TACs are usually present in minute quantities in the ambient air; however, their high toxicity or health risk may pose a threat to public health even at low concentrations.

According to the *California Almanac of Emissions and Air Quality* (ARB 2009), the majority of the estimated health risks from TACs can be attributed to relatively few compounds, the most important being diesel PM. Diesel PM differs from other TACs in that it is not a single substance, but rather a complex mixture of hundreds of substances. Although diesel PM is emitted by diesel-fueled internal combustion engines, the composition of the emissions varies depending on engine type, operating conditions, fuel composition, lubricating oil, and whether an emissions control system is being used. Unlike the other TACs, no ambient monitoring data are available for diesel PM because no routine measurement method currently exists. However, ARB has made preliminary concentration estimates based on a PM exposure method. This method uses the ARB emissions inventory's PM<sub>10</sub> database, ambient PM<sub>10</sub> monitoring data, and the results from several studies to estimate concentrations of diesel PM. In addition to diesel PM, the TACs for which data are available that pose the greatest existing ambient risk in California are benzene, 1,3-butadiene, acetaldehyde, carbon tetrachloride, hexavalent chromium, para-dichlorobenzene, formaldehyde, methylene chloride, and perchloroethylene.

## NATURALLY OCCURRING ASBESTOS

Asbestos is the common name for a group of naturally occurring fibrous silicate minerals that can separate into thin but strong and durable fibers. Naturally occurring asbestos, which was identified as a TAC by ARB in 1986, is located in many parts of California and is commonly associated with serpentine.

According to two reports by the California Department of Conservation, Division of Mines and Geology Relative Likelihood for the Presence of Naturally Occurring Asbestos in Placer County, California and A General Location Guide to Ultramafic Rocks in California—Areas More Likely to Contain Naturally Occurring Asbestos (Higgins and Clinkenbeard 2006: pp. 54, California Department of Conservation 2000), the study area is not likely to contain naturally occurring asbestos.

## ODORS

Odors are typically regarded as an annoyance rather than a health hazard. However, a person's reaction to foul odors can range from psychological (e.g., irritation, anger, or anxiety) to physiological (e.g., circulatory and respiratory effects, nausea, vomiting, and headache). No major odor sources (e.g., wastewater treatment facilities, landfills, food processing facilities) exist in the project vicinity.

## SENSITIVE LAND USES

Sensitive land uses are generally considered to include those uses where exposure to pollutants could result in health-related risks to sensitive individuals, such as children or the elderly. Residential dwellings, schools, hospitals, playgrounds, and similar facilities are of primary concern because of the presence of individuals particularly sensitive to pollutants and the potential for increased and prolonged exposure of individuals to pollutants.

Exhibits 4.14-1 through 4.14-5 in Section 4.14, Noise, of this EIS/EIS/EIR show sensitive receptors to noise, which would also qualify as sensitive receptors to air pollutants and which are located within 1,000 feet of where construction activity would occur. These exhibits show that some residential land used are located adjacent to, or in close proximity to, areas where construction activity would occur, including some residential dwellings in Tahoe City, Kings Beach, Northstar, Martis Valley, and Truckee.

## GREENHOUSE GASES AND CLIMATE CHANGE

### THE PHYSICAL SCIENTIFIC BASIS

Certain gases in the earth's atmosphere, classified as GHGs, play a critical role in determining the earth's surface temperature. Solar radiation enters the earth's atmosphere from space. A portion of the radiation is absorbed by the earth's surface and a smaller portion of this radiation is reflected back toward space. This absorbed radiation is then emitted from the earth as low-frequency infrared radiation. The frequencies at which bodies emit radiation are proportional to temperature. The earth has a much lower temperature than the sun; therefore, the earth emits lower frequency radiation. Most solar radiation passes through GHGs; however, infrared radiation is absorbed by these gases. As a result, radiation that otherwise would have escaped back into space is instead "trapped," resulting in a warming of the atmosphere. This phenomenon, known as the greenhouse effect, is responsible for maintaining a habitable climate on Earth. Without the greenhouse effect, Earth would not be able to support life as we know it.

Prominent GHGs contributing to the greenhouse effect are CO<sub>2</sub>, CH<sub>4</sub>, nitrous oxide (N<sub>2</sub>O), hydrofluorocarbons, perfluorocarbons, and sulfur hexafluoride (SF<sub>6</sub>). Human-caused emissions of these GHGs in excess of natural ambient concentrations are believed responsible for intensifying the greenhouse effect and leading to a trend of

unnatural warming of the earth's climate, known as global climate change or global warming. It is considered unlikely that global climate change of the past 50 years can be explained without the contribution from human activities (IPCC 2007).

Climate change is a global problem. GHGs are global pollutants, unlike CAPs and TACs, which are pollutants of regional and local concern. Whereas pollutants with localized air quality effects have relatively short atmospheric lifetimes (about one day), GHGs have long atmospheric lifetimes (one to several thousand years). GHGs persist in the atmosphere for long enough time periods to be dispersed around the globe. Although the exact lifetime of any particular GHG molecule is dependent on multiple variables and cannot be pinpointed, it is understood that more CO<sub>2</sub> is emitted into the atmosphere than is sequestered by ocean uptake, vegetation, and other forms of sequestration. Of the total annual human-caused CO<sub>2</sub> emissions, approximately 54 percent is sequestered through ocean uptake, uptake by northern hemisphere forest regrowth, and other terrestrial sinks within a year, whereas the remaining 46 percent of human-caused CO<sub>2</sub> emissions remains stored in the atmosphere (Seinfeld and Pandis 1998).

The quantity of GHGs that it takes to ultimately result in climate change is not precisely known; suffice it to say, the quantity is enormous, and no single project alone would measurably contribute to a noticeable incremental change in the global average temperature, or to global, local, or micro climates. From the standpoint of CEQA and NEPA, GHG impacts to global climate change are inherently cumulative.

## **GREENHOUSE GAS EMISSION SOURCES**

Emissions of GHGs contributing to global climate change are attributable in large part to human activities associated with the transportation, industrial/manufacturing, utility, residential, commercial and agricultural emissions sectors (ARB 2012c). In California, the transportation sector is the largest emitter of GHGs, followed by electricity generation (ARB 2012c). Emissions of CO<sub>2</sub> are byproducts of fossil fuel combustion. CH<sub>4</sub>, a highly potent GHG, results from off-gassing (the release of chemicals from nonmetallic substances under ambient or greater pressure conditions) is largely associated with agricultural practices and landfills. N<sub>2</sub>O is also largely attributable to agricultural practices and soil management. CO<sub>2</sub> sinks, or reservoirs, include vegetation and the ocean, which absorb CO<sub>2</sub> through sequestration and dissolution, respectively, two of the most common processes of CO<sub>2</sub> sequestration.

## **ADAPTATION TO CLIMATE CHANGE**

According to the IPCC, which was established in 1988 by the World Meteorological Organization and the United Nations Environment Programme, global average temperature is expected to increase by 3 to 7 degrees Fahrenheit by the end of the century, depending on future GHG emission scenarios (IPCC 2007). According to the California Natural Resources Agency (CNRA) temperatures in California are projected to increase 2–5 degrees Fahrenheit by 2050 (CNRA 2009) and by 4 to 9 degrees Fahrenheit by 2100.

Resource areas other than air quality and global average temperature could be indirectly affected by the accumulation of GHG emissions. For example, an increase in the global average temperature is expected to result in a decreased volume of precipitation falling as snow in California and an overall reduction in snowpack in the Sierra Nevada. An increase in precipitation falling as rain rather than snow also could lead to increased potential for floods because water that would normally be held in the Sierra Nevada until spring could flow into the Central Valley concurrently with winter storm events. This scenario would place more pressure on California's levee/flood control system.

Another outcome of global climate change is sea level rise. Sea level rose approximately 7 inches during the last century and it is predicted to rise an additional 7 to 22 inches by 2100, depending on the future levels of GHG

emissions (IPCC 2007). CNRA projects that sea levels along California will rise 12 to 18 inches by 2050 and 21 to 55 inches by 2100 (CNRA 2009).

As the existing climate throughout California changes over time, the ranges of various plant and wildlife species could shift or be reduced, depending on the favored temperature and moisture regimes of each species. In the worst cases, some species would become extinct or be extirpated from the state if suitable conditions are no longer available (CNRA 2009).

Changes in precipitation patterns and increased temperatures are expected to alter the distribution and character of natural vegetation and associated moisture content of plants and soils. An increase in frequency of extreme heat events and drought are also expected. These changes are expected to lead to increased frequency and intensity large wildfires (CNRA 2009).

### **4.13.3 ENVIRONMENTAL CONSEQUENCES AND RECOMMENDED MITIGATION MEASURES**

#### **SIGNIFICANCE CRITERIA**

##### **TRPA CRITERIA**

The “Air Quality” criteria from the TRPA Initial Environmental Checklist were used to evaluate the air quality impacts of the alternatives. The checklist asks if the project would result in any of the following conditions.

- ▲ Substantial air pollutant emissions?
- ▲ Deterioration of ambient (existing) air quality?
- ▲ The creation of objectionable odors?
- ▲ Alteration of air movement, moisture or temperature, or any change in climate, either locally or regionally?
- ▲ Increased use of diesel fuel?

##### **NEPA CRITERIA**

An environmental document prepared to comply with NEPA must consider the context and intensity of the environmental effects that would be caused by or result from the proposed action. Under NEPA, the significance of an effect is used solely to determine whether an EIS must be prepared. The factors that are taken into account under NEPA to determine the significance of an action in terms of the context and the intensity of its effects are encompassed by the TRPA and CEQA criteria used for this analysis.

##### **CEQA CRITERIA**

Based on Appendix G of the State CEQA Guidelines, an air quality impact is considered significant if implementation of the proposed project would do any of the following:

- ▲ conflict with or obstruct implementation of the applicable air quality plan;
- ▲ violate any air quality standard or contribute substantially to an existing or projected air quality violation (Table 4.13-1);
- ▲ result in a cumulatively considerable net increase of any criteria air pollutant for which the project region is in nonattainment under any applicable National or State ambient air quality standards (including releasing emissions that exceed quantitative standards for ozone precursors);
- ▲ expose sensitive receptors to substantial pollutant concentrations (including TACs/HAPs); or

- ▲ create objectionable odors affecting a substantial number or people.

As stated in Appendix G, the significance criteria established by the applicable AQMD or APCD may be relied on to make the above determinations. Thus, as identified by PCAPCD and NSAQMD, an air quality impact also is considered significant if implementation of the proposed project would result in:

- ▲ a net increase in short-term construction-related or long-term operation-related (regional) emissions of ROG, NO<sub>x</sub>, or PM<sub>10</sub> that exceed mass emissions of 82 pounds per day (lb/day) in Placer County (PCAPCD 2012a: pp. 23) or 136 lb/day in Nevada County (NSAQMD 2009: pp. 9);
- ▲ annual emissions in the Sacramento Federal Ozone Nonattainment Area, which includes the portion of Placer County in the MCAB (Chang, pers. comm., 2013), that exceed the Clean Air Act General Conformity Rule's *de minimis* emission levels; and/or
- ▲ exposure of sensitive receptors to TAC emissions that would exceed 10 in 1 million for the carcinogenic risk (i.e., the risk of contracting cancer) or a noncarcinogenic Hazard Index of 1 for the maximally exposed individual (PCAPCD 2012a: pp. 70).

NSAQMD recommends tiered significance criteria for evaluating CAPs and precursors and determining what level of mitigation shall be implemented. Projects resulting in emissions below NSAQMD's Level A thresholds—24 lb/day of ROG or NO<sub>x</sub>, or 79 lb/day of PM<sub>10</sub>—would be required to implement basic mitigation measures. Projects that result in emission levels that fall in the range of NSAQMD's Level B thresholds—24-136 lb/day of ROG or NO<sub>x</sub>, or 79-136 lb/day of PM<sub>10</sub>—would require additional mitigation. Project emissions that exceed Level C thresholds—136 lb/day of ROG, NO<sub>x</sub>, or PM<sub>10</sub>—would require more extensive mitigation (NSAQMD 2009: pp 9). Because the Applicant Proposed Measures (APMs) AQ-1 through AQ-15 already incorporate NSAQMD's Level A and Level B mitigation measures into the project, this analysis uses NSAQMD's Level C thresholds to determine the significance of project-generated emissions in NSAQMD's jurisdiction. (APMs are measures incorporated into the project alternatives that were developed to reduce or avoid adverse environmental effects. All APMs are identified in Section 3.7, Applicant Proposed Measures.)

In addition, according to PCAPCD, a project would result in a considerable contribution to a cumulative impact to air quality if it would result in:

- ▲ a net increase in short-term construction-related or long-term operation-related (regional) emissions of ROG or NO<sub>x</sub> that exceed 10 lb/day (PCAPCD 2012a: pp. 24) and all feasible mitigation is not implemented (Chang, pers. comm., 2012).

Appendix G of the State CEQA Guidelines was updated in 2010 to address impacts of GHG emissions with the adoption of amendments, as directed by SB 97 (Statutes of 2007). The California Natural Resources Agency has added the following questions to Appendix G. An impact related to global climate change is considered significant if the proposed project would:

- ▲ generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment; or
- ▲ conflict with any applicable plan, policy or regulation of an agency adopted for the purpose of reducing the emissions of greenhouse gases.

Neither PCAPCD nor NSAQMD has identified a threshold of significance for determining whether a project's GHG emissions are cumulatively considerable.

The Council on Environmental Quality (CEQ) has provided draft guidance for federal lead agencies to address impacts of GHG emissions. The draft guidelines include the following section:

If a proposed action would be reasonably anticipated to cause direct emissions of 25,000 metric tons or more of CO<sub>2</sub> equivalent GHG emissions on an annual basis, agencies should consider this an indicator that a quantitative and qualitative assessment may be meaningful to decision makers and the public. For long-term actions that have annual direct emissions of less than 25,000 metric tons of CO<sub>2</sub> equivalent, CEQ encourages federal agencies to consider whether the action's long-term emissions should receive similar analysis. CEQ does not propose this as an indicator of a threshold of significant effects, but rather as an indicator of a minimum level of GHG emissions that may warrant some description in the appropriate NEPA analysis for agency actions involving direct emissions of GHGs (CEQ 2010: pp. 1-2).

However, for the purposes of this joint NEPA/TRPA/CEQA analysis, to satisfy both NEPA and CEQA, the approach is to quantify the net change in GHG emissions from the action alternatives, and determine whether the associated emissions would substantially help or hinder the state's ability to attain the reduction goals mandated by AB 32 (i.e., reduction of statewide GHG emissions to 1990 levels by 2020). The net increase in GHG emissions associated with a proposed project is considered substantial and, therefore, cumulatively considerable if it exceeds 10,000 MT CO<sub>2</sub>e/year, which is the level used to determine whether a stationary source is required to report its GHG emissions to ARB as part of its Mandatory Reporting of Greenhouse Gas Emissions Regulation and Cap-and-Trade Program (as discussed in the Regulatory Setting above).

Finally, the EIS/EIS/EIR evaluates whether the project would be substantially affected by environmental impacts exacerbated by climate change.

## ISSUES NOT DISCUSSED FURTHER

Long-term operation of the proposed project would involve regular maintenance personnel traveling on access roads throughout the project site and occasional use of equipment for maintenance activities such as tree trimming and vegetation removal. However, the proposed project would not require any additional personnel or maintenance activities in comparison to existing conditions. Moreover, new access ways would be constructed as part of the proposed project, which would limit the need to use oversnow vehicles and helicopters to access areas with difficult terrain for inspections and maintenance. Therefore, the number of vehicle trips and the level of maintenance activities would not increase as a result of the proposed project and; thus, long-term operational emissions of CAPs, precursors, and GHGs from these sources would not increase above levels existing without the project and were not quantified in the analysis below.

In addition, upon completion of the electrical line upgrade project, there would be less of a need to operate the backup diesel generators at the Kings Beach Diesel Generation Station. Under existing conditions, these generators are used during single-contingency outages (one element of the system fails) as well as during periods of peak demand. Once upgraded, however, the 625 and 650 Lines would have increased capacity and the backup generators would generally only be needed during multiple-contingency outages (two or more elements of the system fail simultaneously), which are far less common; therefore, operation of the diesel generators at the Kings Beach Diesel Generation Station would be less frequent. Decreased operation of these generators would result in a reduction in local emissions associated with electricity production. However, because specific estimates of reduced generator operation cannot be accurately calculated due to the many variables involved (e.g., number of future peak demand days requiring generator operation, number and length of future outages requiring generator operation, quantifying how the number and lengths of outages would be minimized by the proposed project), reductions in emissions from this mechanism have not been quantified.

As discussed in the Existing Conditions/Affected Environment section above, the study area is not likely to contain naturally occurring asbestos. Thus, ground disturbance activities performed during project construction (e.g., grading, dozing, excavation, vehicle travel on unpaved surfaces) would not generate fugitive dust emissions that contain naturally occurring asbestos. This issue is not discussed further.

## METHODS AND ASSUMPTIONS

Because operation and maintenance activities under the proposed project would be similar to existing conditions, little changes in air emissions would occur. Therefore, although air emissions from operations and maintenance are addressed in this section, the focus is on construction generated emissions.

Maximum daily emission levels for CAPs and precursors, as well as GHGs, were estimated for each week of the modeled construction schedule using methodologies approved by PCAPCD and NSAQMD. The analysis identified whether the emissions generated during each construction phase would occur in the MCAB and/or the LTAB, and whether they would be emitted in the jurisdiction(s) of PCAPCD, NSAQMD, and/or TRPA.

Exhaust emissions from heavy-duty, off-road construction equipment were estimated using emission factors derived from ARB's Off-Road Emissions Inventory Program (OFFROAD2007) (ARB 2008) and detailed equipment information provided by the applicant. Fugitive PM<sub>10</sub> and PM<sub>2.5</sub> dust emissions generated by ground disturbance activities (i.e., graders, dozers, excavators, backhoes) were estimated using EPA AP-42 emission factors (EPA 1998).

Exhaust emissions from worker commute trips and haul truck carrying materials and equipment to and from the construction sites were estimated using emission factors from ARB's EMFAC2011 computer program (ARB 2011c) and data provided by the applicant regarding the number of truck trips and workers during each construction phase. Fugitive road dust emissions, including fugitive PM<sub>10</sub> and PM<sub>2.5</sub>, were estimated using EPA's AP-42 emission factors for vehicle travel on paved (EPA 2011b) and unpaved surfaces (EPA 2006a), and take into account reductions that would occur because of implementation of APM AQ-2, which requires unpaved areas subject to vehicle access to be stabilized (i.e., watered twice daily, or apply a dust palliative) for dust abatement.

Helicopter emissions of CAPs and precursors were estimated using emission factors from a guidance document published by the Swiss government, which includes emission factors specific to a KMAX K-100 helicopter, which is the model that would likely be used during construction (Federal Office of Civil Aviation 2009). Helicopter-generated emissions of GHGs were estimated using fuel consumption estimates and emission factors published in the California Climate Registry's (now called The Climate Registry) General Reporting Protocol (CCAR 2009).

The analysis also estimates the release of sequestered carbon from vegetation that would be removed by the proposed project. The release of sequestered carbon associated with permanent removal of forest vegetation, which is presented in detail in Section 4.3, Forestry Resources, was estimated based on the area of disturbance for forestland, as identified in Table 4.3-1 of this document, and project-specific carbon sequestration factors. The estimations of release of sequestered carbon assumed that 70 percent of merchantable wood volume would be converted to forest products (James, Krumland, and Eckert 2007) and therefore remain in a sequestered state, with the remaining 30 percent becoming a loss in sequestered carbon. The loss of future sequestration potential from trees being removed before they could reach their maximum carbon storage potential (i.e., trees removed before reaching maturity) is also addressed.

All modeling and emissions calculations were based on project-specific information (e.g., numbers and types of construction equipment, number of workers, number of truck trips) and default values for time of year, project location, and meteorological conditions from applicable models. For a detailed description of model input and output parameters, and assumptions, refer to Appendix M, Air Quality Data.

Estimated maximum daily emission levels of CAPs and precursors were compared to applicable thresholds of significance recommended by PCAPCD and NSAQMD. Project-related GHG levels are evaluated in light of the mass emission levels identified in ARB's Mandatory Reporting of Greenhouse Gas Emissions Regulation and Cap-and-Trade Program (both discussed above).

Project implementation would result in substation equipment capable of handling 120 kV electrical lines rather than the current 60 kV lines. Operational emissions of SF<sub>6</sub> associated with potential leakage from higher capacity transformer and circuit breaker equipment at the substations were estimated using information provided in the Proponents Environmental Assessment (PEA) submitted by Sierra Pacific Power Company to the California Public Utilities Commission in 2010 (Sierra Pacific 2010), which utilized leakage rates published by the EPA (EPA 2006b).

## ALTERNATIVE 1 - PEA ALTERNATIVE

### DIRECT AND INDIRECT IMPACTS

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<b>IMPACT 4.13-1 (Alt.1)</b>	<b>Daily construction-generated emissions of ROG, NO<sub>x</sub>, PM<sub>10</sub>, PM<sub>2.5</sub>, and CO.</b> Construction-generated emissions in Placer County would exceed PCAPCD significance thresholds for NO <sub>x</sub> and PM <sub>10</sub> . Construction-generated emissions in Nevada County would exceed NSAQMD significance thresholds for NO <sub>x</sub> . Construction activity would also generate substantial levels of PM <sub>2.5</sub> . Implementation of Alternative 1 (PEA Alternative) would generate emissions that contribute to nonattainment status of ozone, PM <sub>10</sub> and PM <sub>2.5</sub> in the MCAB and the nonattainment status of ozone and PM <sub>10</sub> in the LTAB. Therefore, this would be a <b>significant</b> impact.
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Construction-related activities would result in project-generated emissions of ROG, NO<sub>x</sub>, PM<sub>10</sub>, PM<sub>2.5</sub>, and CO from site preparation (e.g., excavation, grading, and tree and vegetation clearing), off-road equipment, material delivery and haul truck trips, worker trips, and helicopter use. Fugitive dust emissions, including PM<sub>10</sub> and PM<sub>2.5</sub>, are associated primarily with ground disturbance activities and vehicle travel on unpaved surfaces and vary as a function of soil silt content, soil moisture, wind speed, and area of disturbance. Ozone precursor emissions of ROG and NO<sub>x</sub>, as well as CO, are associated primarily with exhaust from construction equipment, haul truck trips, worker trips, and helicopter use.

Construction activities were modeled to take place during the construction season (i.e., approximately early May through mid-October) over a 7-season time period (when the modelling was conducted this was estimated to be from 2013 up to 2019). The periods during which construction were modelled to occur comprise a total of approximately 97 weeks. Different construction activities (e.g., substation work, road construction, logging activity, line construction, and line removal) would take place at different substation sites and different segments of the 625 and 650 Lines during these periods and, during many weeks, multiple activities would occur simultaneously at different portions of the project site. Construction-related emissions would be generated in the portions of the MCAB that are within the jurisdiction of both PCAPCD and NSAQMD and in a part of the LTAB that is under the jurisdiction of both PCAPCD and TRPA.

The following APMs have been incorporated into the project to minimize the emissions of ROG, NO<sub>x</sub>, PM<sub>10</sub>, PM<sub>2.5</sub>, and CO from site preparation, off-road equipment, and material delivery and haul truck trips.

- ▲ **APM AQ-1:** The applicant will submit a Construction Emission/Dust Control Plan to the NSAQMD and PCAPCD for approval prior to ground disturbance or vegetation removal associated with construction of the proposed project. The Dust Control Plan will summarize the APMs related to emissions control during construction.
- ▲ **APM AQ-2:** Unpaved areas subject to vehicle access will be stabilized using water at least two times daily, or as needed to control fugitive dust. On NFS lands, unpaved roads will be watered at least as often as specified in Forest Service Handbook 2409.15 (USFS 1992). A locally approved chemical dust palliative, applied according to the manufacturer's recommendations, may be substituted for watering with approval from the applicable land owner/manager.

- ▲ **APM AQ-3:** All inactive, disturbed portions of the project's ROW will be covered, seeded, or watered, as needed to control fugitive dust, until suitable vegetative cover is established.
- ▲ **APM AQ-4:** Prior to any ground disturbance, sufficient water will be applied to the area to be disturbed in order to control fugitive dust emissions.
- ▲ **APM AQ-5:** If wind-driven fugitive dust cannot be stabilized using water or a chemical dust suppressant such that the resulting dust plume crosses the nearest property line, all grading and excavating activities must cease until dust can be effectively controlled.
- ▲ **APM AQ-6:** Exposed stockpiles (e.g., dirt, sand, etc.) will be covered and/or stabilized with water or a locally approved chemical dust stabilizer as needed to control fugitive dust emissions. When loading or unloading stockpiled material, material will be stabilized using water and/or drop heights will be minimized to control fugitive dust.
- ▲ **APM AQ-7:** Traffic speeds on unpaved roads and the ROW will be limited to 15 miles per hour.
- ▲ **APM AQ-8:** Construction vehicles and equipment will be cleaned to prevent dust, silt, mud and dirt from being tracked off-site prior to entering public roadways.
- ▲ **APM AQ-9:** Any visible trackout deposited on paved, public roadways will be cleaned up at the conclusion of each workday or at 24-hour intervals for continuous operation. If trackout extends for a cumulative distance greater than 50 feet, it will be cleaned up within 1 hour. Trackout will be cleaned with a wet sweeper or vacuum device.
- ▲ **APM AQ-10:** Trucks transporting bulk materials off-site will be maintained such that no spillage can occur from holes or other openings in the cargo compartments. Loads will be completely covered or the bulk material will be wetted and loaded to maintain 6 inches of freeboard from the top of the container.
- ▲ **APM AQ-11:** CalPeco will limit actively graded areas to a cumulative total of 5 acres per day in order to control fugitive dust. The total area of disturbance can exceed this acreage so long as the actively graded portion is below this threshold.
- ▲ **APM AQ-12:** Traffic will be controlled by flaggers or other methods, as necessary, to improve traffic flow along roadways in the project area.
- ▲ **APM AQ-13:** Construction activities in more populated areas will be scheduled during off-peak hours, to the extent practical, to minimize impacts to traffic flow.
- ▲ **APM AQ-14:** Vehicle idling time will be limited to a maximum of 5 minutes for vehicles and construction equipment, except where idling is required for the equipment to perform its task.
- ▲ **APM AQ-15:** All off-road diesel engines with a rated output of greater than 100 horsepower will, at a minimum, meet the Tier II California Emissions Standards for Off-Road Compression Ignition Engines. If reasonably available, Tier III engines will be employed.

Table 4.13-6 summarizes the maximum daily total emissions of CAPs and precursors that would occur during the anticipated most intensive weeks of construction activity and the number of weeks when the applicable threshold would be exceeded. Conservative assumptions were made for all input parameters that were unknown at the time of the analysis. Therefore, the emissions estimates summarized in Table 4.13-6 represent worst-case maximum daily emissions. Refer to Appendix M, Air Quality Data, for a detailed summary of the modeling assumptions, inputs, outputs, and schedule. Appendix M also provides a detailed breakdown of emissions from off-road equipment, worker trips, haul truck trips, and helicopter during each week of construction.

PCAPCD and NSAQMD do not recommend mass emission thresholds for CO. Most construction-related CO emissions would be generated by off-road equipment, followed by helicopter activity, haul truck trips, and worker trips. CO emissions disperse rapidly with distance from the source under normal meteorological conditions. Because CO emissions from off-road equipment would be spread out among the different sites where construction activity would occur; because haul truck trips, worker commute trips, and helicopter

activities are also non-stationary in nature; and because both the MCAB and LTAB are designated as attainment for CO, it is not anticipated that CO emissions would contribute to CO concentrations that exceed the NAAQS or CAAQS.

However, as shown in Table 4.13-6, some of the construction phases would result in emissions of NO<sub>x</sub> and PM<sub>10</sub> that exceed applicable PCAPCD and NSAQMD thresholds of significance. Emissions of NO<sub>x</sub> from construction activity in Placer County would exceed PCAPCD’s threshold of 82 lb/day during approximately 94 weeks of construction activity. Emissions of NO<sub>x</sub> generated by construction activity in Nevada County would exceed NSAQMD’s threshold of 136 lb/day during approximately 22 weeks. Because construction-generated levels of NO<sub>x</sub>, which is an ozone precursor, would exceed applicable mass emission thresholds they could substantially contribute to ozone concentrations that exceed the NAAQS or CAAQS and potentially violate or substantially contribute to a violation of the applicable ambient air quality standards.

<b>Table 4.13-6 Maximum Daily Construction Emissions and Number of Weeks above Threshold</b>										
	ROG		NO <sub>x</sub>		PM <sub>10</sub>		PM <sub>2.5</sub>		CO	
	lb/day	weeks <sup>1</sup>	lb/day	weeks <sup>1</sup>	lb/day	weeks <sup>1</sup>	lb/day	weeks <sup>1</sup>	lb/day	weeks <sup>1</sup>
<b>In PCAPCD's Jurisdiction<sup>3</sup></b>										
Alternative 1 (PEA Alternative)	81	0	663	94	92	1	34	NA	354	NA
Alternative 2 (Modified Alternative)	69	0	663	94	92	1	34	NA	354	NA
Alternative 3 (Road Focused Alternative)	68	0	654	94	91	1	34	NA	352	NA
Alternative 4 (Proposed Alternative)	81	0	659	94	91	1	34	NA	353	NA
Threshold of Significance	82	—	82	—	82	—	— <sup>1</sup>	—	— <sup>1</sup>	—
<b>In NSAQMD's Jurisdiction</b>										
Alternative 1 (PEA Alternative)	35	0	295	22	49	0	17	NA	179	NA
Alternative 2 (Modified Alternative)	35	0	295	22	49	0	17	NA	179	NA
Alternative 3 (Road Focused Alternative)	35	0	292	22	49	0	17	NA	179	NA
Alternative 4 (Proposed Alternative)	35	0	294	22	49	0	17	NA	179	NA
Threshold of Significance	136	—	136	—	136	—	— <sup>2</sup>	NA	— <sup>2</sup>	—
Notes: lb/day = pounds per day ROG =reactive organic gases NO <sub>x</sub> =oxides of nitrogen PM <sub>10</sub> = respirable particulate matter with an aerodynamic diameter of 10 micrometers or less PM <sub>2.5</sub> =respirable particulate matter with an aerodynamic diameter of 2.5 micrometers or less CO = carbon monoxide PCAPCD = Placer County Air Pollution Control District NSAQMD = Northern Sierra Air Quality Management District NA = not applicable  Modeled values represent worst-case daily emissions that would occur during specified periods of the construction schedule. See Appendix I for detailed calculations, model inputs, assumptions, and project-specific modeling parameters. <sup>1</sup> Number of weeks where estimated construction emissions would exceed the applicable threshold <sup>2</sup> PCAPCD and NSAQMD do not have mass emission thresholds for PM <sub>2.5</sub> and CO. <sup>3</sup> It is assumed that up to 100% of the emissions in PCAPCD's jurisdiction could potentially be emitted in either the LTAB or the MCAB, depending on the exact location where emissions-generating construction activity would occur. Source: Ascent Environmental 2013										

In addition, as also shown in Table 4.13-6, emissions of PM<sub>10</sub> generated by construction activity in Placer County would exceed PCAPCD's threshold of 82 lb/day during one week. Because construction-generated levels of PM<sub>10</sub> would exceed applicable mass emission thresholds, they could substantially contribute to pollutant concentrations that exceed the NAAQS or CAAQS and potentially violate or substantially contribute to a violation of the ambient air quality standards for PM<sub>10</sub>. While PCAPCD does not recommend mass emission thresholds for evaluating PM<sub>2.5</sub> emissions, it is assumed that construction-generated emissions of PM<sub>2.5</sub> could contribute to the nonattainment status of PM<sub>2.5</sub> in the MCAB because PM<sub>2.5</sub> is a subset of PM<sub>10</sub> and the mass emission thresholds for PM<sub>10</sub> would be exceeded.

Thus, the generation of NO<sub>x</sub> and PM from project construction would result in a **significant** impact.

### **Mitigation Measure 4.13-1a (Alt. 1): Develop and implement a Construction Equipment Exhaust Emissions Control Plan.**

*The applicant shall provide separate plans, for approval by PCAPCD and NSAQMD, demonstrating that the heavy-duty (50 horsepower [hp] or more) land-based, off-road vehicles to be used for project-related demolition and construction activity in their respective jurisdictions, including owned, leased, and subcontractor equipment, shall achieve a project wide fleet-average 20 percent NO<sub>x</sub> reduction and 45 percent particulate reduction compared to the most current ARB fleet average that exists at the time of construction. Acceptable options for reducing emissions may include use of late-model engines, low-emission diesel products, alternative fuels, engine retrofit technology, after-treatment products, and/or other options as they become available. The applicant shall submit to PCAPCD and NSAQMD a comprehensive inventory of all off-road construction equipment, equal to or greater than 50 hp, that will be used an aggregate of 40 or more hours during any portion of the construction project. The inventories shall include the horsepower rating, engine production year, and projected hours of use for each piece of equipment. The inventories shall be updated and submitted monthly throughout the duration of the project, except that an inventory shall not be required for any 30-day period in which no construction activity occurs in the respective air district. At least 48 hours before the use of heavy duty off-road equipment, the applicant shall provide the respective air district with the anticipated construction timeline including start date, and name and phone number of the project manager and on-site foreman. The applicant shall use Sacramento Metropolitan Air Quality Management District's Construction Mitigation Calculator (SMAQMD 2012), which is approved by PCAPCD and NSAQMD, to identify an equipment fleet that achieves this reduction.*

*This measure does not apply to the use of a helicopter during construction activity because there are no State or federal emissions standards for helicopters and, therefore, no established set of state-wide emission rates. Also, the availability of a more emissions-efficient helicopter suitable for the project is unknown.*

### **Mitigation Measure 4.13-1b (Alt. 1): Pay off-site mitigation fee to PCAPCD to off-set NO<sub>x</sub> emissions generated by construction activity in Placer County.**

*The applicant shall pay an off-site mitigation fee into PCAPCD's Clean Air Grants Program for the purpose of reducing NO<sub>x</sub> emitted by project construction activities in Placer County to a less-than-significant level (i.e., less than 82 lb/day). The applicant shall provide a detailed construction schedule to PCAPCD before each construction season (i.e., May through October) that identifies when construction activities at different portions of the project site in Placer County may occur. The applicant shall calculate the fees associated with each construction phase in consultation with PCAPCD staff and the applicant shall pay the specific fee amounts to PCAPCD before each construction phase. The calculation of daily NO<sub>x</sub> emissions shall be based on the cost rate established by PCAPCD's Clean Air Grants Program at the time each calculation and payment is made. PCAPCD's Clean Air Grants Program is part of ARB's statewide Carl Moyer Memorial Air Quality Standards Attainment Program. The program provides grant funding for cleaner-than-required engines and equipment. Grants are administered by PCAPCD to support reductions in emissions of key pollutants which are necessary to meet clean air commitments under regulatory requirements. Eligible projects include cleaner on-road, off-*

road, locomotive, lawn & garden, light duty passenger vehicles being scrapped and agricultural equipment (ARB 2012e; PCAPCD 2012b). At the time of writing this EIS/EIS/EIR the cost rate is \$17,080 to reduce 1 ton of NO<sub>x</sub> (ARB 2011d; Kuklo, pers. comm., 2013).

Implementation of Mitigation Measure 4.13-1a would reduce exhaust emissions of PM<sub>10</sub> from off-road construction equipment in Placer County by a minimum of 45 percent. A similar percent reduction in PM<sub>2.5</sub> exhaust would also be achieved. A 45 percent reduction in PM<sub>10</sub> exhaust would reduce the total maximum daily PM<sub>10</sub> (i.e., PM<sub>10</sub> exhaust and PM<sub>10</sub> dust) in Placer County to less than 81 lb/day, which would occur during one week of the modelled 2014 construction season. The second daily maximum would be 71 lb/day. Detailed calculations of the reductions in PM<sub>10</sub> resulting from Mitigation Measure 4.13-1a are provided in Appendix M, Air Quality Data. Also, fugitive PM<sub>10</sub> and PM<sub>2.5</sub> dust emissions would also be controlled through integration of APM AQ-1, which requires the applicant to implement a Dust Control Plan that would be approved by PCAPCD and NSAQMD. Because maximum daily levels of PM<sub>10</sub> would not exceed 82 lb/day, and a similar percent reduction in PM<sub>2.5</sub> exhaust would be achieved, construction-generated emissions of PM<sub>10</sub> and PM<sub>2.5</sub> would be reduced to a **less-than-significant** level.

Implementation of Mitigation Measure 4.13-1a would reduce construction-related emissions of NO<sub>x</sub> by 20 percent in both PCAPCD's jurisdiction and NSAQMD's jurisdiction. NO<sub>x</sub> emissions generated in Placer County would be further reduced to levels below PCAPCD's threshold of 82 lb/day through payment by the applicant into PCAPCD's off-site mitigation fee program, as required by Mitigation Measure 4.13-1b. This would reduce NO<sub>x</sub> emissions in Placer County to a **less-than-significant** level.

NSAQMD, however, does not have an off-site mitigation fee program (Longmire, pers. comm., 2012, Murano, pers. comm., 2013). Thus, NO<sub>x</sub> generated by construction activity in Nevada County could be as high as 236 lb/day and exceed NSAQMD's threshold of 136 lb/day for up to 22 weeks. Because NO<sub>x</sub> emissions in Nevada County could substantially contribute to ozone concentrations that exceed the NAAQS or CAAQS and potentially violate or substantially contribute to a violation of the ambient air quality standards, the impact of NO<sub>x</sub> emissions in Nevada County would be **significant and unavoidable**.

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<b>IMPACT</b>	<b>Contribution of ozone precursors to the Sacramento Federal Ozone Nonattainment Area.</b>
<b>4.13-2</b>	Construction-generated emissions of ozone precursors (i.e., ROG and NO <sub>x</sub> ) in the
<b>(Alt.1)</b>	Sacramento Federal Ozone Nonattainment Area would not exceed the <i>de minimis</i> levels. Therefore, the General Conformity would not apply to the proposed project. This impact would be <b>less than significant</b> .

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Some project-related construction activity would occur in the Sacramento Federal Ozone Nonattainment Area, which includes the portion of Placer County in the MCAB and under the jurisdiction of PCAPCD. The Sacramento Federal Ozone Nonattainment Area is classified as severe with respect to the NAAQS for ozone (EPA 2012a; Chang, pers. comm., 2013). Section 176(c)(4) of the Clean Air Act prohibits federal entities from taking actions in nonattainment or maintenance areas if those actions do not conform to the applicable State Implementation Plan for the attainment and maintenance of NAAQS. The project area is in attainment or unclassified with respect to the NAAQS for all other CAPs.

General conformity is the federal regulatory process for preventing major federal actions or projects from interfering with air quality planning goals. Conformity provisions ensure that federal funding and approval are given only to those activities and projects that are consistent with air quality SIPs. Conformity with the SIP means that major federal actions will not cause new air quality violations, worsen existing violations, or delay timely attainment of the NAAQS.

The process for making this determination for non-transportation projects is referred to as a general conformity analysis and is subject to EPA's General Conformity Regulations (40 CFR 93, Subpart B). General conformity is the

federal regulatory process for preventing major federal actions or projects from interfering with air quality planning goals. Conformity provisions ensure that federal funding and approval are given only to those activities and projects that are consistent with the applicable SIP. Conformity with the SIP means that major federal actions will not cause new air quality violations, worsen existing violations, or delay timely attainment of the NAAQS.

The general conformity regulations incorporate a stepwise process, beginning with an applicability analysis. Before any approval is given for a federal action to go forward, the regulating federal agency must apply the applicability requirements found at 40 CFR Section 93.153(b) to the federal action to evaluate whether, on a pollutant-by-pollutant basis, a determination of general conformity is required. The applicability analysis examines whether the net increase in direct and indirect emissions resulting from a federal action would equal or exceed certain *de minimis* emission levels.

Because ozone is a secondary pollutant, the applicability analysis is based on primary emission of its precursors, ROG and NO<sub>x</sub>. If the net emissions levels for either ROG or NO<sub>x</sub> exceed the *de minimis* levels for ozone, then the federal action is subject to a general conformity evaluation for ozone. The *de minimis* level for an area designated as severe nonattainment with respect to the NAAQS for ozone is 25 tons/year in any calendar year (PCAPCD [no date]).

Table 4.13-7 summarizes the annual emissions of ROG and NO<sub>x</sub> from project construction estimated for each year of modelled construction activity. The emission levels indicated for each modelling year in Table 4.13-7 are expressed in tons.

	2013 <sup>2</sup>		2014		2016		2018		2019	
	ROG	NO <sub>x</sub>	ROG	NO <sub>x</sub>	ROG	NO <sub>x</sub>	ROG	NO <sub>x</sub>	ROG	NO <sub>x</sub>
Alternative 1 (PEA Alternative)	0.6	5.1	2.1	17.6	1.4	11.1	2.0	17.4	2.2	18.0
Alternative 2 (Modified Alternative)	0.3	5.1	1.6	14.3	1.3	11.1	2.0	17.4	2.3	18.5
Alternative 3 (Road Focused Alternative)	0.3	5.1	1.9	17.9	1.3	11.3	1.6	13.7	1.9	15.6
Alternative 4 (Proposed Alternative)	0.6	5.1	2.1	17.5	1.4	11.1	1.6	13.8	1.9	15.2
General Conformity <i>de minimis</i> levels (tons/year)	25	25	25	25	25	25	25	25	25	25

Notes:  
 ROG =reactive organic gases  
 NO<sub>x</sub>=oxides of nitrogen  
 Modeled values represent worst-case annual emissions that would occur during each calendar year when construction would be performed. See Appendix M, Air Quality Data, for detailed calculations, model inputs, assumptions, and project-specific modeling parameters.  
<sup>1</sup> Emission level estimates indicate the level of project-related emission both in and outside of the Sacramento Federal Ozone Nonattainment Area. The proportion of emissions inside the Sacramento Federal Ozone Nonattainment area would be lower.  
<sup>2</sup> Calendar years shown are based on a representative construction schedule developed at the time the Draft EIS/EIS/EIR was prepared. Shifting calendar years would still be representative of the overall 5-year construction phasing plan.  
 Source: provided by Ascent Environmental in 2013

As shown in Table 4.13-7, project-related emissions of ROG and NO<sub>x</sub> during any calendar year in the construction schedule under Alternative 1 (PEA Alternative) would not exceed the *de minimis* level of 25 tons/year.

Because project-generated emissions of ozone precursors would not exceed the *de minimis* emission levels, the General Conformity Rule would not apply to the proposed project. This would be a **less-than-significant** impact.

## MITIGATION MEASURES

*No mitigation measures are required.*

<b>IMPACT 4.13-3 (Alt.1)</b>	<b>Exposure of sensitive receptors to toxic air contaminants.</b> Some TAC-emitting construction activities would be located approximately 50 feet from existing sensitive receptors that are located adjacent to the power line right-of-way; however exposure to sensitive receptors from construction-generated TACs would not be substantial because the duration of construction activity at any one location would be limited. Short-term construction and long-term operation of the proposed project would not result in the exposure of sensitive receptors to substantial TAC concentrations. Exposure of sensitive receptors to TACs would be considered a <b>less-than-significant</b> impact.
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Implementation of Alternative 1 (PEA Alternative) would not result in the introduction of any new operational sources of TACs because, although equipment with greater capacity would be installed, the same types of equipment and facilities would be used (e.g., conductor, transformers, switches). Operations and maintenance activities would also continue consistent with existing conditions.

Construction-related activities would result in temporary, short-term project-generated emissions of diesel PM from the exhaust of off-road, heavy-duty diesel equipment for site preparation (e.g., grading, vegetative clearing, travel way construction); foundation construction; line construction; line removal; substation work; and other miscellaneous activities. Diesel PM was identified as a TAC by ARB in 1998 (ARB 1998) and is the primary TAC that might be released by the proposed project.

Exhibits 4.14-1 through 4.14-5 in Section 4.14, Noise, of this EIS/EIS/EIR show sensitive noise receptors, that would also be considered sensitive TAC receptors, and that are located within 1,000 feet of where construction activity would occur. These exhibits show that some residential land uses are located adjacent to, or in close proximity to, areas where construction activity would occur, including some residential dwellings in Tahoe City, Kings Beach, Northstar, and Truckee.

As stipulated in APM AQ-15, all off-road diesel engines with a rated output of greater than 100 horsepower will, at a minimum, meet the Tier II California Emissions Standards for Off-Road Compression Ignition Engines. Table 4.13-8 summarizes the worst-case daily level of diesel PM that would be generated by off-road equipment for each type of construction activity that would be part of the proposed project. The levels of diesel PM shown in Table 4.13-8 are based on the modeling performed for the analysis of mass emissions of CAPs and precursors under Impact 4.13-1. Refer to Appendix M, Air Quality Data, for detailed calculations and input parameters. The values in Table 4.13-8 are overall emissions levels from construction activities; diesel PM dissipates quickly and exposure at any one receptor would be far less than the emissions estimate.

Construction Activity	Diesel PM Exhaust (lb/day)
Substation Construction-Civil	3.1
Substation Construction-Physical	2.3
Substation Construction-Electrical	1.9
Substation Construction-System Protection	0.7
Substation Construction-Offsite Improvements	1.7
Tree Removal (including logging)	8.7
650 Line ROW Preparation	4.7

**Table 4.13-8 Summary of Diesel PM from Off-Road Equipment by Construction Activity of All Action Alternatives**

Construction Activity	Diesel PM Exhaust (lb/day)
650 Line Construction	7.9
Self-Supporting Steel Pole Footings for Towers	2.3
New 625 Line ROW Preparation	7.6
New 625 Line Construction	8.2
Line Removal	3.9

Notes: lb/day = pounds per day and ROW = right-of-way  
Modeled values represent worst-case daily emissions of PM<sub>2.5</sub> exhaust from diesel-powered off-road equipment (e.g., dozers, graders, backhoes) that would be used during each construction activity. The types of off-road equipment used and the intensity they would operate on a worst-case day would generally be the same under Alternative 1 (PEA Alternative), Alternative 2 (Modified Alternative), and Alternative 3 (Road Focused Alternative); however, the number of work days needed to complete the activity would differ. See Appendix M for detailed calculations, model inputs, assumptions, and project-specific modeling parameters.  
Source: provided by Ascent Environmental in 2013

The dose to which receptors are exposed is the primary factor used to determine health risk (i.e., potential exposure to TAC emission levels that exceed applicable standards). Dose is a function of the concentration of a substance or substances in the environment and the duration of exposure to the substance. Dose is positively correlated with time, meaning that a longer exposure period would result in a higher exposure level for the maximally exposed individual. Thus, the risks estimated for a maximally exposed individual are higher if a fixed exposure occurs over a longer period of time. According to the Office of Environmental Health Hazard Assessment, health risk assessments, which determine the exposure of sensitive receptors to TAC emissions, should be based on a 70-year exposure period; however, such assessments should be limited to the period/duration of activities associated with the project (OEHHA 2001).

As shown in Table 4.13-8, daily emissions of diesel exhaust would generally be lower near substations, which are typically located in or near developed areas. According to the project schedule, the number of work days for construction activities at substations would not exceed 20 days, a very short exposure period relative to the 70-year exposure timeframe recommended for health risk assessments. Emissions from construction activities would generally be higher along the power lines; however, because this infrastructure is linear in nature, it is not anticipated that any of these activities would take place in any one place for an extended period of time and exposure timeframe would likely be less than identified for substations. In addition, as indicated above, diesel PM dissipates quickly, and exposure concentrations would decline with distance from construction activities.

Thus, because the use of off-road heavy-duty diesel equipment would be temporary and not take place at a fixed location for an extended period, because of the highly dispersive properties of diesel PM (Zhu et al. 2002), and because the wind direction typically shifts throughout a normal day dispersing diesel PM in different directions, project-related construction activity would not expose nearby receptors to substantial concentrations of TACs. As a result, this impact would be **less than significant**.

Moreover, implementation of Mitigation Measure 4.13-1a would reduce diesel PM exhaust from the off-road equipment fleet by a minimum of 45 percent. Also, research of diesel PM generated by roadway traffic (i.e., on-road vehicles) indicates that vegetation, particularly fine-needle tree species, were able to remove particulate from the air (Fuller et al. 2009; Sacramento-Emigrant Trails Health Effects Task Force and SMAQMD 2008), further reducing potential exposure to diesel PM.

## MITIGATION MEASURES

*No mitigation measures are required.*

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<b>IMPACT</b> <b>4.13-4</b> <b>(Alt.1)</b>	<b>Exposure of sensitive receptors to odors.</b> The proposed land use type is not one that is commonly considered a source of odors. While construction of the proposed project could result in temporary emissions of odorous diesel exhaust, it is not anticipated that this source would be excessive nor would it affect a substantial number of receptors. This would be a <b>less-than-significant</b> impact.
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The occurrence and severity of odor impacts depends on numerous factors, including: the nature, frequency, and intensity of the source; wind speed and direction; and the sensitivity of the receptors. While offensive odors rarely cause any physical harm, they still can be very unpleasant, leading to considerable distress among the public and often generating citizen complaints to local governments and regulatory agencies. Projects with the potential to frequently expose a substantial number of members of the public to objectionable odors would be deemed to have a significant impact.

Implementation of the proposed project would not result in the introduction of any new operational sources of odors to the area. Project-related construction activities could result in odorous diesel exhaust emissions from construction equipment. Construction-generated diesel exhaust emissions, however, would be temporary and not be generated at any one location for an extended period. Diesel exhaust would also dissipate rapidly from the source with an increase in distance. Integrated into project design are APMs to reduce the amount of diesel exhaust. The applicant would: implement a Construction Emission/Dust Control Plan (APM AQ-1); limit actively graded areas to a cumulative total of 5 acres per day limiting the use of some of the larger types of off-road equipment (e.g., graders, dozers)(APM AQ-11); schedule construction activity in more populated areas during off-peak hours, to the extent practical (APM AQ-13); and limit idling time of both on-road vehicles and construction equipment (APM AQ-14). Accordingly, it is not anticipated that the proposed project would create objectionable odors affecting a substantial number or people. This would be a **less-than-significant** impact.

## MITIGATION MEASURES

*No mitigation measures are required.*

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<b>IMPACT</b> <b>4.13-5</b> <b>(Alt.1)</b>	<b>Greenhouse gas emissions.</b> GHG emissions associated with the proposed project would result in less-than-cumulatively considerable GHG emissions and would have a <b>less-than-significant</b> impact on climate change.
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Project-related construction would affect GHG emissions in two ways. First, project-related construction activities would result in increased generation of GHG emissions from equipment use during site preparation (e.g., excavation, grading, and tree and vegetation clearing), off-road equipment operation during facility installation and removal, material delivery and haul truck trips, worker trips, and helicopter use. GHG emissions are associated with the consumption of fuel by construction equipment, haul truck trips, worker trips, and helicopter use. Exhaust emissions of GHGs were estimated using the same methodologies used to estimate emissions of CAPs and precursors, as discussed under Methods and Assumptions above. GHG emissions generated by construction activity are considered temporary or short-term because they would only occur during the construction period.

Second, areas of forest vegetation would be removed, either permanently to establish new ROWs and other facilities, or temporarily to establish staging areas, stringing sites, and similar temporary sites that would only be used during the construction phase, resulting in both a one-time reduction in the amount of carbon sequestered by forest vegetation in these locations and in a reduction in the future potential carbon sequestration that would occur if these areas were not deforested and left to continue to mature. As explained in Section 4.3, Forestry Resources, approximately 70 percent of the forest vegetation removed would become wood products and, thus, remain as carbon in a sequestered state, while the remaining 30 percent would be released into the

atmosphere over time. Also, trees that are removed at younger age classes could have absorbed and sequestered additional CO<sub>2</sub> from the atmosphere and, once the trees are removed, this future sequestration potential is lost. Subsequent to the construction phase, however, reforestation would occur in some of the areas of existing ROW that would be abandoned and support forest growth. Forests would also regenerate over time (i.e., 100 years) in those areas where forest removal occurred for the purpose of temporary construction facilities rather than new permanent project elements. As stated in Section 4.3, Forestry Resources, the regeneration of forests in these areas would result in new carbon sequestration.

Third, long-term operational emissions of SF<sub>6</sub> could result from slow leaks from gas-insulated equipment such as transformer and circuit breaker equipment at the substations.

The levels of GHG emissions and carbon sequestration associated with these changes for each of the action alternatives is summarized in Table 4.13-9. Refer to Appendix M, Air Quality Data, for a detailed summary of the modeling assumptions, inputs, and outputs. Refer to Section 4.3, Forestry Resources, and the associated calculations in Appendix H, Supplemental Forestry and Vegetation Management Report, for detailed calculations and assumptions used to estimate changes in carbon sequestration.

<b>Table 4.13-9 Net Change in Greenhouse Gas Emissions</b>				
<b>Emissions Activity</b>	<b>Alternative 1 (PEA Alternative)</b>	<b>Alternative 2 (Modified Alternative)</b>	<b>Alternative 3 (Road Focused Alternative)</b>	<b>Alternative 4 (Proposed Project/Action)</b>
<b>(A)</b> <sup>1</sup> Sequestered Carbon to be Released during Timber Removal Phase of Construction (one-time) (MT CO <sub>2</sub> e) <sup>1</sup>	8,375	8,095	6,953	6,929
<b>(B)</b> Lost Potential in Future Carbon Sequestration (MT CO <sub>2</sub> e) <sup>1</sup>	9,504	9,141	7,591	7,557
<b>(C)</b> Future Carbon Sequestered in Abandoned Right of Way (in next 100 years) (MT CO <sub>2</sub> e) <sup>2</sup>	-3,331	-3,097	-3,886	-3,901
<b>Net Timber Sequestered Carbon Released into the Atmosphere (A+B+C)</b>	14,548	14,139	10,658	10,579
<b>(D)</b> Construction Exhaust Emissions (one-time) (MT CO <sub>2</sub> e) <sup>3</sup>	8,889	8,549	8,110	7,956
<b>Total One-time Change in Emissions from Construction Phase (MT CO<sub>2</sub>e) (A+B+D)</b>	26,768	25,785	22,654	22,442
Operational Life of Project (years)	25	25	25	25
<b>Construction-Phase Emissions, Amortized Over Operational Life (MT CO<sub>2</sub>e/year) [(A+B+D)/25]</b>	1,071	1,031	906	898
<b>(E)</b> Long-Term SF <sub>6</sub> Emissions (MT CO <sub>2</sub> e/year) <sup>3</sup>	28	28	28	28
<b>Long-Term Net Change in Annual Emissions in Atmosphere (MT CO<sub>2</sub>e/year)<sup>3</sup> [(A+B+D)/25 + C/100 + E]<sup>4</sup></b>	1,066	1,028	895	887
Level Requiring Mandatory Reporting to ARB (MT CO <sub>2</sub> e/year)	10,000			
Level Requiring Participation in Cap-and-Trade (MT CO <sub>2</sub> e/year) <sup>5</sup>	25,000			
Notes:				
MT CO <sub>2</sub> e = metric tons of carbon dioxide-equivalent				
MT CO <sub>2</sub> e/year = metric tons of carbon dioxide-equivalent per year				
<sup>1</sup> The A, B, C, and D represent the values in those particular rows to indicate what numbers/values are used in subsequent calculations (e.g., A+B-C)				
<sup>2</sup> The reduction in carbon sequestration associated with removal of vegetation, both temporary and permanent, was estimated based on the area of disturbance to various vegetation types, as identified in Table 4.7-8 of this document. Methods for these calculations are discussed in Section 4.3, Forestry Resources and detailed calculations are provided in Appendix H.				
<sup>3</sup> Exhaust emissions include emissions from off-road equipment, haul trucks, worker trips, and helicopter use, as well as operational SF <sub>6</sub> emissions. Refer to Appendix M for a detailed summary of the modeling assumptions, inputs, outputs, and schedule.				
<sup>4</sup> All four action alternatives may also result in a reduction in the GHG emissions associated with reduced operation of the Kings Beach Diesel Generator Station because it would no longer be needed to operate during a single-contingency outage, as is the case under existing conditions.				
<sup>5</sup> Also, CEQ proposed that an emissions level of 25,000 MT CO <sub>2</sub> e/year is an indicator of a minimum level of GHG emissions that may warrant some description in the appropriate NEPA analysis for agency actions involving direct emissions of GHGs (CEQ 2010: pp. 1-2).				
Source: Ascent Environmental 2013				

The levels of GHG emissions and carbon sequestration associated with Alternative 1 (PEA Alternative) summarized in Table 4.13-9 can be evaluated in multiple ways. First, considering the construction phase alone, the level of associated exhaust emissions (8,899 MT CO<sub>2</sub>e) plus the loss in sequestered carbon associated with timber removal (8,375 MT CO<sub>2</sub>e) and the loss of future potential sequestered carbon (9,504 MT CO<sub>2</sub>e) would total 26,768 MT CO<sub>2</sub>e during the five years when construction would occur, which computes to an average of 5,354 MT CO<sub>2</sub>e/year. This net increase in GHG emissions would not exceed 10,000 MT CO<sub>2</sub>e/year, which is the reporting level established for stationary sources by ARB's Mandatory Reporting of Greenhouse Gas Emissions Regulation and Cap-and-Trade Program.

Moreover, if the net increase in GHG emissions from the construction phase is amortized over a 25-year operational life (1,071 MT CO<sub>2</sub>e/year) and added to the annual level of SF<sub>6</sub> emissions associated with the long-term operation of the project, the annual level of GHG emissions associated with Alternative 1 (PEA Alternative) would be 1,099 MT CO<sub>2</sub>e/year. This rate is also less than the reporting level of 10,000 MT CO<sub>2</sub>e/year established by ARB for stationary sources.

The net change in GHG emissions associated with the project over the long term can also be evaluated using the level of carbon release due to timber removal (8,375 MT CO<sub>2</sub>e), the loss in future potential carbon sequestration due to timber removal (9,504 MT CO<sub>2</sub>e), and the addition of carbon sequestration that would be provided by reforestation in the abandoned rights of way (-3,331 MT CO<sub>2</sub>e assumed to be spread over an approximately 100-year period). Accounting for these vegetation-related carbon release and sequestration mechanisms, as well as construction exhaust emission (8,889 MT CO<sub>2</sub>e) the ongoing emissions from SF<sub>6</sub> leakage (28 MT CO<sub>2</sub>e/year), the net increase in GHGs over the long term under Alternative 1 (PEA Alternative) would be approximately 1,066 MT CO<sub>2</sub>e/year. This level would also be less than the reporting level of 10,000 MT CO<sub>2</sub>e/year established by ARB for stationary sources.

In summary, the net increase in GHG emissions associated with Alternative 1 (PEA Alternative) would not be substantial because it would not exceed the trigger levels used by ARB to regulate emissions from stationary sources in its Mandatory Reporting regulation, which is a key component of the AB 32 Scoping Plan. For this reason, it is determined that Alternative 1 (PEA Alternative) would not conflict with the reduction goals of AB 32. As a result, the net increase in GHG emissions from the proposed project would be less-than-cumulatively considerable and would have a **less-than-significant** impact on climate change.

## MITIGATION MEASURES

*No mitigation measures are required.*

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<b>IMPACT 4.13-6 (Alt.1)</b>	<b>Impacts of climate change on the project.</b> Climate change is expected to result in a variety of effects in the project area including changes to timing and intensity of precipitation resulting in increased risk of landslides associated with ground saturation and increased stormwater runoff. Climate change could also result in increased temperatures, leading to increased wildland fire in the project vicinity. However, there are numerous programs and policies in place to protect against and respond to wildland fire and implementation of the proposed project would increase the North Lake Tahoe Transmissions System's resilience to disturbance. This impact would be <b>less than significant</b> .
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As discussed previously in this section, there is substantial evidence that human-induced increases in GHG concentrations in the atmosphere have led to increased global average temperatures (climate change) through the intensification of the greenhouse effect, and associated changes in local, regional, and global average climatic conditions.

Although there is a strong scientific consensus that global climate change is occurring and is influenced by human activity, there is less certainty as to the timing, severity, and potential consequences of the climate phenomena, particularly at specific locations. Scientists have identified several ways in which global climate change could alter the physical environment in California (CNRA 2009, CEC 2012, DWR 2006, IPCC 2007). These include:

- ▲ increased average temperatures;
- ▲ modifications to the timing, amount, and form (rain vs. snow) of precipitation;
- ▲ changes in the timing and amount of runoff;
- ▲ reduced water supply;
- ▲ deterioration of water quality; and
- ▲ elevated sea level.

These changes may translate into a variety of issues and concerns that may affect the project area, including but not limited to:

- ▲ increased frequency and intensity of wildfire as a result of changing precipitation patterns and temperatures;
- ▲ increased stormwater runoff associated with changes to precipitation patterns and snowmelt patterns;
- ▲ increased risk of landslide, rock falls, debris/earth flows, and avalanches associated with changes to precipitation and snowmelt patterns; and
- ▲ increased intensity of storm events that result in increased snow loading associated and high winds that can down power poles and cause trees falling onto the power lines.

TRPA, the Town of Truckee, Placer County, and Nevada County have adopted plans and policies to manage and plan for wildland fire. These include TRPA's Community Wildfire Protection Plan, TRPA's Fuel Reduction and Forest Restoration Plan, the Town of Truckee Emergency Operations Plan, and the California Department of Forestry and Fire Protection's (CALFIRE) Plans for Nevada and Placer counties (see Section 4.10, Hazards and Hazardous Materials, for additional information on plans and policies related to wildland fire). Implementation of these plans would reduce the likelihood of wildland fire through management of fuels and implementation of best practices, and would ensure that resources to respond to occurrence of wildland fire would be available. In addition, the power line poles would be constructed of steel rather than from wood, further reducing the potential for the line to be compromised by a fire. Wood poles can ignite and cause line failure under appropriate circumstances, whereas steel poles will not ignite, preventing this potential failure mechanism. Vehicles would have more opportunities under Alternative 1 (PEA Alternative) to use existing roads to access project components for operation and maintenance activities relative to existing conditions, which will reduce the potential for vehicle heat to ignite dry vegetation and start a fire. Moreover, the level of maintenance-related vehicle trips is not anticipated to increase in comparison to existing conditions. It is not anticipated that the project would be substantially affected by exposure to wildfire as a result of climate change impacts.

As discussed in Section 4.5 Geology, Soils, and Land Capability Coverage, portions of the project site are located on sloping ground and potentially subject to landslides, rock falls, and debris/earth flows. The probability of these types of risks could be increased during or following periods of heavy precipitation and increased snowmelt or stormwater runoff. However, as discussed under Impact 4.5-3 (Alt. 1), a geotechnical survey of pole installation sites would be conducted before construction to identify, characterize, and evaluate potential impacts to slope stability that might result in landslides or rock fall and design features would be implemented to minimize these risks. Also, the project site does not place facilities in locations with increased avalanche risk relative to existing conditions.

Moreover, as discussed in Chapter 2, Purpose and Need, upgrade of the existing 625 and 650 Lines would better enable the North Lake Tahoe Transmission System to supply peak loads at adequate voltage levels without overloading the system components, including during times when any one component of the system is out of service (i.e., single-contingency reliability). It would enhance the systems resiliency to the most common/probable mechanisms that subject the current system to regular outages, including high winds blowing down power poles, trees falling onto the power lines, snow loading causing line failure, and wildfire. The project would also increase the accessibility of the 625 Line to simplify inspection and maintenance (and thus decrease the frequency of outages) and speed repair times when outages do occur. Thus, the overall purpose of the project is to increase the reliability and resiliency of the 625 and 650 power lines from multiple types of natural risks, which would include risks potentially exacerbated by climate change.

As discussed above, inclusion of the features in the design and operation of the upgrade project would reduce the extent and severity of climate change-related impacts to the project by providing methods for adapting to these changes. These design features would reduce the extent and severity of climate change-related impacts to the project from increased risk of wildfire, landslides, rock falls, debris/earth flows, avalanches, and snow loads associated with changes to precipitation patterns, as well as downed lines and fallen trees from high winds. For these reasons, this impact would be **less than significant**.

## MITIGATION MEASURES

*No mitigation measures are required.*

## ALTERNATIVE 2 – MODIFIED ALTERNATIVE

### DIRECT AND INDIRECT IMPACTS

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<b>IMPACT 4.13-1 (Alt.2)</b>	<b>Daily construction-generated emissions of ROG, NO<sub>x</sub>, PM<sub>10</sub>, PM<sub>2.5</sub>, and CO.</b> Construction-generated emissions in Placer County would exceed PCAPCD significance thresholds for NO <sub>x</sub> and PM <sub>10</sub> . Construction-generated emissions in Nevada County would exceed NSAQMD significance thresholds for NO <sub>x</sub> . Construction activity would also generate substantial levels of PM <sub>2.5</sub> . Implementation of Alternative 2 (Modified Alternative) would generate emissions that contribute to nonattainment status of ozone, PM <sub>10</sub> , and PM <sub>2.5</sub> in the MCAB and the nonattainment status of ozone and PM <sub>10</sub> in the LTAB. Therefore, this would be a <b>significant</b> impact.
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The types of construction activities and the emissions levels generated under Alternative 2 (Modified Alternative) would be similar to Alternative 1 (PEA Alternative). Construction-generated emissions of ROG, NO<sub>x</sub>, PM<sub>10</sub>, and PM<sub>2.5</sub> would be mitigated by the 15 air quality APMs incorporated into the project. Fugitive PM<sub>10</sub> and PM<sub>2.5</sub> dust emissions would be controlled through integration of APM AQ-1, which requires the applicant to implement a Dust Control Plan that would be approved by PCAPCD and NSAQMD.

As shown in Table 4.13-7, some of the construction phases would result in emissions of NO<sub>x</sub> and PM<sub>10</sub> that exceed applicable PCAPCD and NSAQMD thresholds of significance. Like Alternative 1 (PEA Alternative), emissions of NO<sub>x</sub> from construction activity in Placer County under Alternative 2 (Modified Alternative) would also exceed PCAPCD's threshold of 82 lb/day during approximately 94 weeks and NO<sub>x</sub> emissions generated in Nevada County would exceed NSAQMD's threshold of 136 lb/day during approximately 22 weeks. Because construction-generated levels of NO<sub>x</sub>, which is an ozone precursor, would exceed applicable mass emission thresholds they could substantially contribute to ozone concentrations that exceed the NAAQS or CAAQS and potentially violate or substantially contribute to a violation of applicable ambient air quality standards. This would be a **significant** impact.

Also shown in Table 4.13-7, emissions of PM<sub>10</sub> generated by construction activity in Placer County under Alternative 2 (Modified Alternative) would exceed PCAPCD's threshold of 82 lb/day during one week; as would also be the case under the Alternative 1 (PEA Alternative). Because construction-generated levels of PM<sub>10</sub> would exceed applicable mass emission thresholds they could substantially contribute to pollutant concentrations that exceed the NAAQS or CAAQS and potentially violate or substantially contribute to a violation of the ambient air quality standards for PM<sub>10</sub>. While PCAPCD does not recommend mass emission thresholds for evaluating PM<sub>2.5</sub> emissions, it is assumed that construction-generated emissions of PM<sub>2.5</sub> could contribute to the nonattainment status of PM<sub>2.5</sub> in the MCAB because PM<sub>2.5</sub> is a subset of PM<sub>10</sub> and the mass emission thresholds for PM<sub>10</sub> would be exceeded. This would be a **significant** impact.

As with Alternative 1 (PEA Alternative), construction-generated emissions of ROG under this alternative would not exceed PCAPCD's or NSAQMD's mass emission thresholds and emissions of CO would not contribute to localized concentrations that exceed the applicable CAAQS and NAAQS. CO emissions generated by project-related construction would be **less than significant**.

### **Mitigation Measure 4.13-1a (Alt. 2) Develop and implement a Construction Equipment Exhaust Emissions Control Plan.**

*Implement Mitigation Measure 4.14-1a (Alt. 1) Develop and implement a Construction Equipment Exhaust Emissions Control Plan.*

### **Mitigation Measure 4.13-1b (Alt. 2) Pay off-site mitigation fee to PCAPCD to off-set NO<sub>x</sub> emissions generated by construction activity in Placer County.**

*Implement Mitigation Measure 4.14-1b (Alt. 1) Pay off-site mitigation fee to PCAPCD to off-set NO<sub>x</sub> emissions generated by construction activity in Placer County.*

Implementation of Mitigation Measure 4.13-1a would reduce exhaust emissions of PM<sub>10</sub> from off-road construction equipment in Placer County by a minimum of 45 percent. (A similar percent reduction in PM<sub>2.5</sub> exhaust would also be achieved.) A 45 percent reduction in PM<sub>10</sub> exhaust would reduce the total maximum daily PM<sub>10</sub> (i.e., PM<sub>10</sub> exhaust and PM<sub>10</sub> dust) in Placer County to less than 81 lb/day, which would occur during one week of the modelled 2014 construction season. The second daily maximum would be 71 lb/day. Detailed calculations of the reductions in PM<sub>10</sub> resulting from Mitigation Measure 4.13-1a are provided in Appendix M, Air Quality Data. Because maximum daily levels of PM<sub>10</sub> would not exceed 82 lb/day, and a similar percent reduction in PM<sub>2.5</sub> exhaust would be achieved, construction-generated emissions of PM<sub>10</sub> and PM<sub>2.5</sub> would be reduced to a **less-than-significant** level.

Implementation of Mitigation Measure 4.13-1a would reduce construction-related emissions of NO<sub>x</sub> by 20 percent in both PCAPCD's jurisdiction and NSAQMD's jurisdiction. NO<sub>x</sub> emissions generated in Placer County would be further reduced to levels below PCAPCD's threshold of 82 lb/day through payment by the applicant into PCAPCD's off-site mitigation fee program, as required by Mitigation Measure 4.13-1b. This would reduce NO<sub>x</sub> emissions in Placer County to a **less-than-significant** level.

NSAQMD, however, does not have an off-site mitigation fee program (Longmire, pers. comm., 2012; Murano, pers. comm., 2013). Thus, NO<sub>x</sub> generated by construction activity in Nevada County could be as high as 236 lb/day and exceed NSAQMD's threshold of 136 lb/day for up to 22 weeks. Because NO<sub>x</sub> emissions in Nevada County could substantially contribute to ozone concentrations that exceed the NAAQS or CAAQS and potentially violate or substantially contribute to a violation of the ambient air quality standards, the impact of NO<sub>x</sub> emissions in Nevada County would be **significant and unavoidable**.

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<b>IMPACT</b> <b>4.13-2</b> <b>(Alt.2)</b>	<b>Contribution of ozone precursors to the Sacramento Federal Ozone Nonattainment Area.</b> Construction-generated emissions of ozone precursors in the Sacramento Federal Ozone Nonattainment Area would not exceed the <i>de minimis</i> levels. Therefore, the General Conformity Rule would not apply to the proposed project. This impact would be <b>less than significant</b> .
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The types of construction activities and the emissions levels generated under this alternative would be similar to Alternative 1 (PEA Alternative). Under Alternative 2 (Modified Alternative), some construction activity would occur in the Sacramento Federal Ozone Nonattainment Area, which is classified as severe with respect to the NAAQS for ozone (EPA 2012a; Chang, pers. comm., 2013). Because the project is considered a federal action it is subject to a federal regulatory process commonly referred to as “general conformity” to determine whether the project’s emissions of ozone precursors would be consistent with the applicable SIP. As described under Impact 4.13-2 (Alt. 1) for Alternative 1 (PEA Alternative), the first step in this analysis, called an applicability analysis, is to evaluate whether the net increase in direct and indirect emissions resulting from the project would equal or exceed certain *de minimis* emission levels and/or represent 10 percent or more of a nonattainment or maintenance area’s total emission of that pollutant.

As shown in Table 4.13-7, emissions of ROG and NO<sub>x</sub> under Alternative 2 (Modified Alternative) would not exceed the *de minimis* level of 25 tons/year. Because this criterion would be met, the General Conformity Rule would not apply under Alternative 2 (Modified Alternative). This would be a **less-than-significant** impact.

## MITIGATION MEASURES

*No mitigation measures are required.*

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<b>IMPACT</b> <b>4.13-3</b> <b>(Alt.2)</b>	<b>Exposure of sensitive receptors to toxic air contaminants.</b> Some TAC-emitting construction activities would be located approximately 50 feet from existing sensitive receptors that are located adjacent to the power line ROW; however, exposure to sensitive receptors from construction-generated TACs would not be substantial because the duration of construction activity at any one location would be limited. Short-term construction and long-term operation of the proposed project would not result in the exposure of sensitive receptors to substantial TAC concentrations. Exposure of sensitive receptors to TACs would be considered a <b>less-than-significant</b> impact.
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As with Alternative 1 (PEA Alternative), implementation of Alternative 2 (Modified Alternative) would not result in the introduction of any new operational sources of TACs.

The types of diesel PM-emitting construction activities performed under this alternative would be the same as under Alternative 1 (PEA Alternative). The worst-case daily level of diesel PM that would be generated by off-road construction equipment is summarized in Table 4.13-8. Also, the proximity of construction activity to off-site sensitive receptors and the duration they would take place under this alternative would be similar to Alternative 1 (PEA Alternative). As a result, the dose to which receptors would be exposed to diesel PM would also be similar. Thus, because the use of off-road heavy-duty diesel equipment would be temporary and not take place at a fixed location for an extended period, because of the highly dispersive properties of diesel PM (Zhu et al. 2002), and because the wind direction typically shifts throughout a normal day dispersing diesel PM to different areas, project-related construction activity would not expose receptors to substantial concentrations of TACs. Therefore, this impact would be **less than significant**.

Moreover, implementation of Mitigation Measure 4.13-1a would reduce diesel PM exhaust from the off-road equipment fleet by a minimum of 45 percent. Also, research of diesel PM generated by freeway traffic (i.e., on-

road vehicles) indicates that vegetation, particularly fine-needle tree species, were able to remove particulate from the air (Fuller et al. 2009; Sacramento-Emigrant Trails Health Effects Task Force and SMAQMD 2008), further minimizing this less-than-significant impact.

## MITIGATION MEASURES

*No mitigation measures are required.*

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<b>IMPACT 4.13-4 (Alt.2)</b>	<b>Exposure of sensitive receptors to odors.</b> The proposed land use type is not one that is commonly considered a source of odors. While construction of the proposed project could result in temporary emissions of odorous diesel exhaust, it is not anticipated that this source of odors would be excessive nor would it affect a substantial number of receptors. This would be a <b>less-than-significant</b> impact.
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The potential for odor impacts under this alternative is the same as for Alternative 1 (PEA Alternative). Implementation of Alternative 2 (Modified Alternative) would not result in the introduction of any new operational sources of odors and construction-generated diesel exhaust emissions would be temporary and not be generated at any one location for an extended period of time. Diesel exhaust would also dissipate rapidly from the source with an increase in distance. Moreover, APMs AQ-1, AQ-7, AQ-12, AQ-13, AQ-14, and AQ-15 would reduce the amount of diesel exhaust generated by the project. For these reasons, discussed in detail for Impact 4.13-4 (Alt. 1), it is not anticipated that the proposed project would create objectionable odors affecting a substantial number or people. This would be a **less-than-significant** impact.

## MITIGATION MEASURES

*No mitigation measures are required.*

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<b>IMPACT 4.13-5 (Alt.2)</b>	<b>Greenhouse gas emissions.</b> GHG emissions associated with the proposed project would result in less-than-cumulatively considerable GHG emissions and would have a <b>less-than-significant</b> impact on climate change.
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Alternative 2 (Modified Alternative) would result in less GHG emissions from construction-related activities than Alternative 1 (PEA Alternative) (item “D” in Table 4.13-9) because fewer portions of the power line ROWs would require the use of a helicopter, which is more emissions-intensive than the use of trucks and land vehicles to access construction areas and haul in materials and equipment. However, Alternative 2 (Modified Alternative) would result in a greater net release of carbon sequestered in timber, as compared to Alternative 1 (PEA Alternative), because of a greater loss of potential future carbon sequestration and lesser future carbon sequestration in the abandoned 625 Line ROW (items “B” and “C” in Table 4.13-9). The potential for slow leaks of SF<sub>6</sub> from gas insulated equipment would be the same under Alternative 2 (Modified Alternative) as the other action alternatives because the same type of and number of and SF<sub>6</sub>-containing equipment would be used as the other action alternatives.

The levels of GHG emissions and carbon sequestration associated with Alternative 2 (Modified Alternative) is summarized in Table 4.13-9 above and, like Alternative 1 (PEA Alternative), can be evaluated in multiple ways. First, considering the construction phase alone, the level of associated exhaust emissions (8,549 MT CO<sub>2</sub>e) plus the immediate loss in sequestered carbon associated with timber removal (8,095 MT CO<sub>2</sub>e) and the loss of future potential sequestered carbon (9,141 MT CO<sub>2</sub>e) would total 25,785 MT CO<sub>2</sub>e during the five years when construction would occur, which computes to an average of 5,157 MT CO<sub>2</sub>e/year. This net increase in GHG

emissions would not exceed 10,000 MT CO<sub>2</sub>e/year, which is the reporting level established for stationary sources by ARB's Mandatory Reporting of Greenhouse Gas Emissions Regulation and Cap-and-Trade Program.

Moreover, if the net increase in GHG emissions from the construction phase is amortized over a 25-year operational life (1,031 MT CO<sub>2</sub>e/year) and added to the annual level of SF<sub>6</sub> emissions associated with the long-term operation of the project, the annual level of GHG emissions associated with Alternative 2 (Modified Alternative) would be 1,059 MT CO<sub>2</sub>e/year. This rate is also less than the reporting level of 10,000 MT CO<sub>2</sub>e/year established by ARB for stationary sources.

The net change in GHG emissions associated with Alternative 2 (Modified Alternative) over the long term can also be evaluated using the level of carbon release due to timber removal (8,095 MT CO<sub>2</sub>e), the loss in future potential carbon sequestration due to timber removal (9,141 MT CO<sub>2</sub>e), and the addition of carbon sequestration that would be provided by reforestation in the abandoned rights of way (3,097 MT CO<sub>2</sub>e assumed to be spread over an approximately 100-year period). Accounting for these vegetation-related carbon release and sequestration mechanisms, as well as construction exhaust emissions (8,549 MT CO<sub>2</sub>e) and the ongoing emissions from SF<sub>6</sub> leakage (28 MT CO<sub>2</sub>e/year), the net increase in GHGs over the long term under Alternative 2 (Modified Alternative) would be approximately 1,028 MT CO<sub>2</sub>e/year. This level would also be less than the reporting level of 10,000 MT CO<sub>2</sub>e/year established by ARB for stationary sources.

In summary, the net increase in GHG emissions associated with Alternative 2 (Modified Alternative) would not be substantial because it would not exceed the trigger levels used by ARB to regulate emissions from stationary sources in its Mandatory Reporting regulation, which is a key component of the AB 32 Scoping Plan. For this reason, it is determined that Alternative 2 (Modified Alternative) would not conflict with the reduction goals of AB 32. As a result, the net increase in GHG emissions from the proposed project be less-than-cumulatively considerable and would have a **less-than-significant** impact on climate change.

## MITIGATION MEASURES

*No mitigation measures are required.*

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<b>IMPACT 4.13-6 (Alt.2)</b>	<b>Impacts of climate change on the project.</b> Climate change is expected to result in a variety of effects in the project area, including changes to timing and intensity of precipitation resulting in increased risk of landslides associated with ground saturation and increased stormwater runoff. Climate change could also result in increased temperatures, leading to increased wildland fire in the project vicinity. However, there are numerous programs and policies in place to protect against and respond to wildland fire and implementation of the proposed project would increase the North Lake Tahoe Transmissions System's resilience to disturbance. This impact would be <b>less than significant</b> .
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The types of issues associated with climate change that could adversely affect the proposed project are the same under this alternative as under the Alternative 1 (PEA Alternative) (e.g., increased frequency and intensity of wildfire, increased risk of landslide, rock falls, debris/earth flows, and avalanches). Similar to Alternative 1 (PEA Alternative), inclusion of features in the design and operation of the upgrade project under Alternative 2 (Modified Alternative) would reduce the extent and severity of climate change-related impacts to the project by providing methods for adapting to these changes. These design features would reduce the extent and severity of climate change-related impacts to the project from increased risk of wildfire, landslides, rock falls, debris/earth flows, avalanches, and snow loads associated with changes to precipitation patterns, as well as downed lines and fallen trees from high winds. For these reasons, this impact would be **less than significant**.

## MITIGATION MEASURES

*No mitigation measures are required.*

## ALTERNATIVE 3 – ROAD FOCUSED ALTERNATIVE

### DIRECT AND INDIRECT IMPACTS

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<b>IMPACT 4.13-1 (Alt.3)</b>	<b>Daily construction-generated emissions of ROG, NO<sub>x</sub>, PM<sub>10</sub>, PM<sub>2.5</sub>, and CO.</b> Construction-generated emissions in Placer County would exceed PCAPCD significance thresholds for NO <sub>x</sub> and PM <sub>10</sub> . Construction-generated emissions in Nevada County would exceed NSAQMD significance thresholds for NO <sub>x</sub> . Construction activity would also generate substantial levels of PM <sub>2.5</sub> . Implementation of Alternative 3 (Road Focused Alternative) would generate emissions that contribute to nonattainment status of ozone, PM <sub>10</sub> , and PM <sub>2.5</sub> in the MCAB and the nonattainment status of ozone and PM <sub>10</sub> in the LTAB. Therefore, this would be a <b>significant</b> impact.
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The types of construction activities and the emissions levels generated under Alternative 3 (Road Focused Alternative) would be similar to Alternative 1 (PEA Alternative). Construction-generated emissions of ROG, NO<sub>x</sub>, PM<sub>10</sub>, and PM<sub>2.5</sub> would be mitigated by the 15 air quality APMs incorporated into the project. Fugitive PM<sub>10</sub> and PM<sub>2.5</sub> dust emissions would be controlled through integration of APM AQ-1, which requires the applicant to implement a Dust Control Plan that would be approved by PCAPCD and NSAQMD.

As shown in Table 4.13-6, some of the construction phases would result in emissions of NO<sub>x</sub> and PM<sub>10</sub> that exceed applicable PCAPCD and NSAQMD thresholds of significance. Like Alternative 1 (PEA Alternative), emissions of NO<sub>x</sub> from construction activity in Placer County under Alternative 3 (Road Focused Alternative) would also exceed PCAPCD's threshold of 82 lb/day during approximately 94 weeks and NO<sub>x</sub> emissions generated in Nevada County would exceed NSAQMD's threshold of 136 lb/day during approximately 22 weeks. Because construction-generated levels of NO<sub>x</sub>, which is an ozone precursor, would exceed applicable mass emission thresholds they could substantially contribute to ozone concentrations that exceed the NAAQS or CAAQS and potentially violate or substantially contribute to a violation of applicable ambient air quality standards. This would be a **significant** impact.

Also shown in Table 4.13-6, emissions of PM<sub>10</sub> generated by construction activity in Placer County under Alternative 3 (Road Focused Alternative) would exceed PCAPCD's threshold of 82 lb/day during one week, as would be the case under Alternative 1 (PEA Alternative). Because construction-generated levels of PM<sub>10</sub> would exceed applicable mass emission thresholds they could substantially contribute to pollutant concentrations that exceed the NAAQS or CAAQS and potentially violate or substantially contribute to a violation of the ambient air quality standards for PM<sub>10</sub>. While PCAPCD does not recommend mass emission thresholds for evaluating PM<sub>2.5</sub> emissions, it is assumed that construction-generated emissions of PM<sub>2.5</sub> could contribute to the nonattainment status of PM<sub>2.5</sub> in the MCAB because PM<sub>2.5</sub> is a subset of PM<sub>10</sub> and the mass emission thresholds for PM<sub>10</sub> would be exceeded. This would be a **significant** impact.

As with Alternative 1 (PEA Alternative), construction-generated emissions of ROG under this alternative would not exceed PCAPCD's or NSAQMD's mass emission thresholds and emissions of CO would not contribute to localized concentrations that exceed the applicable CAAQS and NAAQS. CO emissions generated by project-related construction would be **less than significant**.

## Mitigation Measure 4.13-1a (Alt. 3) Develop and implement a Construction Equipment Exhaust Emissions Control Plan.

*Implement Mitigation Measure 4.14-1a (Alt. 1) Develop and implement a Construction Equipment Exhaust Emissions Control Plan.*

## Mitigation Measure 4.13-1b (Alt. 3) Pay off-site mitigation fee to PCAPCD to off-set NO<sub>x</sub> emissions generated by construction activity in Placer County.

*Implement Mitigation Measure 4.14-1b (Alt. 1) Pay off-site mitigation fee to PCAPCD to off-set NO<sub>x</sub> emissions generated by construction activity in Placer County.*

Implementation of Mitigation Measure 4.13-1a would reduce exhaust emissions of PM<sub>10</sub> from off-road construction equipment in Placer County by a minimum of 45 percent. (A similar percent reduction in PM<sub>2.5</sub> exhaust would also be achieved.) A 45 percent reduction in PM<sub>10</sub> exhaust would reduce the total maximum daily PM<sub>10</sub> (i.e., PM<sub>10</sub> exhaust and PM<sub>10</sub> dust) in Placer County to less than 80 lb/day, which would occur during one week of the modelled 2014 construction season. The second daily maximum would be 70 lb/day. Detailed calculations of the reductions in PM<sub>10</sub> resulting from Mitigation Measure 4.13-1a are provided in Appendix M, Air Quality Data. Because maximum daily levels of PM<sub>10</sub> would not exceed 82 lb/day, and a similar percent reduction in PM<sub>2.5</sub> exhaust would be achieved, construction-generated emissions of PM<sub>10</sub> and PM<sub>2.5</sub> would be reduced to a **less-than-significant** level.

Implementation of Mitigation Measure 4.13-1a would reduce construction-related emissions of NO<sub>x</sub> by 20 percent in both PCAPCD's jurisdiction and NSAQMD's jurisdiction. NO<sub>x</sub> emissions generated in Placer County would be further reduced to levels below PCAPCD's threshold of 82 lb/day through payment by the applicant into PCAPCD's off-site mitigation fee program, as required by Mitigation Measure 4.13-1b. This would reduce NO<sub>x</sub> emissions in Placer County to a **less-than-significant** level.

NSAQMD, however, does not have an off-site mitigation fee program (Longmire, pers. comm., 2012; Murano, pers. comm., 2013). Thus, NO<sub>x</sub> generated by construction activity in Nevada County could be as high as 234 lb/day and exceed NSAQMD's threshold of 136 lb/day for up to 22 weeks. Because NO<sub>x</sub> emissions in Nevada County could substantially contribute to ozone concentrations that exceed the NAAQS or CAAQS and potentially violate or substantially contribute to a violation of the ambient air quality standards, the impact of NO<sub>x</sub> emissions in Nevada County would be **significant and unavoidable**.

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<b>IMPACT</b>	<b>Contribution of ozone precursors to the Sacramento Federal Ozone Nonattainment Area.</b>
<b>4.13-2</b>	Construction-generated emissions of ozone precursors in the Sacramento Federal Ozone Nonattainment Area would not exceed the <i>de minimis</i> levels. Therefore, the General Conformity Rule would not apply to the proposed project. This impact would be <b>less than</b>
<b>(Alt.3)</b>	<b>significant.</b>

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The types of construction activities and the emissions levels generated under this alternative would be similar to Alternative 1 (PEA Alternative). Under Alternative 3 (Road Focused Alternative), some construction activity would occur in the Sacramento Federal Ozone Nonattainment Area, which is classified as severe with respect to the NAAQS for ozone (EPA 2012a; Chang, pers. comm., 2013). Because the project is considered a federal action it is subject to a federal regulatory process commonly referred to as "general conformity" to determine whether the project's emissions of ozone precursors would be consistent with the applicable SIP. As described under Impact 4.13-2 for Alternative 1 (PEA Alternative), the first step in this analysis, called an applicability analysis, is to evaluate whether the net increase in direct and indirect emissions resulting from the project would equal or

exceed certain *de minimis* emission levels and/or represent 10 percent or more of a nonattainment or maintenance area's total emission of that pollutant.

As shown in Table 4.13-7, emissions of ROG and NO<sub>x</sub> under Alternative 3 (Road Focused Alternative) would not exceed the *de minimis* level of 25 tons/year. Because this criterion would be met, the General Conformity Rule would not apply to the proposed project under Alternative 3 (Road Focused Alternative). This would be a **less-than-significant** impact.

## MITIGATION MEASURES

*No mitigation measures are required.*

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<b>IMPACT 4.13-3 (Alt.3)</b>	<b>Exposure of sensitive receptors to Toxic Air Contaminants.</b> Some TAC-emitting construction activities would be located approximately 50 feet from existing sensitive receptors located adjacent to the power line right-of-way; however exposure to sensitive receptors from construction-generated TACs would not be substantial because the duration of construction activity at any one location would be limited. Short-term construction and long-term operation of the proposed project would not result in the exposure of sensitive receptors to substantial TAC concentrations. Exposure of sensitive receptors to TACs would be considered a <b>less-than-significant</b> impact.
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As with Alternative 1 (PEA Alternative), implementation of Alternative 3 (Road Focused Alternative) would not result in the introduction of any new operational sources of TACs.

The types of diesel PM-emitting construction activities performed under this alternative would be the same as under Alternative 1 (PEA Alternative). The worst-case daily level of diesel PM that would be generated by off-road construction equipment is summarized in Table 4.13-8. Also, the proximity of construction activity to off-site sensitive receptors and the duration of activity under this alternative would be similar to Alternative 1 (PEA Alternative). As a result, the dose to which receptors would be exposed to diesel PM would also be similar. Thus, because the use of off-road heavy-duty diesel equipment would be temporary and not take place at a fixed location for an extended period, because of the highly dispersive properties of diesel PM (Zhu et al. 2002), and because the wind direction typically shifts throughout a normal day dispersing diesel PM in different directions, project-related construction activity would not expose receptors to substantial concentrations of TACs. Therefore, this impact would be **less than significant**.

Moreover, implementation of Mitigation Measure 4.13-1a would reduce diesel PM exhaust from the off-road equipment fleet by a minimum of 45 percent. Also, research of diesel PM generated by freeway traffic (i.e., on-road vehicles) indicates that vegetation, particularly fine-needle tree species, were able to remove particulate from the air (Fuller et al. 2009; Sacramento-Emigrant Trails Health Effects Task Force and SMAQMD 2008), further reducing this less-than-significant impact.

## MITIGATION MEASURES

*No mitigation measures are required.*

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<b>IMPACT</b> <b>4.13-4</b> <b>(Alt.3)</b>	<b>Exposure of sensitive receptors to odors.</b> The proposed land use type is not one that is commonly considered a source of odors. While construction of the proposed project could result in temporary emissions of odorous diesel exhaust, it is not anticipated that this source of odors would be excessive nor would it affect a substantial number of receptors. This would be a <b>less-than-significant</b> impact.
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The potential for odor impacts under this alternative is the same as for Alternative 1 (PEA Alternative). Implementation of the proposed project would not result in the introduction of any new operational sources of odors and construction-generated diesel exhaust emissions would be temporary and not be generated at any one location for an extended period of time. Diesel exhaust would also dissipate rapidly from the source with an increase in distance. Moreover, APMs AQ-1, AQ-7, AQ-12, AQ-13, AQ-14, and AQ-15 would reduce the amount of diesel exhaust generated by the project. For the same reasons described for Alternative 1 (PEA Alternative), it is not anticipated that Alternative 3 (Road Focuses Alternative) would create objectionable odors affecting a substantial number or people. This would be a **less-than-significant** impact.

## MITIGATION MEASURES

*No mitigation measures are required.*

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<b>IMPACT</b> <b>4.13-5</b> <b>(Alt.3)</b>	<b>Greenhouse gas emissions.</b> GHG emissions associated with the proposed project would result in less-than-cumulatively considerable GHG emissions and would have a <b>less-than-significant</b> impact on climate change.
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Alternative 3 (Road Focused Alternative) would result in less GHG emissions from construction-related activities than Alternative 1 (PEA Alternative) and Alternative 2 (Modified Alternative) (item “D” in Table 4.13-9) because fewer portions of the power line ROWs would require the use of a helicopter, which is more emissions-intensive than the use of trucks and land vehicles to access construction areas and haul in materials and equipment. Alternative 3 (Road Focused Alternative) would also result in smaller release of sequestered carbon and a smaller loss in future potential carbon sequestration (items “A” and “B” in Table 4.13-9) because less forest vegetation would be removed to create new ROWs and associated staging areas for construction equipment. All action alternatives include the same substations with the same equipment; therefore, the potential for slow leaks of SF<sub>6</sub> from gas insulated equipment is the same for all alternatives.

The levels of GHG emissions and carbon sequestration associated with Alternative 3 (Road Focused Alternative) is summarized in Table 4.13-9 above and, like Alternative 1 (PEA Alternative), can be evaluated in multiple ways. First, considering the construction phase alone, the level of associated exhaust emissions (8,110 MT CO<sub>2</sub>e) plus the immediate loss in sequestered carbon associated with timber removal (6,953 MT CO<sub>2</sub>e) and the loss of future potential sequestered carbon (7,591 MT CO<sub>2</sub>e) would total 22,654 MT CO<sub>2</sub>e during the five years when construction would occur, which computes to an average of 4,531 MT CO<sub>2</sub>e/year. This net increase in GHG emissions would not exceed 10,000 MT CO<sub>2</sub>e/year, which is the reporting level established for stationary sources by ARB’s Mandatory Reporting of Greenhouse Gas Emissions Regulation and Cap-and-Trade Program.

Moreover, if the net increase in GHG emissions from the construction phase is amortized over a 25-year operational life (906 MT CO<sub>2</sub>e/year) and added to the annual level of SF<sub>6</sub> emissions associated with the long-term operation of the project, the annual level of GHG emissions associated with Alternative 1 (PEA Alternative) would be 934 MT CO<sub>2</sub>e/year. This rate is also less than the reporting level of 10,000 MT CO<sub>2</sub>e/year established by ARB for stationary sources.

The net change in GHG emissions associated with the project over the long term can also be evaluated using the level of carbon released due to timber removal (6,953 MT CO<sub>2</sub>e), the loss in future potential carbon sequestration due to timber removal (7,591 MT CO<sub>2</sub>e), and the addition of carbon sequestration that would be provided by reforestation in the abandoned rights of way (3,886 MT CO<sub>2</sub>e assumed to be spread over an approximately 100-year period). Accounting for these vegetation-related carbon release and sequestration mechanisms, as well as construction exhaust emissions and (8,110 MT CO<sub>2</sub>e) the ongoing emissions from SF<sub>6</sub> leakage (28 MT CO<sub>2</sub>e/year), the net increase in GHGs over the long term under Alternative 3 (Road Focused Alternative) would be 895 MT CO<sub>2</sub>e/year. This level would also be less than the reporting level of 10,000 MT CO<sub>2</sub>e/year established by ARB for stationary sources.

In summary, the net increase in GHG emissions associated with Alternative 3 (Road Focused Alternative) would not be substantial because it would not exceed the trigger levels used by ARB to regulate emissions from stationary sources in its Mandatory Reporting regulation, which is a key component of the AB 32 Scoping Plan. For this reason, it is determined that Alternative 3 (Road Focused Alternative) would not conflict with the reduction goals of AB 32. As a result, the net increase in GHG emissions from the proposed project would be less-than-cumulatively considerable and would have a **less-than-significant** impact on climate change.

## MITIGATION MEASURES

*No mitigation measures are required.*

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<b>IMPACT 4.13-6 (Alt.3)</b>	<b>Impacts of climate change on the project.</b> Climate change is expected to result in a variety of effects in the project area including changes to timing and intensity of precipitation resulting in increased risk of landslides associated with ground saturation and increased stormwater runoff. Climate change could also result in increased temperatures, leading to increased wildland fire in the project vicinity. However, there are numerous programs and policies in place to protect against and respond to wildland fire and implementation of the proposed project would increase the North Lake Tahoe Transmissions System's resilience to disturbance. This impact would be <b>less than significant</b> .
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The types of issues associated with climate change that could adversely affect the proposed project are the same under Alternative 3 (Road Focused Alternative) as under Alternative 1 (PEA Alternative) (e.g., increased frequency and intensity of wildfire, increased risk of landslide, rock falls, debris/earth flows, and avalanches). Similar to Alternative 1 (PEA Alternative), inclusion of features in the design and operation of the upgrade project under Alternative 3 (Road Focused Alternative) would reduce the extent and severity of climate change-related impacts to the project by providing methods for adapting to these changes. These design features would reduce the extent and severity of climate change-related impacts to the project from increased risk of wildfire, landslides, rock falls, debris/earth flows, avalanches, and snow loads associated with changes to precipitation patterns, as well as downed lines and fallen trees from high winds. For these reasons, this impact would be **less than significant**.

## MITIGATION MEASURES

*No mitigation measures are required.*

## ALTERNATIVE 4 – PROPOSED ALTERNATIVE

### DIRECT AND INDIRECT IMPACTS

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<b>IMPACT 4.13-1 (Alt.4)</b>	<b>Daily construction-generated emissions of ROG, NO<sub>x</sub>, PM<sub>10</sub>, PM<sub>2.5</sub>, and CO.</b> Construction-generated emissions in Placer County would exceed PCAPCD significance thresholds for NO <sub>x</sub> and PM <sub>10</sub> . Construction-generated emissions in Nevada County would exceed NSAQMD significance thresholds for NO <sub>x</sub> . Construction activity would also generate substantial levels of PM <sub>2.5</sub> . Implementation of the Alternative 4 (Proposed Alternative) would generate emissions that contribute to nonattainment status of ozone, PM <sub>10</sub> , and PM <sub>2.5</sub> in the MCAB and the nonattainment status of ozone and PM <sub>10</sub> in the LTAB. Therefore, this would be a <b>significant</b> impact.
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The types of construction activities and the emissions levels generated under Alternative 4 (Proposed Alternative) would be similar to Alternative 1 (PEA Alternative). Construction-generated emissions of ROG, NO<sub>x</sub>, PM<sub>10</sub>, and PM<sub>2.5</sub> would be mitigated by the 15 air quality APMs incorporated into the project. Fugitive PM<sub>10</sub> and PM<sub>2.5</sub> dust emissions would be controlled through integration of APM AQ-1, which requires the applicant to implement a Dust Control Plan that would be approved by PCAPCD and NSAQMD.

As shown in Table 4.13-6, some of the construction phases would result in emissions of NO<sub>x</sub> and PM<sub>10</sub> that exceed applicable PCAPCD and NSAQMD thresholds of significance. Like Alternative 1 (PEA Alternative), emissions of NO<sub>x</sub> from construction activity in Placer County under Alternative 4 (Proposed Alternative) would also exceed PCAPCD's threshold of 82 lb/day during approximately 94 weeks and NO<sub>x</sub> emissions generated in Nevada County would exceed NSAQMD's threshold of 136 lb/day during approximately 22 weeks. Because construction-generated levels of NO<sub>x</sub>, which is an ozone precursor, would exceed applicable mass emission thresholds they could substantially contribute to ozone concentrations that exceed the NAAQS or CAAQS and potentially violate or substantially contribute to a violation of applicable ambient air quality standards. This would be a **significant** impact.

Also shown in Table 4.13-6, emissions of PM<sub>10</sub> generated by construction activity in Placer County under Alternative 4 (Proposed Alternative) would exceed PCAPCD's threshold of 82 lb/day during one week, as would be the case under Alternative 1 (PEA Alternative). Because construction-generated levels of PM<sub>10</sub> would exceed applicable mass emission thresholds they could substantially contribute to pollutant concentrations that exceed the NAAQS or CAAQS and potentially violate or substantially contribute to a violation of the ambient air quality standards for PM<sub>10</sub>. While PCAPCD does not recommend mass emission thresholds for evaluating PM<sub>2.5</sub> emissions, it is assumed that construction-generated emissions of PM<sub>2.5</sub> could contribute to the nonattainment status of PM<sub>2.5</sub> in the MCAB because PM<sub>2.5</sub> is a subset of PM<sub>10</sub> and the mass emission thresholds for PM<sub>10</sub> would be exceeded. This would be a **significant** impact.

As with Alternative 1 (PEA Alternative), construction-generated emissions of ROG under this alternative would not exceed PCAPCD's or NSAQMD's mass emission thresholds and emissions of CO would not contribute to localized concentrations that exceed the applicable CAAQS and NAAQS. CO emissions generated by project-related construction would be **less than significant**.

### Mitigation Measure 4.13-1a (Alt. 4) Develop and implement a Construction Equipment Exhaust Emissions Control Plan.

*Implement Mitigation Measure 4.14-1a (Alt. 1) Develop and implement a Construction Equipment Exhaust Emissions Control Plan.*

## Mitigation Measure 4.13-1b (Alt. 4) Pay off-site mitigation fee to PCAPCD to off-set NO<sub>x</sub> emissions generated by construction activity in Placer County.

*Implement Mitigation Measure 4.14-1b (Alt. 1) Pay off-site mitigation fee to PCAPCD to off-set NO<sub>x</sub> emissions generated by construction activity in Placer County.*

Implementation of Mitigation Measure 4.13-1a would reduce exhaust emissions of PM<sub>10</sub> from off-road construction equipment in Placer County by a minimum of 45 percent. (A similar percent reduction in PM<sub>2.5</sub> exhaust would also be achieved.) A 45 percent reduction in PM<sub>10</sub> exhaust would reduce the total maximum daily PM<sub>10</sub> (i.e., PM<sub>10</sub> exhaust and PM<sub>10</sub> dust) in Placer County to approximately 80 lb/day, which would occur during one week of the modelled 2014 construction season. The second daily maximum would be 70 lb/day. Detailed calculations of the reductions in PM<sub>10</sub> resulting from Mitigation Measure 4.13-1a are provided in Appendix M, Air Quality Data. Because maximum daily levels of PM<sub>10</sub> would not exceed 82 lb/day, and a similar percent reduction in PM<sub>2.5</sub> exhaust would be achieved, construction-generated emissions of PM<sub>10</sub> and PM<sub>2.5</sub> would be reduced to a **less-than-significant** level.

Implementation of Mitigation Measure 4.13-1a would reduce construction-related emissions of NO<sub>x</sub> by 20 percent in both PCAPCD's jurisdiction and NSAQMD's jurisdiction. NO<sub>x</sub> emissions generated in Placer County would be further reduced to levels below PCAPCD's threshold of 82 lb/day through payment by the applicant into PCAPCDs off-site mitigation fee program, as required by Mitigation Measure 4.13-1b. This would reduce NO<sub>x</sub> emissions in Placer County to a **less-than-significant** level.

NSAQMD, however, does not have an off-site mitigation fee program (Longmire, pers. comm., 2012; Murano, pers. comm., 2013). Thus, NO<sub>x</sub> generated by construction activity in Nevada County could be as high as 235 lb/day and exceed NSAQMD's threshold of 136 lb/day for up to 22 weeks. Because NO<sub>x</sub> emissions in Nevada County could substantially contribute to ozone concentrations that exceed the NAAQS or CAAQS and potentially violate or substantially contribute to a violation of the ambient air quality standards, the impact of NO<sub>x</sub> emissions in Nevada County would be **significant and unavoidable**.

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<b>IMPACT 4.13-2 (Alt.4)</b>	<b>Contribution of ozone precursors to the Sacramento Federal Ozone Nonattainment Area.</b> Construction-generated emissions of ozone precursors in the Sacramento Federal Ozone Nonattainment Area would not exceed the <i>de minimis</i> levels. Therefore, the General Conformity Rule would not apply under Alternative 4 (Proposed Alternative). This impact would be <b>less than significant</b> .
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The types of construction activities and the emissions levels generated under this alternative would be similar to Alternative 1 (PEA Alternative). Under Alternative 4 (Proposed Alternative), some construction activity would occur in the Sacramento Federal Ozone Nonattainment Area, which is classified as severe with respect to the NAAQS for ozone (EPA 2012a; Chang, pers. comm., 2013). Because the project is considered a federal action it is subject to a federal regulatory process commonly referred to as "general conformity" to determine whether the project's emissions of ozone precursors would be consistent with the applicable SIP. As described under Impact 4.13-2 for Alternative 1 (PEA Alternative), the first step in this analysis, called an applicability analysis, is to evaluate whether the net increase in direct and indirect emissions resulting from the project would equal or exceed certain *de minimis* emission levels and/or represent 10 percent or more of a nonattainment or maintenance area's total emission of that pollutant.

As shown in Table 4.13-7, emissions of ROG and NO<sub>x</sub> under Alternative 4 (Proposed Alternative) would not exceed the *de minimis* level of 25 tons/year. Because this criterion would be met, the General Conformity Rule would not apply under Alternative 4 (Proposed Alternative). This would be a **less-than-significant** impact.

## MITIGATION MEASURES

*No mitigation measures are required.*

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<b>IMPACT</b> <b>4.13-3</b> <b>(Alt.4)</b>	<b>Exposure of sensitive receptors to toxic air contaminants.</b> Some TAC-emitting construction activities would be located approximately 50 feet from existing sensitive receptors located adjacent to the power line right-of-way; however, exposure to sensitive receptors from construction-generated TACs would not be substantial because the duration of construction activity at any one location would be limited. Short-term construction and long-term operation under Alternative 4 (Proposed Alternative) would not result in the exposure of sensitive receptors to substantial TAC concentrations. Exposure of sensitive receptors to TACs would be considered a <b>less-than-significant</b> impact.
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As with Alternative 1 (PEA Alternative), implementation of Alternative 4 (Proposed Alternative) would not result in the introduction of any new operational sources of TACs.

The types of diesel PM-emitting construction activities performed under this alternative would be the same as under Alternative 1 (PEA Alternative). The worst-case daily level of diesel PM that would be generated by off-road construction equipment is summarized in Table 4.13-8. Also, the proximity of construction activity to off-site sensitive receptors and the duration of activity under this alternative would be similar to Alternative 1 (PEA Alternative). As a result, the dose to which receptors would be exposed to diesel PM would also be similar. Thus, because the use of off-road heavy-duty diesel equipment would be temporary and not take place at a fixed location for an extended period, because of the highly dispersive properties of diesel PM (Zhu et al. 2002), and because the wind direction typically shifts throughout a normal day dispersing diesel PM in different directions, project-related construction activity would not expose receptors to substantial concentrations of TACs. Therefore, this impact would be **less than significant**.

Moreover, implementation of Mitigation Measure 4.13-1a would reduce diesel PM exhaust from the off-road equipment fleet by a minimum of 45 percent. Also, research of diesel PM generated by freeway traffic (i.e., on-road vehicles) indicates that vegetation, particularly fine-needle tree species, were able to remove particulate from the air (Fuller et al. 2009; Sacramento-Emigrant Trails Health Effects Task Force and SMAQMD 2008), further reducing this less-than-significant impact.

## MITIGATION MEASURES

*No mitigation measures are required.*

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<b>IMPACT</b> <b>4.13-4</b> <b>(Alt.4)</b>	<b>Exposure of sensitive receptors to odors.</b> The proposed land use type is not one that is commonly considered a source of odors. While construction under Alternative 4 (Proposed Alternative) could result in temporary emissions of odorous diesel exhaust, it is not anticipated that this source of odors would be excessive, nor would it affect a substantial number of receptors. This would be a <b>less-than-significant</b> impact.
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The potential for odor impacts under this alternative is the same as for Alternative 1 (PEA Alternative). Implementation of Alternative 4 (Proposed Alternative) would not result in the introduction of any new operational sources of odors and construction-generated diesel exhaust emissions would be temporary and not be generated at any one location for an extended period of time. Diesel exhaust would also dissipate rapidly from the source with an increase in distance. Moreover, APMs AQ-1, AQ-7, AQ-12, AQ-13, AQ-14, and AQ-15 would reduce the amount of diesel exhaust generated by the project. For the same reasons described for

Alternative 1 (PEA Alternative), it is not anticipated that Alternative 4 (Proposed Alternative) would create objectionable odors affecting a substantial number or people. This would be a **less-than-significant** impact.

## MITIGATION MEASURES

*No mitigation measures are required.*

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<b>IMPACT</b> <b>4.13-5</b> <b>(Alt.4)</b>	<b>Greenhouse gas emissions.</b> The net increase in GHG emissions in the atmosphere associated with Alternative 4 (Proposed Alternative) would result in less-than-cumulatively considerable GHG emissions and would have a <b>less-than-significant</b> impact on climate change.
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Alternative 4 (Proposed Alternative) would result in less GHG emissions from construction-related activities (item “D” in Table 4.13-9) than Alternative 1 (PEA Alternative), Alternative 2 (Modified Alternative), and Alternative 3 (Road-Focused Alternative) because fewer portions of the power line ROWs would require the use of a helicopter, which is more emissions-intensive than the use of trucks and land vehicles to access construction areas and haul in materials and equipment. Alternative 4 (Proposed Alternative) would also result in a smaller release of sequestered carbon from timber and a smaller loss in future potential carbon sequestration than the other action alternatives because less forest vegetation would be removed to create new ROWs and associated staging areas for construction equipment (see items “A” and “B” in Table 4.13-9). All action alternatives include the same substations with the same equipment; therefore, the potential for slow leaks of SF<sub>6</sub> from gas insulated equipment is the same for all alternatives.

The levels of GHG emissions and carbon sequestration associated with Alternative 4 (Proposed Alternative) are summarized in Table 4.13-9 above can be evaluated in multiple ways. First, considering the construction phase alone, the level of associated exhaust emissions (7,956 MT CO<sub>2</sub>e) plus the immediate loss in sequestered carbon associated with timber removal (6,929 MT CO<sub>2</sub>e) and the loss of future potential sequestered carbon (7,557 MT CO<sub>2</sub>e) would total 22,442 MT CO<sub>2</sub>e during the five years when construction would occur, which computes to an average of 4,488 MT CO<sub>2</sub>e/year. This net increase in GHG emissions would not exceed 10,000 MT CO<sub>2</sub>e/year, which is the reporting level established for stationary sources by ARB’s Mandatory Reporting of Greenhouse Gas Emissions Regulation and Cap-and-Trade Program.

Moreover, if the net increase in GHG emissions from the construction phase is amortized over a 25-year operational life (898 MT CO<sub>2</sub>e/year) and added to the annual level of SF<sub>6</sub> emissions associated with the long-term operation of the project, the annual level of GHG emissions associated with Alternative 4 (Proposed Alternative) would be 926 MT CO<sub>2</sub>e/year. This rate is also less than the reporting level of 10,000 MT CO<sub>2</sub>e/year established by ARB for stationary sources.

The net change in GHG emissions associated with Alternative 4 (Proposed Alternative) over the long term can also be evaluated using the level of carbon release due to timber removal (6,929 MT CO<sub>2</sub>e), the loss in future potential carbon sequestration due to timber removal (7,557 MT CO<sub>2</sub>e), and the addition of carbon sequestration that would be provided by reforestation in the abandoned rights of way (3,901 MT CO<sub>2</sub>e assumed to be spread over an approximately 100-year period). Accounting for these vegetation-related carbon release and sequestration mechanisms, as well as construction exhaust emissions (7,956 MT CO<sub>2</sub>e) and the ongoing emissions from SF<sub>6</sub> leakage (28 MT CO<sub>2</sub>e), the net increase in GHGs over the long term under Alternative 4 (Proposed Alternative) would be 887 MT CO<sub>2</sub>e. This level would also be less than the reporting level of 10,000 MT CO<sub>2</sub>e/year established by ARB for stationary sources.

In summary, the net increase in GHG emissions associated with Alternative 4 (Proposed Alternative) would not be substantial because it would not exceed the trigger levels used by ARB to regulate emissions from stationary

sources in its Mandatory Reporting regulation, which is a key component of the AB 32 Scoping Plan. For this reason, it is determined that Alternative 4 (Proposed Alternative) would not conflict with the reduction goals of AB 32. As a result, the net increase in GHG emissions from the proposed project would be less-than-cumulatively considerable and would have a **less-than-significant** impact on climate change.

## MITIGATION MEASURES

*No mitigation measures are required.*

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<b>IMPACT 4.13-6 (Alt.4)</b>	<b>Impacts of climate change on the project.</b> Climate change is expected to result in a variety of effects in the project area, including changes to timing and intensity of precipitation resulting in increased risk of landslides associated with ground saturation and increased stormwater runoff. Climate change could also result in increased temperatures, leading to increased wildland fire in the project vicinity. However, there are numerous programs and policies in place to protect against and respond to wildland fire and implementation Alternative 4 (Proposed Alternative) would increase the North Lake Tahoe Transmission System's resilience to disturbance. This impact would be <b>less than significant</b> .
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The types of issues associated with climate change that could adversely affect the project are the same under Alternative 4 (Proposed Alternative) as under Alternative 1 (PEA Alternative) (e.g., increased frequency and intensity of wildfire, increased risk of landslide, rock falls, debris/earth flows, and avalanches). Similar to Alternative 1 (PEA Alternative), inclusion of features in the design and operation of the upgrade project under Alternative 4 (Proposed Alternative) would reduce the extent and severity of climate change-related impacts to the project by providing methods for adapting to these changes. These design features would reduce the extent and severity of climate change-related impacts to the project from increased risk of wildfire, landslides, rock falls, debris/earth flows, avalanches, and snow loads associated with changes to precipitation patterns, as well as downed lines and fallen trees from high winds. For these reasons, this impact would be **less than significant**.

## MITIGATION MEASURES

*No mitigation measures are required.*

## ALTERNATIVE 5 – NO ACTION/NO PROJECT ALTERNATIVE

### DIRECT AND INDIRECT IMPACTS

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<b>IMPACT 4.13-1 (Alt.5)</b>	<b>Daily construction-generated emissions of ROG, NO<sub>x</sub>, PM<sub>10</sub>, PM<sub>2.5</sub>, and CO.</b> Under Alternative 5 (No Action/No Project Alternative) no construction activities would take place. A temporary increase in maintenance activities would occur to address vegetation management needs, but operations and maintenance activities would then be consistent with existing conditions. Emissions would be minimal and below applicable thresholds. Therefore, this would be a <b>less-than-significant</b> impact.
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Under Alternative 5 (No Action/No Project Alternative), no construction activities would take place, and therefore no emissions of criteria pollutants would occur during construction. A temporary increase in maintenance activities would occur to address vegetation management needs. Also, on an ongoing basis there would be some emissions associated with the intermittent repair and replacement of the existing wooden poles. However, operations and maintenance activities would generally be consistent with existing conditions and

associated emissions would be minimal and below applicable thresholds. This would be a **less-than-significant** impact.

## MITIGATION MEASURES

*No mitigation measures are required.*

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<b>IMPACT</b> <b>4.13-2</b> <b>(Alt.5)</b>	<b>Contribution of ozone precursors to the Sacramento Federal Ozone Nonattainment Area.</b> Under Alternative 5 (No Action/No Project Alternative), there would be no new federal action and, therefore, General Conformity would not apply. There would be <b>no impact</b> .
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Under Alternative 5 (No Action/No Project Alternative), no construction activities would take place, and therefore no emissions of ozone precursors would occur during construction. A temporary increase in maintenance activities would occur to address vegetation management needs, but operations and maintenance activities would then be consistent with existing conditions. These activities would not be considered a new federal action and, therefore, the General Conformity Rule would not apply. There would be **no impact**.

## MITIGATION MEASURES

*No mitigation measures are required.*

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<b>IMPACT</b> <b>4.13-3</b> <b>(Alt.5)</b>	<b>Exposure of sensitive receptors to toxic air contaminants.</b> Under Alternative 5 (No Action/No Project Alternative) no construction activities would take place. A temporary increase in maintenance activities would occur to address vegetation management needs, but operations and maintenance activities would then be consistent with existing conditions. TAC emissions would be minimal and would not result in the exposure of sensitive receptors to substantial TAC concentrations. Exposure of sensitive receptors to TACs would be considered a <b>less-than-significant</b> impact.
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Under Alternative 5 (No Action/No Project Alternative), no construction activities would take place, and therefore no emissions of TACs would occur during construction. A temporary increase in maintenance activities would occur to address vegetation management needs, but operations and maintenance activities would then be consistent with existing conditions. Operation-generated emissions of TACs would be minimal because little use of heavy diesel equipment would be needed. In addition, much of the needed vegetation management work would be undertaken in remote areas distant from sensitive receptors. TAC emissions would be minimal and would not result in the exposure of sensitive receptors to substantial TAC concentrations. Exposure of sensitive receptors to TACs would be considered a **less-than-significant** impact.

## MITIGATION MEASURES

*No mitigation measures are required.*

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<b>IMPACT 4.13-4 (Alt.5)</b>	<b>Exposure of sensitive receptors to odors.</b> Under Alternative 5 (No Action/No Project Alternative) no construction activities would take place. A temporary increase in maintenance activities would occur to address vegetation management needs, but operations and maintenance activities would then be consistent with existing conditions. The operation of electrical lines is not an activity that is commonly considered a source of odors. No construction activities would take place; therefore, construction odors would not be generated. <b>No impact</b> would occur.
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Under Alternative 5 (No Action/No Project Alternative) no construction activities would take place. A temporary increase in maintenance activities would occur to address vegetation management needs, but operations and maintenance activities would then be consistent with existing conditions. The operation of electrical power lines is not an activity that is commonly considered a source of odors. No odor complaints have been filed related to the existing electrical line and substations and no changes to overall facilities, operations, and maintenance would occur under Alternative 5 (No Action/No Project Alternative). No construction activities would take place under Alternative 5 (No Action/No Project Alternative); therefore, construction odors would not be generated. **No impact** would occur.

## MITIGATION MEASURES

*No mitigation measures are required.*

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<b>IMPACT 4.13-5 (Alt.5)</b>	<b>Greenhouse gases in the atmosphere.</b> Under Alternative 5 (No Action/No Project Alternative) no construction activities would take place. A temporary increase in maintenance activities would occur to address vegetation management needs, but operations and maintenance activities would then be consistent with existing conditions and there would be no change in the levels of carbon sequestration. Any net increase in GHG emissions in the atmosphere associated with Alternative 5 (No Action/No Project Alternative) would be minimal and would result in less-than-cumulatively considerable GHG emissions and would have a <b>less-than-significant</b> impact on climate change.
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Under Alternative 5 (No Action/No Project Alternative) no construction activities would take place; therefore, no construction related GHG emissions would occur. A temporary increase in maintenance activities would occur to address vegetation management needs, but operations and maintenance activities would then be consistent with existing conditions. Any net increase in GHG emissions from operations and maintenance, if one were to occur, would be minimal. With regard to carbon sequestration, implementation of Alternative 5 (No Action/No Project Alternative) would not temporarily or permanently result in conversion of forest land to a non-forest use, as described under Impact 4.3-3 of the forestry resources analysis. Any net increase in GHG emissions under Alternative 5 (No Action/No Project Alternative) would also be less than the reporting level of 10,000 MT CO<sub>2</sub>e/year established by ARB's Mandatory Reporting of Greenhouse Gas Emissions Regulation and Cap-and-Trade Program. Therefore, any net increase in GHG emissions under Alternative 5 (No Action/No Project Alternative) would not be substantial and would not conflict with the reduction goals of AB 32 and the AB 32 Scoping Plan. As a result, the net increase in GHG emissions from Alternative 5 (No Action/No Project Alternative) would be less-than-cumulatively considerable and would have a **less-than-significant** impact on climate change.

## MITIGATION MEASURES

*No mitigation measures are required.*

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<b>IMPACT 4.13-6 (Alt.5)</b>	<b>Impacts of climate change on the project.</b> Climate change is expected to result in a variety of effects in the project area including changes to timing and intensity of precipitation resulting in increased risk from landslides associated with ground saturation and increased stormwater runoff. Climate change could also result in increased temperatures, leading to increased wildland fire in the project vicinity. However, there are numerous programs and policies in place to protect against and respond to wildland fire. This impact would be <b>less than significant</b> .
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The types of issues associated with climate change that could adversely affect the proposed project are the same under Alternative 5 (No Action/No Project Alternative) as described under Alternative 1 (PEA Alternative) (e.g., increased frequency and intensity of wildfire, increased risk of landslide, rock falls, debris/earth flows, and avalanches). Various existing plans and programs would reduce future risk of wildfire. However, because the existing transmission system would not be modified under Alternative 5 (No Action/No Project Alternative), the increased resiliency to disturbance and damage provided by the action alternatives would not occur under Alternative 5 (No Action/No Project Alternative). Although the potential effects of climate change on the transmission system would be greater under Alternative 5 (No Action/No Project Alternative), they would not make the system inoperable or have other substantial adverse effects. This impact would be **less than significant**.

## MITIGATION MEASURES

*No mitigation measures are required.*

## CUMULATIVE IMPACTS

### DAILY CONSTRUCTION-GENERATED EMISSIONS OF ROG, NO<sub>x</sub>, PM<sub>10</sub>, PM<sub>2.5</sub>, AND CO

The proposed project is located in portions of the MCAB that are within the jurisdiction of both the PCAPCD and the NSAQMD and in a part of the LTAB that is under the jurisdiction of both PCAPCD and the TRPA.

As shown in Table 4.13-1, the MCAB is nonattainment with respect to the CAAQS and the NAAQS for ozone and the LTAB is nonattainment-transitional with respect to the CAAQS for ozone and unclassified/attainment with respect to the NAAQS for ozone. This nonattainment status with respect to the CAAQS for ozone is because of the emissions of ozone precursors, including ROG and NO<sub>x</sub>, generated by cumulative development projects in the region and transported from outside the region. Ozone is formed in chemical reactions involving NO<sub>x</sub>, ROG, and sunlight. All but the largest individual sources emit NO<sub>x</sub> and ROG in amounts too small to have a measurable effect on ambient ozone concentrations by themselves. However, when all sources throughout the region are combined, they result in a severe ozone problem, which is considered to be a significant cumulative impact. Air districts in California develop air quality attainment plans designed to reduce emissions of ozone precursors enough to attain the federal ozone standard by the earliest practicable date. Air quality attainment plans include a multitude of air pollution control strategies. When developing air quality attainment plans, air districts account for the emissions from all present and future development in the region by relying on city and county general plans.

According to PCAPCD, a project in its jurisdiction would result in a considerable contribution to a cumulative impact to the nonattainment status of ozone if it would result in a net increase in short-term construction-related or long-term operation-related (regional) emissions of ozone precursors that exceed 10 lb/day (PCAPCD 2012a: pp. 2-424) and the project does not implement all feasible on-site mitigation for reducing ozone precursors (Chang, pers. comm., 2012). As shown in Table 4.13-6, construction-related emissions of NO<sub>x</sub> under all action alternatives would exceed PCAPCD's project-level threshold of 82 lb/day and both ROG and NO<sub>x</sub> would

exceed the cumulative contribution threshold of 10 lb/day during multiple weeks of the construction season. Implementation of Mitigation Measure 4.13-1a (applicable to all action alternatives) would require the applicant to implement a construction equipment exhaust emissions plan, which would reduce exhaust emissions of NO<sub>x</sub> and particulate matter from construction equipment by 20 percent and 45 percent, respectively. Mitigation Measure 4.13-1b (applicable to all action alternatives) would ensure that construction generated emissions of NO<sub>x</sub> are reduced to the project-level threshold of 82 lb/day by requiring the applicant to pay an off-site mitigation fee to PCAPCD to off-set NO<sub>x</sub> emissions generated by construction activity. Because Mitigation Measure 4.13-1a would require the applicant to reduce exhaust emissions of NO<sub>x</sub> and particulate matter by specific percentages and because implementation of Mitigation Measure 4.13-1b would ensure that project emissions of NO<sub>x</sub> would be reduced to less than the project-level threshold of significance, projected-generated emissions of ozone precursors in the Placer County portions of the MCAB and LTAB would not be cumulatively considerable. However, construction-related emissions of NO<sub>x</sub> in NSAQMD's jurisdiction of the MCAB would exceed NSAQMD's project-level threshold of 136 lb/day and could not be reduced to a less-than-significant level with mitigation. Therefore, construction-related emissions of NO<sub>x</sub> in NSAQMD's jurisdiction would be cumulatively considerable.

Also shown in Table 4.13-1, the MCAB and LTAB are designated as attainment with respect to the NAAQS for PM<sub>10</sub> but as nonattainment with respect to the CAAQS. PM<sub>10</sub> has a similar cumulative regional emphasis when particulates are entrained into the atmosphere and build to unhealthful levels over time. The NSAQMD and PCAPCD thresholds for PM<sub>10</sub> emissions can be considered a threshold for an individual project to make a significant contribution to cumulative regional PM<sub>10</sub> emissions. As discussed under Impact 4.13-1 (for each action alternative), construction-generated emissions of PM<sub>10</sub> in NSAQMD's jurisdiction would not exceed NSAQMD's threshold of 136 lb/day and construction-generated emissions of PM<sub>10</sub> in PCAPCD's jurisdiction would not exceed PCAPCD's threshold of 82 lb/day with implementation of Mitigation Measure 4.13-1a. As a result, PM<sub>10</sub> emissions from the proposed project would not be cumulatively considerable.

PM<sub>10</sub>, however, also has the potential to cause significant local problems during periods of dry conditions accompanied by high winds, and during periods of heavy earth disturbing activities. PM<sub>10</sub> may have cumulative local impacts if, for example, several unrelated grading or earth moving projects are underway simultaneously at nearby sites. For cumulative analysis, this EIS/EIS/EIR examines the potential PM<sub>10</sub> exposure to sensitive receptors near the proposed project site from construction-related earth disturbing activities from the proposed project and any construction of nearby projects that may occur at the same time. Reviewing the cumulative project list provided in Table 4.1-2 and the locations of these projects shown in Exhibit 4.1-1, four projects that could involve earth moving and PM<sub>10</sub> emissions may occur in the same location as the action alternative, or in the immediate vicinity, and be constructed at the same time. Two of these projects, the Joerger Ranch Specific Plan (in Truckee) and the SR 89/Fanny Bridge Project (in Tahoe City) occur in developed areas of existing communities. The action alternatives would generate very little PM<sub>10</sub> in these areas because there would be little to no tree removal that would generate ground disturbance; much of the area is paved, limiting PM<sub>10</sub> generation from vehicle travel on dirt roads; and ground disturbance would be limited to excavation for pole installation, which generates very little PM<sub>10</sub>. Therefore, even if one of the action alternatives were constructed simultaneously with the Joerger Ranch Specific Plan or the SR 89/Fanny Bridge Project, and PM<sub>10</sub> from the action alternative reached a local sensitive receptor concurrently with PM<sub>10</sub> generated by one of these other projects, the contribution from the action alternative would be minimal and would not make a substantial contribution to the cumulative PM<sub>10</sub> emissions.

The remaining two cumulative projects that could generate PM<sub>10</sub> that could combine locally with PM<sub>10</sub> from an action alternative are the Martis Valley Trail Project and the Carnelian Fuels Reduction and Healthy Forest Restoration Project. The Martis Valley Trail Project would have limited ground disturbance, and both this project and the proposed project would implement dust control BMPs. Also, much of the Martis Valley Trails Project would occur in undeveloped areas away from sensitive receptors. Combined PM<sub>10</sub> generated by these two projects would not be sufficient to result in a significant localized PM<sub>10</sub> impact. The Carnelian Fuels Reduction

and Health Forest Restoration Project (Carnelian Project) would generate ground disturbance and potential PM<sub>10</sub> emissions associated with removal of trees and other fuels. The disturbance area for the Carnelian Project is much larger than for the proposed project, encompassing areas in the vicinity of Cedar Flat, Carnelian Bay, Tahoe Vista, and Kings Beach. However, this project only overlaps geographically with the action alternatives in areas that are not in the vicinity of homes and similar stationary sensitive receptors; but both projects overlap in locations used for recreation (e.g., hiking, biking). The Carnelian Project includes various measures that would result in limiting exposure of sensitive receptors to PM<sub>10</sub>; for example, native surface roads would be watered for dust abatement and work areas would be closed to public access where there is a safety hazard (USFS 2012). Similar measures would be applied to the action alternatives. If both the Carnelian Project and an action alternative were underway in the same location at the same time, potential sensitive receptors that could be in the area (e.g., hikers, bikers) would not be exposed to localized cumulatively significant PM<sub>10</sub> emissions because of emission reduction measures implemented by both projects and/or exclusion of public from work areas.

The MCAB is designated as nonattainment with respect to the CAAQS for PM<sub>2.5</sub> but the LTAB is in attainment. Both air basins are unclassified with respect to the NAAQS for PM<sub>2.5</sub>. Because PCAPCD and NSAQMD do not recommend mass emission thresholds for evaluating PM<sub>2.5</sub> emissions from a project but do for PM<sub>10</sub>, the analysis of PM<sub>2.5</sub> generally follows the analysis of PM<sub>10</sub>. For the reasons described above for PM<sub>10</sub>, the action alternatives would not make a significant contribution to a significant regional or local cumulative PM<sub>2.5</sub> impact.

Table 4.13-1 also shows that the LTAB and MCAB are designated as being in attainment or unclassified with respect to the CAAQS and NAAQS for CO. PCAPCD and NSAQMD do not recommend mass emission thresholds for evaluating CO emissions from a project. Because the action alternatives would not result in high localized CO concentrations and because project-generated emissions of CO would not take place in close proximity to other sources of CO such that their combined emissions would result in an exceedance of the applicable CAAQS and NAAQS the project's contribution of CO emissions would not be cumulatively considerable.

## **CONTRIBUTION OF OZONE PRECURSORS TO THE SACRAMENTO FEDERAL OZONE NONATTAINMENT AREA**

As stated under Impact 4.13-2 (for each action alternative), because project-generated emissions of ozone precursors would not exceed the *de minimis* emission levels, the General Conformity Rule would not apply to the proposed project. As a result, project-generated emissions of precursors to ozone, which is a secondary pollutant of region-wide concern, would not hinder local and state plans to bring the Sacramento Federal Ozone Nonattainment Area into attainment with the ozone NAAQS and would not be cumulatively considerable.

## **EXPOSURE OF SENSITIVE RECEPTORS TO TOXIC AIR CONTAMINANTS**

As stated under Impact 4.13-3 (for each action alternative), the project would not generate significant health risks associated with toxic air contaminants; it would not expose any single receptor to a level of cancer risk that exceeds an incremental increase of 10 in one million, or to a noncarcinogenic Hazard Index of 1. This conclusion is based in part on the only new TAC emission source for the project being diesel PM from construction, emissions would occur for a short period (i.e., construction), and the quick dissipation of diesel PM limiting the geographic area of exposure. The four cumulative projects identified above that could interact with the action alternatives relative to localized PM<sub>10</sub> emissions are also the projects that could interact relative to diesel PM emissions; Joerger Ranch Specific Plan, Martis Valley Trail, SR 89/Fanny Bridge Improvement Project, and the Carnelian Project. For three of these projects, Martis Valley Trail, SR 89/Fanny Bridge Improvement Project, and the Carnelian Project, the only TAC emissions sources would be diesel PM during construction (or in the case of the Carnelian Project, during implementation). For the same reasons described for the action alternatives under Impact 4.13-3 (e.g., requirement for long-term exposure to diesel PM emissions to have a significant impact), if one of these cumulative projects were constructed/implemented concurrently with one of the action alternatives, emissions of diesel PM would be short term and minor and would not be sufficient to expose any

single receptor to a level of cancer risk that exceeds applicable thresholds. The same conclusion would apply to construction diesel PM emissions for the Joerger Ranch Specific Plan. However, the Joerger Ranch Specific Plan may include industrial uses. One or more of these uses could emit TACs over an extended period. However, these emissions would be highly regulated and it can be expected that they would not exceed health and safety thresholds. Also, at the time of preparation of this EIS/EIS/EIR, the Joerger Ranch Specific Plan was in the EIR preparation phase. It is unlikely that significant industrial operations would be in effect concurrently with construction of the 650 Line in that area. If construction of the 650 Line near the Joerger Ranch Specific Plan site were to occur concurrently with operation of TAC emitting industrial facilities in the specific plan area, the construction emissions of diesel PM would be minor and short term, and would not make a significant contribution to a significant cumulative impact, if one were to occur.

For the reasons described above, it is not anticipated that the levels of health risk exposure from the proposed project, in combination with health risk exposure of any other TAC-emitting sources, could reach levels which would be considered a significant cumulative impact. The project's contribution would, therefore, not be cumulatively considerable.

## **EXPOSURE OF SENSITIVE RECEPTORS TO ODORS**

The project would not generate significant odors, as discussed under Impact 4.13-4 (for each action alternative). There are no existing facilities in the vicinity of the action alternatives typically considered as sources of objectionable odors such as wastewater treatment facilities, landfills, food processing facilities, and livestock operations. None of the cumulative projects identified in Table 4.1-2 include land uses that would be expected to generate objectionable odors that would affect a substantial number of people or travel far enough to interact with other potential odor sources. Therefore, there are currently no facilities or activities in the vicinity of the proposed project that interact to create a significant cumulative odor impact, and neither the action alternatives nor reasonably foreseeable future projects would generate objectionable odors that would change this condition.

## **NET INCREASE IN GREENHOUSE GASES**

The discussion about the net increase in GHGs associated with project under Impact 4.13-5 (for each action alternative) is inherently a cumulative impact analysis. It concluded that the net increase in GHG emissions from the proposed project would not be a cumulatively considerable contribution to a significant cumulative impact.

## **IMPACTS OF CLIMATE CHANGE ON THE PROJECT**

The discussion about the impacts of climate change on the project under Impact 4.13-5 (for each action alternative) concludes that the project would include sufficient design features to increase its resiliency to elevated risk of wildfires, landslides, high-wind storm events, and other occurrences that may become more prevalent with climate change. Because the action alternatives would increase resiliency to potential effects from climate change, the proposed project could not make a cumulatively considerable contribution to any potential significant cumulative impact related to the effects of climate change on existing and future projects.

## 4.14 NOISE

This section includes definitions of common noise descriptions; descriptions of applicable noise regulations, acoustic fundamentals, and existing ambient noise conditions; and an analysis of potential short- and long-term noise impacts associated with implementation of the proposed project. Additional data is provided in Appendix N, Noise Data.

### COMMON NOISE DESCRIPTORS

The intensity of environmental noise fluctuates over time, and several different descriptors of time-averaged noise levels are used. The selection of a proper noise descriptor for a specific source depends on the spatial and temporal distribution, duration, and fluctuation of both the noise source and the environment. The noise descriptors most often used in relation to the environment are defined below (Caltrans 2009).

- ▲ Decibel (dB): a sound level expressed in decibels which is the logarithmic ratio of two like pressure quantities, with one pressure quantity being a reference sound pressure of 20 micropascals.
- ▲ A-Weighted Decibel (dBA): the frequency-response adjustment of a sound level meter that conditions the output signal to approximate human hearing response.
- ▲ Peak Particle Velocity (PPV): PPV is defined as the maximum instantaneous positive or negative peak of a vibration signal. PPV is typically used in the monitoring of transient and impact vibration and has been found to correlate well to the stresses experienced by buildings.
- ▲ Vibration Decibel (VdB): VdB serves to compress the range of numbers required to describe vibration and is based on a reference value of 1 micro ( $\mu$ ) inches per second (in/sec).
- ▲ Equivalent Noise Level ( $L_{eq}$ ): the equivalent steady-state noise level in a stated period of time that would contain the same acoustic energy as the time-varying noise level during the same period (i.e., average noise level).
- ▲ Maximum Noise Level ( $L_{max}$ ): the highest instantaneous noise level during a specified time period.
- ▲ Minimum Noise Level ( $L_{min}$ ): the lowest instantaneous noise level during a specified time period.
- ▲ Day-Night Noise Level ( $L_{dn}$ ): the 24-hour  $L_{eq}$  with a 10-dBA penalty applied during the noise-sensitive hours from 10 p.m. to 7 a.m., which are typically reserved for sleeping.
- ▲ Community Noise Equivalent Level (CNEL): A measure of noise that is the logarithmic average of single event noise values as measured by a noise monitor.
- ▲ Sound Exposure Level (SEL): the constant sound level which has the same amount of energy in one second as the entire original noise event.

#### 4.14.1 REGULATORY SETTING

The following provides an overview of laws and regulations related to noise that are applicable to the proposed project.

##### FEDERAL

The US Environmental Protection Agency (EPA) Office of Noise Abatement and Control was originally established to coordinate Federal noise control activities. After its inception EPA's Office of Noise Abatement and Control issued the Federal Noise Control Act of 1972, establishing programs and guidelines to identify and address the effects of noise on public health, welfare, and the environment. In 1981, EPA administrators determined that subjective issues such as noise would be better addressed at more local levels of government. Consequently, in 1982 responsibilities for regulating noise control policies were transferred to state and local governments.

However, noise control guidelines and regulations contained in EPA rulings in prior years remain in place by designated Federal agencies where relevant.

## **OCCUPATIONAL HEALTH AND SAFETY ACT OF 1970**

This act covers all employers and their employees in the United States and US territories. Administered by the Occupational Health and Safety Administration (OSHA), the act assigns OSHA two regulatory functions—setting standards and conducting inspections to ensure that employers are providing safe and healthful workplaces. Employers must become familiar with the standards applicable to their establishments and eliminate hazards. Included in this act is a regulation for worker noise exposure at 90 dBA over an 8-hour work shift. Areas where exposure exceeds 85 dBA must be designated and labeled as high-noise-level areas and hearing protection is required.

## **FEDERAL AVIATION ADMINISTRATION**

The Federal Aviation Administration establishes 65 dBA CNEL as the maximum noise exposure limit associated with aircraft noise measured at exterior locations in noise-sensitive land uses (e.g., land uses where quiet environments are essential such as residential areas, churches, and hotels). This standard is also generally applied to railroad noise.

## **US DEPARTMENT OF TRANSPORTATION**

To address the human response to groundborne vibration, the Federal Transit Administration (FTA) of the US Department of Transportation has set forth guidelines for maximum-acceptable vibration criteria for different types of land uses. Among these guidelines are the following maximum-acceptable vibration limits:

- ▲ 65 VdB, referenced to 1 microinch per second and based on the root mean square (RMS) velocity amplitude, for land uses where low ambient vibration is essential for interior operations (e.g., hospitals, high-tech manufacturing, laboratory facilities);
- ▲ 80 VdB for residential uses and buildings where people normally sleep; and
- ▲ 83 VdB for institutional land uses with primarily daytime operations (e.g., schools, churches, clinics, offices) (FTA 2006).

## **STATE**

The State of California has adopted noise standards in areas of regulation not preempted by the Federal government. State standards regulate noise levels of motor vehicles, sound transmission through buildings, occupational noise control, and noise insulation.

Though not adopted by law, the *State of California General Plan Guidelines 2003*, published by the California Governor's Office of Planning and Research (OPR 2003), provides guidance for the compatibility of projects within areas of specific noise exposure. Acceptable and unacceptable community noise exposure limits for various land use categories have been determined to help guide new land use decisions in California communities. In many local jurisdictions, these guidelines are used to derive local noise standards and guidance.

## **CALIFORNIA DEPARTMENT OF TRANSPORTATION**

In 2004, Caltrans published the Transportation-and Construction-Induced Vibration Manual, which provides general guidance on vibration issues associated with construction and operation of projects in relation to human perception and structural damage. Table 4.14-1 below presents recommendations for levels of vibration that could result in damage to structures exposed to continuous vibration.

Table 4.14-1 Caltrans Recommendations Regarding Vibration Levels	
PPV (in/sec)	Effect on Buildings
0.4-0.6	Architectural damage and possible minor structural damage
0.2	Risk of architectural damage to normal dwelling houses
0.1	Virtually no risk of architectural damage to normal buildings
0.08	Recommended upper limit of vibration to which ruins and ancient monuments should be subjected
0.006-0.019	Vibration unlikely to cause damage of any type
Notes: PPV= Peak Particle Velocity. Source: Caltrans 2004	

## TAHOE REGIONAL PLANNING AGENCY

The elements of the Tahoe Regional Planning Agency (TRPA) Regional Plan related to noise include the following: Noise Subelement of the Goals and Policies (TRPA 2012a); Code of Ordinances (Code), Chapter 68, Noise Limitations (TRPA 2012b); Plan Area Statements (PASs) and Community Plans; and Environmental Threshold Carrying Capacities, adopted in 1982 and evaluated every 5 years since 1991 (TRPA 2012c).

### GOALS AND POLICIES

The Noise Subelement of the Goals and Policies document contains the following potentially applicable goals and policies:

**Goal N-2: Community Noise Equivalent Levels Shall Be Attained and Maintained.** CNEL thresholds were adopted to reduce the annoyance associated with cumulative noise events on people and wildlife. In the Region, the main sources of noise are attributed to the major transportation corridors and the airport. Therefore, these policies are directed towards reducing the transmission of noise from those sources. The CNEL thresholds will be attained upon implementation of the following policies.

- ▲ **Policy N-2.2.** Noise-related impacts associated with the airport should be at an acceptable level.

The Airport Master Plan should include specific recommendations necessary to attain the environmental threshold. The Master Plan should also include implementation provisions for attaining the noise thresholds.
- ▲ **Policy N-2.3.** In consultation and coordination with Federal land management agencies, TRPA will further define CNELs for wilderness and roadless areas and for critical wildlife habitat areas.

The 25 CNEL standard for the above areas needs further evaluation as to location of monitoring and conditions of monitoring. The Agency will further evaluate application of the standard.

The Noise Subelement also contains the following policy statement:

It shall be the policy of the TRPA Governing Board in the development of the Regional Plan to define, locate, and establish CNEL levels for transportation corridors. The Noise Subelement established the following CNEL values for transportation corridors:

- ▲ US Highway 50 (US 50)—65 dBA
- ▲ State Routes (SRs) 89, 207, 28, 267, and 431—55 dBA
- ▲ South Lake Tahoe Airport—60 dBA

The highway CNEL standards override the land use-based CNELs and are limited to an area within 300 feet from the edge of the road (TRPA 2012a: 2-26). The airport CNEL standard applies to those areas affected by the approved flight patterns for each airport, as included in their Airport Master Plan and Airport Land Use Plan.

## CODE OF ORDINANCES

Chapter 68, Noise Limitations, of the TRPA Code of Ordinances is intended to implement the Noise Subelement of the Goals and Policies (shown above) and to attain and maintain the TRPA Environmental Threshold Carrying Capacities (shown below, TRPA 2012b).

Section 68.4 Community Noise Levels states that TRPA shall use CNELs to measure community noise levels and that PASs shall set forth CNELs that shall not be exceeded by any one activity or combination of activities (see PASs below). The CNELs set forth in the PASs are based on the land use classification, the presence of transportation corridors, and the applicable threshold standard.

The noise limitations established in Chapter 68 of the TRPA Code of Ordinances, including the noise standards of individual PASs, do not apply to noise from TRPA-approved construction or maintenance projects.

### Plan Area Statements/Community Plans

As a means for providing orderly growth and development consistent with the TRPA Regional Plan, various Community Plans (contained within certain PASs) and 181 individual PASs have been developed for specific urbanized areas, as determined by the Goals and Policies document. Each Community Plan and PAS contains unique noise standards based on the intensity of development in the plan area and generally are consistent with the environmental threshold carrying capacities (ETCCs) for the land uses shown in Table 4.14-2. Refer to Table 4.14-3 for Community Plans and PASs noise limits. Portions of the proposed project would pass through these areas.

### ENVIRONMENTAL THRESHOLD CARRYING CAPACITIES

Chapter 68, Noise Limitations, of the TRPA Code of Ordinances is intended to implement the Noise Subelement of the Goals and Policies (shown above) and to attain and maintain the TRPA Environmental Threshold Carrying Capacities (shown below, TRPA 2012b). Table 4.14-2 below summarizes the CNEL threshold indicator standards for land use categories.

<b>Land Use Category</b>	<b>CNEL Noise Standard</b>
High Density Residential	55
Low Density Residential	50
Hotel	60
Commercial	60
Industrial	65
Urban Outdoor Recreation	55
Rural Outdoor Recreation	50
Wilderness and Roadless	45
Critical Wildlife Habitat	45
Highway 50 <sup>1</sup>	65
SRs 89, 207, 28, 267, and 431 <sup>1</sup>	55
South Lake Tahoe Airport	60

Notes: CNEL = community noise equivalent level  
<sup>1</sup> Highway corridors expand to 300 feet from the highway edge on each side. In any instance of overlap between highway corridor noise standards and a PAS or Community Plan, the highway corridor noise standard supersedes all others.  
 Sources: TRPA 2012a, TRPA 2012b

PAS#	PAS Name	CNEL	Road Corridor CNEL	Line Segment									
001A	Tahoe City Community Plan	1. Where applicable, a maximum 55 dBA CNEL override for the SR 28 and SR 89 corridors is permissible. 2. The maximum CNEL for Special Areas #3 and #4 and #5 is 55 dBA CNEL. 3. The maximum CNEL for all areas of the Community Plan except as noted in 1 and 2 above is 65 dBA CNEL. The maximum CNEL for Shorezone Tolerance Districts 4, 6 and 7 is 55 dBA CNEL and the maximum for the Lakezone is 50 dBA CNEL.	SR 89 corridor - 55 dBA SR 28 corridor - 55 dBA	625-1, 625-1A									
026	Kings Beach Industrial Community Plan	The maximum CNEL for this plan area is 65 dBA. The following noise standards shall also be met: Performance standards for stationary or industrial noise sources or projects affected by stationary or industrial noise sources (as measured at the property line of a noise-sensitive receiving use): <table border="1" style="margin-left: 20px;"> <thead> <tr> <th>Noise level descriptor</th> <th>Daytime (7a.m.-7p.m.)</th> <th>Nighttime (7p.m.-7a.m.)</th> </tr> </thead> <tbody> <tr> <td>Hourly Leq</td> <td>55 dBA</td> <td>45 dBA</td> </tr> <tr> <td>Maximum Level</td> <td>75 dBA</td> <td>65 dBA</td> </tr> </tbody> </table> Each of the noise levels specified above should be lowered by 5 dBA for simple tone noises—noises that consist primarily of speech or music, or for recurring impulsive noises.	Noise level descriptor	Daytime (7a.m.-7p.m.)	Nighttime (7p.m.-7a.m.)	Hourly Leq	55 dBA	45 dBA	Maximum Level	75 dBA	65 dBA	NA	650-1, DC OH-1, 625-10, DC OH-3, DC OH-1A
Noise level descriptor	Daytime (7a.m.-7p.m.)	Nighttime (7p.m.-7a.m.)											
Hourly Leq	55 dBA	45 dBA											
Maximum Level	75 dBA	65 dBA											
003	Lower Truckee	50 dBA	SR 89 corridor-55 dBA	625-3									
004	Burton Creek	50 dBA	NA	625-3									
013	Watson Creek	50 dBA	NA	625-4, 625-4A, 625-5, 625-6, 625-6A, 625-7									
015	North Star	50 dBA	NA	625-5, 625-6, 625-6A, 625-7									
019	Martis Peak	50 dBA	SR 267 corridor-55 dBA	625-8, 625-8A, 650-2, DC OH-2,625-9, DC OH-4, 650-1, DC OH-1, 625-10, DC OH-3									
025	Kingswood East	55 dBA	SR 267 corridor-55 dBA	650-1, DC OH-1, DC OH-1A, 625-10, DC OH-3									
174	64-Acre Tract	55 dBA	SR 89 corridor- 55 dBA	625-1, 625-1A									
027	Woodvista	50 dBA	SR 267- 55 CNEL	DC OH-1A									

Notes: PAS=Plan Area Statement; CNEL= Community Noise Equivalent Level; dBA= A-Weighted Decibel; NA=Not Applicable; SR=State Route, DCOH=Double-Circuit Option Segment, DCOH1A= Double-Circuit Option Alternative Segment  
 Source: TRPA and Placer County 1994, TRPA and Placer County 1996, TRPA 2002.

TRPA conducts a comprehensive evaluation of threshold standard status every five years. The most recent evaluation was completed in 2011 (TRPA 2012c). According to the 2011 Threshold Evaluation, attainment status for Cumulative Noise Events was somewhat worse than the attainment target (TRPA 2012c). Project consistency with TRPA ETCCs and single event noise standards is described in Section 5.8, Consequences for TRPA Environmental Threshold Carrying Capacities.

## LOCAL AGENCIES

Policies and ordinances of local agencies applicable to the proposed project are described in this section.

### PLACER COUNTY

The Placer County General Plan Noise Element contains noise policies and standards (e.g., exterior and interior noise-level performance standards for new projects affected by or including non-transportation noise sources, and maximum allowable noise exposure levels for transportation noise sources) (Placer County 1994). The Placer County Noise Ordinance (Article 9.36 of the Placer County Code) contains noise limits for sensitive receptors (Placer County 2004). The applicable policies and standards contained in the General Plan and Ordinance are summarized below. Placer County land use noise standards are shown in Table 4.14-4. Project consistency with these policies is addressed in Section 4.2, Land Use.

#### Placer County General Plan

- ▲ **Policy 9.A.2:** The County shall require that noise created by new non-transportation noise sources be mitigated so as not to exceed the noise level standards (as shown below in Table 4.14-4) as measured immediately within the property line of lands designated for noise-sensitive uses.
- ▲ **Policy 9.A.5:** Where proposed non-residential land uses are likely to produce noise levels exceeding performance standards (as shown in Table 4.14-4) at existing or planned noise-sensitive uses, the County shall require submission of an acoustical analysis as part of the environmental review process so that noise mitigation may be included in the project design.

**Table 4.14-4 Placer County Allowable  $L_{dn}$  Noise Levels Within Specified Zone Districts<sup>1</sup>  
Applicable to New Projects Affected by or Including Non-Transportation Noise Sources**

Zone District of Receptor	$L_{dn}$ (dBA) at Property Line of Receiving Use	Interior Spaces (dBA) <sup>2</sup>
Residential Adjacent to Industrial <sup>3</sup>	60	45
Other Residential <sup>4</sup>	50	45
Office/Professional	70	45
Transient Lodging	65	45
Neighborhood/General Commercial/Shopping Center	70	45
Heavy Commercial/Limited Industrial/Highway Service	75	45
Industrial	-	45
Industrial Park	75	45
Industrial Reserve	-	-
Airport	-	45
Unclassified	-	-
Farm/Agriculture Exclusive <sup>6</sup>	-	-
Recreation and Forestry	70	-

Notes:  $L_{dn}$  = Day-Night Noise Level; dBA=A-Weighted Decibel

Except where noted otherwise, noise exposures will be those which occur at the property line of the receiving use.

Where existing transportation noise levels exceed the standards of this table, the allowable  $L_{dn}$  shall be raised to the same level as that of the ambient level.

If the noise source generated by, or affecting, the uses shown above consists primarily of speech or music, or if the noise source is impulsive in nature, the noise standards shown above shall be decreased by 5 dBA.

Where a use permit has established noise level standards for an existing use, those standards shall supersede the levels specified in this table.

Similarly, where an existing use which is not subject to a use permit causes noise in excess of the allowable levels in this Table, said excess noise shall be considered the allowable level. If a new development is proposed which will be affected by noise from such an existing use, it will ordinarily be assumed that the noise levels already existing or those levels allowed by the existing use permit, whichever are greater, are those levels actually produced by the existing use.

Existing industry located in industrial zones will be given the benefit of the doubt in being allowed to emit increased noise consistent with the state

**Table 4.14-4 Placer County Allowable L<sub>dn</sub> Noise Levels Within Specified Zone Districts<sup>1</sup>  
Applicable to New Projects Affected by or Including Non-Transportation Noise Sources**

of the art<sup>5</sup> at the time of expansion. In no case will expansion of an existing industrial operation because to decrease allowable noise emission limits. Increase emissions above those normally allowable should be limited to a one-time 5 dBA increase at the discretion of the decision-making body.

The noise level standards applicable to land uses containing incidental residential uses, such as caretaker dwellings at industrial facilities and homes on agriculturally-zoned land, shall be the standards applicable to the zone district, not those applicable to residential uses.

Where no noise level standards have been provided for a specific zone district, it is assumed that the interior and/or exterior spaces of these uses are effectively insensitive to noise.

<sup>1</sup> Overriding policy on interpretation of allowable noise levels: Industrial-zoned properties are confined to unique areas of the County, and are irreplaceable. Industries which provide primary wage-earner jobs in the County, if forced to relocate, will likely be forced to leave the County. For this reason, industries operating upon industrial zoned properties must be afforded reasonable opportunity to exercise the rights/privileges conferred upon them be their zoning. Whenever the allowable noise levels herein fall subject to interpretation relative to industrial activities, the benefit of the doubt shall be afforded to the industrial use.

Where an industrial use is subject to infrequent and unplanned upset or breakdown of operations resulting in increased noise emissions, where such upsets and breakdowns are reasonable considering the type of industry, and where the industrial use exercises due diligence in preventing as well as correcting such upsets and breakdowns, noise generated during such upsets and breakdowns shall not be included in calculations to determine conformance with allowable noise levels.

<sup>2</sup> Interior spaces are defined as any locations where some degree of noise-sensitivity exists. Examples include all habitable rooms of residences, and areas where communication and speech intelligibility are essential, such as classrooms and offices.

<sup>3</sup> Noise from industrial operations may be difficult to mitigate in a cost-effective manner. In recognition of this fact, the exterior noise standards for residential zone districts immediately adjacent to industrial, limited industrial, industrial park, and industrial reserve zone districts have been increased by 10 dBA as compared to residential districts adjacent to other land uses.

For purposes of the Noise Element, residential zone districts are defined to include the following zoning classifications:

AR, R-1, R-2, R-3, FR, RP, TR-1, TR-2, TR-3, and TR-4.

<sup>4</sup> Where a residential zone district is located within an -SP combining district, the exterior noise level standards are applied at the outer boundary of the -SP district. If an existing industrial operation within an -SP district is expanded or modified, the noise level standards at the outer boundary of the -SP district may be increased as described above in these standards.

Where a new residential use is proposed in an -SP zone, an Administrative Review Permit is required, which may require mitigation measures at the residence for noise levels existing and/or allowed by use permit as described under "NOTES," above, in these standards.

<sup>5</sup> State of the art should include the use of modern equipment with lower noise emissions, site design, and plant orientation to mitigate offsite noise impacts, and similar methodology.

<sup>6</sup> Normally, agricultural uses are noise insensitive and will be treated in this way. However, conflicts with agricultural noise emissions can occur where single-family residences exist within agricultural zone districts. Therefore, where effects of agricultural noise upon residences located in these agricultural zones are a concern, an L<sub>dn</sub> of 70 dBA will be considered acceptable outdoor exposure at a residence.

Source: Placer County 1994

**Placer County Noise Ordinance**

Article 9.36 Noise of the Placer County Code defines sound level performance standards for sensitive receptors. Relevant standards are listed below.

**Article 9.36 Noise**

Noise level standards for sensitive receptors from Placer County Code Article 9.36 are shown in Table 4.14-5 below. The ordinance states that it is unlawful for any person at any location to create any sound, or to allow the creation of any sound, on property owned, leased, occupied, or otherwise controlled by such a person that causes the exterior sound level, when measured at the property line of any affected sensitive receptor, to exceed the ambient sound level by 5 dBA or exceed the sound level standards (as set forth in Table 4.14-5), whichever is greater.

**Table 4.14-5 Placer County Noise Ordinance Noise Level Standards for Sensitive Receptors**

Sound Level Descriptor (dBA)	Daytime (7:00 A.M. to 10:00 P.M.)	Nighttime (10:00 P.M. to 7:00 A.M.)
Hourly L <sub>eq</sub>	55	45
L <sub>max</sub>	70	65

Notes: dBA=A-Weighted Decibel  
Source: Placer County 2004

Each of the sound level standards specified in Table 4.14-5 shall be reduced by 5 dBA for simple tone noises, consisting of speech and music. However, in no case shall the sound level standard be lower than the ambient sound level plus 5 dBA.

### 9.36.030 Exemptions

According to Section 9.36.030, “Exemptions,” some noise-generating activities are exempt from the above noise ordinance standards. These are listed below.

- ▲ Construction that is performed between 6:00 a.m. and 8:00 p.m., Monday through Friday, and between 8:00 a.m. and 8:00 p.m. Saturday and Sunday, provided that all construction equipment is fitted with factory-installed muffler devices and maintained in good working order.
- ▲ Emergencies involving the execution of the duties of duly authorized governmental personnel and others providing emergency response to the general public, including but not limited to sworn peace officers, emergency personnel, utility personnel, and the operation of emergency response vehicles and equipment.

## TOWN OF TRUCKEE

The Noise Element of the Town of Truckee 2025 General Plan contains goals, policies, and actions intended to regulate unwanted noise and minimize exposure to sensitive land uses. Exterior noise exposure standards for different land uses are shown below in Table 4.14-6 and relevant policies are listed below. The Town of Truckee has adopted the California Building Code interior noise standard of 45 dBA  $L_{dn}$ /CNEL for all habitable rooms within the Town.

Land Use Category	Community Noise Exposure ( $L_{dn}$ or CNEL, dBA)			
	Normally Acceptable <sup>1</sup>	Conditionally Acceptable <sup>2</sup>	Normally Unacceptable <sup>3</sup>	Unacceptable <sup>4</sup>
Residential, Mobile Home	<60	60-65	65-75	75+
Residential in Mixed Use Development	<65	65-70	70-75	75+
Hospitals, Schools, Congregate Care	<65	65-70	70-75	75+
Office, Medical, Light Industrial	<70	70-75	75-80	80+
Hotel, Commercial	<70	70-75	75-80	80+
Neighborhood Parks, RV Parks	<65	65-75	NA	75+
Other Recreation; Community and Regional Parks	<70	70-75	75-80	80+

Notes: CNEL = Community Noise Equivalent Level; dBA = A-Weighted Decibels;  $L_{dn}$  = Day-Night Noise Level

<sup>1</sup> Specified land use is compatible, assuming standard construction practices are used.

<sup>2</sup> New land uses may be allowed if a detailed noise analysis is performed and noise reduction and insulation features necessary to reduce exterior noise levels to “normally acceptable” levels and interior noise levels as appropriate are included in the project design.

<sup>3</sup> New land uses should be discouraged, but development may be allowed after a detailed noise analysis is performed, noise reduction and insulation features necessary to reduce exterior noise to “normally acceptable” levels and interior noise levels as appropriate are included in project design, and the land uses are shown to serve the greater public interests of the citizens of Truckee.

<sup>4</sup> New construction or development of these land uses should generally not be permitted because mitigation is usually not feasible.

Source: Town of Truckee 1996

## Policies

- ▲ **P1.5** Allow land uses within Normally Unacceptable categories only where the allowed use can be shown to serve the greater public interests of the citizens of Truckee.
- ▲ **P3.1** Enforce provisions of the Municipal Noise Ordinance, which limits maximum permitted noise levels that cross property lines and impact adjacent land uses.
- ▲ **P3.2** Regulate noise from non-emergency construction activities through the Municipal Noise Ordinance.
- ▲ **P3.13** Require the following standard construction noise control measures to be included as requirements at construction sites in order to minimize construction noise impacts.

- /// Equip all internal combustion engine driven equipment with intake and exhaust mufflers that are in good condition and appropriate for the equipment.
- /// Locate stationary noise generating equipment as far as possible from sensitive receptors when sensitive receptors adjoin or are near a construction project area.
- /// Utilize “quiet” air compressors and other stationary noise generating equipment where appropriate technology exists.
- /// The project sponsor shall designate a “disturbance coordinator” who would be responsible for responding to any local complaints about construction noise. The disturbance coordinator will determine the cause of the noise complaint (e.g., starting too early, bad muffler, etc.) and will require that reasonable measures warranted to correct the problem be implemented. The project sponsor shall also post a telephone number for excessive noise complaints in conspicuous locations in the vicinity of the project site. Additionally, the project sponsor shall send a notice to neighbors in the project vicinity with information on the construction schedule and the telephone number for noise complaints.

### Town of Truckee Municipal Code

Chapter 18.44 Noise of Title 18- Development Code of the Town of Truckee contains the exterior noise standards, listed below.

#### *18.44.040- Exterior Noise Standards*

**A. Exterior levels.** Exterior noise levels, when measured at any receiving church, commercial, hospital, public library, residential or school property, do not conform to the provisions of this section when they exceed the noise level standards (standards are provided in Table 4.14-7).

Table 4.14-7 Town of Truckee Municipal Code Noise Level Standards (dBA)		
Cumulative number of minutes in any hour	Daytime (7:00 A.M. to 10:00 P.M.)	Nighttime (10:00 P.M. to 7:00 A.M.)
<b>Hospital, Library, Religious Institution, Residential, or School Uses</b>		
30	55	50
15	60	55
5	65	60
1	70	65
0	75	70
<b>Commercial Land Uses</b>		
30	65	60
15	70	65
5	75	70
1	80	75
0	85	80
Notes: dBA=A-Weighted Decibel Source: Town of Truckee 1996		

**B. Ambient noise level adjustment.** In the event the measured ambient noise level exceeds the applicable noise level standard in any category, the applicable standards shall be adjusted to equal the ambient noise level. For example, if the applicable noise level standard is 60 dBA and the ambient noise level is 63 dBA, the applicable noise level standard would be adjusted to 63 dBA. In these cases, a use would not exceed the applicable noise level standard if it did not increase the ambient noise level by more than 3.0 dBA when the ambient noise level is between 60 and 65 dBA or by more than 1.5 dBA when the ambient noise level is greater than 65 dB(A).

**C. Simple tone noises.** Each of the noise level standards specified shall be reduced by 5 dBA for simple tone noises, noises consisting primarily of speech or music or for recurring impulsive noises.

**D. Intruding noise source.** If the intruding noise source is continuous and cannot reasonably be discontinued or stopped for a time period to allow measurement of the ambient noise level, the noise level measured while the source is in operation shall be compared directly to the applicable noise level standards (as provided in Table 4.14-7).

**E. Equipment noise.** The noise level standard applicable to the emission of sound from regulators, transformers, and associated equipment in electrical substations shall be 60 dBA.

**F. Commercial/Industrial exterior noise standard.** Whenever a new office, commercial, hotel/motel, or light industrial use is proposed on a parcel where the existing ambient noise levels may exceed 70 dBA CNEL, the land use permit application shall include an acoustical analysis of the effect of noise sources on the use. The acoustical analysis shall identify appropriate mitigation measures that reduce noise levels to acceptable levels. These mitigation measures shall be incorporated into the design, construction, and operation of the use. Office, commercial, hotel/motel, and light industrial uses that cannot mitigate noise levels to “Normally Acceptable” levels as defined in Table 6.1 of the General Plan shall not be approved.

**G. Not applicable to the proposed project.**

**H. Sensitive land uses.** Whenever a use is proposed on a parcel where the expected noise levels generated by the use, when measured at any receiving church, hospital, public library, residential, or school property, may exceed the noise level standards (as identified in Table 4.14-7), the land use permit application shall include an acoustical analysis of the effect of the noise generated by the use on the sensitive land use property. An acoustical analysis shall also be required when a commercial or industrial loading dock or area is located within 300 feet of a sensitive use. The acoustical analysis shall identify appropriate mitigation measures that reduce exterior noise levels to acceptable levels (as identified in Table 4.14-7). These mitigation measures shall be incorporated into the design, construction, and operation of the use.

#### ***9.44.070 Exceptions***

According to Section 9.44.070, “Exceptions,” some noise-generating activities are exempt from the above noise ordinance standards. These are listed below:

- ▲ **Construction.** The provisions of this Chapter shall not apply to noise sources associated with non-single family residential construction, provided the activities do not take place before 7:00 a.m. or after 9:00 p.m. on any day except Sunday, or before 9:00 a.m. or after 6:00 p.m. on Sunday. The review authority may impose further limitations on the hours and day of construction or other measures to mitigate significant noise impacts on sensitive uses.
- ▲ **Maintenance of equipment.** Notwithstanding the provisions of Sections A. through C., above, no exceptions to the provisions of this Section shall apply where the equipment used for those activities is not maintained in good condition which would result in unnecessarily creating a noise disturbance or exceeding the standards in Section 18.44.040 (Exterior noise standards), above.
- ▲ **Municipal Code provisions.** The provisions of this Section shall not apply where noise standards are specified elsewhere in the Municipal Code.

## **4.14.2 EXISTING CONDITIONS/AFFECTED ENVIRONMENT**

Acoustics is the scientific study that evaluates perception, propagation, absorption, and reflection of sound waves. Sound is a mechanical form of radiant energy, transmitted by a pressure wave through a solid, liquid, or

gaseous medium. Sound that is loud, disagreeable, unexpected, or unwanted is generally defined as noise. Common sources of environmental noise and noise levels are presented in Table 4.14-8.

Common Outdoor Activities	Noise Level (dBA)	Common Indoor Activities
	110	Rock band
Jet flyover at 1,000 feet	100	
Gas lawnmower at 3 feet	90	
Diesel truck moving at 50 mph at 50 feet	80	Food blender at 3 feet, garbage disposal at 3 feet
Noisy urban area, gas lawnmower at 100 feet	70	Vacuum cleaner at 10 feet, normal speech at 3 feet
Commercial area, heavy traffic at 300 feet	60	
Quiet urban daytime	50	Large business office, dishwasher in next room
Quiet urban nighttime	40	Theater, large conference room (background)
Quiet suburban nighttime	30	Library, bedroom at night, concert hall (background)
Quiet rural nighttime	20	Broadcast/recording studio
	10	
Threshold of human hearing	0	Threshold of human hearing

Notes: dBA=A-weighted decibels; mph=miles per hour  
Source: Caltrans 2009

Community noise is commonly described in terms of the ambient noise level, which is defined as the all-encompassing noise level associated with a given noise environment. A common statistical tool to measure the ambient noise level is the  $L_{eq}$  descriptor listed above, which corresponds to a steady-state A-weighted sound level containing the same total energy as a time-varying signal over a given time period (usually one hour). The  $L_{eq}$  is the foundation of the composite noise descriptors such as  $L_{dn}$  and CNEL, as defined above, and shows very strong correlation with community response to noise.

## SOUND PROPERTIES

A sound wave is initiated in a medium by a vibrating object (e.g., vocal chords, the string of a guitar, the diaphragm of a radio speaker). The wave consists of minute variations in pressure, oscillating above and below the ambient atmospheric pressure. The number of pressure variation cycles occurring per second is referred to as the frequency of the sound wave and is expressed in hertz.

Directly measuring sound pressure fluctuations would require the use of a very large and cumbersome range of numbers. To avoid this and have a more useable numbering system, the dB scale was introduced. For sound pressure in air the standard reference quantity is generally considered to be 20 micropascals, which directly corresponds to the threshold of human hearing. The use of the decibel is a convenient way to handle the million-fold range of sound pressures to which the human ear is sensitive. A decibel is logarithmic; it does not follow normal algebraic methods and cannot be directly summed. For example, a 65 dBA source of sound, such as a truck, when joined by another 65 dBA source results in a sound amplitude of 68 dBA, not 130 dBA (i.e., doubling the source strength increases the sound pressure by 3 dBA). A sound level increase of 10 dBA corresponds to 10 times the acoustical energy, and an increase of 20 dBA equates to a 100 fold increase in acoustical energy.

Noise can be generated by a number of sources, including mobile sources (i.e., transportation) such as automobiles, trucks, and airplanes and stationary sources (i.e., non-transportation) such as construction sites, machinery, and commercial and industrial operations. As acoustic energy spreads through the atmosphere from

the source to the receiver, noise levels attenuate (i.e., decrease) depending on geometric spreading (the initial pressure difference is distributed across an increasing surface area which reduces the energy per unit area), ground absorption characteristics, atmospheric conditions, and the presence of physical barriers. For short distances the ground effect is important; hard sites (characterized by asphalt, concrete, or hard packed earth) attenuate noise less than soft sites (loose soil or vegetated ground cover). Noise generated from mobile sources generally attenuates at a rate of 4.5 dBA per doubling of distance for soft sites (3 dBA per doubling of distance where hard ground surfaces exist between the transportation source and receivers). Stationary noise sources spread with more spherical dispersion patterns that attenuate at a rate of 6 dBA (for hard sites) to 7.5 dBA (for soft sites) per doubling of distance.

Atmospheric conditions such as wind speed, turbulence, temperature gradients, and humidity may additionally alter the propagation of noise and affect levels at a receiver. Furthermore, the presence of a large object (e.g., barrier, topographic features, and intervening building façades) between the source and the receptor can provide significant attenuation of noise levels at the receiver. The amount of noise level reduction (i.e., shielding) provided by a barrier primarily depends on the size of the barrier, the location of the barrier in relation to the source and receivers, and the frequency spectra of the noise. Natural (e.g., berms, hills, and dense vegetation) and human-made features (e.g., buildings and walls) may be used as noise barriers.

All buildings provide some exterior-to-interior noise reduction. A building constructed with a wood frame and a stucco or wood sheathing exterior typically provides a minimum exterior-to-interior noise reduction of 25 dBA with its windows closed, whereas a building constructed of a steel or concrete frame, a curtain wall or masonry exterior wall, and fixed plate glass windows of 0.25-inch thickness typically provides an exterior-to-interior noise reduction of 30 to 40 dBA with its windows closed (Caltrans 2002).

## EFFECTS OF NOISE ON HUMANS

The loudness of sound perceived by the human ear depends primarily on the overall sound pressure level and frequency content of the sound source. The human ear is not equally sensitive to loudness at all frequencies in the audible spectrum. To better relate overall sound levels and loudness to human perception, frequency-dependent weighting networks were developed. The standard weighting networks are identified as A through E. There is a strong correlation between the way humans perceive sound and the A-weighted frequency network. For this reason the dBA can be used to predict community response to noise from the environment, including noise from transportation and stationary sources.

Excessive and chronic exposure to elevated noise levels can result in auditory and non-auditory effects on humans. Auditory effects of noise on people are those related to temporary or permanent hearing loss caused by loud noises. Non-auditory effects of exposure to elevated noise levels are those related to behavioral and physiological effects. The non-auditory behavioral effects of noise on humans are associated primarily with the subjective effects of annoyance, nuisance, and dissatisfaction, which lead to interference with activities such as communications, sleep, and learning. The non-auditory physiological health effects of noise on humans have been the subject of considerable research attempting to discover correlations between exposure to elevated noise levels and health problems, such as hypertension and cardiovascular disease. The mass of research infers that noise-related health issues are predominantly the result of behavioral stressors and not a direct noise-induced response. The extent to which noise contributes to non-auditory health effects remains a subject of considerable research, with no definitive conclusions.

The degree to which noise results in annoyance and interference is highly subjective and may be influenced by several non-acoustic factors. The number and effect of these non-acoustic environmental and physical factors vary depending on individual characteristics of the noise environment such as sensitivity, level of activity, location, time of day, and length of exposure. One key aspect in the prediction of human response to new noise environments is the individual level of adaptation to an existing noise environment. The greater the change in

the noise levels that are attributed to a new noise source, relative to the environment an individual has become accustomed to, the less tolerable the new noise source will be perceived.

With respect to how humans perceive and react to changes in noise levels, a 1 dBA increase is imperceptible, a 3 dBA increase is barely perceptible, a 6 dBA increase is clearly noticeable, and a 10 dBA increase is subjectively perceived as approximately twice as loud (Egan 2007). These subjective reactions to changes in noise levels were developed on the basis of test subjects' reactions to changes in the levels of steady-state pure tones or broad-band noise and to changes in levels of a given noise source. It is probably most applicable to noise levels in the range of 50 to 70 dBA, as this is the usual range of voice and interior noise levels. For these reasons, a noise level increase of 3 dBA or more is typically considered substantial in terms of the degradation of the existing noise environment.

Negative effects of noise exposure include physical damage to the human auditory system, interference, and disease. Exposure to noise may result in physical damage to the auditory system, which may lead to gradual or traumatic hearing loss. Gradual hearing loss is caused by sustained exposure to moderately high noise levels over a period of time; traumatic hearing loss is caused by sudden exposure to extremely high noise levels over a short period. Gradual and traumatic hearing loss both may result in permanent hearing damage. In addition, noise may interfere with or interrupt sleep, relaxation, recreation, and communication. Although most interference may be classified as annoying, the inability to hear a warning signal may be considered dangerous. Noise may also be a contributor to diseases associated with stress, such as hypertension, anxiety, and heart disease. The degree to which noise contributes to such diseases depends on the frequency, bandwidth, and level of the noise, and the exposure time (Caltrans 2009).

## VIBRATION

Vibration is the periodic oscillation of a medium or object with respect to a given reference point. Sources of vibration include natural phenomena (e.g., earthquakes, volcanic eruptions, sea waves, landslides) and those introduced by human activity (e.g., explosions, machinery, traffic, trains, construction equipment). Vibration sources may be continuous, (e.g., operating factory machinery) or transient in nature, (e.g., explosions). Vibration levels can be depicted in terms of amplitude and frequency, relative to displacement, velocity, or acceleration.

Vibration amplitudes are commonly expressed in peak PPV or root-mean-square RMS vibration velocity. PPV is typically used in the monitoring of transient and impact vibration and has been found to correlate well to the stresses experienced by buildings (FTA 2006, Caltrans 2004). PPV and RMS vibration velocity are normally described in inches per second (in/sec).

Although PPV is appropriate for evaluating the potential for building damage, it is not always suitable for evaluating human response. It takes some time for the human body to respond to vibration signals. In a sense, the human body responds to average vibration amplitude. The RMS of a signal is the average of the squared amplitude of the signal, typically calculated over a 1-second period. As with airborne sound, the RMS velocity is often expressed in decibel notation as VdB, with the "V" denoting a ground-borne vibration as compared to a sound wave in air (dB).

The typical background vibration-velocity level in residential areas is approximately 50 VdB. Groundborne vibration is normally perceptible to humans at approximately 65 VdB. For most people, a vibration-velocity level of 75 VdB is the approximate dividing line between barely perceptible and distinctly perceptible levels (FTA 2006).

Typical outdoor sources of perceptible ground vibration are construction equipment, steel-wheeled trains, and traffic on rough roads. If a roadway is smooth, the ground vibration is rarely perceptible. The range of interest is from approximately 50 VdB, which is the typical background vibration-velocity level, to 100 VdB, which is the general threshold where minor damage can occur in fragile buildings. Construction activities can generate ground vibrations, which can pose a risk to nearby structures. Constant or transient vibrations can weaken buildings, crack facades, and disturb occupants (FTA 2006).

Construction vibrations can be transient, random, or continuous. Transient construction vibrations are generated by blasting, impact pile driving, and wrecking balls. Continuous vibrations result from vibratory pile drivers, large pumps, and compressors. Random vibration can result from jackhammers, pavement breakers, and heavy construction equipment. Table 4.14-9 describes the general human response to different levels of ground vibration-velocity levels.

<b>Table 4.14-9 Human Response to Different Levels of Ground Noise and Vibration</b>	
<b>Vibration-Velocity Level</b>	<b>Human Reaction</b>
65 VdB	Approximate threshold of perception.
75 VdB	Approximate dividing line between barely perceptible and distinctly perceptible. Many people find that transportation-related vibration at this level is unacceptable.
85 VdB	Vibration acceptable only if there are an infrequent number of events per day.

Notes: VdB = vibration decibels referenced to 1  $\mu$  in/sec and based on the root mean square (RMS) velocity amplitude.  
Source: FTA 2006

## SENSITIVE LAND USES

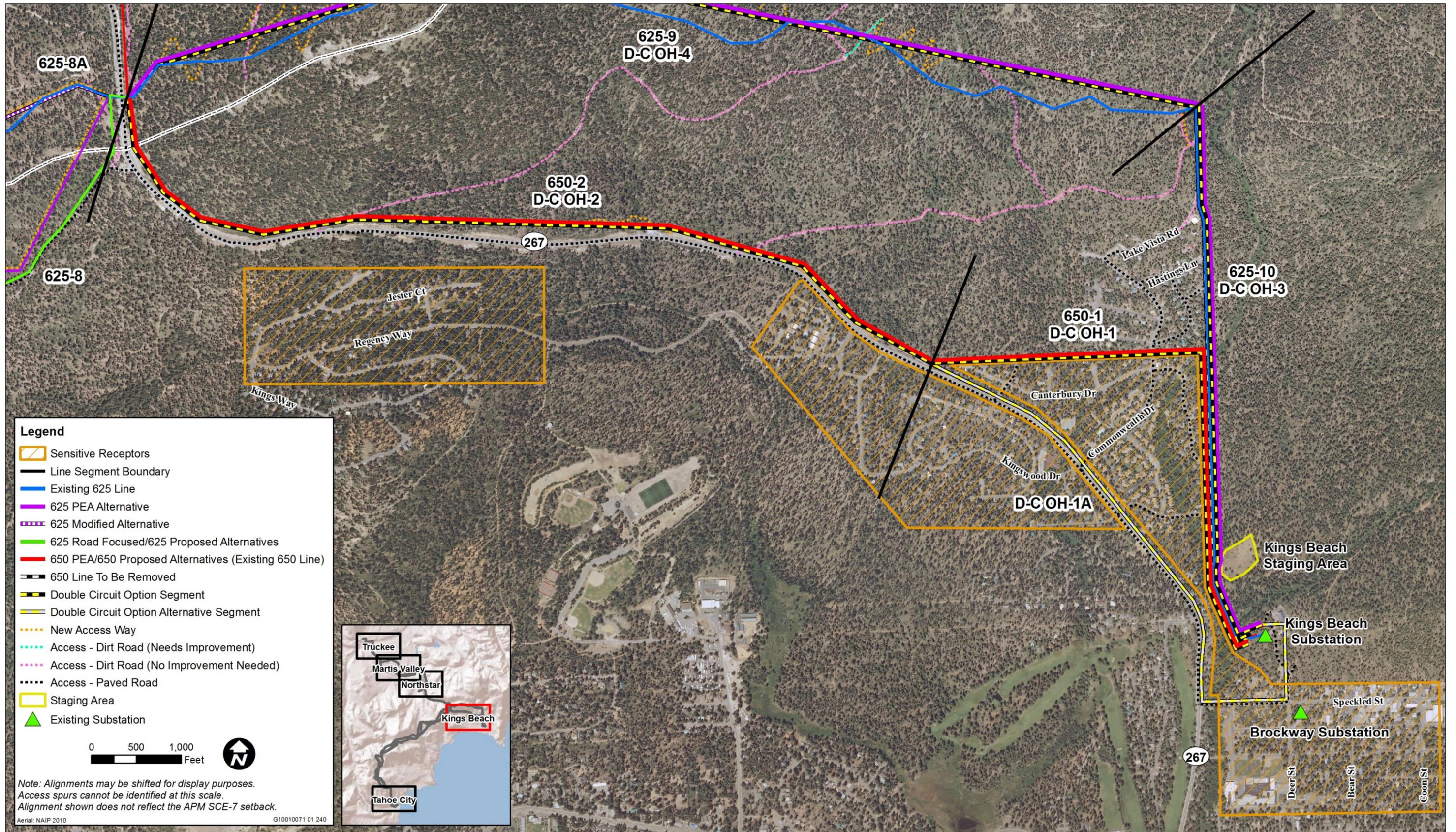
Noise-sensitive land uses are generally considered to include those uses where noise exposure could result in health-related risks to individuals, as well as places where quiet is an essential element of their intended purpose. Residential dwellings are of primary concern because of the potential for increased and prolonged exposure of individuals to both interior and exterior noise levels. Additional land uses such as parks, schools, historic sites, cemeteries, and recreation areas are also generally considered sensitive to increases in exterior noise levels. Places of worship and transit lodging, and other places where low interior noise levels are essential are also considered noise-sensitive. Those noted above are also considered vibration-sensitive land uses in addition to commercial and industrial buildings where vibration would interfere with operations within the building, including levels that may be well below those associated with human annoyance.

Existing noise- and vibration- sensitive land uses in the vicinity of the project site primarily include single-family residences. Areas where sensitive receptors are located in close proximity to the proposed project include residential areas in Kings Beach, Town of Truckee, Tahoe City, and near Northstar in Placer County. These areas are shown in Exhibits 4.14-1 through 4.14-5.

In Kings Beach, parcels supporting existing sensitive land uses are located within the right-of-way (ROW) of the action alternatives and as close as 50 feet to the proposed alignment or construction right-of-way (e.g., residents located to the north of the Kings Beach staging area along Canterbury Drive). In the Town of Truckee, existing sensitive land uses are located as close as 50 feet away from potential nighttime construction sites (i.e., residents located approximately 250 feet to the south of Interstate 80 along Stoneridge Drive). In Tahoe City, the Tahoe City Substation is located approximately 280 feet to the southeast of the nearest existing residences along West Lake Boulevard. In Placer County, the Northstar Substation is located approximately 450 feet to the east of the nearest existing residences along Beaver Pond.

## NOISE SOURCES AND AMBIENT LEVELS

The sound levels in most communities fluctuate, depending on the activity of nearby and distant noise sources, time of the day, or season of the year. To characterize the existing environment, 24-hour ambient sound measurements were taken at six locations. These locations are depicted in Exhibit 4.14-6 and represent various noise environments, including residential areas, substations, remote forest areas, and areas near highways.

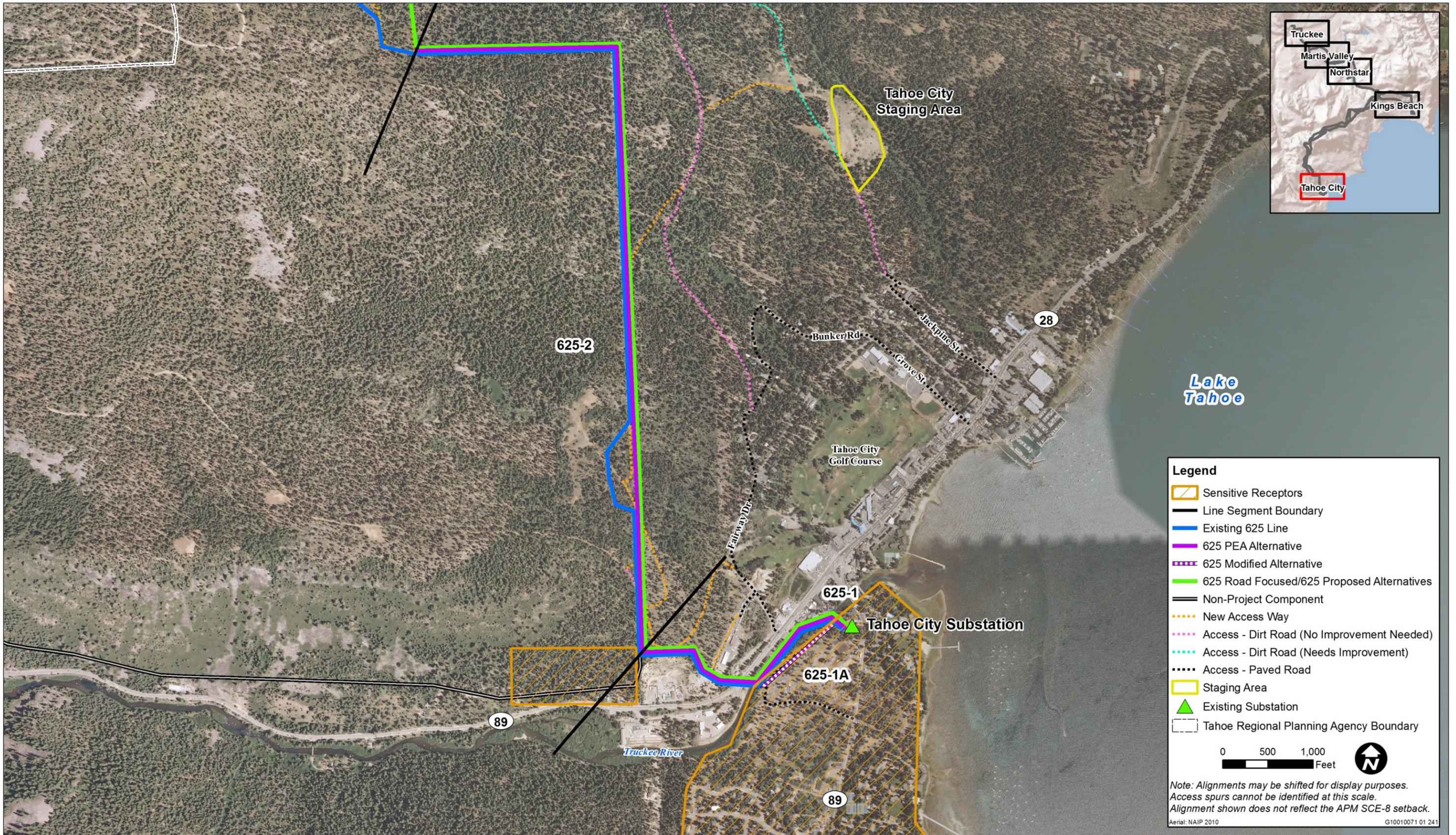


Source: Ascent Environmental 2012

Exhibit 4.14-1

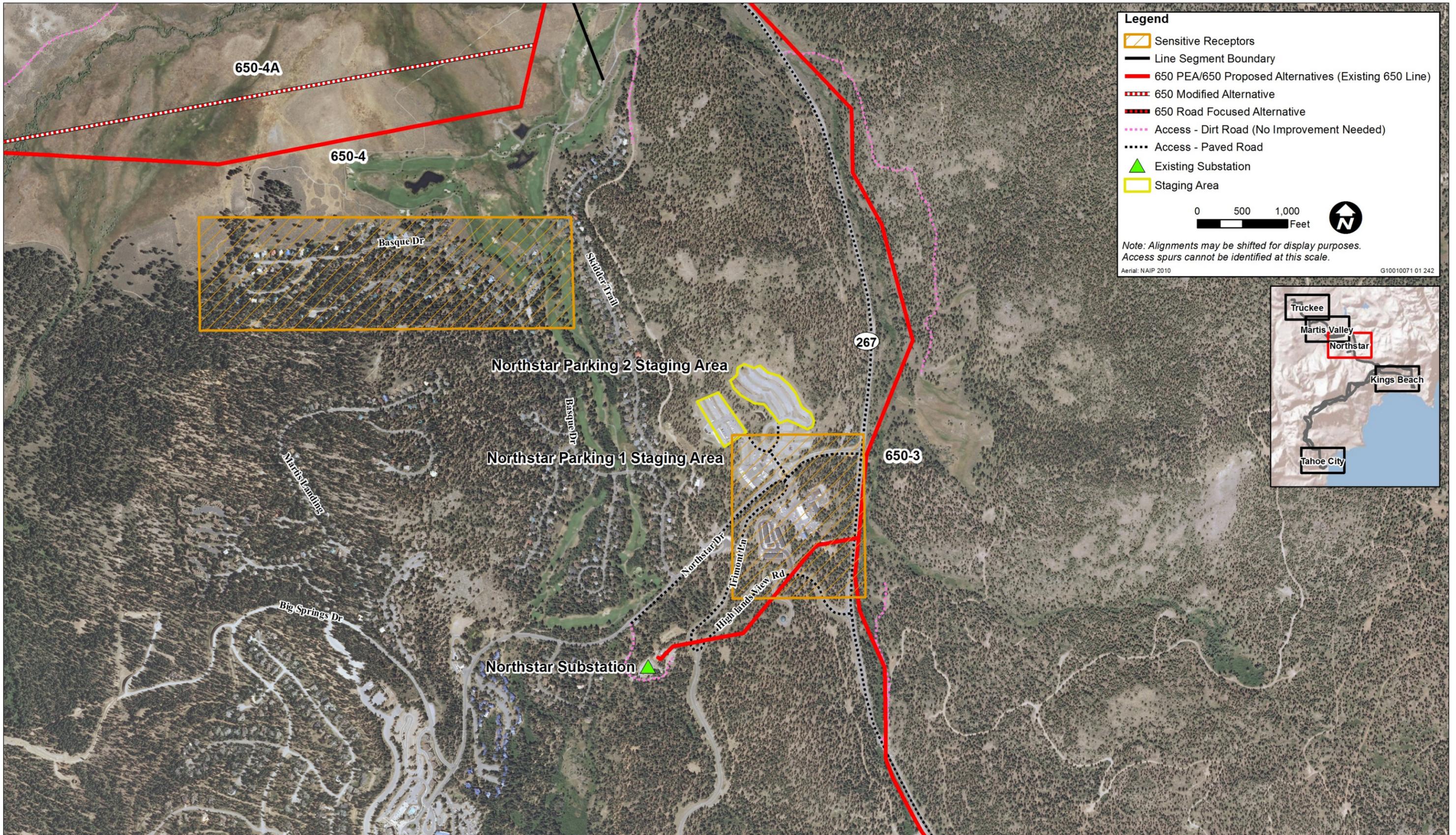
Kings Beach Areas of Noise Sensitive Receptors





Source: Ascent Environmental 2012

Exhibit 4.14-2

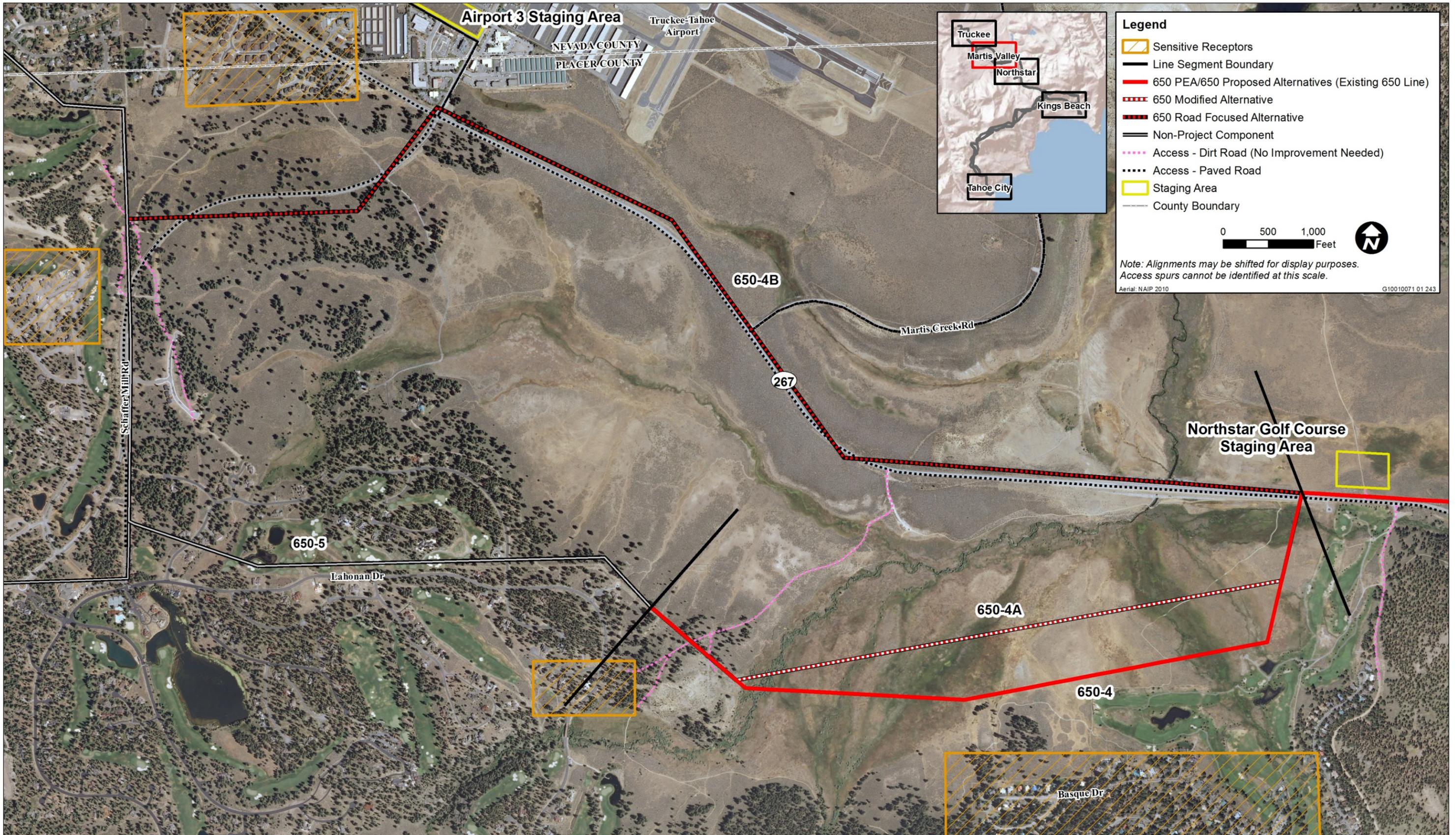


Source: Ascent Environmental 2012

Exhibit 4.14-3

Northstar Areas of Noise Sensitive Receptors





Source: Ascent Environmental 2012

Exhibit 4.14-4

Martis Valley Areas of Noise Sensitive Receptors





**Legend**

- Sensitive Receptors
- Line Segment Boundary
- 650 Line To Be Removed
- 132/650 Double Circuit (All Alternatives)
- Non-Project Component
- Access - Paved Road
- Staging Area
- Existing Substation
- County Boundary

0 500 1,000 Feet

*Note: Alignments may be shifted for display purposes. Access spurs cannot be identified at this scale.*

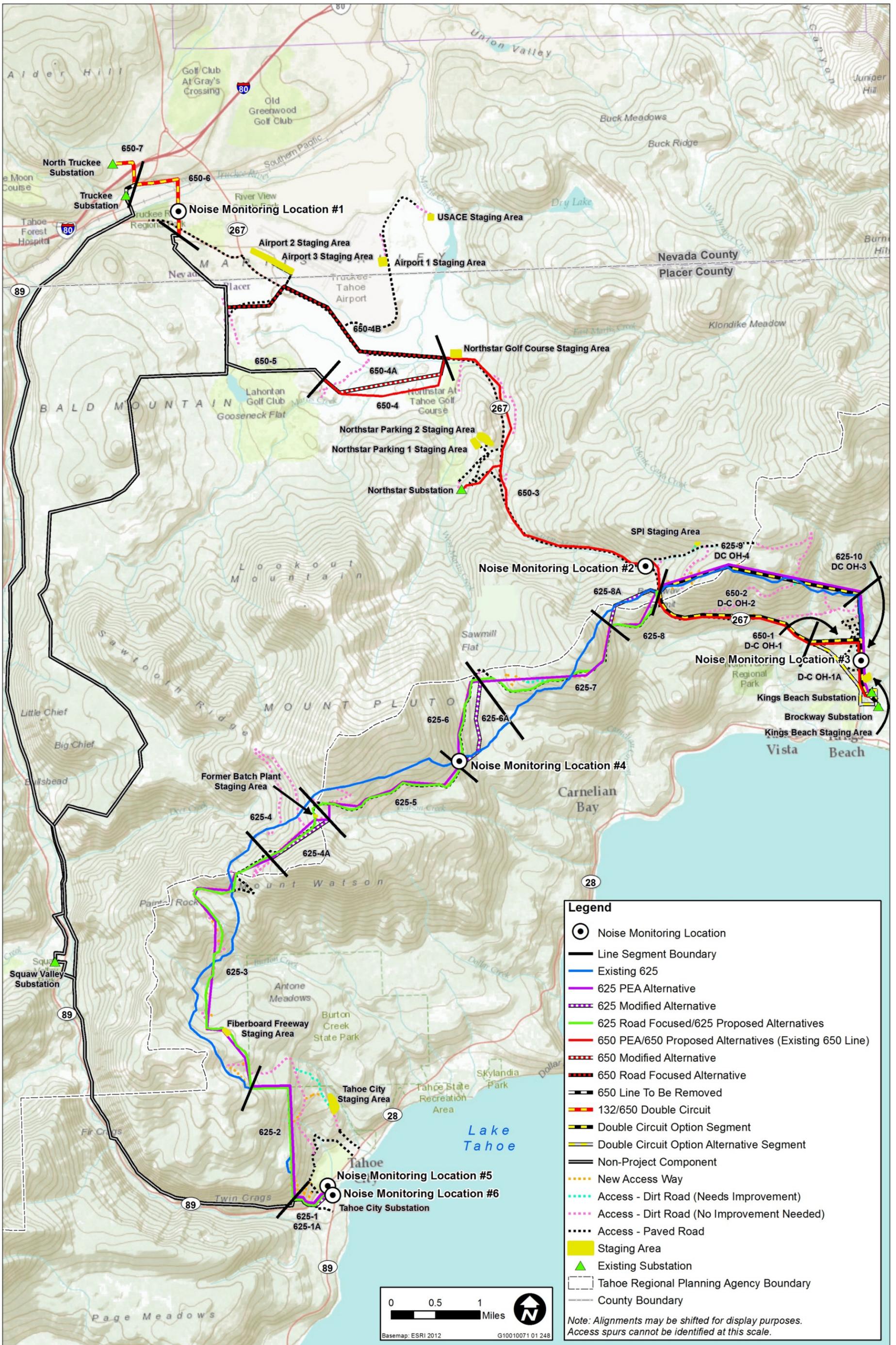
Aerial: NAIP 2010 G10010071 01 244



Source: Ascent Environmental 2012

Exhibit 4.14-5





Source: Data received from Tri Sage 2012; Adapted by Ascent Environmental in 2012

Exhibit 4.14-6

Noise Monitoring Locations



**Legend**

- Noise Monitoring Location
- Line Segment Boundary
- Existing 625
- 625 PEA Alternative
- 625 Modified Alternative
- 625 Road Focused/625 Proposed Alternatives
- 650 PEA/650 Proposed Alternatives (Existing 650 Line)
- 650 Modified Alternative
- 650 Road Focused Alternative
- 650 Line To Be Removed
- 132/650 Double Circuit
- Double Circuit Option Segment
- Double Circuit Option Alternative Segment
- Non-Project Component
- New Access Way
- Access - Dirt Road (Needs Improvement)
- Access - Dirt Road (No Improvement Needed)
- Access - Paved Road
- Staging Area
- ▲ Existing Substation
- Tahoe Regional Planning Agency Boundary
- County Boundary

*Note: Alignments may be shifted for display purposes. Access spurs cannot be identified at this scale.*

The Truckee Tahoe Airport, situated in both Nevada County and Placer County, is located on the east side of SR 267 to the north and east of Segments 650-4 and 650-5. Depending on the action alternative, airport property ranges from less than 0.1 mile to roughly 0.8 mile from the 650 Line. The airport is also approximately 1.4 miles southeast of the Truckee Substation, and approximately 1.6 miles southeast of the North Truckee Substation. No private airstrips are located within the project area. The nearest private airstrip (Bailey Ranch) is located approximately 11 miles east of the project area. A heliport associated with the Tahoe Forest Hospital is also located approximately 6,200 feet west of the 650 Line.

Table 4.14-10 presents the existing background noise levels that were measured during noise monitoring. The wide range of noise levels observed indicates the effect that outside sources (e.g., vehicle traffic, commercial business activities, and people) can have on noise levels. Because of its remote location, the Mount Watson Road monitoring location represents an appropriate baseline for the existing ambient noise levels during the operation of the existing 60-kilovolt (kV) power lines with little to no other noise sources. The Tahoe City Substation monitoring location, on the other hand, has many outside noise sources; it is a populated area with commercial development and a highway nearby that affect overall noise level at this location.

Location Reference	Location	CNEL (dBA)
1	Martis Valley	52.9
2	Brockway Summit Access Road	51.7
3	Kings Beach Residential	44.3
4	Mount Watson Road	31.7
5	SR 89 at 625 Line Crossing	54.1
6	Tahoe City Substation	58.6

Source: Sierra Pacific 2010

### 4.14.3 ENVIRONMENTAL CONSEQUENCES AND RECOMMENDED MITIGATION MEASURES

#### SIGNIFICANCE CRITERIA

##### TRPA CRITERIA

The “Noise” criteria from the TRPA Initial Environmental Checklist were used to evaluate the noise impacts of the alternatives. The checklist asks if the project would result in the following conditions.

- ▲ Increases in existing CNEL beyond those permitted in the applicable Plan Area Statement, Community Plan or Master Plan?
- ▲ Exposure of people to severe noise levels?
- ▲ Single event noise levels greater than those set forth in the TRPA Noise Environmental Threshold?

Applicable numeric standards and other guidelines provided in the TRPA Code of Ordinances, Goals and Policies, and ETCC, as described above in the Regulatory Setting, were used to address these questions.

##### NEPA CRITERIA

An environmental document prepared to comply with NEPA must consider the context and intensity of the environmental effects that would be caused by or result from the proposed action. Under NEPA, the significance

of an effect is used solely to determine whether an EIS must be prepared. The factors that are taken into account under NEPA to determine the significance of an action in terms of the context and the intensity of its effects are encompassed by the TRPA and CEQA criteria used for this analysis.

## CEQA CRITERIA

In accordance with State CEQA Guidelines Appendix G, and with additional information incorporating applicable state and local noise regulations and standards, noise impacts are considered significant if implementation of the proposed project under consideration would result in any of the following:

- ▲ exposure of persons to or generation of noise levels in excess of applicable standards (e.g., long-term exposure of nearby sensitive receptors to increased stationary-source noise levels from project operations that exceed exterior noise levels of the respective local jurisdiction (e.g., in Placer County 55 dBA hourly  $L_{eq}$  between 7:00 a.m. and 10:00 p.m. and 45 dBA hourly  $L_{eq}$  between 10:00 p.m. and 7:00 a.m.);
- ▲ exposure of persons to or generation of excessive ground vibration or ground noise levels (e.g., exceed Caltrans's recommended level of 0.2 in/sec PPV with respect to the prevention of structural damage for normal buildings or FTA's maximum acceptable level of 80 VdB with respect to human response for residential uses [i.e., annoyance] at nearby existing vibration-sensitive land uses);
- ▲ a substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project (e.g., long-term exposure of nearby sensitive receptors to increased stationary- or traffic source noise levels that exceed noise levels of the respective local jurisdiction [For example in Placer County 55 dBA hourly  $L_{eq}$  between 7:00 a.m. and 10:00 p.m. and 45 dBA hourly  $L_{eq}$  between 10:00 p.m. and 7:00 a.m.]);
- ▲ a substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project (e.g., in Placer County 55 dBA hourly  $L_{eq}$  between 7:00 a.m. and 10:00 p.m. and 45 dBA hourly  $L_{eq}$  between 10:00 p.m. and 7:00 a.m.);
- ▲ 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; or
- ▲ for a project within the vicinity of an active private airstrip, where the project would expose people residing or working in the project area to excessive noise levels.

## ISSUES NOT DISCUSSED FURTHER

Long-term operation of the proposed project would involve regular maintenance personnel traveling on access roads throughout the project site. However, the proposed project would not require any additional personnel or maintenance activities in comparison to existing conditions. In fact, included in the proposed project is the construction of access roads that would limit the need to use over snow vehicles and helicopters to access areas with difficult terrain. Therefore, operational-related traffic would not increase as a result of the proposed project; thus, long-term traffic related noise would not increase above levels existing without the project. This issue is not discussed further as there would be no impact.

The Tahoe Truckee Airport is located within 2 miles of the proposed project and there are no private airstrips within close proximity to the project area. The proposed project does not include any new commercial or residential land uses. Therefore, no people would reside in close proximity to the Tahoe Truckee Airport as a result of the proposed project and thus would not be exposed to aircraft related noise. This issue is not discussed further as there would be no impact.

## METHODS AND ASSUMPTIONS

To assess potential short-term (construction-related) noise and vibration impacts, sensitive receptors and their relative exposures were identified. Project-generated construction source noise and vibration levels were determined based on methodologies, reference emission levels, and usage factors from FTA's Guide on Transit Noise and Vibration Impact Assessment methodology (FTA 2006) and FHWA's Roadway Construction Noise Model User's Guide (FHWA 2006), and other sources as needed for specialized equipment such as helicopters and wood chippers. Reference levels for noise and vibration emissions for specific equipment or activity types are well documented, and the usage thereof is a common practice in the field of acoustics.

With respect to non-transportation noise sources (e.g., stationary) associated with project implementation, the assessment of long-term (operational-related) impacts was based on reconnaissance data, existing documentation (i.e., the Proponent's Environmental Assessment for the 625 and 650 Line Upgrade Project), and a review of published environmental documentation applicable to the proposed project.

To evaluate relative significance, noise and vibration impacts were determined based on comparisons to applicable regulations and guidance provided by federal, state, and local agencies.

## ALTERNATIVE 1 - PEA ALTERNATIVE

### DIRECT AND INDIRECT IMPACTS

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<b>IMPACT 4.14-1 (Alt.1)</b>	<p><b>Short-term construction noise impacts.</b> Existing noise-sensitive receptors are located in close proximity to proposed construction areas. However, most construction activities would be limited to the less noise-sensitive hours of the day, as permitted by each local jurisdiction. Helicopters would be used for certain construction activities and could exceed noise standards of applicable local jurisdictions if used during the more sensitive times of the day as defined by each jurisdiction. Further, construction activity would be required at night in order to install power lines across Interstate 80 (I-80), as well as for other activities such as delivery of substation transformers, filling of substation transformers, system transfers, and pouring of foundations. Helicopter use or construction during the more sensitive times of the day could result in temporary increases in construction noise at nearby sensitive receptors (e.g., residences approximately 250 feet to the south of I-80 in the Town of Truckee) and exceed local nighttime noise standards. This impact would be <b>significant</b>.</p>
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Construction noise levels in the vicinity of the project site would fluctuate depending on the particular type, number, and duration of usage for the varying equipment. The effects of construction noise largely depend on the type of construction activities occurring on any given day; noise levels generated by those activities; distances to noise sensitive receptors; potential noise attenuating features such as topography, vegetation, and existing structures; and the existing ambient noise environment in the receptor's vicinity. Construction generally occurs in several discrete stages, each phase requiring a specific complement of equipment with varying equipment type, quantity, and intensity. These variations in the operational characteristics of the equipment change the effect they have on the noise environment of the project site and in the surrounding area for the duration of the construction process.

To assess noise levels associated with the various equipment types and operations, construction equipment can be considered to operate in two modes, mobile and stationary. Mobile equipment sources move around a construction site performing tasks in a recurring manner (e.g., loaders, graders, dozers). Stationary equipment operates in a given location for an extended period of time to perform continuous or periodic operations (e.g., generator). Operational characteristics of heavy construction equipment are additionally typified by short

periods of full-power operation followed by extended periods of operation at lower power, idling, or powered-off conditions.

Additionally, when construction-related noise levels are being evaluated, activities that occur during the more noise-sensitive evening and nighttime hours are of increased concern. Because exterior ambient noise levels typically decrease during the late evening and nighttime hours as traffic volumes and commercial activities decrease, construction activities performed during these more noise-sensitive periods of the day can result in increased annoyance and potential sleep disruption for occupants of nearby residences.

Construction activities would include tree removal, line construction, line ROW preparation, access way development, improvement of existing roads, and line and pole removal. These activities would require noise-generating equipment such as chainsaws, graders, backhoes, compactors, augers, flatbed boom trucks, rigging and mechanic trucks, air compressors, generators, mobile cranes, concrete trucks, man lifts, and impact equipment. Wire stringing operations would require pullers, tensioners, and cable reel trailers. A helicopter would be used to remove and install poles and conductor, as well as to deliver materials to and from the ROW. Heavy equipment would be used to remove and install substation components.

The site preparation phase typically generates the most substantial noise levels because the onsite equipment associated with grading, compacting, and excavation are the noisiest. Site preparation equipment and activities include chainsaws and chippers for tree removal, rubber tired skidders, bulldozers, loaders, trucks, and excavation equipment (e.g., graders and scrapers). Based on anticipated construction activities and construction equipment (Appendix E), it is expected that the primary sources of noise would include dump trucks, rubber tired skidders, loaders, and backhoes. In addition, it is anticipated that a Kaman K-Max K-1200 helicopter would be used intermittently throughout construction activities to deliver and remove material from areas with rugged terrain, haul away trees during tree removal activities, and deliver poles to be installed. The helicopter would typically be used simultaneously with heavy equipment such as trucks, cranes, and man lifts. Helicopter use would typically be limited to the daytime hours between 6:30 a.m. and 4:00 p.m. and flight paths would generally be limited to the ROW. Noise emission levels from these types of construction equipment are shown in Table 4.14-11, below.

In addition, blasting could be required to remove rock outcroppings which could result in excessive noise levels. However, due to safety concerns, blasting would only occur in remote locations, and not in close proximity to developed areas, and therefore would not have a substantial effect on noise sensitive receptors. In addition, blasting would not occur during the sensitive times of the day. These conditions are codified in APMs NOI-4 and NOI-5 listed below (CalPeco has committed to implementing APMs to avoid or reduce the potential project impact. APMs are considered part of the project description and all APMs are listed in Section 3.7, Applicant Proposed Measures).

- ▲ **APM NOI-4:** Construction activities, including any blasting and helicopter flights, will occur during the times established by local ordinances (and allowing for any exceptions that local agencies and ordinance conditions may provide)—8:00 a.m. to 6:30 p.m. in TRPA jurisdiction, 6:00 a.m. to 8:00 p.m. Monday through Friday and 8:00 a.m. to 8:00 p.m. Saturday and Sunday in Placer County and 7:00 a.m. to 9:00 p.m. Monday through Saturday and 9:00 a.m. to 6:00 p.m. on Sunday in the Town of Truckee—with the exception of certain activities where nighttime construction activities are necessary. These activities include, but are not limited to, the delivery of substation transformers, filling of substation transformers, system transfers, pouring of foundations, and pulling of the conductor across major roadways, which require continuous operation or must be conducted during off-peak hours per agency requirements.
- ▲ **APM NOI-5:** No blasting will occur within 50 feet of any existing building, or within 250 feet of a residence or other occupied structure, or in a location or manner that would be inconsistent with other APMs. If large rock outcroppings need to be removed and are within 50 feet of a building or 250 feet of an occupied structure, alternative methods to blasting, such as silent chemical demolition, may be used to break apart and remove the rock.

As stated in APM NOI-5, if a rock outcrop needed to be removed in close proximity to occupied structures, and removal could not be achieved with standard construction practices, silent, non-explosive alternatives would be used (e.g., expanding materials placed in rock fissures that split the rock). Given these conditions, blasting would not result in excessive noise at nearby sensitive receptors.

Based on the information provided in Table 4.14-11 and accounting for typical usage factors of individual pieces of equipment and activity types along with typical attenuation rates, onsite construction-related activities from site preparation could result in hourly average noise levels of approximately 88 dBA  $L_{eq}$  and maximum noise levels of up to 92 dBA  $L_{max}$  at 50 feet. These noise levels would exceed applicable noise standards. However, provided that construction activities occur during the daytime hours permitted by each jurisdiction, construction-related noise would be exempt from daytime noise standards.

A helicopter would be used in remote locations, where access is limited, to transport material and to assist in new pole placement. The noise level generated from operating a Kaman K-Max K-1200 helicopter is approximately 83 dBA SEL below the helicopter and at a hover distance of 492 feet above the ground. If the helicopter were to hover as low as 50 feet from the ground it would result in approximately 100 dBA SEL at 50 feet from the construction site at ground level (i.e., someone standing 50 feet from the construction site would be exposed to this noise level). However, helicopters do not operate in one place for extended periods of time and therefore a more likely noise level of 72 dBA hourly  $L_{eq}$  would occur at 50 feet from the construction site where a helicopter is hovering for 10 minutes.

**Table 4.14-11 Noise Emission Levels from Construction Equipment**

Equipment Type	Typical Noise Level (dBA) @ 50 Feet <sup>1</sup>
Air Compressor	81
Backhoe	80
Compactor	82
Concrete Mixer	85
Concrete Pump	82
Crane, Mobile	83
Chain Saw	85
Dozer	85
Generator	81
Grader	85
Jack Hammer	88
Loader	85
Paver	89
Pneumatic Tools	85
Rail Saw	90
Rock Drill	98
Rubber Tired Skidder	84
Scraper	89
Trucks	74–88
Wood Chipper	75 <sup>2</sup>
Kaman K-Max K-1200 Helicopter	83 dBA SEL @ 492 feet <sup>3</sup>

Notes: Assumes all equipment is fitted with a properly maintained and operational noise control device, per manufacturer specifications. Noise levels listed are manufacture-specified noise levels for each piece of heavy construction equipment. Values are Hourly  $L_{eq}$  at 50 feet except where indicated otherwise.

Sources:

<sup>1</sup> reference noise levels from FTA 2006 except where indicated otherwise

<sup>2</sup> Berger et. al. 2010

<sup>3</sup> Kaman Aerospace Corporation 1993

Other heavy-duty construction equipment that would likely be used simultaneously with the helicopter (e.g., equipment used to string lines such as cranes, lifts, and pickup trucks), by itself, could result in hourly average noise levels of up to 81 dBA  $L_{eq}$  and maximum noise levels of up to 88 dBA  $L_{max}$  at 50 feet from the construction site. Combining noise levels from heavy duty equipment and the helicopter would result in hourly average noise levels of up to 88 dBA  $L_{eq}$  during line stringing activities and up to 88 dBA  $L_{eq}$  during site preparation activities, with maximum noise levels of up to 101  $L_{max}$  at 50 feet from construction activities.

Potential impacts from helicopter and construction equipment noise would be reduced with the implementation of the following APMs.

- ▲ **APM NOI-6:** All internal combustion-engine driven equipment will be equipped with intake and exhaust mufflers that are in good condition and appropriate for the equipment.
- ▲ **APM NOI-7:** Stationary noise-generating equipment will be located as far as possible from sensitive receptors when they adjoin or are within 1,000 feet of a construction area.
- ▲ **APM NOI-8:** Quiet air compressors and other stationary equipment will be utilized when possible within the Town of Truckee limits and within developed areas of Tahoe City and Kings Beach.
- ▲ **APM NOI-9:** Helicopter flight patterns will be designed to avoid and minimize flights over residential areas to the extent practical.

Limited construction activities could be required during nighttime hours, where a power line needs to cross a highway or to deliver material to and from staging areas. The specific work would include stringing the conductor using traditional methods over the roadway. Additional equipment could include trucks, man lifts, and cranes. These operations are expected to last no longer than one hour at each crossing. Noise levels from these activities would be expected to reach average hourly noise levels of 77 dBA  $L_{eq}$  and maximum noise levels of up to 85 dBA  $L_{max}$  at 50 feet from the construction site. Areas where sensitive receptors would be exposed to the greatest levels of construction-related noise include residential neighborhoods in Kings Beach and in the Town of Truckee. In these areas, parcels with existing noise sensitive land uses are located within the ROW of the proposed alignment and structures are as close as 50 feet to the proposed alignment (i.e., residents located to the southwest of the Kings Beach staging area along North Shore Road and Speckled Road). Residential areas typically have adequate access roads for construction equipment and personnel; therefore, it is unlikely that helicopters would be used in these areas. Construction noise at sensitive receptors could reach average hourly noise levels of 88 dBA  $L_{eq}$  and maximum noise levels of up to 92 dBA  $L_{max}$  at 50 feet. However, as indicated by APM NOI-4, all construction activity (except line highway crossing activity, the delivery of substation transformers, filling of substation transformers, system transfers, and pouring of foundations) would take place during the permitted daytime hours for each jurisdiction. Therefore, all construction activity taking place during the times permitted by each applicable jurisdiction would be exempt from local noise ordinances.

Night time deliveries of material would require on-road vehicles and would not generate noise levels that would differ from normal traffic on roads. However, the line crossing activities would occur in close proximity to existing sensitive receptors and could exceed night time noise standards. Therefore nighttime line stringing activities are the focus of the following analysis.

The intersection of the proposed alignment with I-80 is the only location where a nighttime line crossing would be required because a daytime temporary shutdown of all travel lanes as the line is strung across the highway would not be permitted. At this location, nighttime construction activities could take place in close proximity to nearby sensitive receptors (i.e., residences located on the south side of I-80 along Stoneridge Drive, 250 feet from construction site in the Town of Truckee).

Sensitive receptors in the Town of Truckee near the I-80 crossing could experience nighttime construction average hourly noise levels of 57 dBA  $L_{eq}$  and maximum noise levels of up to 67 dBA  $L_{max}$  at 250 feet from the

construction site. These noise levels would exceed the Town of Truckee's nighttime noise standards of 50 dBA at sensitive land uses. Although various APMs provide limitations on construction times, guidance on construction equipment location with regards to sensitive receptors, requirements for equipment to be in proper working order equipped with mufflers, and would provide notice of construction activities to all nearby sensitive receptors (see APM NOI-1 in Section 3.7), nighttime construction activities could still exceed nighttime noise standards at sensitive receptors at the line crossing site. Consequently, nighttime construction activities could expose sensitive receptors to increases in noise levels during the more sensitive hours of the day. This would be a **significant** impact.

#### **Mitigation Measure 4.14-1 (Alt. 1): Potential construction activities outside allowable timeframes.**

*For all construction activity that is to take place outside of allowable timeframes (typically nighttime construction) within 700 feet of any sensitive land use (e.g., houses, schools, churches, hospitals), the construction contractor shall ensure that noise levels at the nearest sensitive receptors do not exceed 45 dBA  $L_{eq}$  in Placer County, 50 dBA  $L_{eq}$  in the Town of Truckee, and applicable CNEL standards for TRPA PASs as shown in Table 4.14-3. To achieve compliance with these standards, the applicant shall:*

- › *Install temporary noise curtains that meet the following parameters:*
  - *Install temporary noise curtains as close as possible to the boundary of the construction site within the direct line of sight path of the nearby sensitive receptor(s).*
  - *Temporary noise curtains shall consist of durable, flexible composite material featuring a noise barrier layer bounded to sound-absorptive material on one side. The noise barrier layer shall consist of rugged, impervious, material with a surface weight of at least one pound per square foot.*

Implementation of the above mitigation measure would provide adequate noise reduction for construction activities that would occur during the more sensitive nighttime hours. Therefore, mitigated short-term construction-related noise would not exceed nighttime noise standards and sensitive receptors would not be exposed to substantial temporary increases in construction noise. This impact would be reduced to a **less-than-significant** level.

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<b>IMPACT 4.14-2 (Alt.1)</b>	<b>Short-term construction vibration impacts.</b> Existing noise-sensitive receptors are located in close proximity to proposed construction areas (e.g., residences in the Kings Beach area and Town of Truckee). Blasting could be required if a rock outcropping were encountered that could not be avoided. For safety reasons, blasting would only take place in remote locations away from residents and occupied buildings. As stated in APM NOI-4, blasting activities would be limited to the less noise-sensitive hours of the day, as permitted by each local jurisdiction. In addition, APM NOI-5 indicates that if a rock outcropping were encountered within 50 feet of an existing building or within 250 feet of an occupied structure that could not be avoided, alternative methods to blasting would be used (i.e., chemical demolition, where expansive chemicals are injected into rocks causing them to break). Therefore, blasting would not result in structural damage to existing buildings or vibration impacts to sensitive receptors. Therefore, this would be a <b>less-than-significant</b> impact.
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Construction activities generate varying degrees of temporary ground vibration, depending on the specific construction equipment used and activities involved. Ground vibration generated by construction equipment spreads through the ground and diminishes in magnitude with increases in distance. Construction-related ground vibration is normally associated with impact equipment such as pile drivers, jackhammers, and the

operation of some heavy-duty construction equipment, such as dozers and trucks. Blasting activities also generate relatively high levels of ground vibration. The effects of ground vibration may be imperceptible at the lowest levels, result in low rumbling sounds and detectable vibrations at moderate levels, and high levels of vibration can cause sleep disturbance in places where people normally sleep or annoyance in buildings that are primarily used for daytime functions and sleeping.

Implementation of this alternative would not include the development of any new major stationary sources of ground vibration. As described above under Impact 4.14-1 (Alt. 1), implementation of this alternative would result in construction activities that require the use of various types of equipment. Construction of the project may result in varying degrees of temporary ground vibration and noise, depending on the specific construction equipment used and activities involved. Ground vibration and noise levels associated with various types of construction equipment and activities are summarized in Table 4.14-12.

Equipment	PPV at 25 feet (in/sec) <sup>1</sup>	Approximate L <sub>v</sub> (VdB) at 25 feet <sup>2</sup>
Impact Pile Driver	1.518	112
Blasting	1.13	109
Sonic Pile Driver	0.734	104
Large Dozer	0.089	87
Caisson Drilling	0.089	87
Loaded Trucks	0.076	86
Rock Breaker	0.059	83
Jackhammer	0.035	79
Small Dozer	0.003	58

PPV = peak particle velocity; L<sub>v</sub> = the root mean square velocity expressed in vibration decibels (VdB), assuming a crest factor of 4  
Source: FTA 2006

No pile driving would occur as part of the proposed project. However, it is possible that a rock outcropping could be encountered that would require blasting. Based on FTA's recommended procedure for applying a propagation adjustment to construction equipment vibration reference levels (as indicated in Table 4.14-12), if blasting were to occur within 50 feet of existing buildings, it could exceed Caltrans's recommended level of 0.4 in/sec PPV with respect to the prevention of structural damage and therefore could result in structural damage to nearby existing buildings. In addition, blasting could generate levels of ground vibration greater than FTA's maximum-acceptable vibration standard of 80 VdB with respect to human annoyance for residential uses at locations within 250 feet.

Due to safety concerns, blasting would only occur in remote places, away from developed areas and therefore would not affect noise sensitive receptors. Although unlikely, it is possible that blasting could be required in a remote location in close proximity to an existing building. APM NOI-5 indicates that if a rock outcropping were encountered within 50 feet of an existing building, alternative, non-explosive methods for rock removal would be used to avoid structural damage, such as silent chemical demolition (i.e., injecting expansive chemicals into rocks to cause them to break into pieces). In addition, APM NOI-5 also indicates that if a rock outcropping could not be avoided in a developed area, near residences or other occupied structures (i.e., within 250 feet), alternative, non-explosive methods such as chemical demolition would also be used.

Therefore, because blasting would not occur in close proximity to areas where people live and work, and if blasting were required in close proximity to an existing building, alternative methods to blasting would be used, it is unlikely that blasting would result in structural damage or vibration noise impacts. This would be a **less-than-significant** impact.

## MITIGATION MEASURES

*No mitigation measures are required.*

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<b>IMPACT 4.14-3 (Alt.1)</b>	<b>Long-term increases in operational noise.</b> Long-term operational noise would result from stationary sources such as corona noise from power lines, transformer noise from substations, and various noise sources from maintenance operations such as vegetation clearance and vehicles traveling on access roads. However, operation of Alternative 1 (PEA Alternative) would not result in any additional stationary noise sources or substantial increases in operational noise sources relative to existing conditions. This impact would be <b>less than significant</b> .
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## CORONA NOISE

Audible noise from power lines is primarily due to point source corona effect (crackling and hissing hum-like sound with potential for small amounts of light) resulting from small variability in the conductor materials. Such noise is common and not harmful and routinely occurs when air is ionized around a gap, a burr (raised area), a small irregularity, or some non-insulated component during the conductance of electricity through power lines. Corona is also produced when power lines break down over time and their fastener components loosen resulting in an air gap. Corona noise is most prominent during periods of rain, fog, or high humidity.

Corona noise is a source of electricity transmission inefficiencies (i.e., power is lost); and, therefore, power lines are designed to minimize coronal effect. Such design features include using homogenous insulators and utilizing good high voltage design practices (i.e., maximizing the distance between conductors that have large voltage differentials, using conductors with large radii, and avoiding parts that have sharp points or sharp edges).

The proposed project would upgrade and rebuild existing power lines to a capacity of 120 kV. Although the project would result in higher capacity power lines, the extra capacity is intended to increase system reliability and resiliency and the full 120 kV would typically only be utilized under emergency situations to prevent outages. Therefore, any potential increase in coronal noise that could be attributed to increased voltage within the line would rarely occur and would be intermittent in nature. In addition, coronal noise is typically most audible in high voltage lines (i.e., 345 kV and above) and during weather conditions with precipitation and high humidity (CPUC 2009). Further, implementation of following APMs would directly address the potential for coronal noise generation.

- ▲ **APM NOI-10:** CalPeco will respond to third-party complaints of audible noise generated by operation of system facilities by investigating the complaints and by implementing feasible and appropriate measures. As a part of CalPeco's repair inspection and maintenance program, the power line will be patrolled and damaged insulators or other power line materials, which could cause interference and result in atypically loud corona noise, would be repaired or replaced.
- ▲ **APM NOI-11:** Caution will be exercised during construction to try to avoid scratching or nicking the conductor surface, which may provide points for corona generation to occur.

For the reasons stated above, the proposed project would not result in substantial increases in coronal noise and; consequently, would not expose sensitive receptors to substantial increases in ambient noise levels or to levels that exceed any applicable noise standards. This would be a **less-than-significant** impact.

## Substation Noise

Implementation of this alternative would result in various upgrades to existing substations. Additionally, the Brockway Substation would be decommissioned and; therefore, it would no longer contain noise generating

stationary equipment. No new noise-generating stationary equipment would be installed at the Truckee Substation, North Truckee Substation Station, or the Squaw Valley Substation. Therefore, the operational noise generated by these facilities would not change at these locations as a result of this alternative. New transformers would be installed and improvements made at the Tahoe City, Kings Beach, and Northstar substations.

At substation sites, the primary sources of operating noise would be the on-site transformers. New transformers would replace existing transformers at the Tahoe City, Kings Beach, and Northstar substations in order to meet the new 120 kV capacity of the proposed power lines. As shown in Exhibit 4.14-2; the Tahoe City Substation is located approximately 280 feet to the southeast of the nearest existing residences along West Lake Boulevard in Tahoe City, CA; the Northstar Substation is located approximately 450 feet to the east of the nearest existing residences along Beaver Pond in Placer County; and the Kings Beach Substation is located approximately 480 feet to the north of the nearest existing residence located near Speckled Street in Kings Beach, CA.

New equipment would include upgraded transformers and new circuit breaker boxes. This equipment would not result in additional noise sources (i.e., old transformers would be replaced by new ones) or increases in noise in comparison to existing noise from the substations. Noise from transformers is similar to coronal noise from power lines (i.e., a slight humming sound) and is not a function of the capacity of the transformer but rather the design and type of the transformer (Federal Pacific 2008). Therefore, although larger transformers would replace existing transformers, they would be newer, more efficiently designed, and ultimately better performing and thus produce less noise in comparison to existing equipment. In addition, the Brockway Substation would be decommissioned; therefore, operational noise at this location would be eliminated. Therefore, implementation of this alternative would not result in increases in stationary noise sources above existing levels. This would be a **less-than-significant** impact.

### Maintenance Activities

Additional noise sources associated with the operation and maintenance of the power lines would include vegetation clearance, as needed and annual inspections and maintenance procedures to maintain service continuity. The total length of power line within the project area would not change significantly after construction. Several segments of new line would be rebuilt within existing ROWs; therefore, operation and maintenance activities required for the upgraded lines in these segments would not change from the existing practices. In addition, as a result of this alternative, new access ways would remain in place which could be used by maintenance personnel and thus reduce the frequency in which helicopters would be required to access facilities needing maintenance. As a result, maintenance activities would not result in increases in noise levels above those existing without the proposed alternative, and could in fact result in less helicopter use over the long term. This would be a **less-than-significant** impact.

In summary, there would be no substantial increase in corona or substation noise, and noise from maintenance activities would in fact decrease during operation of the proposed project. Therefore, the combined noise levels from all operational noise sources (i.e., corona effect, substation, and maintenance activities) would not result in a substantial increase in ambient noise levels or levels that exceed any applicable noise standard. This would be a **less-than-significant** impact.

### MITIGATION MEASURES

*No mitigation measures are required.*

## ALTERNATIVE 2 – MODIFIED ALTERNATIVE

### DIRECT AND INDIRECT IMPACTS

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<b>IMPACT 4.14-1 (Alt.2)</b>	<p><b>Short-term construction noise impacts.</b> Existing noise-sensitive receptors are located in close proximity to proposed construction areas. However, most construction activities would be limited to the less noise-sensitive hours of the day, as permitted by each jurisdiction. Helicopters would be used for certain construction activities and could exceed applicable noise standards if used during the more sensitive times of the day as defined by each jurisdiction. Further, construction activity would be required at night in order to install power lines across I-80, as well as for other activities such as delivery of substation transformers, filling of substation transformers, system transfers, and pouring of concrete foundations. Helicopter use and construction during the more sensitive times of the day could result in temporary increases in construction noise at nearby sensitive receptors (e.g., residences approximately 250 feet to the south of I-80 in the Town of Truckee) and exceed local nighttime noise standards. This impact would be <b>significant</b>.</p>
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Construction noise generation near sensitive receptors under this alternative would be similar to Alternative 1 (PEA Alternative). Construction activities would occur in similar locations and at similar times within the ROW (e.g., same staging area locations, same substation locations, same ROW routes in Truckee, lengths of ROW in developed areas in Kings Beach and Tahoe City) and nighttime construction activities would be required to run the line across I-80, as well as other activities such as delivery of substation transformers, filling of substation transformers, system transfers, and pouring of concrete foundations. Therefore, similar to Impact 4.14-1 (Alt. 1), sensitive receptors could be exposed to short-term increases in construction noise during the more sensitive nighttime hours and applicable noise standards could be exceeded. This would be a **significant** impact.

### MITIGATION MEASURES

#### Mitigation Measure 4.14-1 (Alt. 2)

*Implement Mitigation Measure 4.14-1 (Alt. 1) Potential construction activities outside allowable timeframes.*

Implementation of the above mitigation measure would provide adequate noise reduction for construction activities that would take place at night. Therefore, mitigated short-term construction related noise would not exceed nighttime noise standards and sensitive receptors would not be exposed to temporary increases in construction noise. This impact would be reduced to a **less-than-significant** level.

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**IMPACT 4.14-2 (Alt.2)** **Short-term construction vibration impacts.** Existing noise-sensitive receptors are located in close proximity to proposed construction areas (e.g., residences in the Kings Beach area, and Town of Truckee). Blasting could be required if a rock outcropping were encountered that could not be avoided. For safety reasons, blasting would only take place in remote location away from residents and occupied buildings. As stated in APM NOI-4, blasting activities would be limited to the less noise-sensitive hours of the day, as permitted by each local jurisdiction. In addition, APM NOI-5 indicates that if a rock outcropping were encountered within 50 feet of an existing building or 250 feet within an occupied structure that could not be avoided, alternative methods to blasting would be used (i.e., chemical demolition). Therefore, blasting would not result in structural damage to existing buildings or vibration impacts to sensitive receptors. Therefore, this impact would be **less than significant**.

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The potential for ground vibration and noise generation near sensitive receptors under this alternative would be similar to the Alternative 1 (PEA Alternative). Construction activities would occur in similar locations and at similar times within the ROW and blasting could potentially be required to remove large rock outcroppings. However, as indicated by APM NOI-5, if a rock outcropping were encountered within 50 feet of an existing building, non-explosive alternative methods for rock removal would be used to avoid structural damage. In addition, APM NOI-5 also indicates that if a rock outcropping could not be avoided in a developed area, near residences or other occupied structures (i.e., within 250 feet), alternative, non-explosive methods for rock removal would also be used.

Therefore, because blasting would not occur in close proximity to areas where people live and work, and if blasting were required in close proximity to an existing building, alternative methods to blasting would be used, it is unlikely that blasting would result in structural damage or vibration noise impacts. This impact would be **less than significant**.

## MITIGATION MEASURES

*No mitigation measures are required.*

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**IMPACT 4.14-3 (Alt.2)** **Long-term increases in operational noise.** Long-term operational noise would result from stationary sources such as corona noise from power lines, transformer noise from substations, and various noise sources from maintenance operations such as vegetation clearance and vehicles traveling on access roads. However, operation of Alternative 2 (Modified Alternative) would not result in any additional stationary noise sources or substantial increases in operational noise sources relative to existing conditions. This impact would be **less than significant**.

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Implementation of this alternative would result in identical improvements to substations as under the Alternative 1 (PEA Alternative). Similar to the Alternative 1 (PEA Alternative), as described above under Impact 4.14-3 (Alt. 1), no additional stationary noise sources would result from implementation of this alternative and operational noise would not increase above levels existing without the proposed alternative. This impact would be **less than significant**.

## MITIGATION MEASURES

*No mitigation measures are required.*

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## ALTERNATIVE 3 – ROAD FOCUSED ALTERNATIVE

### DIRECT AND INDIRECT IMPACTS

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<b>IMPACT 4.14-1 (Alt.3)</b>	<p><b>Short-term construction noise impacts.</b> Existing noise-sensitive receptors are located in close proximity to proposed construction areas. However, most construction activities would be limited to the less noise-sensitive hours of the day, as permitted by each jurisdiction. Helicopters would be used for certain construction activities and could exceed applicable noise standards if used during the more sensitive times of the day as defined by each jurisdiction. Further, construction activity would be required at night in order to install power lines across I-80, as well as for other activities such as delivery of substation transformers, filling of substation transformers, system transfers, and pouring of foundations. Helicopter use and construction during the more sensitive times of the day could result in temporary increases in construction noise at nearby sensitive receptors (e.g., residences approximately 250 feet to the south of I-80 in the Town of Truckee) and exceed local nighttime noise standards. This impact would be <b>significant</b>.</p>
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Construction activities under this alternative would be similar to the Alternative 1 (PEA alternative). Construction activities would occur in similar locations within the ROW and nighttime construction activities would be required to run the line across I-80, as well as other activities such as delivery of substation transformers, filling of substation transformers, system transfers, and pouring of foundations. Therefore, similar to Impact 4.14-1 (Alt. 1), sensitive receptors could be exposed to short-term increases in construction noise during the more sensitive hours of the day and applicable noise standards could be exceeded. Therefore, similar to Impact 4.14-1 (Alt. 1), sensitive receptors would be exposed to short-term increases in construction noise during the more sensitive hours of the day and applicable noise standards could be exceeded. This impact would be **significant**.

#### Mitigation Measure 4.14-1 (Alt. 3)

*Implement Mitigation Measure 4.14-1b (Alt. 1) Potential construction activities outside allowable timeframes.*

Implementation of the above mitigation measure would provide adequate noise reduction for construction activities that would take place at night. Therefore, mitigated short-term construction related noise would not exceed daytime or nighttime noise standards and sensitive receptors would not be exposed to temporary increases in construction noise. This would be reduced to a **less-than-significant** level.

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<b>IMPACT 4.14-2 (Alt.3)</b>	<p><b>Short-term construction vibration impacts.</b> Existing noise-sensitive receptors are located in close proximity to proposed construction areas (e.g., residences in the Kings Beach area and Town of Truckee). Blasting could be required if a rock outcropping were encountered that could not be avoided. For safety reasons, blasting would only take place in remote locations away from residents and occupied buildings. As stated in APM NOI-4, blasting activities would be limited to the less noise-sensitive hours of the day, as permitted by each local jurisdiction. In addition, APM NOI-5 indicates that if a rock outcropping were encountered within 50 feet of an existing building or 250 feet within an occupied structure that could not be avoided, alternative methods to blasting would be used (i.e., chemical demolition). Therefore, blasting would not result in structural damage to existing buildings or vibration impacts to sensitive receptors. This would be a <b>less-than-significant</b> impact.</p>
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Construction activities under this alternative would be similar to the Alternative 1 (PEA Alternative). Construction activities would occur in similar locations within the ROW and blasting could potentially be required to remove large rock outcroppings. However, as indicated by APM NOI-5, if a rock outcropping were

encountered within 50 feet of an existing building, non-explosive alternative methods for rock removal would be used to avoid structural damage. In addition, APM NOI-5 also indicates that if a rock outcropping could not be avoided in a developed area, near residences or other occupied structures (i.e., within 250 feet), alternative, non-explosive methods for rock removal would also be used.

Therefore, because blasting would not occur in close proximity to areas where people live and work, and if blasting were required in close proximity to an existing building, alternative methods to blasting would be used, it is unlikely that blasting would result in structural damage or vibration noise impacts. This impact would be **less than significant**.

## MITIGATION MEASURES

*No mitigation measures are required.*

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<b>IMPACT 4.14-3 (Alt.3)</b>	<b>Long-term increases in operational noise.</b> Long-term operational noise would result from stationary sources such as corona noise from power lines, transformer noise from substations, and various noise sources from maintenance operations such as vegetation clearance and vehicles traveling on access roads. However, operation of the proposed alignment would not result in any additional stationary noise sources or substantial increases in operational noise sources above levels existing without the project. This impact would be <b>less than significant</b> .
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Implementation of this alternative would result in identical improvements to substations as under the Alternative 1 (PEA Alternative). Similar to the Alternative 1 (PEA Alternative), as described above under Impact 4.14-3 (Alt. 1), no new stationary noise sources would result from implementation of this alternative and operational noise would not increase above levels existing without the proposed alternative. This impact would be **less than significant**.

## MITIGATION MEASURES

*No mitigation measures are required.*

## ALTERNATIVE 4 – PROPOSED ALTERNATIVE

### DIRECT AND INDIRECT IMPACTS

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<b>IMPACT 4.14-1 (Alt.4)</b>	<b>Short-term construction noise impacts.</b> Existing noise-sensitive receptors are located in close proximity to proposed construction areas. However, certain construction activities would be limited to the less noise-sensitive hours of the day, as permitted by each jurisdiction. Helicopters would be used for certain construction activities and could exceed applicable noise standards if used during the more sensitive times of the day as defined by each jurisdiction. Further, construction activity would be required at night in order to install power lines across I-80, as well as for other activities such as delivery of substation transformers, filling of substation transformers, system transfers, and pouring of foundations. Helicopter use and construction during the more sensitive times of the day could result in temporary increases in construction noise at nearby sensitive receptors (e.g., residences approximately 250 feet to the south of I-80 in the Town of Truckee) and exceed local nighttime noise standards. This impact would be <b>significant</b> .
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Construction activities under this alternative would be similar to the Alternative 1 (PEA Alternative). Construction activities would occur in similar locations within the ROW and nighttime construction activities

would be required to run the line across I-80, as well as other activities such as delivery of substation transformers, filling of substation transformers, system transfers, and pouring of foundations. Therefore, similar to Impact 4.14-1 (Alt. 1), sensitive receptors could be exposed to short-term increases in construction noise during the more sensitive hours of the day and applicable noise standards could be exceeded. Therefore, similar to Impact 4.14-1 (Alt. 1), sensitive receptors would be exposed to short-term increases in construction noise during the more sensitive hours of the day and applicable noise standards could be exceeded. This impact would be a **significant**.

### Mitigation Measure 4.14-1 (Alt. 4)

*Implement Mitigation Measure 4.14-1 (Alt. 1) Potential construction activities outside allowable timeframes.*

Implementation of the above mitigation measure would provide adequate noise reduction for construction activities that would take place at night. Therefore, mitigated short-term construction related noise would not exceed nighttime noise standards and sensitive receptors would not be exposed to temporary increases in construction noise. This impact would be reduced to a **less-than-significant** level.

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<b>IMPACT 4.14-2 (Alt.4)</b>	<b>Short-term construction vibration impacts.</b> Existing noise-sensitive receptors are located in close proximity to proposed construction areas (e.g., residences in the Kings Beach area and Town of Truckee). Blasting could be required if a rock outcropping were encountered that could not be avoided. For safety reasons, blasting would only take place in remote locations away from residents and occupied buildings. As stated in APM NOI-4, blasting activities would be limited to the less noise-sensitive hours of the day, as permitted by each local jurisdiction. In addition, APM NOI-5 indicates that if a rock outcropping were encountered within 50 feet of an existing building or within 250 feet of an occupied structure that could not be avoided, alternative methods to blasting would be used (i.e., chemical demolition). Therefore, blasting would not result in structural damage to existing buildings or vibration impacts to sensitive receptors. This would be a <b>less-than-significant</b> impact.
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Construction activities under this alternative would be similar to the Alternative 1 (PEA Alternative). Construction activities would occur in similar locations within the ROW and blasting could potentially be required to remove large rock outcroppings. However, as indicated by APM NOI-5, if a rock outcropping were encountered within 50 feet of an existing building, alternative, non-explosive methods for rock removal would be used to avoid structural damage. In addition, APM NOI-5 also indicates that if a rock outcropping could not be avoided in a developed area, near residences or other occupied structures (i.e., within 250 feet), alternative, non-explosive methods for rock removal would also be used.

Therefore, because blasting would not occur in close proximity to areas where people live and work, and if blasting were required in close proximity to an existing building, alternative methods to blasting would be used, it is unlikely that blasting would result in structural damage or vibration noise impacts. This impact would be **less than significant**.

### MITIGATION MEASURES

*No mitigation measures are required.*

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<b>IMPACT 4.14-3 (Alt.4)</b>	<b>Long-term increases in operational noise.</b> Long-term operational noise would result from stationary sources such as corona noise from power lines, transformer noise from substations, and various noise sources from maintenance operations such as vegetation clearance and vehicles traveling on access roads. However, operation of the proposed
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alignment would not result in any additional stationary noise sources or substantial increases in operational noise sources above levels existing without the project. This impact would be **less than significant**.

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Implementation of this alternative would result in identical improvements to substations as under the Alternative 1 (PEA Alternative). Similar to the Alternative 1 (PEA Alternative), as described above under Impact 4.14-3 (Alt. 1), no new stationary noise sources would result from implementation of this alternative and operational noise would not increase above levels existing without the proposed alternative. This impact would be **less than significant**.

### MITIGATION MEASURES

*No mitigation measures are required.*

## ALTERNATIVE 5 – NO ACTION/NO PROJECT ALTERNATIVE

### DIRECT AND INDIRECT IMPACTS

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<b>IMPACT 4.14-1 (Alt.5)</b>	<b>Short-term construction noise impacts.</b> Implementation of this alternative would not involve any new construction activities within the project area. Therefore, no existing sensitive receptors would be exposed to short-term construction related increases in noise. There would be <b>no impact</b> .
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Implementation of this alternative would not involve any new construction activities within the project area. Therefore, no existing sensitive receptors would be exposed to short-term construction related increases in noise. There would be **no impact**.

### MITIGATION MEASURES

*No mitigation measures are required.*

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<b>IMPACT 4.14-2 (Alt.5)</b>	<b>Short-term construction vibration impacts.</b> Implementation of this alternative would not involve any new construction activities within the project area. Therefore, no existing sensitive receptors would be exposed to short-term construction related increases in ground vibration. There would be <b>no impact</b> .
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Implementation of this alternative would not involve any new construction activities within the project area. Therefore, no existing sensitive receptors would be exposed to short-term construction related increases in ground vibration. There would be **no impact**.

### MITIGATION MEASURES

*No mitigation measures are required.*

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<b>IMPACT 4.14-3 (Alt.5)</b>	<b>Long-term increases in operational noise.</b> Actions associated with this alternative would be limited to the existing operation and maintenance and completion of existing deferred maintenance to raise the system to current standards, including compliance with vegetation clearing requirements and annual inspection requirements. No additional stationary noise sources would result from this alternative. Although activities that could result in noise (i.e., from the use of heavy duty equipment to remove trees and vegetation), these activities would not differ from existing operations. Therefore, operational noise levels would not substantially increase above existing conditions. This impact would be <b>less than significant</b> .
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Actions associated with this alternative would be limited to the existing operation and maintenance and completion of existing deferred maintenance to raise the system to current standards, including compliance with vegetation clearing requirements and annual inspection requirements. These activities could result in some noise from heavy duty equipment such as chippers, chainsaws, and trucks needed to complete this work. However, these maintenance activities would be intermittent, short-term, and would not differ from existing operation and maintenance activities (other than a near term increase in activity to address existing deferred maintenance). Similar to the action alternatives, implementation of this alternative would not result in any new or additional stationary noise sources such that noise levels would increase above existing levels. This impact would be **less than significant**.

## MITIGATION MEASURES

*No mitigation measures are required.*

## CUMULATIVE IMPACTS

### SHORT-TERM CONSTRUCTION-GENERATED NOISE

Cumulative impacts from construction-generated noise could result if other future planned construction activities were to take place in close proximity to the project, and at the same time, and cumulatively combine with construction noise from the project. Several new retail, commercial, residential, and recreation developments, as well as a fuels reduction project are planned for the near future in close proximity (i.e., within 250 feet) to the project boundary. These consist of the Pollard Station Senior Neighborhood, Joerger Ranch Specific Plan, and Martis Valley Trail in the Town of Truckee, the SR 89/Fanny Bridge Improvement Project in Tahoe City, and the Carnelian Fuels Reduction and Healthy Forest Restoration Project along the 625 Line. See Table 4.1-2, Cumulative Project List, for a summary description of relevant projects and Exhibit 4.1-1 for their location.

Although construction activities from other projects could potentially occur simultaneously with construction from the proposed project it is unlikely, due to the nature of the power line construction which moves from site to site along the ROW, that construction activity would combine with other construction activity for an extended period of time. In addition, construction-related noise is typically a site specific impact that affects those in close proximity to the construction activities. In addition, various noise APMs would be implemented to reduce noise generation and limit construction activity to the daytime hours allowed by each jurisdiction (except for line crossing of I-80 and limited other activities that would be performed at night). Therefore, because it is unlikely that other construction activities would cumulatively combine with the project and project construction activities would comply with applicable local standards, follow various best practices as indicated by Noise APMs 1 through 11, and implement required mitigation measures, the project's short-term construction-generated noise would not result in a substantial contribution such that a new significant cumulative noise impact would result.

## Long-Term Ambient Noise Levels

Under all action alternatives, there would be no additional stationary noise sources and all upgrades to substations would be similar. Cumulative noise levels could be affected by additional buildout of surrounding land uses, increases in vehicular traffic on affected roadways, and additional stationary noise sources. Several new retail, commercial, residential, and recreational developments are planned for the near future in close proximity to the project boundary, as listed above

Implementation of any of the action alternatives would not result in additional operational roadway traffic or stationary noise sources such that they could cumulatively combine with stationary noise sources from other nearby future planned projects or related increases in traffic on nearby roadways. Long-term operational noise under the action alternatives would not substantially increase above existing levels and would not result in a substantial contribution such that a new significant cumulative noise impact would result.

## 5 OTHER NEPA-, TRPA-, AND CEQA-MANDATED SECTIONS

This chapter provides analyses and information required by the National Environmental Policy Act (NEPA); the Tahoe Regional Planning Agency (TRPA) Regional Plan; and/or the California Environmental Quality Act (CEQA).

### 5.1 EFFECTS FOUND NOT TO BE SIGNIFICANT

As discussed in Section 1.3, Scope and Focus of the EIS/EIS/EIR, either because of conditions in the project area, or because of the nature of the project, the project alternatives would have no effect on agricultural resources and housing. Therefore, these issues are not evaluated in detail in this Environmental Impact Statement (EIS)/EIS/Environmental Impact Report (EIR).

For the following environmental issue areas, all effects were found to either result in no impact or a less-than-significant impact under the action alternatives.

- ▲ Land Use
- ▲ Forestry Resources
- ▲ Scenic Resources
- ▲ Geology, Soils, and Land Capability Coverage
- ▲ Recreation
- ▲ Public Services and Utilities
- ▲ Traffic and Transportation

For the following environmental issue areas, one or more environmental impacts were found to be potentially significant or significant under one or more action alternative; however, these impacts were reduced to a less than significant level with mitigation.

- ▲ Hydrology and Water Quality
- ▲ Hazards and Hazardous Materials
- ▲ Noise

### 5.2 SIGNIFICANT ENVIRONMENTAL EFFECTS THAT CANNOT BE AVOIDED

Code of Federal Regulations (CFR) Title 40 Section 1502.16 and Section 5.8.B (2) of the TRPA Code of Ordinances requires an EIS to include any significant adverse environmental effects which cannot be avoided should any of the alternatives be implemented. CEQA Section 21100(b)(2)(A) states that an EIR shall include a detailed statement setting forth “[i]n a separate section...[a]ny significant effect on the environment that cannot be avoided if the project is implemented.” State CEQA Guidelines Section 15126.2(b) requires that an EIR describe any significant impacts, including those that can be mitigated but not reduced to a less-than-significant level.

Chapter 4, Affected Environment, Environmental Consequences, and Mitigation Measures, of this EIS/EIS/EIR addresses the potential environmental effects of the action alternatives for all applicable environmental topic areas and recommends mitigation measures, as necessary, to mitigate project effects to the extent feasible. The analysis identifies several significant impacts that cannot be reduced to a less than significant level through mitigation. These include impacts to biological resources, cultural resources, and air quality Alternative 1 (PEA

Alternative) and Alternative 2 (Modified Alternative) would result in a permanent loss of goshawk habitat for which no mitigation is available (Impact 4.7-6). All four action alternatives could also damage or destroy documented significant heritage or cultural resources. Although surveys and subsurface testing conducted for the project indicate no significant adverse effect to known cultural resources sites, as of publication of this Final EIS/EIS/EIR, concurrence on this determination has not been received from the SHPO. Therefore, at the time of publication of this draft EIS/EIS/EIR all known resources and their mitigation (if needed) have not been fully defined (Impact 4.9-1); project activities could damage or destroy undocumented significant heritage and cultural resources (Impact 4.9-2); and/or result in the unanticipated discovery of human remains during construction (Impact 4.9-3). All four action alternatives could also result in significant and unavoidable impacts to air quality under Impact 4.13-1, due to the inability to mitigate the release of nitrates of oxygen (NO<sub>x</sub>) to a less than significant level. As described in Section 4.13, Air Quality and Climate Change, emissions of NO<sub>x</sub>, an ozone precursor, released during project construction cannot be reduced below applicable thresholds in the jurisdiction of the Northern Sierra Air Quality Management District (NSAQMD). The inability to reduce this impact to less than significant levels, even with mitigation, is limited to the portion of the project site within the NSAQMD's jurisdiction because the NSAQMD does not have an available off-site mitigation fee program for NO<sub>x</sub>. Such a fee program is available from the Placer County Air Pollution Control District (PCAPCD), and through use of the fee program, construction NO<sub>x</sub> emissions can be reduced to a less than significant level in the portion of the project site in the jurisdiction of the PCAPCD.

## **5.3 IRREVERSIBLE AND IRRETRIEVABLE COMMITMENTS OF RESOURCES AND SIGNIFICANT IRREVERSIBLE ENVIRONMENTAL CHANGES**

The irreversible and irretrievable commitment of resources is the permanent loss of resources for future or alternative purposes. Irreversible and irretrievable resources are those that cannot be recovered or recycled or those that are consumed or reduced to unrecoverable forms. Section 1512.6 (c) of the State CEQA Guidelines states that significant irreversible environmental changes that would be involved with a project may include:

- ▲ consumption of non-renewable resources;
- ▲ changes to land use which would commit future generations to similar uses; and
- ▲ irreversible changes which may result from environmental accidents associated with the project.

### **5.3.1 CONSUMPTION OF NON-RENEWABLE RESOURCES**

Implementation of the proposed project would result in the consumption of energy and materials. Fossil fuels would be required for construction of the project, as well as operation and maintenance. Upgrading the power line and substations would require the manufacture of new materials. Much of the materials used in the upgraded facilities, such as steel poles and aluminum conductor, could be recycled if desired. However, some materials, such as some equipment in the substations, would not be recyclable if the upgraded line were decommissioned. The raw materials and energy required for the manufacture of the non-recyclable materials would result in an irretrievable commitment of natural resources.

The electrical line upgrade would facilitate the transport of additional electrical power generated from renewable and non-renewable (e.g., natural gas and coal) resources. Operation of the project would not require the future use of specific amounts of non-renewable resources. In fact, project implementation could result in less frequent use of the Kings Beach Backup Diesel Generators, resulting in a reduction in fuel use relative to existing conditions. For most elements of operations and maintenance the use of fossil fuels would be similar to existing conditions, following existing inspection, maintenance, and operation protocols.

### **5.3.2 CHANGES TO LAND USE WHICH WOULD COMMIT FUTURE GENERATIONS**

The project consists of two electrical power lines, with some portions located within the right-of-way (ROW) of the existing line, and some portions relocated to a new location and the ROW of the existing line abandoned. Where the existing ROW is used, the vegetation management corridor would be widened from 20-feet to 40-feet for single-circuit options and 65-feet for double-circuit segments. Implementation of the action alternatives would result in the loss of overstory vegetation that could be a hazard to the electrical lines along the maintained corridor. Woody vegetation would also be removed along the routes of some access ways connecting the ROW to existing roads (see Section 4.7, Biological Resources). This loss of woody and overstory vegetation is not irretrievable, however, because the productivity of the site would remain intact and the power line could be abandoned and the site restored in the future. This would also be the case for existing electrical line ROW abandoned as part of the project.

Permanent impacts to stream zone environments mapped by TRPA in the Lake Tahoe Basin would be between 2.3 acres (Alternative 3A) and 3.6 acres (Alternatives 3 and 4) (see Section 4.7, Biological Resources). Disturbance of sensitive habitats such as wetlands and riparian areas could result in a permanent change in land use; however avoidance, compensation (e.g., habitat restoration and enhancement) where avoidance is not possible, and a requirement of no net loss in habitat functions and values would substantially reduce the project's effects.

The proposed project is compatible with the current recreational use of the land. Access routes would see minimal use and would be maintained with appropriate best management practices (BMPs) to minimize erosion and damage to soil resources. Access way entry points would be barricaded or gated to prevent unauthorized or improper land use (see Section 4.8, Recreation). Therefore, any changes to land use would not be significant.

In addition, the fact that the project consists of, in part, the relocation of an existing electrical line indicates that the new line could again be relocated sometime in the future if needed or desired. Implementing the proposed project would not obligate future generations to retain project facilities in their current location or configuration if a compelling reason to alter the facilities were to arise.

### **5.3.3 IRREVERSIBLE CHANGES WHICH WOULD RESULT FROM ENVIRONMENTAL ACCIDENTS**

The proposed project does not provide for an appreciable increase in use of hazardous materials relative to existing conditions and would transport, use, and generate only small volumes of hazardous materials. The applicant would prepare relevant hazardous materials management plans, including a Spill Prevention, Control, and Countermeasure Plan, Hazardous Materials Business Plan, and Hazardous Materials Contingency Plan. With continued compliance with existing federal, state, and local laws and regulations related to hazardous materials (see Section 4.10, Hazards and Hazardous Materials), the proposed project would not be expected to result in environmental accidents that have the potential to cause irreversible damage to the natural or human environment.

## **5.4 RELATIONSHIP BETWEEN SHORT-TERM USES OF THE ENVIRONMENT AND THE MAINTENANCE AND ENHANCEMENT OF LONG-TERM PRODUCTIVITY**

NEPA (40 CFR 1502.16) and Chapter 5 of TRPA's Code of Ordinances require the consideration of the relationship between short-term uses of man's environment and the maintenance and enhancement of long-term productivity. The following discussion addresses how the proposed project would affect the short-term use

and the long-term productivity of the environment. In general, “short-term” is used here to refer to the construction period, while “long-term” refers to the operational life of the proposed project and beyond.

Implementation of the action alternatives would result in short-term construction related impacts within the study area (construction impacts are described in detail in Chapter 4, Affected Environment, Environmental Consequences, and Mitigation Measures). Potential short-term impacts include ground disturbance and vegetation removal for construction access and safety of operations, temporary limitations to vehicle and recreation access in some areas, increased air emissions, potential disturbance of currently unrecorded cultural resources, transport and use of hazardous materials (e.g., fuels and lubricants), water quality impacts, and increased ambient noise levels. Short term impacts would be minimized through implementation of mitigation measures and applicant proposed measures (APMs) intended to reduce environmental effects (see Section 3.7, Applicant Proposed Measures, for a full listing of APMs). Over the long term, these resources are expected to recover from any adverse effects without a loss in productivity.

Each action alternative would increase the visibility of the 625 and 650 Lines in various locations. Changes in visibility and scenic resources would be a long-term change resulting from the project. In some locations, the increased visibility would result solely from the placement of taller towers or substation facilities in areas where existing shorter wood poles or substation facilities are present. In other locations, increased visibility would result from placing towers in a location closer to potential viewers. In some instances, towers would be less visible to some viewers by being moved to a new location. Although there would be a long term change in scenic resources in some areas, with implementation of APMs and mitigation measures any potential adverse change in the productive use of the area would be substantially reduced.

Implementation of the proposed project would meet the need to maintain a safe and reliable power supply to the Truckee-Tahoe region, including the communities of Truckee, Tahoe City, and Kings Beach, and to accommodate peak electrical demand associated with tourism. This would help sustain the existing and projected population and would support the long-term productivity of the local economy.

## **5.5 GROWTH-INDUCING IMPACTS**

### **5.5.1 NATIONAL ENVIRONMENTAL POLICY ACT**

The Council on Environmental Quality NEPA Regulations provide for discussion of growth-inducing impacts of an action (40 CFR 1508.8[b]): “Indirect effects may include growth-inducing effects and other effects related to induced changes in the pattern of land use, population density or growth rate, and related effects on air and water and other natural systems, including ecosystems.” The discussion must additionally address how a proposed project may remove obstacles to growth, or encourage and facilitate other activities that could significantly affect the environment, either individually or cumulatively.

### **5.5.2 TAHOE REGIONAL PLANNING AGENCY**

Section 3.7.2(H) of the TRPA Code of Ordinances requires that an EIS evaluate the growth-inducing impacts of a proposed project. Growth can be induced by eliminating obstacles to growth or by stimulating economic activity in a way that encourages increases in population and housing in the region.

### **5.5.3 CALIFORNIA ENVIRONMENTAL QUALITY ACT**

State CEQA Guidelines Section 2100(b)(5) specifies that growth-inducing impacts of a project must be addressed in an EIR. Section 15126(d) states that a proposed project is growth-inducing if it could “foster economic or population growth, or the construction of additional housing, either directly or indirectly, in the surrounding

environment.” Included in the definition are projects that would remove obstacles to population growth. Examples of growth-inducing actions include developing water, wastewater, fire, or other types of services in previously unserved areas; extending transportation routes into previously undeveloped areas; and establishing major new employment opportunities.

Typically, the growth-inducing potential of a proposed project would be considered significant if it fosters growth or a concentration of population above what is assumed in local and regional land use plans, or in projections made by regional planning authorities. Significant growth impacts could also occur if the project provides infrastructure or service capacity to accommodate growth levels beyond those permitted by local or regional plans and policies.

## 5.5.4 GROWTH CAUSED BY PROJECT-RELATED EMPLOYMENT

The majority of project-related employment would occur during the construction period. Because ongoing operations and maintenance activities after project completion would be similar to existing conditions, the project would generate few, if any new permanent positions. Construction of the proposed project is estimated to require approximately 22 months of construction activity taking place over a five- to six-year period. The construction season in the project area is limited by weather and regulatory standards to protect water quality and other resources. Construction activity would be limited to the late-spring, summer, and early-fall, with construction sites stabilized/winterized in the late fall and construction activity ceasing during the winter months.

During peak construction periods up to 50 workers, one helicopter crew of five personnel, and five construction inspectors would work on the project site. Additionally, between one and three environmental monitors would be working with the crews to monitor adherence to mitigation measures, as required. Thus, a maximum of approximately 65 people are anticipated to be on site at any one time during construction. The specific number of personnel and construction equipment anticipated on site for each project component during peak construction conditions is shown in Appendix E, Construction Personnel and Equipment. Employment requirements are expected to be the same for all of the action alternatives.

Power line and substation work requires specialized knowledge and skills, and as a consequence workers possessing this skill and knowledge set would be expected to travel from other areas of the region, state, or country to work on these types of projects. However, the initial phases of the project would involve ROW clearing and access way construction. These activities could use workers with general construction-related skills and could potentially employ more local workers than later phases of the project that require more specialized knowledge. In addition, environmental monitors would potentially be hired from the local area. Therefore, for purposes of this analysis, it is assumed that approximately 20 percent of the workers would be hired from the local area (i.e., Tahoe-Truckee region) and approximately 80 percent of the workers would come from outside the project area. Some workers may come from the Reno area, which has a larger population base than the Tahoe-Truckee region.

Based on these assumptions, workers hired from outside of the Tahoe-Truckee region would make up the greatest portion of the work force, constituting roughly 40 employees during peak construction periods. In spite of the in-migration of workers from outside of the project area, due to the short-term nature and seasonality of the work and the relatively small number of workers needed at any one time, it is not expected that growth would be induced by the proposed project’s labor force requirements. Construction workers from outside the Truckee-Tahoe region would likely travel to the project site at the beginning of the construction season, stay in transitory housing (e.g., hotels, rental properties), and return home at the end of the construction season. Workers from the Reno area and other regions relatively close to the project site might commute to and from the project area on a daily, weekly, or monthly basis. Project construction would not generate appreciable population growth or demand for new housing in the region.

## 5.5.5 GROWTH AS A RESULT OF INCREASED AVAILABILITY OF ELECTRICAL POWER

As described previously in Chapter 2, Purpose and Need, the North Lake Tahoe Transmission System presently is not adequate to reliably serve existing customers. If one of several critical lines is lost as a result of an intense storm event, fire, downed trees, or other damage, a severe and sustained power outage could occur in the system service area. Although the current system has sufficient capacity to serve all customers under normal conditions, it does not have sufficient capacity to re-route power and meet maximum system loads during a single-contingency outage (i.e., one leg of the transmission system is not operational). Although during some single-contingency outages use of the Kings Beach Diesel Generation Station can compensate for the temporary loss of transmission capacity, this is not always the case. This situation most recently presented itself during December 2012 with the requirement of multiple days of operation of the diesel generation station to meet the system loads experienced during that period of time, while all legs of the transmission system were still in service. Were one of the transmission legs to go out of service during this period of high energy demand (a single-contingency event), many customers would have experienced an extended loss of power. (Also see Chapter 2, Purpose and Need, for more information on this December 2012 event). The current North Lake Tahoe Transmission System is operating under a constrained reliability situation from both a physical standpoint as well as a regulatory standpoint, as it does not meet industry-accepted criteria and regulatory standards for reliability (e.g., North American Electric Reliability Corporation Reliability Standard TPL-002-0b and California Public Utilities Code Section 399 – Reliable Electric Service Investments Act Sections 399(e)1 and 6).

Given these conditions, the proposed power line upgrade project's primary objectives are to:

- ▲ provide normal capacity for current and projected loads,
- ▲ provide reliable capacity to assure adequate service to all customers during single-contingency outages,
- ▲ reduce dependence on the Kings Beach Generation Station,
- ▲ reduce the risk of fire hazards and outage durations associated with wooden poles and encroaching vegetation, and
- ▲ provide more reliable access to the 625 Line for operation and maintenance activities.

An outcome of implementing a project that meets the first three objectives is an increase in the capacity of the North Lake Tahoe Transmission System. As described in Chapter 2, Purpose and Need, the proposed project would increase the system's capacity from its current level of 60 kilovolts and 88 mega volt-amperes (MVA) (MVA is a measure of electrical power that considers voltage and amperes, similar to a watt) to 120 kilovolts and 114 MVA. With increased capacity in the system, each leg would be better suited to transmit additional power if one leg of the system were to go out of service and power normally carried by that leg needed to be re-routed to other parts of the system to maintain service to all customers. Although the focus of the project is to improve the reliability of the system by allowing individual lines to carry more power, a bi-product of this effort is the potential ability to meet electricity demands of future customers. The proposed project does not involve an expansion of the transmission system service area; therefore, the project would not have the potential to generate growth by providing electrical service to an area that does not currently have electrical service.

Limitations on growth in the Tahoe region can be attributed to a variety of factors other than availability of electrical service. Within the Lake Tahoe Basin portion of the project area, land uses and development on public and private lands are under the jurisdiction of TRPA. Existing TRPA goals, policies, and implementation measures control growth in a manner that meets the requirement of the Tahoe Regional Planning Compact to establish a balance between the natural and built environments. Land use goals and policies require TRPA to direct the amount and location of new land uses in conformance with Environmental Threshold Carrying Capacities and the other goals of the compact, and to specify the total additional development that may be permitted in the Lake Tahoe Basin. The Lake Tahoe Basin is nearing a build-out condition (approximately 90 percent of privately-owned parcels in the region have been developed) (TRPA 2012b). The amount of growth attributable to new

development under the recently adopted Regional Plan Update would be limited by the small number of development rights in the region that remain available for residential development and other growth management regulations that are in effect.

For the portions of the project area lying outside of the Lake Tahoe Basin, growth is planned and regulated by the general plans and zoning regulations of Placer County, Nevada County, and the Town of Truckee. Utilities and service providers in the Lake Tahoe Basin and the Truckee and North Tahoe regions plan and upgrade their facilities based on growth projections provided by the local government agencies and their own analysis. CalPeco has analyzed the North Lake Tahoe Transmission System based on a 1 percent load growth projection and has concluded that, although the proposed project is necessary to respond to immediate reliability concerns, it is not critical for meeting current normal power demands.

The provision of electricity is generally not considered to remove an obstacle to growth, nor does the availability of electrical capacity by itself normally ensure or encourage growth within a particular area. Other factors such as economic conditions, land availability, population trends, availability of water supply or sewer services, and local planning policies have a more direct effect on growth. Therefore, the project would not indirectly induce growth by creating new opportunities for local industry or commerce.

However, were system capacity not increased, at some point future growth in electrical demand, even if slow, would eventually result in increased potential for, and frequency of, service interruptions and the possibility of extended service interruptions. Were this scenario to play out, it can be assumed that the unreliable nature of the electrical power supply would eventually limit future growth in the service area. Therefore, in a sense, implementation of the proposed project removes a potential future limitation to growth and could be considered growth inducing. However, the timing, nature, and extent of this limitation to growth is speculative, and regulatory requirements related to reliability of service would instigate system improvements well before outages become commonplace. In reality, CalPeco's proposed 625 and 650 Electrical Line Upgrade Project would only accommodate planned growth authorized by local land use agencies and, like most electrical utilities, CalPeco would be responding to growth planned and implemented by others and would not be instigating growth.

## **5.6 SOCIOECONOMICS AND ENVIRONMENTAL JUSTICE**

It is a requirement of NEPA that an EIS evaluate the potential socioeconomic effects of a proposed action/proposed project, as well as potential environmental justice impacts (defined below). This section provides background in socioeconomic conditions, including population, housing, employment, and income in the project area, and analysis of how the project alternatives may affect the socioeconomic environment. This section also addresses the potential for the action alternatives to have an effect on environmental justice.

### **5.6.1 SCOPING COMMENTS ADDRESSING SOCIOECONOMIC AND ENVIRONMENTAL JUSTICE CONCERNS**

One comment was received during the project scoping period from Thomas Plenys of the US Environmental Protection Agency (EPA) regarding the identification of populations within the geographic scope of the project area that would be subject to environmental justice concerns.

### **5.6.2 ENVIRONMENTAL JUSTICE (EXECUTIVE ORDER 12898)**

Executive Order 12898, *Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations*, signed in February 1994, requires federal agencies to identify and to address any disproportionately adverse effects on human health or the human environment of minority and/or low-income populations resulting from federal programs, policies, and activities.

The EPA's Office of Environmental Justice defines environmental justice as "the fair treatment and meaningful involvement of all people regardless of race, color, national origin, or income with respect to the development, implementation, and enforcement of environmental laws, regulations, and policies." Fair treatment means that "no group of people, including racial, ethnic, or socioeconomic group shall bear a disproportionate share of negative environmental consequences resulting from industrial, municipal, and commercial operations or the execution of federal, state, local, and tribal programs and policies." Meaningful involvement requires federal agencies to provide opportunities for significant community input in the NEPA process, and to ensure that meetings and notices are accessible to minority and low-income communities potentially affected by a proposed project. The intent is not to shift risks among populations, but to identify and address disproportionately high and adverse environmental effects of proposed federal actions on minority and low-income communities.

### **5.6.3 IMPACT ASSESSMENT METHODOLOGY**

The project alternatives have been evaluated with respect to the potential for the project to affect the socioeconomic environment. Socioeconomic resources that may be affected by construction of the CalPeco 625 and 650 Electrical Line Upgrade Project include population, housing, employment, income, public services, and environmental justice.

Socioeconomic impacts can be positive and negative. Positive impacts would include additional employment within the project area, increases in personal incomes, and increased tax revenues provided by a project's economic stimulus. Significant negative impacts could relate to existing resources not having sufficient capacity to accommodate economic growth, such as an inability for local housing and public services to accommodate additional demands from increased population; or conversely, result from substantial reductions in economic activity.

For characterization of larger regional conditions, county wide US Census 2010 data was examined for Nevada County, Placer County, and Washoe County, Nevada (e.g., Reno/Sparks area). For evaluation of the localized area in Nevada County, US Census 2010 data was examined for the Town of Truckee and the surrounding Nevada County areas, including the four census tracts that comprise the Town of Truckee. For Placer County, the Census Tract that comprises the area north of the Lake Tahoe Basin (Martis Valley and Northstar area) and the five census tracts that comprise the area along the northwest shore of Lake Tahoe between Tahoe City and Kings Beach were examined. The Census Tract data is contained in Appendix O, Socioeconomics and Environmental Justice Census Tract Data.

### **5.6.4 SIGNIFICANCE CRITERIA**

According to NEPA, an EIS must evaluate social and economic effects of a project if they are related to effects on the natural or physical environment (40 CFR 1508.14).

### **5.6.5 SOCIOECONOMIC AND ENVIRONMENTAL JUSTICE SETTING**

#### **REGIONAL SETTING**

The general project region, including a portion of the eastern Sierra Nevada, is sparsely populated. The largest metropolitan areas are the cities of Reno and Sparks, located approximately 30 miles northeast of the project site in Washoe County, Nevada (Table 5-1). Regional social and economic indicators for all of Placer, Nevada, and Washoe counties are shown in Tables 5-1 through 5-3.

County	Population	Percent Hispanic or Latino	Percent Black or African American	Percent Asian	American Indian and Alaska Native	White	Percent Two or More Races
Placer County	352,380	12.8	1.3	5.7	0.9	76.1	3.1
Nevada County	98,764	8.5	0.3	1.1	1.1	86.5	2.4
Washoe County, Nevada	421,407	22.2	2.3	5.2	1.7	76.9	3.8

Source: US Census Bureau 2012

County	Population	Housing Units	Vacant Units	Units for Seasonal, Recreational, or Occasional Use	Rental Vacancy Rate*	Homeowner Vacancy Rate
Placer County	352,380	153,730	20,107	12,020	13.08%	2.4%
Nevada County	98,764	52,677	11,075	8,333	21.02%	2.6%
Washoe County, Nevada	421,407	184,841	21,369	5,025	11.6%	3.3%

\*Vacancy rate includes units for seasonal, recreational or occasional use.  
Source: US Census 2010a. US 2010 Census Table DP-1. Profile of General Demographic Characteristics: 2010.

County	Population	Average Household Size (persons)	Home Ownership Rate (2006-2010)	Median Household Income	Percent Persons Below Poverty Level (2006-2010)
Placer County	352,380	2.6	72.9%	\$74,447	6.6
Nevada County	98,764	2.4	74.0%	\$57,121	9.0
Washoe County, Nevada	421,407	2.5	60.2%	\$55,658	12.6

Source: US Census Bureau 2012

## LOCAL SETTING

The project footprint is located in northeastern Placer County and southeastern Nevada County, and includes the Martis Valley and the northwestern portion of the Lake Tahoe Basin. The majority of the population within the project area resides in the Town of Truckee; with the population residing in Truckee and immediate Nevada County area estimated at 16,180 in 2010 (US Census 2010a). The remainder of the population in the project area primarily resides in unincorporated communities along the northwest shore of Lake Tahoe (from Tahoe City to Kings Beach), and the community of Northstar located north of the Lake Tahoe Basin along SR 267. Based on the 2010 US Census, the population along the North Shore of Lake Tahoe in California, which includes the communities of Tahoe City and Kings Beach, is 8,778. The population residing in area to the north of the Lake Tahoe Basin in the Martis Valley and Northstar communities in Placer County is 1,686 (US Census 2010a [DP-1]).

The majority of the population in the project area self-identifies as white with respect to race (between 86 percent in the Kings Beach area and 98 percent in the Northstar/Martis Valley area) (Table 5-4). The predominant ethnic group in the project area is Hispanic or Latino. According to the 2010 US Census, the populations in the two census tracts in the Kings Beach area (CT 201.06 and CT 201.07) are comprised of approximately 21.8 percent and 59.6 percent Hispanic or Latino ethnicity. In the Town of Truckee 18.6 percent of individuals identify their ethnicity as Hispanic or Latino, and in one census tract adjacent to Truckee (CT 12.06)

38.7 percent of the population identifies as Hispanic or Latino. (Note that in the US Census data ethnicity is recorded separately from race. One individual would select a particular race [e.g., white, African American, Asian] and a particular ethnicity [e.g., Hispanic or Latino].) Placer County as a whole has a population that is 12.8 percent Hispanic or Latino and Nevada County as a whole has a population that is 8.5 percent Hispanic or Latino [see Table 5-1].)

Locality	Total Population	Ethnicity	Race*				
		Percent Hispanic or Latino of Any Race	Percent White	Percent Black or African American	Percent Asian	Percent American Indian and Alaska Native	Percent Two or More Races
Town of Truckee*	16,180	18.6	86.5	0.4	1.5	0.6	2.1
Truckee CT 12.03	2,927	7.6	95.1	0.1	2.0	0.2	1.6
Truckee CT 12.04	2,832	7.5	92.1	0.6	2.1	0.6	2.6
Truckee CT 12.05	4,537	5.1	94.9	0.2	1.1	0.6	2.3
Truckee CT 12.06	6,090	38.7	73.7	0.5	1.2	0.7	2.1
Placer County CT 220.11 Northstar/Martis Valley	1,686	10.6	98.0	0.4	2.1	0.3	2.0
Placer County CT 222 Tahoe City	909	8.0	93.4	0.3	0.9	0.3	1.7
Placer County CT 201.04 Dollar Point	1,288	6.8	94.1	0.4	1.5	0.5	1.4
Placer County CT 201.05 Carnelian Bay	1,352	3.6	93.3	0.5	2.1	0.7	2.7
Placer County CT 201.06 Kings Beach	1,719	21.8	90.0	0.2	1.5	0.5	1.7
Placer County CT 201.07 Kings Beach	3,510	59.6	84.0	0.4	0.3	0.5	3.2

Notes: \* numbers do not add to 100%, percent of population self-identifying as some other race not shown.  
Source: US Census Bureau 2010a

In Placer County as a whole 6.6 percent of the population is below poverty level and in Nevada County as a whole 9.0 percent of the population is below poverty level (Table 5-3). Some census tracts in the project area exceed these countywide poverty levels. In Placer County, Census Tract 220.11, which contains Northstar and Martis Valley, has 15.6 percent of the population living below the poverty level (see Table 5-5). Along the North Shore of Lake Tahoe, between Tahoe City and Kings Beach, poverty levels in three out of five census tracts are greater than the county level, ranging from 8.4 percent of the population in Kings Beach to 10.6 percent of the population in Tahoe City. In Census Tract 201.07 in Kings Beach, where the existing substation is sited; 8.4 percent of the population is under the poverty level. In Truckee and the surrounding area, the poverty level is 8.6 percent, just below the overall Nevada County average. However Census Tract 12.06 in Truckee, in which the existing power line is located, has a poverty level of 13.7 percent (US Census 2010b). The percentage of the population below the poverty level in the area that could be directly affected by the project is provided in Table 5-5.

<b>Locality</b>	<b>Number/Percent Population Below Poverty Level</b>
Town of Truckee	8.6
Truckee CT 12.03	9.4
Truckee CT 12.04	3.0
Truckee CT 12.05	5.3
Truckee CT 12.06	13.7
Placer County CT 220.11 Martis Valley/Northstar	15.6
Placer County CT 222 Tahoe City	10.6
Placer County CT 201.04 Dollar Point	10.3
Placer County CT 201.05 Carnelian Bay	3.2
Placer County CT 201.06 Kings Beach	4.4
Placer County CT 201.07 Kings Beach	8.4

Source: US Census Bureau 2010b

## 5.6.6 EFFECTS OF THE PROPOSED PROJECT ON SOCIOECONOMIC CONDITIONS

Construction of the proposed project would have a positive effect on the local economy from increased employment and wages for local workers and expenditures in the area. Construction is estimated to occur during the spring/summer/fall building season over several years. During peak construction periods a maximum of approximately 65 people are anticipated to be on site at any one time. Because power line and substation work requires specialized knowledge and skills, workers possessing this skill and knowledge set would be expected to travel from other areas of the region, state, or country to work on these aspects of the project. However, the initial phases of the project would involve ROW clearing and access way construction, which could use workers with general construction-related skills and could potentially employ more local workers than later phases of the project.

Due to the short-term nature and seasonality of the work, and the relatively small number of workers needed at any one time, contributions to the local economy are expected to be minor and demands on housing and public services are also expected to be minor. The region has a relatively high rental and lodging vacancy rate during the construction season due to the many vacation housing units, condominiums, hotel rooms, and other lodging that are rented most frequently during the winter months for access to the many ski and snow sport facilities in the region. As described in Section 4.11, Public Services and Utilities, the proposed project would not have a significant impact related to service demands for fire and police services. The project would not displace housing or businesses, or create a new demand for housing and services in the project area. As described in Section 5.5, Growth Inducing Impacts, as a byproduct of project implementation the project could be considered to remove provision of electrical service as an obstacle to some future growth; however, the timing and extent of such an effect would be speculative. The project would not encourage growth beyond what is planned and regulated by local jurisdictions. Therefore, overall the proposed project would not have significant impacts on socioeconomic factors in the communities in which it is located.

## 5.6.7 EFFECTS OF THE PROPOSED PROJECT ON ENVIRONMENTAL JUSTICE CONDITIONS

While there are census tracts within the project area that have minority populations in excess of the percentage for the counties as a whole, and there are census tracts with populations with incomes below the county average poverty level, it is not anticipated that the project would have a disproportionate impact on the residents of these areas. Under all action alternatives, the alignment of the power line within populated areas of

Tahoe City and Truckee would not change appreciably from the existing alignment. Both the existing and future alignments pass by affluent and less affluent areas and various types of single-family and multi-family housing. There would be no difference in operational characteristics and activities between the upgraded lines and the existing lines; and potentially, with more reliability, there may be less maintenance and repairs required, which would be a beneficial effect with respect to noise for nearby residents. Beneficial effects associated with reduced potential for disruptions of electrical service after project implementation would benefit all residents in the service area regardless of income, ethnicity, or race.

The alignment of the 625 and 650 Lines would not substantially change in populated areas with implementation of the action alternatives; therefore, no adverse effects related to environmental justice would occur for the reasons described above. The exception would be Alternative 3A (Road Focused Alternative with Double Circuit Option). The double circuit in Segment D-C OH-1A/650-1 would place the power line in an urbanized area where a power line currently does not exist) (see Exhibit 3-4c, Road Focused Alternative). This realignment would occur within Census Tract 201.06, which has low percentage of residents under the poverty level (4.4 percent), but has an Hispanic/Latino population of 21.8 percent, higher than the county's overall percentage. Currently, an existing distribution line with co-located utilities runs along SR 267 and is adjacent to houses and condominiums. The relocation and double circuit of the 625/650 Line would not result in a substantial change from existing conditions if the existing distribution lines and co-located utilities would be transferred to the new poles. This realignment would not disproportionately affect a minority population, since the power line would be placed in an existing utility easement, and would not displace residences. Therefore, there would be no impact related to environmental justice issues with Alternative 3A (Road Focused Alternative with Double Circuit Option).

It is also proposed that the existing Brockway Substation in Kings Beach be decommissioned and moved under all action alternatives. The existing substation is approximately 70 feet from the nearest residence in its current location. This relocation would move the substation away from existing residences to a location that is at least 500 feet from the nearest residence. Therefore, this could have a beneficial effect for residents in Kings Beach through improving the visual quality and character of the neighborhood.

In summary, none of the action alternatives would cause a disproportionately high and adverse impact on minority or low-income populations for the following reasons:

- ▲ most of the project footprint occurs in non-urbanized areas with no residences or other development;
- ▲ where the project footprint does pass through urbanized areas, it typically follows the alignment of the existing power line and would replace an existing facility with a similar facility; and
- ▲ due to the linear nature of the project, no one area supports a disproportionate amount of project facilities and project effects would not be concentrated among any one racial, ethnic, or income group.

## **5.7 ENVIRONMENTALLY PREFERABLE ALTERNATIVE/ ENVIRONMENTALLY SUPERIOR ALTERNATIVE**

NEPA calls for identification of an environmentally preferable alternative when an EIS has been prepared (Section 1505.2(b)). Ordinarily, the environmentally preferable alternative means the alternative that causes the least damage to the biological and physical environment and best protects, preserves, and enhances historic, cultural, and natural resources.

CEQA calls for the identification of an environmentally superior alternative in an EIR, but gives no definition for the term (State CEQA Guidelines Section 15126.6(e)(2)). However, CEQA does specify that if the environmentally superior alternative is the "no project" alternative, the EIR shall also identify an environmentally superior alternative among the other alternatives.

From the standpoint of minimizing environmental effects, Alternative 5 (No Action/No Project Alternative) would be the environmentally preferable/environmentally superior alternative. Under Alternative 5 (No Action/No Project Alternative), no construction would take place and operations and maintenance would continue under existing programs, with the exception of a short-term increase in activity to address needed vegetation management and other ROW maintenance. Little change to the existing environment would occur under Alternative 5 (No Action/No Project Alternative). However, Alternative 5 (No Action/No Project Alternative) would not meet any of the basic project objectives related to system capacity, reliability, resilience, and access, and reduced dependence on the Kings Beach Diesel Generation Station. Ultimately, implementation of Alternative 5 (No Action/No Project Alternative) would lead to power demand regularly exceeding the system design capacity, leading to more frequent system failures and the need for rolling blackouts and other load shedding measures.

Table 5-6 identifies the number of significant and potentially significant impacts identified for each action alternative for each environmental issue area evaluated in this EIS/EIS/EIR. The significance of impacts after mitigation is also identified. As shown in Table 5-6, based solely on impact significance conclusions, there is not a clear distinction in the level of impact among the four action alternatives. The clearest distinction is the lack of a significant biological resources impact after mitigation for Alternative 3 (Road Focused Alternative) and Alternative 4 (Proposed Alternative).

Environmental Topic	Alternative 1 (PEA Alternative)		Alternative 2 (Modified Alternative)		Alternative 3 (Road Focused Alternative)		Alternative 4 (Proposed Alternative)	
	Before Mitigation	After Mitigation	Before Mitigation	After Mitigation	Before Mitigation	After Mitigation	Before Mitigation	After Mitigation
Land Use	0	0	0	0	0	0	0	0
Forestry Resources	0	0	0	0	0	0	0	0
Scenic Resources	0	0	0	0	0	0	0	0
Geology, Soils, Land Capability, and Coverage	0	0	0	0	0	0	0	0
Hydrology and Water Quality	2 S	0	2 S	0	2 S	0	2 S	0
Biological Resources	2 PS 3 S	1 S	2 PS 3 S	1 S	2 PS 2 S	0	2 PS 2 S	0
Recreation	0	0	0	0	0	0	0	0
Heritage, Cultural, and Paleontological Resources	3 PS	3 S	3 PS	3 S	3 PS	3 S	3 PS	3 S
Hazards and Hazardous Materials	3 PS	0	3 PS	0	3 PS	0	3 PS	0
Public Services and Utilities	0	0	0	0	0	0	0	0
Traffic and Transportation	0	0	0	0	0	0	0	0
Air Quality	1 S	1 S	1 S	1 S	1 S	1 S	1 S	1 S
Noise	1 S	0	1 S	0	1 S	0	1 S	0
Note: PS = Potentially Significant Impact S = Significant Impact 0 = No Significant Impacts								

As described in the various impact discussions in Chapter 4, Affected Environment, Environmental Consequences, and Mitigation Measures, where there are differences in environmental effects among the action alternatives, it is a matter of gradients of somewhat more or less effects based on various factors. For example, the reduced project footprint resulting from double-circuit segments in Alternative 2 (Modified Alternative), Alternative 3 (Road Focused Alternative), and Alternative 4 (Proposed Alternative) is anticipated to result in reduced ground disturbance relative to Alternative 1 (PEA Alternative), and therefore lesser potential for effects such as discovery of currently undocumented subsurface cultural resources, removal of habitat, and generation of erosion and siltation. All significant and potentially significant impacts related to these issues would be reduced to a less than significant level with mitigation for all action alternatives; however, Alternative 2 (Modified Alternative), Alternative 3 (Road Focused Alternative), and Alternative 4 (Proposed Alternative) would initially result in less affects, or less potential for an effect, relative to Alternative 1 (PEA Alternative). Similarly, whereas towers constructed under all four action alternatives could generate conflicts with safe operation of the Truckee Tahoe Airport, Alternative 3 (Road Focused Alternative) would have the greatest potential to generate a significant impact because its alignment is closest to the airport runway; Alternative 2 (Modified Alternative) would be less likely to generate a significant impact because its alignment would be farther from the airport runway, and Alternative 1 (PEA Alternative) and Alternative 4 (Proposed Alternative) would be less likely still to generate a significant impact because their alignment would be farthest from the airport runway. However, for all action alternatives, if a significant impact related to airport safety were occur, the impact could be reduced to a less than significant level with mitigation. The mitigation could result in placing the line underground, generating its own environmental impacts (e.g., extra soil disturbance from excavation) as described in Section 4.10, Hazards and Hazardous Materials. The greatest potential for undergrounding as mitigation would be under Alternative 3 (Road Focused Alternative).

In many instances, each alternative would result in a trade-off in impacts, minimizing effects for one environmental issue area, but increasing environmental effects for another. For example, the Alternative 3 (Road Focused Alternative) and Alternative 4 (Proposed Alternative) reduce the amount of vegetation removal relative to other alternatives by placing the power line closer to the Fiberboard Freeway in segments 625-3 through 625-8 between Tahoe City and Brockway Summit. However, by placing the power line closer to the road, it becomes more visible to recreationists and others using the Fiberboard Freeway, increasing the effects on scenic resources. Conversely, the double-circuit segments (Segments 625-9 and 625-10) under Alternative 2 (Modified Alternative) minimize the visibility of the power line by keeping it in a remote location, but result in increased vegetation removal, both due to the location of the power line alignment and the need to create more permanent access ways to the line.

The numeric information for each alternative provided in Tables ES-1a through ES-1c provides an indication of the scope of work and relative potential for effects under each of the action alternatives. This information may guide the determination of the environmentally preferable or environmentally superior alternative. When looking at the 625 and 650 Lines combined, Alternative 3A (Road Focused Alternative with Double-Circuit Option) would have the least impacts in more categories than any of the other action alternatives, including in areas related to access way requirements, disturbance of stream environment zones (SEZs) and Protected Activity Centers for northern goshawk and California spotted owl, and potential for tree removal. Implementation of Alternative 3A (Road Focused Alternative with Double-Circuit Option), however, would violate the TRPA threshold protecting the scenic quality of SR 267, which would result in a significant impact that could not be mitigated. The measure adopted to address the impact to scenic resources along SR 267 (APM SCE-7) for the other action alternatives is a setback of the power line. This would not be feasible in Segment D-C OH-1A/650-1 for Alternative 3A (Road Focused Alternative with Double-Circuit Option) because there are residences in the setback area. Second to Alternative 3A (Road Focused Alternative with Double-Circuit Option), Alternative 4 (Proposed Alternative) would have the lowest, or the second lowest, values in many categories, including total number of poles required and the acreage of permanent disturbance. Since Alternative 4 (Proposed Alternative) is believed to have the second least potential for project effects, based on relatively low values in the key issue areas identified in Table ES-1c, and would not result in an unmitigable impact to scenic resources, this alternative is considered the environmentally preferable/environmentally superior alternative.

## 5.8 CONSEQUENCES FOR TRPA ENVIRONMENTAL THRESHOLD CARRYING CAPACITIES

### 5.8.1 SOIL CONSERVATION

This section summarizes the effects of implementing on the action alternatives, with respect to the environmental threshold standards established by TRPA for soil conservation. The status of attainment for each identified threshold is analyzed using Indicator Reporting Categories. The following soil conservation Indicator Reporting Categories have been established by TRPA and are applicable to the project:

- ▲ Impervious Cover, and
- ▲ Stream Environment Zone.

According to the 2011 Threshold Evaluation (TRPA 2012a), on a region-wide basis Land Capability Districts (LCDs) 1b and 2 are shown to be exceeding the Bailey Land Capability System base allowable coverage targets by 670 and 43 acres, respectively (see the discussion of the TRPA regulatory setting in Section 4.5, Geology, Soils, Land Capability and Coverage for more information on LCDs). All other LCDs (LCDs 1a, 1c, 3, 4, 5, 6, and 7) are within allowable limits. Overall, the status for the Impervious Cover Indicator Reporting Category is “at or somewhat better than target” with an unknown trend, and “considerably worse than target” for the SEZ Indicator Reporting Category with a trend toward moderate improvement.

#### IMPERVIOUS COVER

The proposed in-basin power line and substation improvements would create new land coverage in the following LCDs: 1a, 1b, 1c, 2, 3, 4, 5, and 6 (see Impacts 4.5-5 [Alt. 1], 4.5-5 [Alt. 2], 4.5-5 [Alt. 3], and 4.5-5 [Alt. 4] in Section 4.5, Geology, Soils, Land Capability and Coverage). The proposed upgrades to both the Tahoe City Substation and the Kings Beach Substation would create new land coverage in LCD 5; however, the total proposed coverage would fall within the base allowable coverage for each parcel (see Table 4.5-7). At the Kings Beach Substation, LCDs 1b and 6 currently have pre-existing excess coverage and would require removal of excess coverage or the payment of appropriate mitigation fees as determined by TRPA at the time of permit issuance.

The increases in land coverage associated with the power lines would be limited to improvement of existing roads and installation of taller poles requiring foundations. Refer to Table 4.5-6, Summary of Preliminary Land Coverage Increases by LCD for Improved Unpaved Roads and Poles Associated with the Action Alternatives, for the coverage increase associated with the power line component of each alternative by LCD. Table 5-7 presents the potential net increase in land coverage for LCDs 1b and 2 associated with the power line improvements.

Alternative	Net Increase in Land Coverage (Acres/Square Feet)	
	LCD 1b	LCD 2
1 (PEA)	0.0032 ac. /141 ft <sup>2</sup>	0.0006 ac. /28 ft <sup>2</sup>
2 (Modified)	0.0026 ac. /113 ft <sup>2</sup>	0.0006 ac./28 ft <sup>2</sup>
3 (Road Focused)	0.0032 ac./141 ft <sup>2</sup>	0.0012 ac./56 ft <sup>2</sup>
3A (Road Focused with Double Circuit Option)	0.0019 ac./85 ft <sup>2</sup>	0.0012 ac./56 ft <sup>2</sup>
4 (Proposed)	0.0019 ac./85 ft <sup>2</sup>	0.0012 ac./56 ft <sup>2</sup>

Prior to TRPA permit acknowledgement, a land coverage verification application would be submitted by the applicant and verified by TRPA. All increases in land coverage associated with the project would occur in compliance with the TRPA land classification system and coverage requirements, as required by Chapter 30 of the TRPA Code. Any required coverage transfers would occur in accordance with Section 30.4 of the TRPA Code.

The non-attainment status of LCDs 1b and 2 is a result of existing coverage (TRPA 2012a). The 2012 TRPA Regional Plan Update included provisions that would move LCDs 1b and 2 toward attainment. Those measures generally include: an excess coverage mitigation program to accelerate removal of coverage in sensitive lands, requirements that coverage reductions in LCDs 1b and 2 occur under a comprehensive coverage management system, and requirements that illegal coverage be removed as a condition of individual project approvals (TRPA 2012b).

Because TRPA has implemented policies to bring LCDs 1b and 2 toward attainment on a region-wide basis, and because implementation of the action alternatives would increase coverage consistent with the TRPA land classification system and coverage requirements, these alternatives would not hinder progress toward attainment of the Threshold Standard for impervious land coverage.

## STREAM ENVIRONMENT ZONE

The Threshold Standard for the Stream Environment Zone Indicator Reporting Category is to preserve existing naturally functioning SEZ lands in their natural hydrologic condition, restore all disturbed SEZ lands in undeveloped, un-subdivided lands, and restore 25 percent of the SEZ lands that have been identified as disturbed, developed or subdivided, to attain a 5 percent region-wide increase in the area of naturally functioning SEZ lands. Numerical parameters are not available for preservation of existing naturally functioning SEZ lands, or disturbed SEZ lands in undeveloped, un-subdivided lands. The management standard for SEZ preservation is implemented through the TRPA permit compliance program. Progress towards achieving the standard of 25 percent restoration of disturbed, developed, or subdivided SEZ lands is underway; the region is about half way (approximately 50 percent) towards meeting this target (TRPA 2012a).

The power line component of the project within the Lake Tahoe Basin would cross several verified SEZ areas. The acreages of the project footprint intersecting SEZs are shown in Table 4.7-9 in Section 4.7, Biological Resources, and are reprinted below in Table 5-8. The values in Table 5-8 show the acreage of SEZ within the permanent power line ROW and temporary construction ROW. However, because power lines would typically span over SEZs, limiting or eliminating impacts, the construction corridor would be reduced in sensitive habitat areas, and various APMs would be implemented to avoid and minimize impacts in these areas (Chapter 4.7, Biological Resources, identifies APMs that would be protective of biological resources), the values presented here are considered a maximum and likely overestimate the area of actual impacts.

	Alternative 1 (PEA)		Alternative 2 (Modified)		Alternative 3 (Road Focused)		Alternative 3A (Road Focused with Double Circuit Option Segment)		Alternative 4 (Proposed)	
	Perm	Temp	Perm	Temp	Perm	Temp	Perm	Temp	Perm	Temp
SEZ (acres)	3.1	2.2	3.4	0.9	3.6	1.6	2.3	1.6	3.6	1.6

In addition, because SEZ areas are often classified as wetlands or riparian areas, they are offered protection through permit conditions administered by federal, state, and local government agencies, as well as by TRPA. Project design features and permit conditions would minimize effects to SEZ areas by avoiding or minimizing soil disturbance within wet or sensitive areas, limiting surface disturbance to between May 1 and Oct 15, requiring

implementation of temporary and permanent water quality BMPs, development of a Stormwater Pollution Prevention Plan and TRPA approved Dewatering Plan, restoration of soil function and organic matter following project implementation, and restoration of protective ground and vegetative cover (relevant agency permit conditions are discussed in detail in Section 4.5, Geology, Soils, Land Capability and Coverage; Section 4.6, Hydrology and Water Quality; and Section 4.7, Biological Resources). In addition to these protective measures, where impacts to SEZs within the Lake Tahoe Basin are unavoidable, CalPeco would mitigate all impacts within the boundaries of SEZs by restoring SEZ habitat in the surrounding area at a minimum ratio of 1.5:1, consistent with TRPA Code (Also see Mitigation Measure 4.7-2b, Compensate for Unavoidable Loss of SEZ). Because protective measures are incorporated into the design of the action alternatives and permit conditions, there are mitigation measures directed at the protection of SEZs, and because coverage increases in SEZ areas would occur consistent with TRPA regulations, the action alternatives would not be expected to impede or degrade the ability to achieve attainment of the SEZ Threshold Standard.

## 5.8.2 WATER QUALITY

This section summarizes the effects of implementing the action alternatives on the Indicator Reporting Categories and associated Threshold Standards established by TRPA for water quality. As indicated in Section 4.6, Hydrology and Water Quality, the action alternatives are not anticipated to result in direct impacts to Lake Tahoe or other area lakes. Additional information regarding the project's effect on water quality can be found in Section 4.6, Hydrology and Water Quality. The following water quality Indicator Reporting Categories have been established by TRPA and are applicable to the project:

- ▲ Tributaries,
- ▲ Surface Runoff, and
- ▲ Groundwater.

According to the 2011 Threshold Evaluation (TRPA 2012a), the status for the Tributaries Threshold Standard is "somewhat worse than target" with trend toward moderate improvement. The status and trend of the Surface Runoff and Groundwater threshold standards could not be determined due to insufficient data or lack of an established target.

### TRIBUTARIES

The Threshold Standard for the Tributaries Indicator Reporting Category is to attain the applicable state standards for concentration of dissolved inorganic nitrogen, dissolved phosphorus, and dissolved iron. In addition, a target has been set to reach suspended sediment concentrations of 60 milligrams per liter (mg/L) for the 90th percentile of monitoring sites.

The ROW for the proposed project crosses several tributaries to Lake Tahoe, as well as other drainages and wet meadows. The soil disturbance caused by project activities could lead to an increase in sediment and nutrient transport to tributaries. However, this potential would be minimized through adherence to stringent federal, state, local, and TRPA regulations that require implementation and continual monitoring and maintenance of BMPs to protect water quality, as well as implementation of APMs and mitigation measures that would further protect water quality (relevant agency permit conditions, APMs, and mitigation measures are discussed in detail in Section 4.5, Geology, Soils, Land Capability and Coverage; Section 4.6, Hydrology and Water Quality; and Section 4.7, Biological Resources). Because these protections are in place, implementation of the action alternatives would not hinder progress toward attainment of the water quality threshold for tributaries.

## SURFACE RUNOFF

Increased surface runoff in the Lake Tahoe Basin is a direct result of an increase in impervious and heavily compacted surfaces within the Lake Tahoe watershed. These heavily compacted or impervious areas reduce stormwater infiltration, thereby increasing runoff.

The proposed project could increase impervious and heavily compacted area through installation of power pole infrastructure (e.g., concrete foundations for self-supporting poles) and substation upgrades. New access ways would be equivalent to two-track dirt pathways and would not be subject to heavy compaction. Any increase in impervious surfaces associated with substation upgrades and pole infrastructure would be small and would be unlikely to make appreciable contributions to surface runoff that could reach other surface waters. If it was found that project features would generate substantial runoff, various existing laws, regulations, and programs would require installation of stormwater and drainage control measures in order to infiltrate those increases on site and avoid impacting downstream surface waters. Examples of regulatory measures are the stringent requirements for stormwater and erosion control contained in the Lahontan Water Quality Control Plan, the Lake Tahoe Total Maximum Daily Load Program, and existing National Pollutant Discharge Elimination System (NPDES) permits. As a result of these protections, increases in surface runoff and erosion would be avoided or minimized; therefore, implementation of the action alternatives would not hinder attainment of the Surface Runoff Threshold Standard.

## GROUNDWATER

The uniform Regional Runoff Quality Guidelines were established in *the Draft Environmental Threshold Carrying Capacity Study report, May, 1982*. These guidelines specify that waters infiltrated into soils should not contain excessive concentrations of nutrients which may not be effectively filtered out by soil vegetation (TRPA 2012a). Maximum concentrations for nutrients and other constituents are: Total nitrogen 5 mg/L, Total phosphate 1 mg/L, iron 4 mg/L, turbidity 200 nephelometric turbidity units, grease and oil 40 mg/L. Also, where there is a direct connection between surface water and groundwater, discharges to groundwater must meet surface water discharge requirements.

Implementation of the action alternatives may require excavation to depths where groundwater is present. If groundwater is encountered, a TRPA-approved dewatering plan would be implemented. This dewatering plan would include methods to protect groundwater during excavations from potential sediment and contaminant releases. Additionally, the dewatering plan would include methods to clean up and to control potentially sediment-laden water produced by dewatering activities. Implementation of the dewatering plan and compliance with the Lahontan Water Quality Control Plan, the Lake Tahoe Total Maximum Daily Load Program, and existing NPDES permits would avoid or minimize any impacts to groundwater. Therefore, implementation of the action alternatives would not affect the attainment status of the Threshold Standard for groundwater.

### 5.8.3 FISH HABITAT

This section summarizes the effects of implementing each of the action alternatives on the environmental threshold standards established by TRPA for fish habitat. The Indicator Reporting Categories and associated Threshold Standards related to biological resources, including Fish Habitat, are described in Section 4.7, Biological Resources. Four fish habitat Indicator Reporting Categories have been established by TRPA:

- ▲ Lake Habitat,
- ▲ Stream Habitat,
- ▲ Instream Flows, and
- ▲ Lahontan Cutthroat Trout.

## LAKE HABITAT

The Threshold Standard for the Lake Habitat Indicator Reporting Category is to apply a nondegradation standard to fish habitat in Lake Tahoe and achieve the equivalent of 5,948 total acres of excellent (prime) habitat. The current status of this Indicator Reporting Category is attainment with the Threshold Standard. Implementing the action alternatives would not affect Lake Tahoe or change fish habitat conditions in the lake; therefore, implementing any of the action alternatives would not affect attainment of this Threshold Standard.

## STREAM HABITAT

The Threshold Standard for the Stream Habitat Indicator Reporting Category is to “maintain 75 miles of excellent, 105 miles of good, and 38 miles of marginal stream habitat.” The current status of this Indicator Reporting Category is unknown because of lack of data (TRPA 2012a). Implementing Alternative 1 (PEA Alternative), Alternative 2 (Modified Alternative), Alternative 3 (Road Focused Alternative) or Alternative 4 (Proposed Alternative) would not change stream habitat conditions in the study area. As described in Impact 4.7-7 for each action alternative, construction activities such as vegetation clearing, pole installation, pole removal, creation of access ways, and staging near aquatic habitats could temporarily result in adverse impacts to fish and aquatic habitat, including removal of riparian vegetation; potential accidental spill and contamination from construction chemicals, fuels, or other hazardous materials; increased erosion, downstream sedimentation, and turbidity; small amounts of fill placed in aquatic habitats; and direct mortality or injury of fish and other aquatic species caused by equipment passing through aquatic habitat. However, the project’s design, construction methods, incorporation of several APMs designed to protect aquatic resources, and implementation of Mitigation Measures 4.7-2a and 4.7-2b (Alt. 1, 2, 3, and 4) (Compensate for Unavoidable Loss of Stream and Riparian Habitat, and Compensate for Unavoidable Loss of SEZ) would minimize, avoid, and compensate for these potential impacts to aquatic habitats. Specifically, these measures require that: 1) aquatic habitat is avoided to the extent feasible; 2) aquatic habitats that cannot be avoided are restored following construction; 3) any unavoidable losses would be compensated for in a manner that results in no net loss of aquatic habitats; and 4) project implementation is consistent with the aquatic and riparian habitat protection provisions of Fish and Game Code Section 1602. Because any residual effects on aquatic habitats would be minor, temporary, and mitigated; the no net loss standard would be implemented; and there would be no permanent impacts to the quality, amount, or function of aquatic habitats, implementation of the action alternatives would not affect the attainment status of the Stream Habitat Indicator Reporting Category. Additionally, the existing 625 Line would be decommissioned and native vegetation would be allowed to regenerate within the approximately 20-foot wide corridor that is currently managed to limit vegetation height. In those areas that contain stream and riparian habitat, eliminating existing disturbances associated with required access and maintenance of the existing 625 Line could benefit stream and riparian habitats.

## INSTREAM FLOWS

The Threshold Standard for the Instream Flow Indicator Reporting Category states that “until instream flow standards are established in the Regional Plan to protect fishery values, a nondegradation standard shall apply to instream flows.” The current status of the threshold is attainment. Under all of the action alternatives, temporary dewatering could occur during work near some streams in the Lake Tahoe Basin, including the Truckee River and Griff Creek, which could temporarily affect stream flows. Additionally, although equipment operation is not anticipated within stream channels and implementation of APM WQ-7 and other APMs would minimize equipment use and crossing through the bed and bank of a channel, the crossing of small stream channels by vehicles and equipment for construction access may be unavoidable in some cases. However, the project’s design, construction methods, incorporation of several APMs designed to protect aquatic resources, and implementation of Mitigation Measures 4.7-2a and 4.7-2b (Alt. 1, 2, 3, and 4) (Compensate for Unavoidable Loss of Stream and Riparian Habitat, and Compensate for Unavoidable Loss of SEZ) would minimize, avoid, and compensate for these potential impacts to aquatic habitats; and no permanent effects on stream flows would

occur. Specifically, these measures require that: 1) aquatic habitat is avoided to the extent feasible; 2) aquatic habitats that cannot be avoided are restored following construction; 3) any unavoidable losses would be compensated for in a manner that results in no net loss of aquatic habitats; and 4) project implementation is consistent with the aquatic and riparian habitat protection provisions of Fish and Game Code Section 1602. Because any residual effects on aquatic habitats would be minor, temporary, and mitigated, the no net loss standard would be implemented, and there would be no permanent impacts to stream flow or the quality, amount, or function of aquatic habitats, implementation of the action alternatives would not affect the attainment status of the Instream Flow Indicator Reporting Category.

## LAHONTAN CUTTHROAT TROUT

The Threshold Standard for the Lahontan Cutthroat Trout Indicator Reporting Category is “support, in response to justifiable evidence, State and Federal efforts to reintroduce Lahontan cutthroat trout.” The current status of the threshold is attainment. Implementing the action alternatives would not change habitat conditions for Lahontan cutthroat trout in the project area, or conflict with reintroduction efforts. As discussed in Section 4.7, Biological Resources, although Lahontan cutthroat trout could occur in the study area at Segment 625-1, it is not presently known nor expected to occur in the study area. USFWS considers all of the Truckee River as having potential to be occupied by Lahontan cutthroat trout, given past stocking efforts in the Truckee River and in Lake Tahoe; however, USFWS considers the potential for LCT to occur at Segment 625-1 to be low. For the same reasons described for the Lake Habitat and Stream Habitat Indicator Reporting Categories, the condition of Lake Tahoe or streams in the Lake Tahoe Basin would not be impaired. Therefore, implementing any of the action alternatives would not affect attainment of the Threshold Standard.

### 5.8.4 VEGETATION

This section summarizes the effects of implementing each of the action alternatives on the environmental threshold standards established by TRPA for vegetation. Four vegetation Indicator Reporting Categories have been established by TRPA:

- ▲ Common Vegetation,
- ▲ Uncommon Plant Communities,
- ▲ Sensitive Plants, and
- ▲ Late Seral and Old Growth.

#### COMMON VEGETATION

The Threshold Standard for the Common Vegetation Indicator Reporting Category includes increasing plant and structural diversity of forest and other vegetation communities through appropriate management practices as measured by diversity indices of native vegetation community richness, relative abundance, and pattern. The Common Vegetation Indicator Reporting Category includes separate standards for diversity and pattern of vegetation types and relative abundance for conifer forest, meadow and wetland, shrub, and deciduous riparian vegetation types that are applied basin-wide. The Indicator Reporting Category also applies a nondegradation Threshold Standard for native deciduous trees, wetlands, and meadows to provide for increases in riparian associations consistent with the Soil Conservation Threshold Standard.

For conifer forests, the TRPA Threshold Standard is to maintain 15 to 25 percent of yellow pine and red fir forests in seral stages other than mature to ensure that relatively young age classes of these forest types are represented in the Lake Tahoe Basin. TRPA’s metric for this Threshold Standard is the relative proportion of tree stands dominated by small and large diameter trees in seral stages other than mature (less than 10.9 inches in diameter at breast height). The Threshold Standard for shrub vegetation is to maintain no more than 25 percent of undisturbed vegetation cover in the basin in shrub-dominated associations. For meadow, wetland, and

deciduous riparian vegetation types, the Threshold Standard is to maintain at least 4 percent of each of these types in the Lake Tahoe Basin. The current status of the common vegetation threshold is nonattainment (considered worse than target) overall and for the specific indicators of: 1) proportion of red fir and yellow pine stands in small diameter size classes; and 2) relative abundance of meadow, wetland, and deciduous riparian vegetation types. The Threshold Standards for the indicators of community species richness and relative abundance of the shrub vegetation type are attainment (at or better than target condition).

Implementing the action alternatives would result in the permanent loss of approximately 80 to 130 acres of conifer forest depending on the action alternative (see Table 4.7-8, Acreage of Common Vegetation Community/Habitat Types in the Permanent and Temporary Right of Way of Each Action Alternative). This does not take into account that abandonment of the existing 625 Line alignment would allow the restoration of approximately 21 to 26 acres of forestland depending on the action alternative. Implementing any of the alternatives would not affect the attainment status of the Threshold Standards for conifer forests, because none of the alternatives would affect the overall diversity or pattern of common vegetation types throughout the Lake Tahoe Basin, or reduce the amount of yellow pine and red fir stands within seral stages other than mature and/or characterized by small size classes. In the project area, conifer forest stands include a range of size classes; however, stands are generally characterized as even-aged with uniform composition and structure containing larger trees.

Implementing the action alternatives would result in the permanent disturbance or removal of between approximately 12 acres (Alternative 4) and 20 acres (Alternatives 3 and 3A) of shrub-dominated vegetation communities (see Table 4.7-8, Acreage of Common Vegetation Community/Habitat Types in the Permanent and Temporary Right of Way of Each Action Alternative). This would not affect the attainment status of the common vegetation Threshold Standard for shrub communities because it would not be sufficient to change the relative proportion of shrub-dominated vegetation cover in the Lake Tahoe Basin.

Implementing the action alternatives would result in loss of up to approximately 4 acres of deciduous riparian vegetation, and the permanent disruption of between 1.5 acres (Alternatives 3 and 3A) and 5.8 acres (Alternative 2) of meadow and wetland vegetation across the entire project (See Table 4.7-9, Acreage of Sensitive Vegetation Community/Habitat Types in the Permanent and Temporary ROW of Each Action Alternative). Short-term construction-related effects would be avoided or substantially reduced by implementing APMs incorporated into the project (described in Section 4.7, Biological Resources), implementing mitigation measures, and meeting the terms and conditions of permits; and any loss of riparian, wetland, and meadow habitat would be compensated to achieve a no net loss of these habitat types. Therefore, implementing the project would not conflict with the Threshold Standard of maintaining at least 4 percent meadow and wetland vegetation and 4 percent deciduous riparian vegetation in the Lake Tahoe Basin. Consequently, implementing the action alternatives would not reduce the distribution, abundance, and quality of common vegetation types over the region in a manner that would affect the attainment status of the common vegetation Threshold Standard.

## UNCOMMON PLANT COMMUNITIES

The Threshold Standard for the Uncommon Plant Communities Indicator Reporting Category calls for providing the nondegradation of the natural qualities of any plant community that is uncommon to the Lake Tahoe Basin or of exceptional scientific, ecological, or scenic quality. The current status of this Threshold Standard is attainment overall, with some individual locations of uncommon plant communities in nonattainment (Upper Truckee Marsh, Pope Marsh, Osgood Swamp). No uncommon plant communities are known to occur within the project area. Therefore, none of the action alternatives would contribute to non-attainment of this Threshold Standard.

## SENSITIVE PLANTS

The Threshold Standard for the Sensitive Plants Indicator Reporting Category is to maintain the following minimum number of population sites for TRPA special-interest plant species: Galena Creek rockcress (*Arabis rigidissima* var. *demota*) (seven sites), long-petaled lewisia (*Lewisia longipetala*) (two sites), Cup Lake draba (*Draba asterophora* var. *macrocarpa*) (two sites), Tahoe draba (*Draba asterophora* var. *asterophora*) (five sites), and Tahoe yellow cress (*Rorippa subumbellata*) (26 sites). The current status of this threshold is attainment overall for long-petaled lewisia, Cup Lake draba, Tahoe draba, and Tahoe yellow cress. The attainment status of the Galena Creek rockcress indicator is unknown because of insufficient information.

Of these plant species, only Galena Creek rockcress occurs in the project area, although none have been confirmed within the footprint of the action alternatives. Under the action alternatives, damage to or loss of Galena Creek rockcress as a result of construction activities would be avoided through preconstruction surveys and avoidance measures, and compensation (e.g., relocation; seed collection, propagation, and replanting) would be provided if avoidance is not possible (as described in Section 4.7, Biological Resources). Therefore, implementing any of the action alternatives would either not remove or degrade population sites for Galena Creek rockcress through complete avoidance, or would fully compensate for adverse effects in the unlikely event that full avoidance was not possible. Thus, the action alternatives would not affect the attainment status of the Sensitive Plants Threshold Standard.

## LATE SERAL/OLD GROWTH

The Threshold Standard for the Late Seral/Old Growth Indicator Reporting Category is to attain and maintain a minimum of 55 percent by area of forested lands within the Lake Tahoe Basin in a late seral or old-growth condition, distributed across elevation zones. Forested lands within TRPA-designated urban areas are excluded in the calculations for threshold standard attainment. The current status of this threshold is nonattainment (considerably worse than target) overall and for each elevation zone.

Minimal acreage of mapped late seral/old growth forest exists within the project area that may be affected by implementation of the action alternatives. Though the specific number of late seral/old growth trees that would be removed is not known, it would undoubtedly be more than 100 trees 14 inches or greater diameter at breast height and would include a large number that are greater than 24 inches diameter at breast height. The estimated acreage of permanently lost late seral/old growth forest would be between approximately 0.4 acres (PEA Alternative) and 0.6 acres (Modified, Road Focused, and Proposed Alternatives). APMs have been incorporated into the project design to avoid and minimize tree removal and loss or degradation of old growth forest stands to the extent feasible (see Section 4.7, Biological Resources). Any unavoidable loss of late seral/old growth forest would be compensated through development and implementation of a forest management plan to facilitate establishment of late seral/old growth forest stands and enhance existing late seral/old growth forest stands. The forest management plan would include management actions, such as fuels and vegetation treatments, to facilitate and enhance old-growth development within the existing 625 Line to be removed and/or other potential treatment areas. The forest management plan would clearly describe how the project would achieve TRPA threshold standards for late seral/old growth forest enhancement, identify priority locations where enhancement actions could be implemented to achieve the plan's objectives, and include a funding component for late seral/old growth forest enhancement projects. The management plan would result in full compensation, over time, for late seral/old growth acreage affected by project implementation. Therefore, implementing any of the action alternatives would not affect the attainment status of this Threshold Standard.

## 5.8.5 WILDLIFE HABITAT

This section summarizes the effects of implementing each of the action alternatives on the environmental threshold standards established by TRPA for wildlife habitat. Two wildlife habitat Indicator Reporting Categories have been established by TRPA:

- ▲ Special Interest Species, and
- ▲ Habitats of Special Significance.

### SPECIAL INTEREST SPECIES

The Threshold Standard for the Special Interest Species Indicator Reporting Category is to provide a minimum number of population sites for six TRPA special-interest wildlife taxa: northern goshawk (*Accipiter gentilis*) (12 sites), osprey (*Pandion haliaetus*) (four sites), bald eagle (*Haliaeetus leucocephalus*) (two winter sites and one nesting site), golden eagle (*Aquila chrysaetos*) (four sites), peregrine falcon (*Falco peregrinus*) (two sites), and waterfowl (18 sites). Mule deer (*Odocoileus hemionus*) is also a special-interest species; however, no threshold site number for deer has been specified. Lands within TRPA-designated urban areas are excluded from the standards for threshold attainment. The current status of this Indicator Reporting Category is attainment of the Threshold Standard overall and for bald eagle nesting, osprey, and peregrine falcon. The current status for northern goshawk and waterfowl is nonattainment. The attainment status for golden eagle is unknown due to insufficient information. No attainment status has been established for bald eagle wintering or deer.

### OSPREY, BALD EAGLE, GOLDEN EAGLE, PEREGRINE FALCON, AND WATERFOWL

None of the action alternatives would affect designated waterfowl threshold areas or breeding sites or disturbance zones for osprey, bald eagle, golden eagle, and peregrine falcon. Additionally, with implementation of the applicable APMs (described in Section 4.7, Biological Resources) none of the action alternatives are expected to substantially affect the distribution, breeding productivity, viability, or the regional population of any TRPA special-interest wildlife species. This conclusion is based on the following: 1) although individuals of some of these species could be disturbed during project construction, disturbances to breeding activities and effects on reproductive success, and the potential for direct mortality would be avoided or minimized; 2) impacts to suitable habitat would be minimized or avoided; 3) tree and other vegetation removal would be minimized, and habitat would be restored to preproject conditions in temporary construction areas; 4) no occupied nest sites or known perch trees would be removed; and 5) the unavoidable loss of potential habitat would be small relative to the total amount available in the area. Therefore, implementing any of the action alternatives would not affect the attainment status for osprey, bald eagle, golden eagle, peregrine falcon, or waterfowl.

Although deer is a TRPA special-interest species, no Threshold Standard has been adopted and no attainment target applies to this species. However, TRPA does not permit projects that would degrade fawning habitat or fragment known migration corridors (TRPA 2012a). As described in Section 4.7, Biological Resources, no substantial permanent impacts to mule deer fawning, foraging, or movement habitat throughout the project area are anticipated as a result project implementation, and no habitat loss would occur within any known fawning areas. Because the new 650 and 625 Lines would be placed in the same general areas as the existing lines within the herd's migratory and summer range, and the overhead power lines would not create local landscape-level barriers to movement that would redirect migration, the project would not introduce any new large linear corridors or other structures that could deter or prevent mule deer from using traditional areas throughout its range.

## NORTHERN GOSHAWK

Implementing Alternative 1 (PEA Alternative), Alternative 2 (Modified Alternative), Alternative 3 (Road Focused Alternative), or Alternative 4 (Proposed Alternative) would initially result in the permanent new loss or disturbance of up to 3.9, 7.1, 1.6, or 1.6 acres of forest habitat, respectively, within the nonurban portion of three partially-overlapping TRPA disturbance zones for northern goshawk near Griff Creek (see Section 4.7, Biological Resources, Table 4.7-10 and Exhibit 4.7-5). However, under Alternative 3A (Road Focused Alternative with Double Circuit Option) and Alternative 3 (Road Focused Alternative), no habitat within the nonurban portion of disturbance zones would be affected (see Table 4.7-10). Compared to the Threshold Standard of 12 reproductively active goshawk territories, the number of known active territories in the Tahoe Basin during 1997–2010 has fluctuated between two and 11 (TRPA 2012a). Of the known reproductively active territories during the last five-year Threshold Evaluation period of 2006–2010, as mapped and displayed in the latest Threshold Evaluation Report (TRPA 2012a), none are included in the study area. The goshawk disturbance zones that overlap with the study area are associated with historic nests not known to be active in recent years. However, goshawks often shift their nest locations within a population among years, and these former territories could become reoccupied and reproductively active again in the future. No recent or historic northern goshawk nest sites are known to occur within the study area where potential habitat would be removed.

Over the long term, because the existing 625 Line would be decommissioned and vegetation would be allowed to reestablish within the existing 20-foot ROW, the net permanent disturbance/loss under Alternative 1 (PEA Alternative) and Alternative 2 (Modified Alternative) would be reduced to approximately 3.2 and 6.4 acres, respectively, in the nonurban portion of TRPA disturbance zones. Under Alternative 3 (Road Focused Alternative), Alternative 3A (Road Focused Alternative with Double Circuit Option), and Alternative 4 (Proposed Alternative), a net gain or enhancement of 0.3, 2.3, and 0.3 acres, respectively, within the nonurban portion of the TRPA disturbance zones would be expected to occur over the long term (see Table 4.7-10). Forest or other native vegetation recruitment, development, and succession within the decommissioned ROWs would benefit goshawk habitat in those areas, by providing additional cover and foraging habitat for goshawks and their prey species; some of these benefits (e.g., enhanced prey/foraging habitat) could be realized within a few years following ROW abandonment. Additionally, APM BIO-37 requires that decommissioned ROWs be evaluated for soil compaction or other factors that could limit the recruitment and reestablishment of native vegetation over time, and apply appropriate treatments to facilitate native vegetation development as needed. Although the decommissioned ROWs would not support mature trees for decades, and some locations may only support non-forest vegetation types (e.g., chaparral) naturally, the development and succession of native vegetation and multiple seral stages within the abandon ROWs over time would contribute to suitable goshawk habitat and territories. Goshawk habitat is typically a mosaic of nesting and foraging habitats, consisting of mature forest stands interspersed with patches of native shrub and herbaceous vegetation (Youtz et al. 2008).

With implementation of the applicable APMs described in Section 3.7, Biological Resources, none of the action alternatives are expected to substantially affect the distribution, breeding productivity, viability, or the regional population of northern goshawk. This conclusion is based on the following: 1) although individuals could be disturbed during project construction, disturbances to breeding goshawks, effects on reproductive success, and the potential for direct mortality would be avoided or minimized; 2) tree and other vegetation removal would be minimized, and habitat would be restored to preproject conditions in temporary construction areas; 3) no occupied or historic nest sites would be removed; and 4) the permanent loss of potential habitat would be small relative to the total amount available in the area, and likely limited primarily to foraging habitat. (See Section 4.7, Biological Resources, for the full analysis of impacts to northern goshawk.) Therefore, because effects on goshawk reproductive success, territory occupancy, or population size are not expected, implementation of any of the action alternatives is not expected to affect attainment of the Threshold Standard for northern goshawk (maintain a minimum of 12 reproductively active territories). However, despite implementation of the APMs, the long-term habitat gains or enhancements where the existing 625 Line would be removed, and the finding that the action alternatives are not expected to substantially affect goshawk individuals or populations or affect

attainment of the Threshold Standard, vegetation removal under Alternative 1 (PEA Alternative) and Alternative 2 (Modified Alternative) would result in a net permanent habitat loss within TRPA-designated disturbance zones around historic northern goshawk nests in nonurban areas (3.2 acres under Alternative 1 [PEA Alternative]; 6.4 acres under Alternative 2 [Modified Alternative]). This impact would conflict with TRPA's habitat nondegradation standard for goshawk disturbance zones and is prohibited by TRPA. Implementation of Alternative 3 (Road Focused Alternative) or Alternative 4 (Proposed Alternative) would not conflict with the nondegradation standard, because a small net gain or enhancement of habitat within the nonurban portion of the disturbance zones relative to existing conditions would occur.

## HABITATS OF SPECIAL SIGNIFICANCE

The Threshold Standard for the Habitats of Special Significance Indicator Reporting Category is to apply a nondegradation standard to habitats consisting of deciduous trees, wetlands, and meadows while providing for opportunities to increase the acreage of such riparian associations. These opportunities include but are not limited to preserving existing naturally functioning SEZ lands in their natural hydrologic condition; restoring all disturbed SEZ lands in undeveloped, unsubdivided lands; and restoring 25 percent of the SEZ lands that have been identified as disturbed, developed, or subdivided, to attain a 5 percent total increase in the naturally functioning SEZ land. The current status of the Indicator Reporting Category is attainment with the Threshold Standard. As described for the meadow, wetland, and deciduous riparian components of the Common Vegetation Threshold Standard, short-term construction-related effects under the action alternatives would be avoided or substantially reduced by implementing APMs incorporated into the project, implementing proposed mitigation, and meeting the terms and conditions of permits; and any loss of riparian, wetland, and meadow habitat would be compensated for to achieve a no net loss of these habitat types or functions. Therefore, implementing any of the action alternatives would not affect the attainment status of the Habitats of Special Significance Indicator Reporting Category.

### 5.8.6 SCENIC RESOURCES

This section describes the effects of the action alternatives on TRPA environmental threshold standards for scenic resources. The following scenic Indicator Reporting Categories have relevance to the proposed project:

- ▲ Roadway and Shoreline Units,
- ▲ Other Areas, and
- ▲ Built Environment.

The action alternatives have the potential to negatively affect TRPA Indicator Reporting Categories for Scenic Resources. These consequences would be avoided by applying the (APMs provided in Section, 3.7, Applicant Proposed Measures, and in particular, those specifically addressing scenic resources.

## ROADWAY AND SHORELINE UNITS

Some components of the 625 and 650 Electrical Line Upgrade Project would occur within TRPA Roadway Travel Units. The Tahoe City Substation would be seen within Roadway Travel Unit 14 – Tahoe Tavern and Roadway Travel Unit 15 – Tahoe City. Segment 625-1 would be seen within Roadway Travel Unit 42 – Outlet to Lower Truckee River and Roadway Travel Unit 15 – Tahoe City. Segment 650-2 would be seen within Roadway Travel Unit 41 – Brockway Summit. Existing components that would be upgraded by the project are in view in each of these units. The Tahoe City Substation would be upgraded in all four of the action alternatives.

The rebuilt Tahoe City Substation would be more visible from SR 89 than the existing substation because trees that provide screening from the highway would have to be removed. The poles used to rebuild the power lines

would be larger than the existing poles in segments 625-1 and 650-2. The increased visual presence of the substation and the larger power poles would add to the amount of man-made features that are visible. This could cause a reduction in travel route ratings due to lower man-made features subcomponent scores.

The original travel route rating assigned to Roadway Travel Unit 42 – Outlet to Lower Truckee River was 10. This was below the scenic threshold target of 15.5. Over time, some improvement projects within the unit resulted in increases in the travel route rating from 10 to 13, where it stands today. This rating is below the scenic threshold target of 15.5. The original travel route rating assigned to Roadway Travel Unit 14 – Tahoe Tavern was 13. This was below the scenic threshold target of 15.5. Over time, various improvement projects within the unit resulted in increases in the travel route rating from 13 to 15.5, where it currently stands. This rating meets the scenic threshold target but does not exceed it. The original travel route rating assigned to Unit 15 – Tahoe City was 12. Improvement projects implemented over time produced increases in the travel route rating from 12 to 16.5, which exceeds the scenic threshold target. The original travel route rating assigned to Unit 41 in 1982 was 21 and was thereby established as the threshold standard for this unit because it exceeded the minimum target rating of 15.5. The rating for this unit has remained at 21 since 1982, consistently exceeding the threshold target.

Any reduction in the travel route rating of Unit 42 – Outlet to Lower Truckee River would cause the rating to fall further below the threshold target of 15.5 than it currently is. Any reduction in the travel route rating of Unit 14 – Tahoe Tavern would fail to meet the threshold target of 15.5. Any reduction in the travel route rating of Unit 41 – Brockway Summit would fail to meet the threshold target of 21. A reduction of 0.5 to 1.0 in the travel route rating of Unit 15 – Tahoe City would still meet the threshold target of 15.5 but a reduction greater than 1.0 would drop the rating below the threshold target.

Scenic quality ratings within Roadway Travel Unit 14 – Tahoe Tavern, Unit 15 – Tahoe City, Unit 41- Brockway Summit, and Unit 42 – Outlet to Lower Truckee River could be adversely affected by implementing any of the action alternatives. Within Roadway Travel Unit 14 – Tahoe Tavern, Scenic Resource 14.1 consists of views of the landscape from SR 89 adjacent to the 64-Acre Recreation Site. The rebuilt Tahoe City Substation would be seen in such views. Within Roadway Travel Unit 15 – Tahoe City, Scenic Resource 15.6 includes views down the Truckee River and surrounding areas from Fanny Bridge. The rebuilt 625 Line would be seen on the south bank of the river under Alternative 1 (PEA Alternative), 3 (Road Focused Alternative), and Alternative 4 (Proposed Alternative). Within Roadway Travel Unit 41 – Brockway Summit, Scenic Resource 41.1 consists of views looking south from SR 267 that include the highway corridor with Lake Tahoe seen in the distance. The rebuilt 650 Line would be seen along the east side of the highway under Alternative 1 (PEA Alternative), Alternative 3 (Road Focused Alternative), and Alternative 4 (Proposed Alternative). Within Roadway Travel Unit 42 – Outlet to the Truckee River, Scenic Resource 42.6 consists of views of the landscape from SR 89 that include the Truckee River.

Scenic quality ratings are non-degradation standards; that is, the numerical rating assigned to individual scenic resources in 1982 must be maintained. The Scenic Quality Rating for each of the scenic resource listed above has not changed from the original 1982 rating. Thus, the ratings meet the Threshold Standard for Scenic Quality Ratings. Some proposed project components would be seen within the same landscape context as the four scenic resources. The visual presence of the action alternatives could negatively affect one or more of the composite rating subcomponents which include unity, vividness, variety, and intactness. This in turn would cause a reduction in the scenic quality ratings. However, as stated above, these consequences would be avoided by applying the APMs provided in Section, 3.7, Applicant Proposed Measures, and in particular, those specifically addressing scenic resources.

## OTHER AREAS

Segment 625-1 under Alternative 1 (PEA Alternative), Alternative 3 (Road Focused Alternative), and Alternative 4 (Proposed Alternative) would be seen from the Truckee River Bike Trail. Under Alternative 2 (Modified Alternative), Segment 625-1A would be in view from inside the 64-Acre Recreation Site. TRPA's 1993 inventory of public recreation areas and bike trails does not include the 64-Acre Recreation Site that now serves as a recreation area for the Truckee River Bike Trail because these recreation facilities did not exist at the time the inventory was developed. The TRPA intends to update the inventory by adding these and other recreation facilities that have been built since 1993.

The inventory identifies and rates scenic resources that are viewed from or within each recreation site. It also gives an assessment of the visual quality of the man-made recreation facilities themselves. Because some components of the action alternatives would be in view from public recreation facilities, they could affect the numerical ratings of scenic resources. However, scenic resources associated with these facilities have not yet been formally identified or given baseline scenic quality ratings. Even so, it is reasonable to assume that views from the bike trail where it crosses the Truckee River and runs parallel to the river would be considered scenic resources, as would views of the forested backdrop to the south and west from inside the 64-Acre Recreation Site. The visual presence of larger poles within the river corridor seen from the bike trail under Alternative 1 (PEA Alternative), Alternative 3 (Road Focused Alternative), and Alternative 4 (Proposed Alternative) could negatively affect scenic quality. This would not be the case under Alternative 2 (Modified Alternative), since Segment 625-1A would be located near the north edge of the 64-Acre Recreation Area instead of within the river corridor. Segment 625-1A likely would not have a negative effect on scenic resources within the 64-Acre Recreation Site since the most attractive views are to the west and south. Potential negative effects in Segment 625-1A for Alternatives 1, 3, and 4 would be avoided by applying the APMs provided in Section, 3.7, Applicant Proposed Measures, and in particular, APM SCE-8.

## BUILT ENVIRONMENT

The Built Environment Indicator Reporting Category is built on TRPA's community design threshold and is a policy statement that is intended to ensure that design elements of buildings are compatible with the natural, scenic, and recreational values of the region. The action alternatives would be consistent with the design standards contained in the TRPA Code of Ordinances.

### 5.8.7 RECREATION

This section summarizes the effects of implementing the action alternatives on the environmental threshold standards established by TRPA for recreation. The Threshold Standards related to recreation are described in Section 4.8, Recreation. Two recreation Indicator Reporting Categories have been established by TRPA:

- ▲ Quality of Recreation Experience, and
- ▲ Fair Share Distribution of Recreation Capacity.

These categories are discussed separately below.

### QUALITY OF RECREATION EXPERIENCE

The Threshold Standard for the Quality of Recreation Experience Indicator Reporting Category consists of two parts: (1) preservation and enhancement of a high-quality recreation experience; and (2) the provision of additional public access to the lake and other natural features. To determine attainment of the first part of this Threshold Standard, TRPA relied on recreation user surveys conducted by the US Forest Service (USFS) to

determine whether the Threshold Standard has been met. Such surveys compare the importance of an identified recreation attribute, such as recreation facilities and conditions, with the experience that the recreationists perceive. To determine attainment of the second part of this Threshold Standard, TRPA assessed the extent of public land acquired and the availability of additional amenities that provide public access for low density recreation uses (i.e., trails and trailheads). Based on the majority of satisfied recreational users surveyed (89.8 percent), consistent increase in the amount of public land available for low-density recreational use, and the number of amenities that provide access to that land, the 2011 threshold evaluation determined that the policy statement been implemented and is in attainment (TRPA 2012a).

As described in Impact 4.8-1 for each of the action alternatives, construction would require temporary, short-term trail closures and access restrictions in some portions of the project area, including on public lands used for recreation, to ensure public safety. Temporary closures may also be necessary on an infrequent basis during project operation for facility maintenance. Although closures would be temporary during construction and infrequent during operation, it is possible that a 30-day notice of closures committed to by the project applicant would not be adequate to prevent disruption of special events on the Tahoe Rim Trail and Fiberboard Freeway. However, incorporation of APMs identified in Section 4.8, Recreation, would minimize or avoid impacts to recreation access. Thus, implementation of the action alternatives would not degrade recreation quality.

As described in Impact 4.8-2 for each of the action alternatives, project construction would require use of passenger vehicles and construction vehicles and equipment, a helicopter, and other tools and equipment. Such activity has the potential to create air emissions, dust, noise, objectionable odors, and visual impacts that have the potential to diminish the quality of the recreation experience. Permanent project elements (e.g., steel poles, vegetation management areas) would also be visible in portions of the project area used for recreation. However, the project applicant has committed to implement various APMs to reduce impacts relative to recreation, scenic, noise, and air quality to reduce or avoid potential adverse impacts in these technical areas. Project operation and maintenance activities would be infrequent and would not involve substantial use of construction vehicles and equipment and would not be expected to adversely affect recreational users. Thus, this aspect of the project's potential effects on the quality of the recreational experience would not be degraded relative to the Threshold Standard.

## **FAIR SHARE DISTRIBUTION OF RECREATION CAPACITY**

The Threshold Standard for the Fair Share Distribution of Recreation Capacity Indicator Reporting Category is intended to ensure that a fair share of the region's outdoor recreation capacity is available to the general public. Three indicators provide a mechanism for evaluation of this threshold: cumulative accounts of recreation allocations (expressed as "people at one time," or PAOTs) when applicable; facility development for recreation projects that do not require PAOT allocations; and public acquisition of lands that support recreation purposes. Overall, the TRPA 2001, 2006, and 2011 threshold evaluation reports concluded that an appropriate level of outdoor recreation facility development that is controlled by the PAOT capacity system has been planned (TRPA 2002, 2007, 2012a). None of the alternatives would affect the region's fair share of outdoor recreation capacity available to the general public as the alternatives do not add or remove recreational facilities or increase demand for recreational opportunities. Therefore, the action alternatives would not affect the attainment this Threshold Standard.

### **5.8.8 AIR QUALITY**

This section summarizes the effects of implementing each of the action alternatives on the environmental threshold standards established by TRPA for air quality. As described in Section 4.13, Air Quality, five air quality Indicator Reporting Categories have been established by TRPA:

- ▲ Carbon Monoxide,
- ▲ Ozone,

- ▲ Visibility,
- ▲ Nitrate Deposition, and
- ▲ Odor.

Each of these Indicator Reporting Categories is discussed separately below.

## **CARBON MONOXIDE**

TRPA has designated the Lake Tahoe Basin overall as attainment (i.e., “considerably better than target”) with a trend of “rapid improvement” and “high” confidence level with respect to its carbon monoxide threshold (TRPA 2012a). As described in Section 4.13, Air Quality and Climate Change, under Impact 4.13-1 (Alt. 1, 2, 3, and 4), it is not anticipated that project-related carbon monoxide emissions would contribute to carbon monoxide concentrations that exceed the national ambient air quality standards or the California ambient air quality standards under any of the action alternatives. This is because carbon monoxide emissions from off-road equipment would be spread out among the different sites where construction activity would occur; because haul truck trips, worker commute trips, and helicopter activities are also non-stationary in nature; and because carbon monoxide emissions disperse rapidly with distance from the source under normal meteorological conditions. Also, because construction would occur between May and October, construction-related activity would not result in an increase in traffic volumes during the winter season when carbon monoxide emissions from motor vehicles are typically higher in the Lake Tahoe Basin. Moreover, long-term operations under all the alternatives would not result in an increase in vehicle trips and related carbon monoxide emissions or localized concentrations of carbon monoxide relative to existing conditions. Thus, project implementation would not degrade the threshold indicators regarding carbon monoxide and would not conflict with the attainment status of the carbon monoxide Threshold Standard.

## **OZONE**

Overall, TRPA has designated the Lake Tahoe Basin as attainment with a trend of “little or no change” and “moderate” confidence level with respect to its ozone threshold (TRPA 2012a). As described under Impact 4.13-1 (Alt. 1, 2, 3, and 4), construction activity would generate emissions of ozone precursors (i.e., ROG and NO<sub>x</sub>). More specifically, these impact analyses determined that construction-generated emissions of NO<sub>x</sub> in Placer County, including areas of the Lake Tahoe Basin, would exceed PCAPCD’s mass emission threshold of 82 pounds per day (lb/day). However, construction-generated emissions of NO<sub>x</sub> would be reduced to less than PCAPCD’s threshold of significance under each of the action alternatives due to implementation of Mitigation Measure 4.13-1a and Mitigation Measure 4.13-1b. Implementation of Mitigation Measure 4.13-1a would reduce construction-related emissions of NO<sub>x</sub> from off-road equipment by 20 percent compared to the most current state-wide fleet average that exists at the time of construction. NO<sub>x</sub> emissions would be further reduced to levels below PCAPCD’s threshold of 82 lb/day through payment by the applicant into PCAPCDs off-site mitigation fee program, as required by Mitigation Measure 4.13-1b. Moreover, long-term operations under all the alternatives would be a continuation of existing operations practices and would not result in an increase in emissions of ROG or NO<sub>x</sub>. Because project implementation would not result in an exceedance of local significance criteria in the Lake Tahoe Basin with mitigation, it would not degrade the threshold indicators related to ozone and would not conflict with the attainment status of the ozone Threshold Standard.

## **VISIBILITY**

TRPA designated the Lake Tahoe Basin overall as attainment with a trend of “little or no change” and “low” confidence level (i.e. the level of confidence TRPA has in determining both status and trend) with respect to the threshold regarding visibility (TRPA 2012a). This Indicator Reporting Category includes separate standards for

regional visibility and sub-regional visibility, and air constituents that can affect visibility; PM<sub>10</sub>, PM<sub>2.5</sub>, wood smoke, and suspended soil particles.

As described under Impact 4.13-1 (Alt. 1, 2, 3, and 4), construction activity would generate emissions of PM<sub>10</sub> and PM<sub>2.5</sub> (which is a subset of PM<sub>10</sub>). More specifically, construction activity would generate emissions of PM<sub>10</sub> that exceeds PCAPCD's mass emission threshold of 82 lb/day. (PCAPCD does not recommend a mass emission threshold for PM<sub>2.5</sub>.) However, construction-generated emissions of PM<sub>10</sub> would be reduced to less than PCAPCD's threshold of significance under each of the action alternatives with implementation of Mitigation Measure 4.13-1a and implementation of an APM. Mitigation Measure 4.13-1a would reduce exhaust emissions of PM<sub>10</sub> from off-road equipment by a minimum of 45 percent compared to the most current state-wide fleet average that exists at the time of construction. Given that most, if not all, PM<sub>10</sub> exhaust from diesel equipment is also PM<sub>2.5</sub> exhaust, a 45 percent reduction in PM<sub>2.5</sub> exhaust would also occur. APM AQ-1 would require the applicant to implement a Dust Control Plan that is approved by PCAPCD, which has jurisdiction over the portion of the Lake Tahoe Basin where project-related construction would occur. APM AQ-1 would minimize emissions of fugitive PM<sub>10</sub> and PM<sub>2.5</sub> dust, as well as soil particles of other sizes by requiring dust control practices such as watering of exposed surfaces and revegetation of disturbed areas after construction activity is complete. Moreover, long-term operations under all the action alternatives would not result in an increase in wood smoke or an increase in vehicle miles travelled and associated PM<sub>10</sub> or PM<sub>2.5</sub> emissions (both from vehicle exhaust and the reentrainment of roadway dust containing soil particles) and, therefore, would not adversely affect regional visibility or sub-regional visibility. Because project implementation would not result in an exceedance of PCAPCD's significance criteria for PM<sub>10</sub> with mitigation and APM implementation, and would not emit wood smoke or substantial levels of soil particles or dust that could adversely affect visibility, it would not degrade the Indicator Reporting Categories for visibility and would not conflict with the attainment status of the visibility Threshold Standard.

## NITRATE DEPOSITION

Nitrate deposition, along with Pelagic Lake Tahoe and Littoral Lake Tahoe, is one of three indicator reporting categories associated with the two interconnected management standards for air quality and water quality. Nitrate deposition adversely affects Lake Tahoe's transparency and the amount of nitrate discharge into the air and subsequently deposited into the water is correlated with the level of NO<sub>x</sub> emissions produced in the Lake Tahoe Basin. TRPA has implemented policies, ordinances, and environmental improvements to reduce nitrogen-related pollutants, and thus, the region is currently in attainment with this standard. However, the effectiveness of the implemented policies, ordinances, and environmental improvements cannot be demonstrated by TRPA with available information (TRPA 2012a: p. 3-52 through 3-53).

Management standards for atmospheric deposition of nitrogen include reduction of vehicle miles traveled in the Lake Tahoe Basin by 10 percent of the 1981 base year values. None of the action alternatives would result in a long-term operational change in vehicle miles traveled in the Lake Tahoe Basin. Also, as described above, none of the action alternatives would result in an exceedance of local significance criteria with mitigation (i.e., PCAPCD's thresholds of 82 lb/day for NO<sub>x</sub>). Therefore, none of the action alternatives would contribute to levels of nitrogen deposition into Lake Tahoe.

## ODOR

TRPA has adopted a Policy Statement to reduce fumes from diesel engines in the Lake Tahoe Basin to the extent possible (TRPA 2012a: pp. 3-55). A review of current adopted policies, ordinances, and rules of TRPA, state, and federal agencies has found support for this Policy Statement. These agencies have adopted policies and measures that address diesel odor, and there is evidence that the associated regulatory measures are effective in reducing diesel fuel emissions at regional, state, and national scales. As discussed under Impact 4.13-4 (Alt. 1, 2, 3, and 4), none of the action alternatives would create objectionable odors, including diesel exhaust, that

would affect a substantial number or people in part due to the implementation of pertinent APMs (i.e., AQ-13, AQ-14, and AQ-15). Therefore, none of the action alternatives would conflict with the attainment status of the Odor Threshold Standard.

## 5.8.9 NOISE

This section describes the effects of implementing the action alternatives on the threshold standards established for noise by TRPA. Two Indicator Reporting Categories for noise have been established by TRPA:

- ▲ Single Noise Events, and
- ▲ Cumulative Noise Events.

The Lake Tahoe Basin's status in 2011 was non-attainment for single noise events and for cumulative noise. However TRPA's 2011 *Threshold Evaluation Report* indicates that noise standards and approaches within the TRPA jurisdiction need to be re-evaluated. The majority of standards were determined to be out of attainment as a result of a 'no exceedance' interpretation of the standards and lack of resources to address many noise issues—in particular, single event noise.

### SINGLE NOISE EVENTS

No alternative would result in increasing or creating additional single-event noise level sources (aircraft, watercraft, motor vehicles, motorcycles, off-road vehicles, and oversnow vehicles) as defined by TRPA. No boats are associated with any of the action alternatives. Although off-road and oversnow vehicles are sometimes used for power line maintenance and repair activities, the level of these activities would be essentially the same as the existing condition. No change in the number or nature of maintenance activities would occur. Vehicular traffic would not increase as a result of any of the action alternatives. Chapter 68.3.1 of the TRPA Code of Ordinances defines single event noise standards for aircrafts; but, under section 68.3.1.B Helicopters, no specific standard has been established. Helicopter use during construction activities would, nonetheless, be restricted by APM NOI-4 to the daytime hours permitted for construction activities by each jurisdiction. No long-term helicopter use would be required as a result of the project.

As indicated by the APMs incorporated into the project and the mitigation measures required for each of the action alternatives, helicopter use, blasting, and other intense construction activity would be limited to day time hours as permitted by each jurisdiction and appropriate measures would be implemented to reduce nighttime noise from construction activities. Further, construction equipment would be located as far away as possible from sensitive receptors, helicopter flight paths would avoid flying over existing residences, and notice would be provided to resident and other sensitive receptors in the vicinity of construction areas.

None of the alternatives would create significant single-event noise impacts, result in the generation of substantial aircraft-related noise, nor expose sensitive receptors to long-term aircraft-related noise. Thus, project implementation would not adversely affect the trend of the single-event noise Indicator Reporting Category.

### CUMULATIVE NOISE EVENTS

No element of the project would result in permanent new residential or commercial development, or other features that could increase long-term cumulative noise levels; project-generated noise would be from construction only. As discussed above, noise generated from construction activities would occur between 8:00 a.m. and 6:30 p.m. (daily) in areas under TRPA jurisdiction and would be exempt from the provisions of the applicable standards except for some nighttime construction activities. In these instances, Mitigation Measure 4.14-1 (Alt. 1, 2, 3, 4) is in place that would require the project applicant to achieve nighttime noise standards at nearby sensitive receptors. In addition, project implementation would not result in an increase in noise levels

from operational activities above existing levels. Thus, project implementation would not contribute to the non-attainment of the Cumulative Noise Indicator Reporting Category.

## **5.9 COMPLIANCE WITH APPLICABLE FEDERAL LAWS AND EXECUTIVE ORDERS AND STATE LAWS AND REGULATIONS**

All project construction and operation activities described and proposed in this document would be implemented to the extent that they are consistent with applicable federal law, US Department of Agriculture regulations, USFS policies, and applicable provisions of state law. The major laws and their applicability to the proposed action are described below.

### **5.9.1 CLEAN AIR ACT (PUBLIC LAW 84-159)**

As described in Section 4.13, Air Quality and Climate Change, the proposed project is located in the Lake Tahoe Air Basin and Mountain Counties Air Basin. Air quality in the project area is regulated by TRPA, EPA, California Air Resources Board, NSAQMD, and PCAPCD.

General conformity requirements were adopted by Congress as part of the federal Clean Air Act Amendments of 1990. General conformity requires that all federal actions conform to the state air quality control plan referred to as a State Implementation Plan (SIP). The purpose of the general conformity program is to ensure that actions taken by the federal government do not undermine state or local efforts to achieve and maintain national ambient air quality standards. Before a federal action is taken, it must be evaluated for conformity with the SIP. All reasonably foreseeable emissions, both direct and indirect, that are predicted to result from the action are taken into consideration. The location and quantity of emissions must be identified. If it is found that the action would create emissions above *de minimis* threshold levels specified in EPA regulations, or if the activity is considered regionally significant because its emissions exceed 10 percent of an area's total emissions, the action cannot proceed unless mitigation measures are specified that would bring the project into conformance.

The analysis of air emissions in Section 4.13, Air Quality, Greenhouse Gas Emissions, and Climate Change, of this EIS/EIS/EIR and associated appendices satisfy the Clean Air Act requirements for conformity determination. Because the proposed project would comply with all federal, state, and local air quality regulations and conform with the SIP, the proposed project would comply with the Clean Air Act.

### **5.9.2 CLEAN WATER ACT (PUBLIC LAW 92-500)**

The Clean Water Act (CWA) consists of the Federal Water Pollution Control Act of 1972 and subsequent amendments. All federal agencies must comply with the provisions of the CWA. The CWA establishes the basic structure for regulation of discharges of pollutants to surface waters within the United States. It authorizes the EPA to set effluent limits for discharges and requires the EPA to set water quality standards for contaminants in surface waters. The EPA has delegated responsibility to the State of California to implement the NPDES program authorized by the CWA. This is carried out by the State Water Resources Control Board. The Lahontan Regional Water Quality Control Board provides oversight for the project area.

The CWA regulates forest management activities near waters of the US and riparian areas. A permit from the US Army Corps of Engineers (USACE) is required prior to any work involving excavation of material from, or deposition of material into, waters of the United States, including jurisdictional wetlands, in accordance with Section 404 of the CWA. Fills of less than 0.5 acre of nontidal waters of the US for residential, commercial, or institutional development projects can generally be authorized under USACE's nationwide permit (NWP)

program, provided that the project satisfies the terms and conditions of the particular NWP. Fills that do not qualify for a NWP require a letter of permission or an individual permit.

As analyzed in Section 4.7, Biological Resources, implementing the action alternatives could result in permanent loss or temporary disturbance of the following sensitive habitat types: montane riparian, open water, wet montane meadow, and fresh emergent wetland. These habitats would all qualify as waters of the United States and/or waters of the State. The APMs adopted as part of the proposed project and mitigation measures included in this EIS/EIS/EIR would ensure that the terms of the CWA are met because of requirements to minimize fill in Section 404 jurisdictional areas, prevent pollution caused by erosion and sedimentation, and to compensate for any unavoidable impacts on a no net loss basis. See section 4.7, Biological Resources, for detailed descriptions of applicable APMs and mitigation measures.

### 5.9.3 ENDANGERED SPECIES ACT OF 1973 (PUBLIC LAW 93-205)

The US Fish and Wildlife Service (USFWS) has authority over projects that may result in take of a species listed as threatened or endangered under the Federal Endangered Species Act (ESA) of 1973 (50 CFR 17), as amended under the USFWS Mitigation Policy of 1956 (Title 16, Chapter 35, Section 1531 of the United States Code [16 USC 1531 et seq.], as well as those species that are designated by Region 5 of USFWS as species of concern. The ESA defines *take* as “harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or to attempt to engage in any such conduct” (Public Law 93-205, as amended by Section 3 of Public Law 107-136 [16 USC 1532]). USFWS has also interpreted the definition of “harm” to include habitat modification that could result in take. If a project is likely to result in take of a federally-listed species, either an incidental take permit under ESA Section 10(a) or a federal interagency consultation under ESA Section 7 is required before the take may occur. Such a permit typically requires various types of mitigation to compensate for or to minimize a take.

The California Natural Diversity Database and its geographic information system application, California Native Plant Society’s online *Inventory of Rare and Endangered Plants*, TRPA geographic information system data, and USFS Lake Tahoe Basin Management Unit (LTBMU) and Tahoe National Forest data were used as the primary sources to preliminarily identify and map previously reported occurrences of federally listed threatened or endangered species within and around the project area. Observations of listed species and potential habitat for these species were also recorded during reconnaissance level field surveys of the project area.

The willow flycatcher and/or suitable habitat were found within the project area. This small migratory bird is federally listed as an endangered species. It nests and breeds in dense vegetation near wetlands or riparian areas. In order to avoid negative effects to this protected species, construction activities within potential habitat areas would be minimal, and would be timed to avoid the breeding and nesting season (June 1 – August 31). For a complete discussion of mitigation activities see Section 4.7, Biological Resources.

Since potential impacts to the willow flycatcher would be mitigated to the point where it is believed no take would occur, the action alternatives would comply with the ESA for this species.

The Lahontan cutthroat trout, a federally listed threatened species, is not presently known or expected to occur in the project area, although there is a very low possibility of occurrence in Segment 625-1 in the Truckee River. On January 29, 2014 the USFS submitted to the USFWS a request for a letter of concurrence that the project, as proposed, may affect, but is not likely to adversely affect Lahontan cutthroat trout and a Biological Assessment (BA) providing evidence supporting this conclusion. On March 7, 2014 the USFWS, Nevada Fish and Wildlife Service provided a letter concurring with this conclusion, concluding formal consultation for the species.

The Sierra Nevada yellow-legged frog (SNYLF) was listed as endangered on April 29, 2014. There is a low potential for the species to occur in the project area, and as identified in this EIS/EIS/EIR, the SNYLF is not expected to be affected by project implementation. The information provided for this project specific analysis

on SNYLF is discussed in detail in this EIS/EIS/EIR and in the project's BA, and the potential for occurrence and project effects assumptions in this NEPA document are considered an accurate portrayal for this species at this time with the information obtained to date. However, the project area has been identified as having up to 19 acres of suitable SNYLF habitat (as broadly defined by USFWS and USFS Region 5 as all areas within 25 meters of perennial or intermittent streams, lakes, meadows, and ponds); therefore, this project was included in the USFS's regional programmatic batching for Section 7 ESA consultation on SNYLF. The programmatic effort includes projects containing suitable habitat across all forests in Region 5. The final determination of effects for SNYLF will be based on the programmatic consultation efforts and thus may differ from what is stated in this project specific analysis. Once the consultation process with USFWS is complete, the information will be incorporated into this project NEPA, Section 7 ESABA, and decision documents.

## 5.9.4 BALD AND GOLDEN EAGLE PROTECTION ACT

The Bald and Golden Eagle Protection Act, enacted in 1940 and amended multiple times since, prohibits the taking of bald and golden eagles without a permit from the Secretary of the Interior. For the purpose of the act, disturbance that would injure an eagle, decrease productivity, or cause nest abandonment, including habitat alterations that could have these results, are considered take and can result in civil or criminal penalties.

Bald eagles are not known or expected to nest in the study area, based on the rarity of nesting in the region, no nesting records in or near the study area, and the lack of high-quality nesting habitat. The only known nest sites in the Lake Tahoe Basin are several miles away at Emerald Bay and Marlette Lake. Any bald eagle occurrence and habitat use in the study area would be most likely during winter, when the species is more abundant in the Tahoe region. If bald eagles use the study area or immediate vicinity for foraging during the summer construction period, project construction could temporarily disturb their foraging activities.

Impacts to bald eagles may occur as a result of tree removal near Lake Tahoe or by changed movement and foraging patterns caused by construction-related activities such as helicopter use. However, because of the presence of existing recreation use, vehicle travel, vegetation/forest management, and other activities throughout the study area, the existing disturbance level is relatively high; additional construction-related disturbance would not substantially affect the foraging patterns of bald eagle. Also, abundant and suitable foraging habitat is available in other areas nearby (e.g., Lake Tahoe, Watson Lake, Martis Creek Reservoir). Bald eagle breeding activities, nest sites and young, or reproductive success are not expected to be impacted by project construction. To further ensure that construction-related disturbances and loss of nest sites would be avoided (e.g., in the event that nesting is initiated in the study area during or prior to construction), APM BIO-18 would be implemented. This measure requires conducting preconstruction surveys for nesting birds, and implementing an appropriate exclusionary buffer and limited operating period to avoid or minimize effects of construction-related disturbance on nesting activity and breeding success. In addition, to help prevent accidental injury or mortality as a result of electrocution during operation of the power line, APM BIO-19 requires incorporation of avian protection measures into the project design.

## 5.9.5 ENVIRONMENTAL JUSTICE (EXECUTIVE ORDER 12898)

Executive Order 12898 requires that all federal actions consider potentially disproportionate effects on minority and low-income communities, especially if adverse effects to environmental or human health conditions are identified. As discussed above in Section 5.6, Socioeconomics, and Environmental Justice, the action alternatives would have no significant long-term or short-term disproportionate adverse impacts on low-income or minority populations. Therefore, the action alternatives would comply with Executive Order 12898.

## 5.9.6 FEDERAL ANTIDEGRADATION POLICY

The EPA has designated Lake Tahoe an Outstanding National Resource Water (ONRW). ONRWs are provided the highest level of protection under EPA's Antidegradation Policy. This policy provides for protection of water quality in high-quality waters that constitute an ONRW by prohibiting the lowering of water quality. ONRWs are often regarded as the highest quality waters of the United States.

The EPA's antidegradation guidance for ONRWs provides that states may allow some limited activities that result in temporary and short-term changes to water quality, but such changes should not affect existing uses or alter the essential character or special use that makes the water an ONRW. The EPA interprets this provision to mean no new or increased discharges to ONRWs and no new or increased discharge that would result in water quality degradation. Temporary activities "must not permanently degrade quality or result in water quality lower than that necessary to protect the existing uses in the ONRW" (EPA 1994).

Through implementation of APMs and mitigation measures included in this EIS/EIS/EIR, the action alternatives would not result in significant adverse effects on water quality and would be in compliance with the antidegradation policy (see Sections 4.6, Hydrology and Water Quality, 4.7, Biological Resources, and 4.10, Hazards and Hazardous Materials).

## 5.9.7 FEDERAL INSECTICIDE, FUNGICIDE, AND RODENTICIDE ACT (7 USC 136 AS AMENDED)

The objective of the Federal Insecticide, Fungicide, and Rodenticide Act is to provide federal control of pesticide (collective for insecticide, fungicide, rodenticide, and herbicide) distribution, sale, and use. All pesticides used in the United States are subject to approval and registration by the EPA. Through registration, the EPA ensures that pesticides are properly labeled and that if used as specified, will not cause unreasonable harm to the environment. The USFS may only use, or authorize use on National Forest System lands, pesticides registered or permitted in accordance with this act, as well as appropriate state law. The action alternatives may require the use of approved herbicides for the control of noxious or invasive weeds within the project area. Use of herbicides on USFS land would be subject to approval by the LTBMU and Tahoe National Forest botanists. The requirements of Federal Insecticide, Fungicide, and Rodenticide Act would be met during implementation of the proposed project.

## 5.9.8 FLOODPLAIN MANAGEMENT (EXECUTIVE ORDER 11988) AND PROTECTION OF WETLANDS (EXECUTIVE ORDER 11990)

Executive Order 11988 for Floodplain Management directs all federal agencies to evaluate potential effects of any actions they may take in a floodplain and to avoid all adverse effects associated with modifications to floodplains. It also directs Federal agencies to avoid floodplain development whenever there is a practicable alternative and to restore and preserve the natural and beneficial values served by the floodplains.

Some floodplains exist within the project area and are regulated as part of the National Flood Insurance Program. Areas of special flood hazard are identified by the Federal Emergency Management Agency, which issues regulatory floodplain maps (Flood Insurance Rate Maps). The National Flood Insurance Program mandates that development cannot occur within the regulatory floodplain (typically the 100-year floodplain) if that development results in a material (i.e., more than 1 foot) increase in flood elevation. In addition, no development is allowed in delineated floodways within regulatory floodplains. Although the proposed project would place power poles within areas designated by Federal Emergency Management Agency as a 100-year flood hazard area, due to the relatively small diameter of the poles (typically less than 2-feet wide at the base) and distance between poles (typically approximately 300 feet), installation of the poles would not have a

significant effect on flood stage elevation or flood risk and the proposed project would be in compliance with Executive Order 11988.

Executive Order 11990 requires that federal agencies avoid undertaking or providing assistance for new construction located in wetlands unless the head of the agency finds: (1) that there is no practicable alternative to such construction; and (2) that the proposed action includes all practicable measures to minimize harm to wetlands which may result from such use. As analyzed in Section 4.7, Biological Resources, implementing the action alternatives could result in permanent loss or temporary disturbance of habitats that would qualify as wetlands. The APMs adopted as part of the proposed project and mitigation measures included in this EIS/EIS/EIR would ensure that wetlands are avoided to the extent practicable, that pollution caused by erosion and sedimentation is prevented, and that any unavoidable impacts to wetlands are compensated for on a no net loss basis. Therefore, the proposed project would be in compliance with Executive Order 11990.

## **5.9.9 INDIAN TRUST ASSETS AND COORDINATION WITH TRIBAL GOVERNEMENTS**

Indian Trust Assets are legal interests in property held in trust by the United States for Native American tribes or individuals. The Secretary of the Interior, acting as the trustee, holds many assets in trust. Examples of trust assets include lands, minerals, hunting and fishing rights, and water rights. The United States has an Indian trust responsibility to protect and maintain rights reserved by or granted to Native American tribes or individuals by treaties, statutes, and executive orders. No Indian Trust Assets have been identified in the project area.

Executive Order 13175, Consultation and Coordination with Indian Tribal Governments, was issued to “establish regular and meaningful consultation and collaboration with tribal officials in the development of Federal policies that have tribal implications, to strengthen the United States government-to-government relationships with Indian tribes, and to reduce the imposition of unfounded mandates upon Indian tribes.” As described in Section 4.9, Heritage, Cultural, and Paleontological Resources, the Washoe Tribe of California and Nevada was consulted regarding the proposed project. Surveys have been conducted to identify historic properties and evaluate their eligibility for inclusion in the National Register of Historic Places. Consultation with the current Tribal Historic Preservation Officer for the Washoe Tribe, Darrell Cruz, regarding the project is ongoing, and has included notification and consultation regarding subsurface testing of one prehistoric archaeological site by Natural Investigations in June 2014 (Sikes et al. 2014). The proposed project would be in compliance with Executive Order 13175.

## **5.9.10 INVASIVE SPECIES (EXECUTIVE ORDER 13112)**

Executive Order 13112 requires federal agencies to identify actions that may affect the status of invasive species, prevent the introduction of invasive species to the extent practicable and permitted by law, and only authorize actions that could promote the introduction or spread of invasive species if the agency determines that: (1) the benefits of the action outweigh the potential harm caused by invasive species; and (2) all feasible and prudent measures to minimize the risk of harm will be taken. Section 4.7, Biological Resources, addresses botanical resources and noxious weeds. As described in Section 4.7 and the Noxious Weed Risk Assessment prepared for the project (USFS 2014) various APMs and mitigation measures would be implemented to avoid or minimize the introduction, spread, and establishment of noxious weeds during project construction and operation. With implementation of these APMs and mitigation measures the proposed project would comply with Executive Order 13112.

## **5.9.11 MIGRATORY BIRD TREATY ACT OF 1918 AS AMENDED (16 USC 703-712)**

The Migratory Bird Treaty Act, first enacted in 1918, domestically implements a series of international treaties that provide protection for migratory birds. It authorizes the Secretary of the Interior to regulate the taking of

migratory birds and provides that it shall be unlawful, except as permitted by regulations, to pursue, take, or kill any migratory bird, or any part, nest, or egg of any such bird (16 USC 703). This prohibition includes both direct and indirect acts, although harassment and habitat modification are not included unless they result in direct loss of birds, nests, or eggs. The current list of species protected by the MBTA includes several hundred species, which essentially comprises all native birds. As discussed in Section 4.7, Biological Resources, potential adverse effects to special-status bird species would be addressed through implementation of APMs and mitigation measures that require pre-construction surveys for individuals, nests, and roost sites of various bird species; provide buffers between construction activities and nest sites; set seasonal construction restrictions in particularly sensitive areas; minimize habitat removal; and incorporate tower design elements that limit adverse effects on bird species. These activities, although intended to address specific special-status bird species, would also minimize adverse effects to a wide variety of migratory birds in the project area.

### **5.9.12 NATIONAL ENVIRONMENTAL POLICY ACT OF 1969 (PUBLIC LAW 91-190)**

NEPA requires that federal agencies complete detailed disclosure on proposed actions and alternatives to the proposed action that may significantly affect the quality of the human environment. The purpose of an EIS is twofold: 1) to provide decision makers with a detailed accounting of the likely environmental effects of a proposed action and any alternatives prior to adoption of an action; and 2) to inform the public and allow it to comment on those environmental effects. This EIS/EIS/EIR analyzes the alternatives and discloses their effects in detail. The procedural requirements of NEPA have been met.

### **5.9.13 NATIONAL FOREST MANAGEMENT ACT OF 1976 (PUBLIC LAW 94-588)**

The National Forest System lands in the Lake Tahoe Basin affected by CalPeco's proposed 625 and 650 Electrical Line Upgrade Project are subject to management direction in the 1988 LTBMU Land and Resource Management Plan (LRMP), as amended by the 2004 Sierra Nevada Forest Plan Amendment Record of Decision. The current LRMP, as amended, guides management of all National Forest Lands and resources within the Tahoe Basin. It includes direction for forest management, goals and objectives, area management direction, and standards and guidelines. The LRMP, as amended, has been reviewed in consideration of the proposed project. This proposed project is responsive to guiding direction contained in the LTBMU LRMP, is consistent with the standards and guidelines contained in the LRMP, and is consistent with the requirements for management prescriptions.

The Tahoe National Forest 1990 LRMP (USFS 1990), as amended by the 2004 Sierra Nevada Forest Plan Amendment Record of Decision, provides direction for managing the Tahoe National Forest, which includes an approximately 1-mile stretch of the 625 Line (portions of Segment 625-3 and Segment 625-4/4A) and a 0.25 mile stretch of the 650 Line (Segment 650-4) within the project study area. Specifically, Chapter V, Management Direction, presents both forest-wide and area-specific management direction for the Tahoe National Forest. The forest-wide management direction consists of forest goals and desired future conditions, objectives, and forest-wide standards and guidelines. The LRMP, as amended, has been reviewed in consideration of the proposed project. This proposed project is responsive to guiding direction contained in the Tahoe National Forest LRMP, is consistent with the standards and guidelines contained in the LRMP, and is consistent with the requirements for management prescriptions.

### **5.9.14 NATIONAL HISTORIC PRESERVATION ACT (PUBLIC LAW 89-665) AND EXECUTIVE ORDER 13007**

Section 106 of the National Historic Preservation Act (Public Law 89-665, as amended) requires federal agencies to take into account the effect of proposed undertakings such as the CalPeco 625 and 650 Electrical Line Upgrade Project on any district, site, building, structure, or object that is included in, or eligible for inclusion in the NRHP. Section 106 review is conducted to determine whether significant (per NRHP criteria) resources will

be adversely affected by an undertaking, and if so, whether measures can be implemented to adequately resolve adverse effects. Section 106 requires federal agencies to afford the State Historic Preservation Officer a reasonable opportunity to comment.

Executive Order 13007, Indian Sacred Sites (May 24, 1996), requires federal land managing agencies to accommodate access to, and ceremonial use of, Indian sacred sites. It is important to note that a sacred site may not meet the National Register criteria for a historic property and that, conversely, a historic property may not meet the criteria for a sacred site.

Archival research and field surveys were conducted for Native American religious or cultural sites, archaeological sites, and historic properties or areas that may be affected by the power line upgrade project. Research conducted as part of this study indicates that the project area and vicinity contains a number of cultural resources that are potentially eligible according to NRHP criteria. As described in Section 4.9, Heritage, Cultural, and Paleontological Resources, APMs would be implemented to reduce or avoid potential construction-related disturbances to cultural resources most likely to be affected by these activities.

As outlined 36 CFR part 800, the implementing regulations of Section 106 of the National Historic Preservation Act, if NRHP-eligible heritage and cultural resources will be adversely affected by a proposed undertaking, a Memorandum of Agreement or Programmatic Agreement will be developed and signed by appropriate parties (i.e., the Tahoe National Forest, LTBMU, USACE, California State Historic Preservation Officer, interested tribes, local governments, and other parties) to identify procedures for mitigating adverse effects to the resources. Implementation of the APM elements, coupled with the agreement document that would comply with the TRPA Code of Ordinances, would prevent significant adverse effects to documented significant heritage and cultural resources. Based on ongoing evaluation of the project and heritage and cultural resources in the APE and coordination with the lead agencies and the Washoe Tribe as part of the Section 106 process, it appears that the project will not have an adverse effect on documented NRHP or CRHR eligible resource. However, as of publication of this Final EIS/EIS/EIR, concurrence on this determination has not been received from the SHPO. Therefore, although avoidance of adverse effects is anticipated, at this time it is considered that there is still the potential that in some instances avoidance would not be feasible and a Memorandum of Agreement or Programmatic Agreement may be required

### **5.9.15 RECREATIONAL FISHERIES (EXECUTIVE ORDER 12962)**

Federal agencies shall, to the extent permitted by law and where practicable, improve the quantity, function, sustainable productivity, and distribution of aquatic resources for increased recreational fishing opportunities by, among other things, evaluating the effects of federally funded, permitted, or authorized actions on aquatic systems and recreational fisheries. The effects to fish habitat from the project have been evaluated in Section 4.7, Biological Resources, of this document and are expected to be extremely limited. Direct effects on fish productivity and the quality of the recreational fisheries would be negligible. The project would therefore comply with Executive Order 12962.

### **5.9.16 SPECIAL AREA DESIGNATIONS**

There are no LTBMU or Tahoe National Forest specially designated areas that would be affected by the proposed project (i.e., Research Natural Areas, Inventoried Roadless Areas, Wilderness Areas, and Wild and Scenic Rivers).

## 5.9.17 WILD AND SCENIC RIVERS ACT (PUBLIC LAW 90-542, AS AMENDED)

The Wild and Scenic Rivers Act regulates forest management activities within the National Wild and Scenic Rivers System. Through this act, selected rivers of the Nation and their immediate environments are designated for protection based on their scenic, recreational, geologic, fish and wildlife, historic, cultural or similar values. The primary focus of this act is to maintain the “free flowing condition” of these waters, to protect water quality, and to fulfill vital national conservation purposes. Since there are no designated wild and scenic rivers within the project area, the requirements of this act have been met.

## 5.9.18 TAHOE REGIONAL PLANNING COMPACT, REGIONAL PLAN, AND CODE OF ORDINANCES

TRPA is a bi-state regional planning agency created in 1969 by federal law, the Tahoe Regional Planning Compact, to oversee development on both the California and Nevada sides of Lake Tahoe. Under the Compact, an EIS is an informational document used in the planning and decision-making process for a proposed project. The purpose of an EIS is not to recommend either approval or denial of the project, but to disclose objective information that can be used in the development of a preferred alternative for the project/action.

Article VII of the Compact presents important TRPA policies relevant to the preparation and use of an EIS. Key provisions of the article are presented below.

- ▲ Article VII (a) (2) states that when acting upon matters that have a significant effect on the environment, TRPA shall “prepare and consider a detailed environmental impact statement before deciding to approve or carry out any project.”
- ▲ Article VII (a) (3) states that the EIS shall “study, develop and describe appropriate alternatives to recommended courses of action for any project which involves unresolved conflicts concerning alternative uses of available resources.”
- ▲ Article VII (a) (5) requires TRPA to “initiate and utilize ecological information in the planning and development of resource-oriented projects.”

TRPA is the lead agency for the proposed project under TRPA laws and regulations. Section 6.16 of the TRPA Rules of Procedure require that an EIS is certified to be in compliance, procedurally and substantively, with Article VII of the Compact, Chapter 3 of the Code, and the Rules and Procedure before a project may be approved. Once the final EIS is certified, TRPA will make the final decision concerning which project alternative to select for approval.

## 5.9.19 CALIFORNIA ENVIRONMENTAL QUALITY ACT (PUBLIC RESOURCES CODE, SECTION 21080)

CEQA applies to discretionary projects to be carried out or approved by public agencies in California. In accordance with the State CEQA Guidelines (California Code of Regulations Title 14, Section 15064[f][1]), preparation of an EIR is required whenever a project may result in a significant environmental impact. An EIR is an informational document used to inform public agency decision-makers and the general public of the significant environmental effects of a project, identify possible ways to minimize the significant effects, and describe reasonable alternatives to the project that could feasibly attain most of the basic objectives of the project while substantially lessening or avoiding any of the significant environmental impacts.

CEQA requires that state and local government agencies consider the environmental effects of projects over which they have discretionary authority before taking action on those projects (Public Resource Code Section 21000 et

seq.). CEQA also requires that each public agency avoid or mitigate to less-than-significant levels, wherever feasible, the significant environmental effects of a project. If a project would result in significant and unavoidable environmental impacts that cannot be feasibly mitigated to less-than-significant levels, the project can still be approved, but the lead agency decision-makers must issue a “statement of overriding considerations” explaining in writing the specific economic, social, or other considerations that they believe make those significant effects acceptable.

The California Public Utilities Commission (CPUC) is the lead agency for compliance with CEQA for this project. CalPeco must comply with CPUC General Order 131-D, which contains the permitting requirements for the construction of power line facilities. CalPeco is seeking to obtain a Permit to Construct from the CPUC for this project. Prior to issuing a Permit to Construct, CPUC must certify that: (1) the final EIR has been completed in compliance with CEQA; (2) that the CPUC has reviewed and considered the information contained in the final EIR; and (3) that the final EIR reflects the CPUCs independent judgment and analysis (California Code of Regulations Title 14, section 15090). The CPUC must make findings for each significant effect identified in the EIR, and prepare a mitigation measure monitoring and reporting plan. Once the final EIR is certified, the CPUC will make the final decision concerning which project alternative to select for approval.

## 6 CONSULTATION AND COORDINATION

### 6.1 PUBLIC INVOLVEMENT STRATEGY

This chapter summarizes the public involvement effort conducted for the proposed California Pacific Electric Company (CalPeco) 625 and 650 Electrical Line Upgrade Project. Scoping, public review of a draft environmental document, responses to comments, and distribution of a final environmental document are required by the Council on Environmental Quality (CEQ) regulations and the Tahoe Regional Planning Agency (TRPA) regulations for preparation of an environmental impact statement (EIS), and the California Environmental Quality Act (CEQA) Statutes and Guidelines for preparation of an environmental impact report (EIR). The process of public involvement is an integral part of the environmental review process. Scoping includes refining the proposed action, identifying preliminary issues, and identifying interested and affected persons.

The environmental review process for the CalPeco 625 and 650 Electrical Line Upgrade Project began with a public scoping period. The results of scoping are used to clarify public involvement methods, refine issues, establish analysis criteria, and explore possible alternatives and their probable environmental effects. A Notice of Preparation (NOP) and Notice of Intent (NOI) was issued to inform agencies and the public that an EIS/EIS/EIR would be prepared for the project, and to solicit views of agencies and the public as to the scope and content of the EIS/EIS/EIR. Scoping meetings were held to allow oral expression of those views.

The NOP/NOI was distributed on March 26, 2012 and the scoping period concluded on April 25, 2012. Scoping notices were mailed to governmental agencies, landowners within 300 feet of the project boundaries, interested individuals, and community organizations. Additionally, public notices were placed in both the Tahoe Daily Tribune and the Nevada Appeal on March 28, 2012. Copies of these notices are available in the project record on file at the Lake Tahoe Basin Management Unit's (LTBMU's) offices at 35 College Drive in South Lake Tahoe, California.

Written comments were received on the NOP/NOI during the comment period and oral comments were provided at the following scoping meetings.

- ▲ April 17, 2012. Public scoping meeting beginning at 6:00 p.m. at the North Tahoe Event Center, Kings Beach, California.
- ▲ April 19, 2012. Public scoping meeting beginning at 6:00 p.m. at the U.S. Forest Service (USFS) Tahoe National Forest (TNF) Offices, Truckee, California.

A scoping summary report, including the comments received on the project, is provided in Appendix A.

The draft EIS/EIS/EIR was distributed to interested agencies, stakeholder organizations, and individuals on November 8, 2013. Notices announcing the availability of the draft EIS/EIS/EIR were mailed to governmental agencies, landowners within 300 feet of the project boundaries, interested individuals, and community organizations. Additionally, public notices were placed in local newspapers and the Federal Register. Copies of these notices are available in the project record on file at the LTBMU's offices at 35 College Drive in South Lake Tahoe, California. This distribution ensured that interested parties had an opportunity to express their views regarding the environmental effects of the project and to ensure that information pertinent to permits and approvals is provided to decision makers. Public meetings on the draft EIS/EIS/EIR were conducted as listed below.

- ▲ November 20, 2013. TRPA Governing Board meeting beginning at 9:30 a.m. at the TRPA offices, 128 Market Street, Stateline, Nevada.
- ▲ December 4, 2013. TRPA Advisory Planning Commission beginning at 9:30 a.m. at the TRPA offices, 128 Market Street, Stateline, Nevada.

In addition, two informational meetings were conducted on December 10, 2013, where project information was provided and lead agency and applicant representatives were available to answer questions. The first meeting began at 2:00 p.m. at the TNF Truckee Ranger District Office in Truckee, California and the second began at 6:00 p.m. at the North Tahoe Events Center in Kings Beach, California.

Following the close of the public comment period on January 7, 2014, this final EIS/EIS/EIR has been prepared and circulated in accordance with National Environmental Policy Act (NEPA), TRPA, and CEQA requirements and includes copies of all comments received and responses to all comments (see Appendix P) and selection of a preferred alternative. Following circulation of this final EIS/EIS/EIR, each of the lead agencies (USFS, TRPA, and the California Public Utilities Commission [CPUC]) will follow their respective agency processes for final review and consideration of project approval.

## 6.2 CONSULTATION

This EIS/EIS/EIR has been prepared by a team of three lead agencies: USFS, LTBMU and TNF are the co-lead federal agencies for the preparation of this EIS in compliance with NEPA and all other applicable laws, executive orders, regulations, and direction; TRPA is the lead agency for preparation of the document in compliance with TRPA's Compact, Code of Ordinances, and all other applicable laws and regulations; and the CPUC is the lead State of California agency in compliance with CEQA and all other applicable laws and regulations. In addition, the U.S. Army Corps of Engineers is a federal cooperating agency and is responsible for the scope and content of the NEPA portion of the environmental document as it pertains to lands within its jurisdictional boundaries in Martis Valley.

The following representatives from these agencies have contributed to the preparation and/or review of this EIS/EIS/EIR:

- ▲ USFS
  - // Brian Garrett, LTBMU Program Manager – Urban Forest Management
  - // Carrie Smith, TNF Heritage Program Manager/Tribal Relations Liaison
  - // Courtney Rowe, LTBMU Forest Botanist
  - // Daniel Cressy, LTBMU Landscape Architect/Recreation Planner
  - // Garrett Villanueva, LTBMU Assistant Forest Engineer
  - // Holly Eddinger, LTBMU Forest Biologist/Biological Program Leader
  - // John Maher, LTBMU Heritage Resource Program Manager
  - // Jonathan Cook-Fisher, Acting District Ranger
  - // Mike LeFevre, LTBMU Planning Officer
  - // Rena Escobedo, LTBMU Fish & Wildlife Biologist
  - // Robert Rodman, Jr., LTBMU Lands Program Manager
- ▲ TRPA
  - // John Marshall, General Council
  - // Keith Norberg, Senior Planner
  - // Kristi Boosman, Partnerships & Communications Officer

- // Patrick Stone, Senior Wildlife and Fisheries Biologist
- // Paul Nielson, Current Planning Manager
- // Scott Lichtig, Associate Attorney
- // Shane Romsos, Acting Measurement Manager
- // Wendy Jepson, Senior Planner
- ▲ CPUC
  - // Michael Rosauer, Project Manager
  - // Jack Mulligan, Legal Counsel
- ▲ U.S. Army Corps of Engineers
  - // Doug Grothe, Park Manager
  - // William (Skip) Siversten, Senior Park Ranger
  - // Brian Luke, Senior Environmental Manager/Biologist

In addition to the individuals identified above the following entities were consulted during the development of this EIS/EIS/EIR:

- ▲ Washoe Tribal Historic Preservation Office
- ▲ Lahontan Regional Water Quality Control Board
- ▲ California Tahoe Conservancy
- ▲ Placer County
- ▲ Town of Truckee
- ▲ California Department of Parks and Recreation
- ▲ Northstar Homeowners Association
- ▲ Northstar Ski Resort
- ▲ Sierra Pacific Industries
- ▲ Truckee Tahoe Airport District
- ▲ AT&T
- ▲ Suddenlink
- ▲ Truckee Sanitation District

## **6.3 DOCUMENT DISTRIBUTION**

### **6.3.1 AGENCIES AND COMMUNITY NOTIFICATIONS**

The following agencies and their representatives were provided copies of the draft EIS/EIS/EIR and/or information about how to obtain digital copies of the document.

- ▲ Federal Government
  - // U.S. Environmental Protection Agency (Thomas Plenys)
  - // USFS, TNF (Joanne Robique)
- ▲ State Government
  - // California Department of Parks and Recreation (Tamara Sasaki)
  - // California Department of Transportation (Marlo Tinney)

- ▲ Local Government
  - // Northern Sierra Air Quality Management District (Samuel Longmire)
  - // Placer County Air Pollution Control District (Angel Green)
  - // Truckee Tahoe Airport District (Hardy S. Bullock)
  - // Truckee Sanitary District (Blake Tresan)
  - // Tahoe-Truckee Sanitation Agency (Marcia A. Beals)
  - // Tahoe Transportation District (Alfred Knotts)
  - // Town of Truckee (Tony Lashbrook)
  - // County of Placer, Community Development/Resource Agency (Michael Johnson)
- ▲ Other Organizations
  - // Northstar California (Jerusha Hall)
  - // California Tahoe Conservancy (Lisa O'Daly)
  - // Mountain Area Preservation Foundation (Alexis Ollar and Stephanie Oliviere)
  - // Truckee Donner Public Utility District (Stephen Hollabaugh)
  - // Sierra Pacific Industries (Doug Praetzel)
  - // North Tahoe Preservation Alliance (Ann Nichols)
  - // North Tahoe Citizen Action Alliance (David McClure)

These agencies, as well as any other agencies or organizations that provided comments on the draft EIS/EIS/EIR, were also notified of the availability of the final EIS/EIS/EIR, including information about how to obtain digital copies of the document.

## 6.3.2 ADDITIONAL NOTIFICATIONS

The following individuals were notified of the publications of the draft and final EIS/EIS/EIR based on their expressed interest in continued participation in the 625 and 650 Electrical Line Upgrade Project.

- |                  |                 |                  |
|------------------|-----------------|------------------|
| ▲ Mrs. Apgar     | ▲ Bruce Yankton | ▲ Judy Layton    |
| ▲ Randy Williams | ▲ Ann Nichols   | ▲ David Fenimore |
| ▲ Kenneth Arnett |                 |                  |

Any additional individuals who commented on the draft EIS/EIS/EIR, and provided a mailing address within their comment, were notified of the availability of the final EIS/EIS/EIR, including information about how to obtain digital copies of the document.

All adjacent property owners (i.e., those within 300 feet of the action alternative boundaries) and CalPeco customers were notified of the availability of the draft EIS/EIS/EIR via mail. Notification of the availability of the draft and final EIS/EIS/EIR was published in the Federal Register and the Tahoe Daily Tribune and Nevada Appeal.

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## 9 ACRONYMS AND GLOSSARY

### 9.1 ACRONYMS AND ABBREVIATIONS

μ	micro
μg/m <sup>3</sup>	micrograms per cubic meter
μT	microTesla
AB	Assembly Bill
ACHP	American Council for Historic Preservation
afy	acre-feet per year
AIRFA	American Indian Religious Freedom Act
ALUCP	Airport Land Use Compatibility Plan
ALUC	airport land use commission
APE	area of potential effect
APM	Applicant Proposed Measure
ARB	California Air Resources Board
ARPA	Archaeological Resources Protection Act
BCSP	Burton Creek State Park
BMP Handbook	Handbook of Best Management Practices
BMP	best management practice
BP	before present
CAA	federal Clean Air Act
CAAA	federal Clean Air Act Amendments of 1990
CAAQS	California Ambient Air Quality Standards
CAL FIRE	California Department of Forestry and Fire Protection
Cal/OSHA	California Occupational Safety and Health Administration
CalEEMod	California Emission Estimator Model
Calpeco	California Pacific Electric Company
Caltrans	California Department of Transportation
CAP	criteria air pollutant
CAR	Climate Action Reserve
CBC	California Building Code
CCAA	California Clean Air Act
CCAR	California Climate Action Registry
CCR	California Code of Regulations
CDE	California Department of Education
CDFW	California Department of Fish and Wildlife
CEQ	Council on Environmental Quality
CEQA	California Environmental Quality Act
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act of 1980
CESA	California Endangered Species Act
CFC	California Fire Code
CFR	Code of Federal Regulations

CGS	California Geological Survey
CH <sub>4</sub>	methane
CHL	California Historic Landmarks
CHP	California Highway Patrol
CNDDB	California Natural Diversity Database
CNEL	Community Noise Equivalent Level
CNPS	California Native Plant Society
CO	carbon monoxide
CO <sub>2</sub>	carbon dioxide
CO <sub>2</sub> e	carbon dioxide equivalent
Code	Code of Ordinances
Conservancy	California Tahoe Conservancy
CPHI	California Points of Historic Interest
CPUC	California Public Utilities Commission
CRHR	California Register of Historical Resources
CSD	community services district
CSMRP	Construction Site Monitoring and Reporting Plan
CSP	California State Parks
CUPA	Certified Unified Program Agency
CWA	Clean Water Act
dB	Decibel
dBA	A-Weighted Decibel
dbh	diameter at breast height
DTSC	California Department of Toxic Substances Control
DVTE	Daily Vehicle Trip Ends
DWR	California Department of Water Resources
EIP	Environmental Improvement Program
EIR	environmental impact report
EIS	environmental impact statement
EMF	electric and magnetic fields
EO	Executive Order
EO	Executive Order
EPA	US Environmental Protection Agency
EPCRA	Emergency Planning and Community Right-to-Know Act of 1986
ER	Engineering Regulations
ESA	environmental site assessment
ESA	Federal Endangered Species Act
ETCC	environmental threshold carrying capacity
FAA	Federal Aviation Administration
FAR	Federal Aviation Regulations
Far Western	Far Western Anthropological Research Group, Inc.
FCO	Forester's Co-Op
FEMA	Federal Emergency Management Agency
FHSZ	Fire Hazard Severity Zone
Fire Plan	2010 Strategic California Fire Plan
FIRM	Flood Insurance Rate Map

FLPMA	Federal Land Policy and Management Act
FOR	Forestry
Forest Plan	Land and Resource Management Plan
Forest Practice Act	Z' Berg-Nejedly Forest Practice Act
FPR	California Forest Practice Rules
FSM	Forest Service Manual
FTA	Federal Transit Administration
G	Gauss
gC/m <sup>2</sup>	grams of carbon per square meter
GHG	greenhouse gas
GIS	Geographic Information System
HAPs	hazardous air pollutants
HMPC	Hazard Mitigation Planning Committee
hp	horsepower
HRCA	Home Range Core Area
HSC	California Health and Safety Code
I-80	Interstate 80
IEC	Initial Environmental Checklist
in/sec	inches per second
IPCC	Intergovernmental Panel on Climate Change
KBCP	1996 Kings Beach Community Plan
km	kilometers
kV	kilovolt
kV/m	kilovolts per meter
lb/day	pounds per day
LCD	Land Capability District
L <sub>dn</sub>	Day-Night Noise Level
L <sub>eq</sub>	Equivalent Noise Level
L <sub>max</sub>	Maximum Noise Level
L <sub>min</sub>	Minimum Noise Level
LRMP	Land and Resource Management Plan
LRWQCB	Lahontan Regional Water Quality Control Board
LTAB	Lake Tahoe Air Basin
LTBMU	Lake Tahoe Basin Management Unit
LTGRP	Lake Tahoe Geographic Response Plan
LUST	leaking underground storage tank
MCAB	Mountain Counties Air Basin
mG	milliGauss
mg/L	milligrams per liter
MIS	Management Indicator Species
MLD	Most Likely Descendant
Mm <sup>-1</sup>	inverse mega meters

MMT	million metric tons
MOA	Memorandum of Agreement
MOU	memorandum of understanding
MRF	Materials Recovery Facility
MRZ	Mineral Resource Zone
msl	mean sea level
MT	metric tons
MT CO <sub>2</sub> e	metric tons of carbon dioxide-equivalent
MT CO <sub>2</sub> e/year	metric tons of carbon dioxide-equivalent per year
MVA	mega volt-amperes
MVCP	Martis Valley Community Plan
MW	megawatt
mya	million years ago
N <sub>2</sub> O	nitrous oxide
NAAQS	National Ambient Air Quality Standards
NAGPRA	Native American Graves Protection and Repatriation Act
NAHC	Native American Heritage Commission
NAS	National Academy of Sciences
NCIC	North Central Information Center
NDEP	Nevada Division of Environmental Protection
NEHRP	National Earthquake Hazards Reduction Program
NEPA	National Environmental Policy Act
NESHAP	national emissions standards for HAPs
NFD	Northstar Fire Department
NFIP	National Flood Insurance Program
NFMA	National Forest Management Act
NFS	National Forest System
NHPA	National Historic Preservation Act
NMFS	National Marine Fisheries Service
NO <sub>2</sub>	nitrogen dioxide
NOI	Notice of Intent
NOP	Notice of Preparation
NO <sub>x</sub>	nitrates of oxygen
NO <sub>x</sub>	oxides of nitrogen
NPDES	National Pollutant Discharge Elimination System
NRCS	Natural Resource Conservation Service
NRHP	National Register of Historic Places
NSAQMD	Northern Sierra Air Quality Management District
NTU	Nephelometric Turbidity Units
NWP	nationwide permit
NWRA	Noxious Weed Risk Assessment
OES	Placer County Office of Emergency Services
OHP	California State Office of Historic Preservation
OM&M	Operations Maintenance and Monitoring
OMA	Operations and Maintenance Agreement
ONRW	Outstanding National Resource Water
OSHA	Occupational Health and Safety Administration

PA	Programmatic Agreement
PAC	Protected Activity Center
PAHA	potential avalanche hazard area
PAS	Plan Area Statements
PCAPCD	Placer County Air Pollution Control District
PCTPA	Placer County Transportation Planning Agency
PEA	Proponents Environmental Assessment
PM <sub>10</sub>	respirable particulate matter with an aerodynamic diameter of 10 micrometers or less
PM <sub>2.5</sub>	fine particulate matter with an aerodynamic diameter of 2.5 micrometers or less
POWER	POWER Engineers, Inc.
ppb	parts per billion
ppm	parts per million
PPV	Peak Particle Velocity
PRC	Public Resources Code
PSD	New Source Review Prevention of Significant Deterioration
PTC	Permit to Construct
PUD	public utility district
QSD	Qualified SWPPP Developer
RCRA	Resource Conservation and Recovery Act of 1976
REAP	Rain Event Action Plan
Report	Emergency California-Nevada Tahoe Basin Fire Commission Report
RMS	root mean square
ROD	Record of Decision
ROG	reactive organic gases
ROW	right-of-way
RPU	Regional Plan Update
RWQCB	Regional Water Quality Control Board
SARA	Superfund Amendments and Reauthorization Act
SB	Senate Bill
SEIS	Supplemental Environmental Impact Statement
SEL	Sound Exposure Level
SEZ	stream environment zone
SF <sub>6</sub>	sulfur hexafluoride
SHPO	California State Historic Preservation Officer
SIP	State Implementation Plan
SLIC	Spills, Leaks, Investigations, and Cleanups
SMARA	State Mining and Reclamation Act of 1975
SNFPA	Sierra Nevada Forest Plan Amendment
SO <sub>2</sub>	sulfur dioxide
SPCC	Spill Prevention, Control, and Countermeasure
SPO	Sierra Planning Organization
SQIP	Scenic Quality Improvement Program
SR	State Route
SRA	State Recreation Area
SRAs	State Responsibility Areas

SUP	Special Use Permit
SWMP	Storm Water Management Program
SWPPP	stormwater pollution prevention plan
SWRCB	State Water Resources Control Board
T	Tesla
TAC	toxic air contaminant
TAP	Travel Analysis Process
TCP	Traditional Cultural Property
TES	threatened, endangered, and sensitive
THP	Timber Harvest Plan
THPO	Tribal Historic Preservation Officer
TMDL	Total Maximum Daily Load
TMPO	Tahoe Metropolitan Planning Organization
TNF	Tahoe National Forest
TPY	tons per year
TPZ	Timberland Production
TROA	Truckee River Operating Agreement
TRPA	Tahoe Regional Planning Agency
TTALUC	Truckee Tahoe Airport Land Use Commission
T-TSA	Tahoe-Truckee Sanitation Agency
TTSD	Tahoe Truckee Sierra Disposal
TTUSD	Tahoe Truckee Unified School District
UCMP	University of California Museum of Paleontology
UPRR	Union Pacific Railroad
US	United States
US 50	US Highway 50
USACE	US Army Corps of Engineers
USBR	US Bureau of Reclamation
USC	United States Code
USFS	US Department of Agriculture, US Forest Service
USFWS	US Fish and Wildlife Service
USGS	US Geological Survey
VdB	Vibration Decibel
VMS	Visual Management System
VQO	Visual Quality Objectives
WEAP	Worker Environmental Awareness Program

## 9.2 GLOSSARY

**Access Way** – Used in this analysis to describe a route within the project area (which may or may not require widening or clearing) that is required for construction and/or operation of the project. For the purpose of this document, access ways include several categories of routes, including existing dirt roads, new dirt roads constructed as part of the project, and existing and new “two-track” pathways intended for power line operations and maintenance access.

**Air Basin** – A land area with generally similar meteorological and geographic conditions throughout. To the extent possible, air basin boundaries are defined along political boundary lines and include both the source and receptor areas. California is currently divided into 15 air basins.

**Air District** – A political body responsible for managing air quality on a regional or county basis. California is currently divided into 35 air districts.

**Air Pollutants** – Amounts of foreign and/or natural substances occurring in the atmosphere that may result in adverse effects to humans, animals, vegetation and/or materials.

**Air Quality Standard** – The prescribed level of a pollutant in the outside air that should not be exceeded during a specific time period to protect public health. Established by both federal and state governments. (See also ambient air quality standards.)

**Ambient Air** – The air occurring at a particular time and place outside of structures. Often used interchangeably with “outdoor air.”

**Ambient Air Quality Standards (AAQS)** – Health- and welfare-based standards for outdoor air which identify the maximum acceptable average concentrations of air pollutants during a specified period of time.

**Avalanche** – Rapid flow of snow down a slope, that results from a mechanical failure in the snowpack when the forces on the snow exceed its strength.

**Batch Plant (Fiber Board)** – A manufacturing plant where fiberboard is prepared and pressed before being transported.

**Best management practices (BMPs)** – Alternative structural and nonstructural practices proven effective in erosion control and management of surface runoff.

**California Air Resources Board (ARB)** – The state's lead air quality agency consisting of an 11-member board appointed by the Governor, and just over thousand employees. The California Air Resources Board is responsible for attainment and maintenance of the state and federal air quality standards, California climate change programs, and is fully responsible for motor vehicle pollution control. It oversees county and regional air pollution management programs.

**California Ambient Air Quality Standard (CAAQS)** – Defines the maximum amount of a pollutant that can be present in outdoor air without harm to the public's health. California law authorizes the California Air Resources Board to set ambient (outdoor) air pollution standards (California Health & Safety Code section 39606) in consideration of public health, safety and welfare.

**Cap-and-Trade** – Cap-and-trade is a regulatory approach used to control pollution by setting a firm cap on allowed emissions while employing market mechanisms to achieve emissions reductions and driving costs down. In a cap-and-trade program, a limit (or cap) is put on the amount of greenhouse gases that can be emitted.

**Carbon Dioxide Equivalent (CO<sub>2</sub>e)** – The amount of carbon dioxide by weight that would produce the same global warming impact as a given weight of another greenhouse gas, based on the best available science, including from the Intergovernmental Panel on Climate Change.

**Carbon Sequestration** – The process of removing carbon dioxide from the atmosphere by storing it in a carbon reservoir other than the atmosphere. Sequestration enhances carbon storage in trees and soils, preserves existing tree and soil carbon and reduces emissions of carbon dioxide, methane and nitrous oxide.

**Carcinogen** – A cancer-causing substance.

**Chronic Health Effect** – A health effect that occurs over a relatively long period of time (e.g., months or years).

**Circuit** – A system that has two terminations and is comprised of electrical conductor and equipment that allows current to pass through.

**Community Noise Equivalent Level (CNEL)** – Similar to the L<sub>dn</sub> described above with an additional 5-dBA penalty applied during the noise-sensitive hours from 7 p.m. to 10 p.m., which are typically reserved for relaxation, conversation, reading, and watching television.

**Conductor** – A substance or medium (wire) that conducts an electrical charge.

**Conformity** – A demonstration of whether a federally-supported activity is consistent with the State Implementation Plan, per Section 176 (c) of the Clean Air Act. Transportation conformity refers to plans, programs and projects approved or funded by the Federal Highway Administration or the Federal Transit Administration. General conformity refers to projects approved or funded by other federal agencies.

**Conifer** – Any of numerous, primarily evergreen, cone-bearing trees or shrubs, such as a pine and fir trees.

**Cooperating Agency [NEPA]** - Any federal agency, other than the lead agency, that has jurisdiction by law over project implementation, or other federal agency that has special expertise with respect to any environmental impact involved in an action (CFR Section 1501.6).

**CorTen** – Weathering steel, best-known under the trademark COR-TEN steel and sometimes written without the hyphen as “Corten steel,” is a group of steel alloys which were developed to eliminate the need for painting, and form a stable rust-like appearance if exposed to the weather for several years.

**Cumulative Impacts** - Impacts on the environment that result from the incremental impact of the proposed action/project when added to other past, present, and reasonably foreseeable future actions/projects. Cumulative impacts can result from individually minor but collectively significant actions/projects taking place over a period of time (40 CFR 1508.7).

**Daily Vehicle Trip Ends (DVTE) [TRPA]**– A vehicle trip end is equal to one vehicle trip, which is a one-direction movement with either the origin or the destination inside a project area. The daily vehicle trip ends would be the total trip ends entering plus all trips exiting a project area during a 24-hour period.

**Day-Night Noise Level ( $L_{dn}$ )** – The 24-hour  $L_{eq}$  with a 10-dBA penalty applied during the noise-sensitive hours from 10 p.m. to 7 a.m., which are typically reserved for sleeping.

**Debris/Earth Flow** – A sheet or stream of soil and rock material saturated with water and flowing downslope under the pull of gravity; it represents the intermediate stage between creep and mudflow.

**Deciduous** – Trees and shrubs that shed their leaves seasonally.

**Distribution Underbuild** – Refers to lower voltage electrical distribution lines that also use the transmission or power line poles. These lower voltage distribution lines send power to businesses, houses, and other users.

**Double Circuit** – A transmission line where two circuits are carried on the same structure.

**Earthquake** – The result of a sudden release of energy in the Earth's crust that creates seismic waves.

**Electric Field** – A region of space characterized by the existence of a force generated by electric charge.

**Emission** – Unwanted substances released by human activity into air, water, or soil.

**Emission Factor** – For stationary sources, the relationship between the amount of pollution produced and the amount of raw material processed or burned. For mobile sources, the relationship between the amount of pollution produced and the number of vehicle miles traveled. By using the emission factor of a pollutant and specific data regarding quantities of materials used by a given source, it is possible to compute emissions for the source. This approach is used in preparing an emissions inventory.

**Environmental Threshold Carrying Capacity [TRPA]** – Specific to Tahoe Regional Planning Agency regulation; an environmental standard necessary to maintain a significant scenic, recreational, educational, scientific, or natural value of the region or to maintain public health and safety within the region.

**Equivalent Noise Level ( $L_{eq}$ )** – The equivalent steady-state noise level in a stated period of time that would contain the same acoustic energy as the time-varying noise level during the same period (i.e., average noise level).

**Erosion** – The process by which soil and rock are worn away from the Earth's surface by processes such as wind or water flow, and then transported and deposited in other locations.

**Expansive Soils** – Clay soil that absorbs moisture and swells, creating the potential for structure damage.

**Fault Rupture** – Displacement of the ground or sea floor surface by a fault movement.

**Floristic** – Of or relating to flowers

**Foliar** – Of or relating to leaves.

**Geographic Information System (GIS)** – A system designed to capture, store, manipulate, analyze, manage, and present all types of geographical data.

**Global Warming** – An increase in the temperature of the Earth's troposphere. Global warming has occurred in the past as a result of natural influences, but the term is most often used to refer to the warming predicted by computer models to occur as a result of increased emissions of greenhouse gases.

**Global Warming Potential (GWP)** – The relative warming of a greenhouse gas over a specified period of time as compared to carbon dioxide. Global Warming Potential allows for the conversion of different greenhouse gas emissions into the same emissions unit, carbon dioxide equivalents.

**Grading** – Cutting through or otherwise disturbing the layers of the soil mantle so as to change the existing landform, including, but not limited to, disturbing the soil mantle for construction of a driveway, parking area, utility line, building, or other structure. Also includes filling, excavation, and clearing.

**Greenhouse Effect** – The warming effect of the Earth's atmosphere. Light energy from the sun that passes through the Earth's atmosphere is absorbed by the Earth's surface and re-radiated into the atmosphere as heat energy. The heat energy is then trapped by the atmosphere, creating a situation similar to that which occurs in a car with its windows rolled up. A number of scientists believe that the emission of carbon dioxide and other gases into the atmosphere may increase the greenhouse effect and contribute to global warming.

**Greenhouse Gases (GHG)** – Atmospheric gases such as carbon dioxide, methane, chlorofluorocarbons, nitrous oxide, ozone and water vapor that slow the passage of re-radiated heat through the Earth's atmosphere.

**Groundwater** – Water located beneath the Earth's surface in soil pore spaces and in the fractures of rock formations.

**Guy Wires/Guying** – Refers to cables anchored to the ground and attached to towers to provide additional structure support to the towers.

**Habitat Fragmentation** –the breaking up of continuous tracts of habitat into smaller, disconnected pieces. Habitat fragmentation involves the reduction of total habitat area, a decrease in the interior to edge ratio, isolation of fragments from other habitat areas, breaking of one habitat patch into two or more smaller patches, and a decrease in the average size of each patch.

**Hazardous Air Pollutant (HAP)** – An air pollutant listed under section 112 (b) of the Federal Clean Air Act as particularly hazardous to health. Emission sources of hazardous air pollutants are identified by the United States Environmental Protection Agency and emission standards are set accordingly.

**Health Risk Assessment (HRA)** – A document that identifies the risks and quantities of possible adverse health effects that may result from exposure to emissions of toxic air contaminants. A health risk assessment cannot predict specific health effects; it only describes the increased possibility of adverse health effects based on the best scientific information available.

**Herbaceous** – Of or relating to herbs (as distinguished from woody plants).

**Heritage and Cultural Resource** – A heritage and cultural resource is an object or place of human activity, occupation, or use identifiable through field inventory, historical documentation, or oral evidence. Cultural resources are prehistoric, historic, archaeological, or architectural sites, structures, buildings, places, or objects and places of traditional cultural or religious importance to specified social or culture groups. Heritage and cultural resources include the entire spectrum of resources, from artifacts to cultural landscapes, without regard to eligibility for listing in the National Register of Historic Places.

**Historic Property** – Any prehistoric or historic district, site, building, structure, or object included in, or eligible for inclusion in, the National Register of Historic Places maintained by the Secretary of the Interior and per the eligibility criteria at 36 CFR Section 60.4. This term includes artifacts, records, and remains that are related to and located within such properties. The term includes properties of traditional religious and cultural significance to an Indian Tribe that meet the National Register criteria. Properties are “eligible for inclusion” if they have been formally determined as such in accordance with regulations of the Secretary of the Interior or meet the National Register of Historic Places criteria.

**Historical Resource** – Under the California Environmental Quality Act, a historical resource is a resource listed in or determined to be eligible for listing in, the CRHR; a resource included in a local register of historical resources; or an object, building, structure, site, area, place, record, or manuscript which a California Environmental Quality Act lead agency determines to be historically significant in the architectural, engineering, scientific, economic, agricultural, educational, social, political, military, or cultural annals of California, provided the agency’s determination is supported by substantial evidence (CCR, Title 14, Division 6, Chapter 3 Section 15064.5).

**Indian Tribe** – An Indian Tribe, band, nation, or other organized group or community which is recognized as eligible for the special programs and services provided by the United States to Indians because of their status as Indians (36 CFR Section 800.16(m)).

**Infiltration** – Relating to soil; the movement of water from the soil surface into the soil.

**Intergovernmental Panel on Climate Change (IPCC)** – A scientific intergovernmental body set up by the World Meteorological Organization and by the United Nations Environment Programme to provide decision-makers and others interested in climate change with an objective source of information about climate change.

**Inversion** – A layer of warm air in the atmosphere that prevents the rise of cooling air and traps pollutants beneath it.

**Kilovolt (kV)** – A unit of electromotive force equal to 1,000 volts.

**Land Capability District (LCD) [TRPA]** – A soils unit designated on the adopted Tahoe Regional Planning Agency land capability map and denominated by a numerical rating. Land capability is defined as “the level of use an area can tolerate without sustaining permanent damage through erosion and other causes.” TRPA uses land capability ratings that range from 1 to 7, which rank the districts in terms of their tolerance for use based on slope, relative erosion and runoff potential, and potential for hazards.

**Land Coverage** – A man-made structure, improvement or covering, either created before February 10, 1972, or created after February 10, 1972, pursuant to either TRPA Ordinance No. 4, as amended, or other TRPA approval, that prevents normal precipitation from directly reaching the surface of the land underlying the structure, improvement or covering. Such structures, improvements, and coverings include, but are not limited to, roofs, decks, surfaces that are paved with asphalt, concrete, or stone, roads, streets, sidewalks, driveways, parking lots, tennis courts, patios; and lands so used before February 10, 1972, for such uses as for the parking of cars and heavy and repeated pedestrian traffic that the soil is compacted so as to prevent substantial infiltration. A structure, improvement or covering shall not be considered as land coverage if it permits at least 75 percent of normal precipitation directly to reach the ground and permits growth of vegetation on the approved species list. Common terms related to land coverage are –

- A. Hard Coverage - man-made structures as defined above.
- B. Soft Coverage - compacted areas without structures as defined above.

**Landslide** – A geological phenomenon which includes a wide range of ground movement, such as rockfalls, deep failure of slopes, and shallow debris flows.

**Lead Agency** – The federal agency under the National Environmental Policy Act and state or local agency under the California Environmental Quality Act responsible for ensuring the process is properly implemented. For the purposes of the CalPeco 625 and 650 Electrical Line Upgrade Project, the US Forest Service is the National Environmental Policy Act lead agency (with the Lake Tahoe Basin Management Unit and Tahoe National Forest as co-leads) and the California Public Utilities Commission is the California Environmental Quality Act lead agency. The Tahoe Regional Planning Agency is the lead agency relative to the Tahoe Regional Planning Compact (Public Law 96-551) and the Tahoe Regional Planning Agency’s Code of Ordinances and Rules of Procedure.

**Level of Service (LOS)** – A measure of the operating efficiency of a transportation facility. Letter designations from “A” (best) to “F” (worst) are assigned to a road to describe how well it functions.

**Liquefaction** – The process by which saturated, unconsolidated sediments are transformed into a substance that acts like a liquid.

**Magnetic field** – A condition found in the region around a magnet or an electric current, characterized by the existence of a detectable magnetic force at every point in the region and by the existence of magnetic poles.

**Masticate** – In the context of this document, a vegetation treatment where brush and other low growing woody vegetation is crushed or ground with machinery. Generally produces larger, coarser wood pieces than “chipping”.

**Maximum Noise Level ( $L_{max}$ )** – The highest instantaneous noise level during a specified time period.

**Mineral Resource** – Natural resources in the form of minerals.

**Minimum Noise Level ( $L_{min}$ )** – The lowest instantaneous noise level during a specified time period.

**Mitigation** – The act of making conditions or consequence less severe.

**Mobile Sources** – Sources of air pollution such as automobiles, motorcycles, trucks, off-road vehicles, boats and airplanes.

**Montane Meadow** – Montane meadow ecosystems are associated with seasonally moist to waterlogged soils in valleys, flats, gentle slopes, and filled-in lake basins in the higher elevations of the Sierra Nevada.

**National Ambient Air Quality Standards (NAAQS)** – Standards established by the United States Environmental Protection Agency that apply for outdoor air throughout the country. There are two types of National Ambient Air Quality Standards; primary standards set limits to protect public health and secondary standards set limits to protect public welfare.

**National Forest System Road** – United States Forest Service-authorized roads on National Forest System lands that range from permanent, double-lane, paved highways to single-lane, low-standard roads intended only for use by high-clearance vehicles, such as pickup trucks, or that may be closed to vehicles.

**Nonattainment Area** – A geographic area identified by the United States Environmental Protection Agency and/or California Air Resource Board as not meeting either National Ambient Air Quality Standards or California Ambient Air Quality Standards for a given pollutant.

**Nonattainment Transitional** – A subcategory of the nonattainment designation category for state standards that signals progress and implies the area is nearing attainment. Districts with nonattainment transitional status may revise their attainment plans to delay adoption of control measures anticipating attainment without the measures.

**Non-Conforming Use [TRPA]** – Specific to Tahoe Regional Planning Agency regulation; uses legally commenced before July 1, 1987, that would be prohibited if new.

**Non-Specular Material** – Refers to a type aluminum conductor that has been either mechanically or chemically treated to reduce reflectivity.

**Ozone Precursors** – Chemicals such as non-methane hydrocarbons and oxides of nitrogen, occurring either naturally or as a result of human activities, which contribute to the formation of ozone, a major component of smog.

**Particulate Matter (PM)** – Any material, except pure water, that exists in the solid or liquid state in the atmosphere. The size of particulate matter can vary from coarse, wind-blown dust particles to fine particle combustion products.

**Permit to Construct** – Required of investor-owned utilities for construction of facilities between 50 kV and 200 kV. The California Public Utilities Commission reviews the permit to construct in conjunction with the environmental review conducted pursuant to the California Environmental Quality Act.

**Power Line** – Per CPUC standards, an electrical line that transmits electricity at voltages between 50 kV and 200 kV.

**Primary Standard [Air Quality]** – A dosage of air pollution scientifically determined to protect against human health effects such as asthma, emphysema, and cancer.

**Propagule** – A vegetative structure that can become detached from a plant and give rise to a new plant, such as a seed, spore, bud, sucker, or a part of the vegetative body capable of independent growth if detached from the parent plant.

**Pursuant** – Following, proceeding after.

**Reactive Organic Gases (ROG)** - ROG are volatile organic compounds that are photochemically reactive. ROG emissions result primarily from incomplete combustion and the evaporation of chemical solvents and fuels. ROG and nitrates of oxygen (NO<sub>x</sub>) are precursor compounds to the formation of ozone in the atmosphere.

**Responsible Agency [CEQA]** - An agency other than the lead agency that has legal responsibility for carrying out or approving a project or elements of a project (PRC Section 21069).

**Riparian** – Of, pertaining to, or situated on the bank of a river, stream, lake, or other water body. The vegetation in riparian habitats is strongly influenced by the presence of water, particularly flowing water.

**Rock Fall** –The natural downward motion of a detached fragment of rock or series of rocks involving free falling, bouncing, rolling, and sliding.

**Seiche** – A standing wave in an enclosed or partially enclosed body of water.

**Sensitive Receptor** – Land uses adjacent to or within proximity to the proposed project that could be impacted by construction, operation, and maintenance activities.

**Seral** – An intermediate community or stage of vegetation found in ecological succession.

**Slope Stability** – Encompasses the analysis of static and dynamic stability of slopes of earth and rock-fill dams, slopes of other types of embankments, excavated slopes, and natural slopes in soil and soft rock.

**Smog** – A combination of smoke and other particulates, ozone, hydrocarbons, nitrogen oxides and other chemically reactive compounds which, under certain conditions of weather and sunlight, may result in a murky brown haze that causes adverse health effects. The primary source of smog in California is motor vehicles.

**Snag** – A dead standing tree.

**Soil Compaction** – The process in which a stress applied to a soil causes densification as air is displaced from the pores between the soil grains.

**Sound Exposure Level (SEL)** – The constant sound level which has the same amount of energy in one second as the original noise event.

**State Implementation Plan (SIP)** – A plan prepared by states and submitted to United States Environmental Protection Agency describing how each area will attain and maintain national ambient air quality standards. State Implementation Plans include the technical foundation for understanding the air quality (e.g., emission inventories and air quality monitoring), control measures, and strategies and enforcement mechanisms.

**Subsidence** – The motion of a surface (usually, the Earth's surface) as it shifts downward relative to a datum (such as sea-level).

**Succession** – The process of change in species composition and structure of an ecological community over time.

**Supersede** – To take the place or position of.

**Transmission Line** – Per CPUC standards, an electrical line that transmits electricity at high voltages, 200 kV or greater.

**Trustee Agency [CEQA]** - A state agency that has jurisdiction by law over natural resources that are held in trust for the people of the State of California (PRC Section 21070), such as the California Department of Fish and Wildlife and the California State Lands Commission.

**Tsunami** – A series of water waves caused by the displacement of a large volume of a body of water, typically an ocean or a large lake.

**Turbidity** – A measure of the clarity of water based on the amount of suspended material present.

**Ungulate** – A member of any of several groups of mammals that use the tips of their toes, which are usually hooved, to sustain their body weight while moving.

**Vehicle Miles Traveled (VMT)** – The miles traveled by motor vehicles over a specified length of time (e.g., daily, monthly or yearly) or over a specified road or transportation corridor.

**Visibility** – A measurement of the ability to see and identify objects at different distances. Visibility reduction from air pollution is often due to the presence of sulfur and nitrogen oxides, as well as particulate matter.

**Volant** – Flying or capable of flying.

**Volt** – A unit of electric potential difference across a conductor when a current of one ampere dissipates one watt of power.

**Zoning** – The process of planning for land use by a locality to allocate certain kinds of structures in certain areas. Zoning also includes restrictions in different zoning areas, such as height of buildings, use of green space, density (number of structures in a certain area), use of lots, and types of businesses.

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