Pleasant Valley Road (SR 49)/Patterson Drive Intersection Signalization Project

Biological Resources Assessment

Diamond Springs, El Dorado County, California

July 2008 (Revised March 2009)

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Diamond Springs, El Dorado County, California

Biological Resources Assessment

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1 Introduction

This Biological Resources Assessment report describes the biological resources present in the area of the proposed Pleasant Valley Road (SR49)/Patterson Drive Intersection Signalization Project (Project) located at the intersection of Pleasant Valley Road and Patterson Drive in El Dorado County, California (Figure 1). This report includes a brief project description, study methodology, detailed description of the affected environment, and summary of potential impacts and recommended mitigation measures.

1.1 Project Description

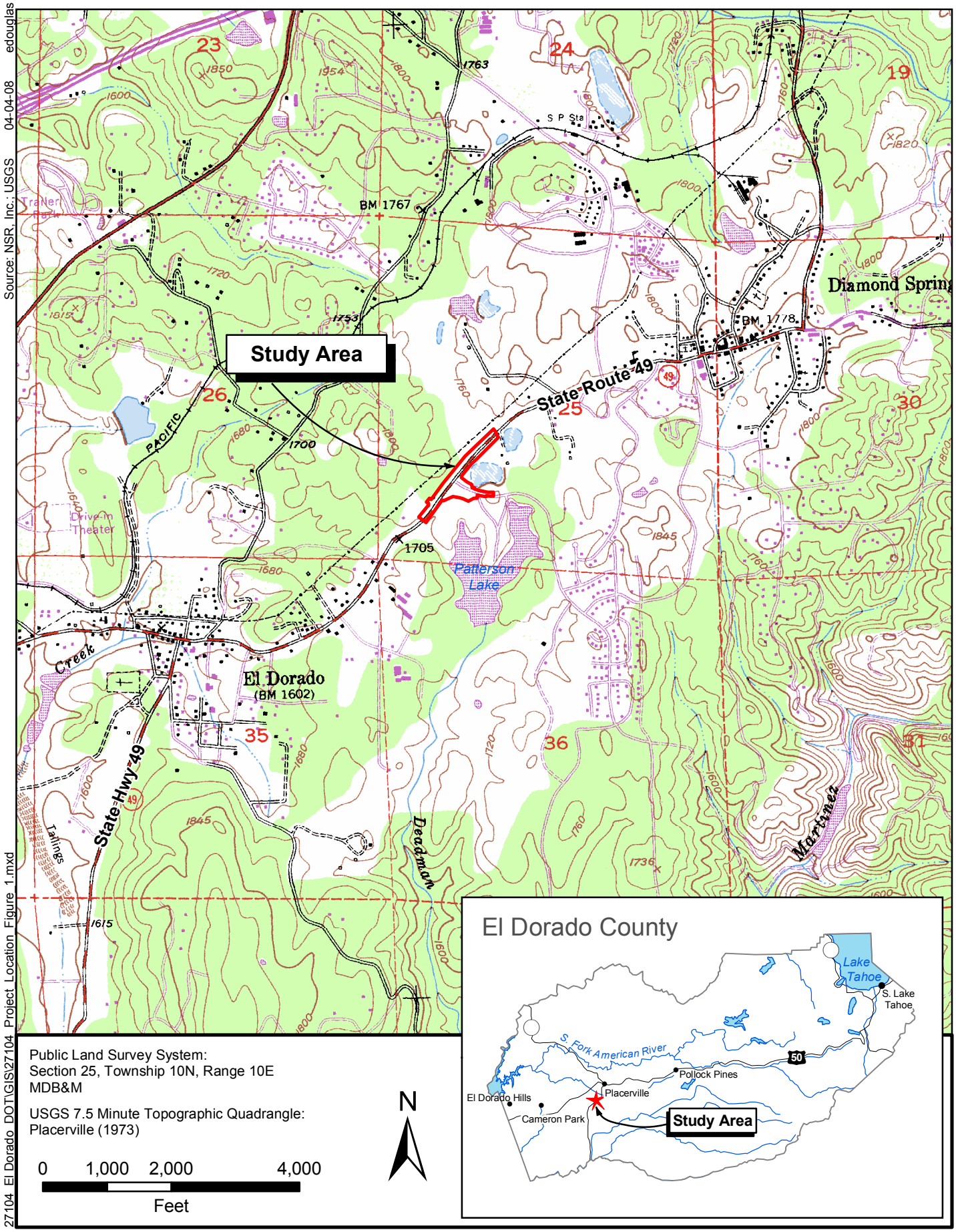
The El Dorado County (County) Department of Transportation (DOT) plans to improve the intersection of Pleasant Valley Road and Patterson Drive in El Dorado County, California. The project site is located approximately 1 mile north of the community of El Dorado, within the *Placerville, California* U.S. Geological Survey (USGS) 7.5-minute topographic quadrangle (Township 10 North, Range 10 East, Section 25 MDBM).

The project study area consists of approximately 1,775 feet of Pleasant Valley Road (960 feet east of the intersection and 815 feet west of the intersection), a short portion of Ryan Drive, the majority of Assessor's Parcel Number (APN) 331-310-09 as a potential staging area, approximately 680 feet of Patterson Drive, and the majority of the Tower Mart frontage. The project study area encompasses approximately 9.0 acres. An aerial photograph of the project study area is presented as Figure 2.

The proposed improvements include the widening of approaches to the intersection; installation of curbs, gutters, and sidewalks; minor landscaping; installation of three traffic signals; and the addition of turn pockets. The improvements are intended to alleviate traffic congestion and are part of the County growth plan. The signals will be installed in accordance with the California Manual of Uniform Traffic Control Devices (CAMUTCD). A combination of County and State funds would be used for the implementation of this project.

The reconstruction of Pleasant Valley Road would entail the reconstruction of the road prism 600 feet southwest from the intersection and 800 feet northwest from the intersection. The alignment and profile of Pleasant Valley Road would remain unchanged. Turn pockets would be added to the roadway approach, requiring an increase in the width of Patterson Drive approaching the intersection. An excavation depth of 12-18 inches is anticipated only at the new structural sections where the road is to be widened. Approximately 800 cubic yards of additional material will be imported to balance the earthwork. The alignment and profile of Patterson Drive would remain unchanged.

Curbs, sidewalks, and gutters would be added to the improved intersection except where they exist. Landscaping would be limited to the removal and replacement of ornamental shrubs at the storefront of the Tower Mart. The staging area would likely be located in the vacant lot owned on the southeast corner of the Pleasant Valley Road and Patterson Drive intersection. Approximately 50 feet of Gold Dust Drive would also be reconstructed.



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Source: NSR, Inc.; USGS

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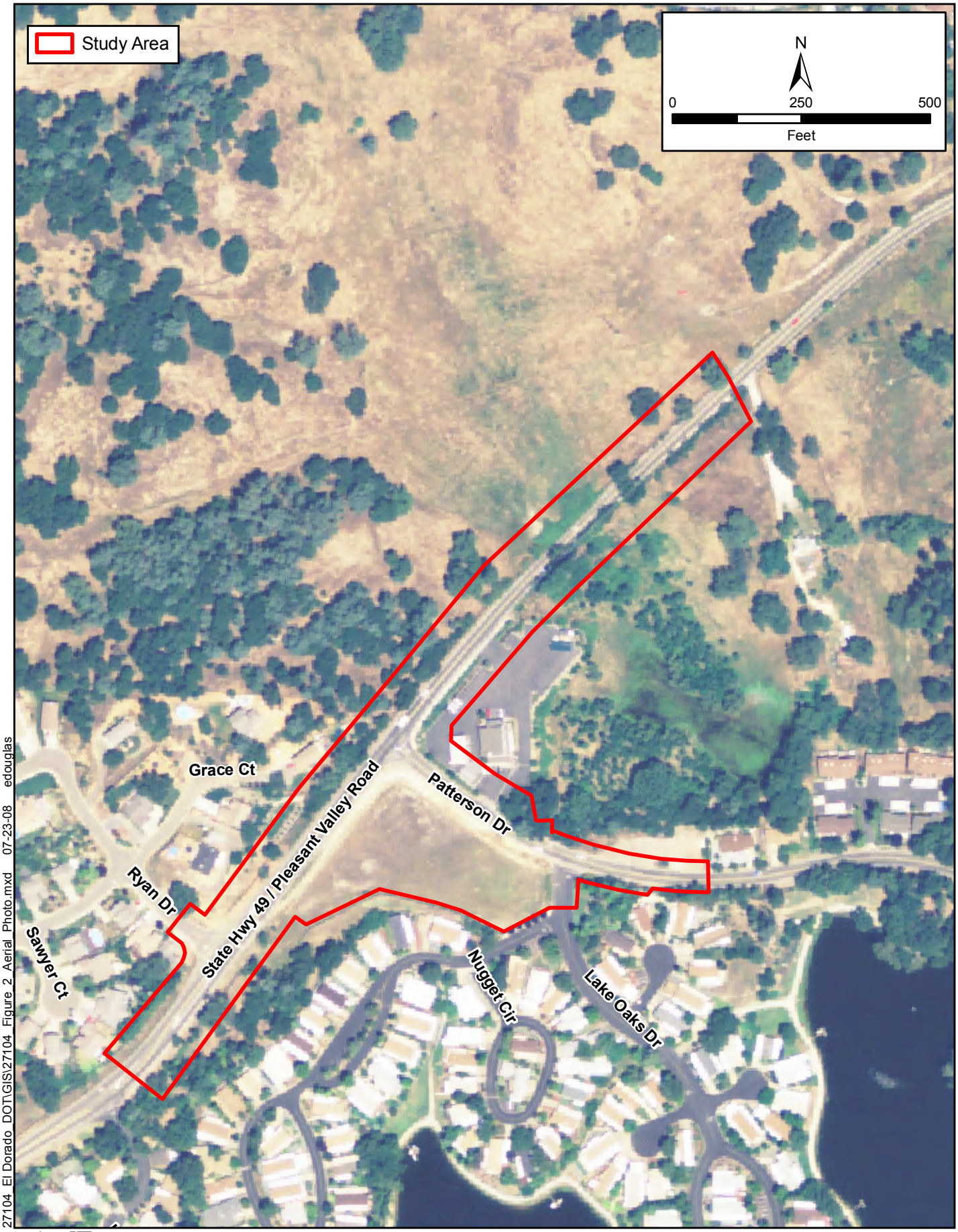
Pleasant Valley Road (SR 49)/Patterson Drive Intersection Signalization Project

Figure 1
Location and Vicinity Map



27104 El Dorado DOT\GIS\27104 Figure 2 Aerial Photo.mxd 07-23-08 edouglas

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Pleasant Valley Road (SR 49)/Patterson Drive Intersection Signalization Project

Figure 2
Aerial Photograph

2 Study Methodology

2.1 Informational Review

For the purpose of this evaluation, special-status plant species are vascular plants that are (1) designated as rare by the California Department of Fish and Game (CDFG) or the U.S. Fish and Wildlife Service (USFWS) or are listed as threatened or endangered under the California Endangered Species Act (CESA) or the federal Endangered Species Act (ESA); (2) proposed for designation as rare or for listing as threatened or endangered; and/or (3) state or federal candidate species for listing as threatened or endangered. Other special-status plant species are included on the California Native Plant Society (CNPS) List 1A, 1B, or 2. Special-status wildlife species include species that are (1) designated as threatened or endangered under the CESA or ESA; (2) proposed or petitioned for federal listing as threatened or endangered; and/or (3) state or federal candidates for listing as threatened or endangered. Other special-status wildlife species are identified by CDFG as Species of Special Concern or California Fully Protected Species.

Special-status species potentially occurring in the study area were determined through database searches [e.g., California Natural Diversity Database (CNDDB) (California Department of Fish and Game 2003a), the United States Fish and Wildlife Service (USFWS) database of federally protected species, and the CNPS Electronic Inventory], consultation with resource agency personnel, reconnaissance surveys of floral, faunal, and wetland resources, and review of pertinent environmental documents and technical studies.

Using the CNDDB, a search of published accounts of special-status species was conducted for the *Placerville, California* 7.5-minute USGS topographic quadrangle and the surrounding eight quadrangles (Attachment A). The CNDDB is a database consisting of historical observations of special-status plant species, wildlife species, and natural plant communities. Because the CNDDB is limited to reported sightings, it is not a comprehensive list of species that may occur in a particular area. However, it is useful in refining the list of special-status species that have the potential to occur in the study area.

The USFWS maintains a database that lists federally protected species for each USGS quadrangle in the jurisdiction of the Sacramento office. The USFWS list of endangered and threatened species that may occur or be affected by projects in the *Placerville, California* 7.5-minute USGS topographic quadrangle was reviewed (Attachment B).

A database search was also performed for the *Placerville, California* 7.5-minute USGS topographic quadrangle and 8 surrounding quadrangles using the CNPS *Electronic Inventory*, which allows users to query the *Inventory of Rare and Endangered Plants of California* (California Native Plant Society 2008) using a set of search criteria (e.g., quadrangle name, habitat type, etc.) (Attachment C). Because the *Inventory of Rare and Endangered Plants of California* is also limited to reported sightings, it is not a comprehensive list of plant species that may occur in a particular area. However, it is useful in refining the list of special-status plant species that have the potential to occur on the site.

2.2 Field Investigation

Habitat Assessment

A reconnaissance-level survey for special-status wildlife species habitat in the study area was conducted by a North State Resources, Inc. (NSR) biologist on May 7, 2008. A California red-legged frog site assessment was also performed. The site assessment was conducted in accordance with the USFWS' *Revised Guidance on Site Assessment and Field Surveys for California Red-legged Frogs* (2005).

Botanical Survey

An NSR botanist conducted a botanical survey on May 9, 2008. All portions of the study area containing suitable habitat for potentially occurring special-status plant species were surveyed. The survey was conducted according to the technical methods prescribed by Nelson (1994). A list of all plant species observed is provided as Attachment D.

Native Tree Inventory

An NSR biologist conducted an inventory of native trees in the study area on May 27, June 3, and June 26, 2008. All native trees over 4 inches in diameter at breast height (dbh) were identified to species and their location was recorded using a Trimble Geo XT Global Positioning System (GPS) capable of sub-meter accuracy (NAD 27 projection). In addition, dbh was recorded as well as the dripline radius and the general condition of each tree.

Delineation of Waters of the United States

On June 26, 2008, a NSR biologist conducted a delineation of waters of the United States in the study area. The delineation was performed according to the methodology described in the *Corps of Engineers Wetlands Delineation Manual* (Environmental Laboratory 1987).

3 Affected Environment

3.1 General Setting

The study area is located in the *Placerville, California* USGS 7.5-minute topographic quadrangle on the western slope of the Sierra Nevada. Elevation at the site is approximately 1,740 feet above sea level. The average maximum temperatures (92.6° F) occur in July and average minimum temperatures (32.4° F) occur in January (Western Regional Climate Center 2008). The mean annual rainfall for the area is approximately 38.5 inches, most of which falls between October and April (Western Regional Climate Center 2008).

The soils and land types in the study area are described in the *Soil Survey of El Dorado County, California* (U.S. Department of Agriculture 1974). Three soil map units were indentified in the study area:

- Auburn silt loam, 2 to 30 percent slopes;
- Diamond Springs very fine sandy loam, 9 to 15 percent slopes; and
- Mixed alluvial land.

3.2 Biological Communities

Reconnaissance-level surveys revealed three general biological communities or habitat types in the study area: oak woodland, annual grassland, and urban (Figure 3). Habitat types were characterized based on descriptions provided in *A Guide to Wildlife Habitats of California* (Mayer and Laudenslayer Jr. 1988).

Urban

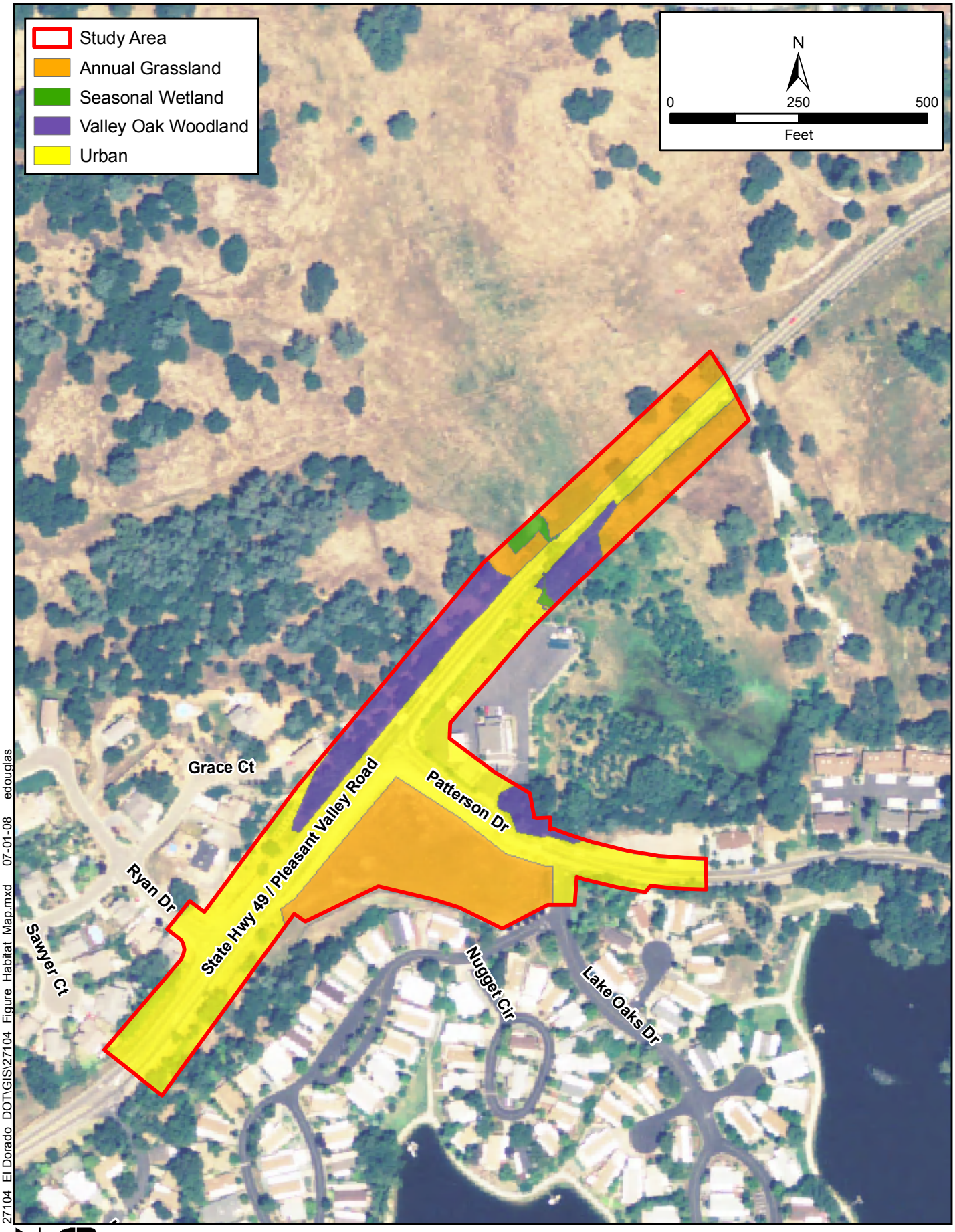
Urban habitat includes roadways, residential areas, and commercial areas that are largely denuded of vegetation, and what vegetation does exist is largely ornamental.

The wildlife species most often associated with urban areas are those that are most tolerant of periodic human disturbances, including several introduced species, such as European starlings (*Sturnus vulgaris*), rock doves (*Columba livia*), and house mice (*Mus musculus*). Native species that are able to use these habitats include western fence lizards (*Sceloporus occidentalis*), American robins (*Turdus migratorius*), Brewer's blackbirds (*Euphagus cyanocephalus*), northern mockingbirds (*Mimus polyglottos*), mourning doves (*Zenaida macroura*), house finches (*Carpodacus mexicanus*), California ground squirrels (*Spermophilus beecheyi*), and striped skunks (*Mephitis mephitis*). In addition, bats that forage in nearby habitats may make use of small cavities around the eaves of structures.

Annual Grassland

Annual grassland is characterized by the presence of annual grasses and herbaceous species. Species present in this community include Fitch's tarweed (*Hemizonia fitchii*), ripgut brome (*Bromus diandrus*), cheatgrass (*Bromus tectorum*), yellow star-thistle (*Centaurea solstitialis*), and medusa-head (*Taeniatherum caput-medusae*). Portions of the annual grassland community in the study area are highly disturbed (ruderal). A seasonal wetland is present as an inclusion within the annual grassland habitat.

Grasslands are productive wildlife habitat. Grassland bird species, such as the mourning dove, savannah sparrow (*Passerculus sandwichensis*), and white-crowned sparrow (*Zonotrichia leucophrys*) as well as rodents, including the California ground squirrel, Botta's pocket gopher (*Thomomys bottae*), and deer mouse (*Peromyscus maniculatus*), forage on the seed crop this community provides. These species, in turn, attract predators such as the gopher snake (*Pituophis melanoleucus*), American kestrel (*Falco sparverius*), red-tailed hawk (*Buteo jamaicensis*), and coyote (*Canis latrans*). Reptile species expected to occur here include the western fence lizard, western skink (*Eumeces skiltonianus*), western rattlesnake (*Crotalus viridis*), and yellow-bellied racer (*Coluber constrictor*).



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Pleasant Valley Road (SR49)/Patterson Drive Intersection Signalization Project

Figure 3
Habitat Map

Valley Oak Woodland

This habitat is characterized as open canopied woodland with an open understory. The dominant tree species are valley oak (*Quercus lobata*) and interior live oak (*Q. wislizenii*).

Valley oak woodland provides habitat for many wildlife species that forage in nearby grassland habitat and find cover or even nest in the large oaks. The acorns produced are also used as forage by a variety of species, including acorn woodpeckers (*Melanerpes formicivorus*), western scrub jays (*Aphelocoma californica*), and black-tailed deer (*Odocoileus hemionus*). Amphibians and reptiles that make use of the downed tree branches under these oaks include the western fence lizard, gopher snake (*Pituophis melanoleucus*), and common kingsnake (*Lampropeltis getula*). Common birds of this habitat include western bluebirds (*Sialia mexicana*), oak titmice (*Baeolophus inornatus*), and northern flickers (*Colaptes auratus*). Raptors such as the red-tailed hawk also forage here. California ground squirrels are common in this habitat and deer browse on the grasses and lower oak branches.

3.3 Special-Status Species

No special-status plant species were detected during the botanical survey. All special-status wildlife species potentially occurring in the project region are discussed in Attachment E, which provides a general comparison of habitat requirements for each species and the general habitats present in the study area. Some of the special-status wildlife occurring in the vicinity of the project are found in habitat types that are not present on-site, such as vernal pool. These species are eliminated from further consideration. For those special-status species for which generally suitable habitat was determined to be present, the results of the reconnaissance survey were used to determine the likelihood of their presence in the study area (Table 1). Species potentially occurring in the study area are discussed in more detail below.

Federal and State Listed Species Potentially Occurring on the Site

California Red-legged Frog (*Rana aurora draytonii*)
Federal Status: Threatened **State Status: Special of Special Concern**

The red-legged frog is the largest native frog in the western United States (Wright and Wright 1949), with adults obtaining a length of 3.4 to 5.4 inches from the tip of the snout to the rear of the vent (Jennings and Hayes 1994). California red-legged frogs have been observed in a number of aquatic habitats throughout their historic range. The key to their occurrence in these habitats is the presence of perennial, or near perennial, water and the general lack of introduced aquatic predators such as crayfish (*Pacifastacus leniusculus* and *Procambarus clarkii*), bullfrogs (*Rana catesbeiana*), bluegill (*Lepomis macrochirus*), and other centrarchid fishes such as largemouth bass (*Micropterus salmoides*). In addition to aquatic habitats, California red-legged frogs use areas of riparian vegetation within a few yards of water. The species also uses small mammal burrows in or under vegetation, willow root wads, and the undersides of old boards and other debris within the riparian zone (Jennings and Hayes 1994).

Table 1 Special-Status Wildlife Species Potentially Occurring in the Project Area

COMMON NAME SCIENTIFIC NAME	STATUS[1]	GENERAL HABITAT DESCRIPTION	SPECIES PRESENT/ ABSENT[2]	COMMENTS
Federal or State Listed				
California red-legged frog *Rana aurora draytonii*	T/SC	Streams, freshwater pools, and ponds with overhanging vegetation.	**HP**	Suitable breeding habitat is not present in or immediately adjacent to the study area. However, the seasonal wetlands within the project site and adjacent vicinity could provide suitable non-breeding aquatic habitat during the wet season.
Other Special-Status Species				
Western burrowing owl *Athene cunicularia hypugea*	–/SC	Grasslands and ruderal habitats.	**HP**	Species may occupy grasslands in and adjacent to the study area if suitable burrows are present.
long-eared owl *Asio otus*	–/SC	Dense riparian and live oak thickets near meadow edges, and nearby woodland and forest habitats. Also found in dense conifer stands at higher elevations.	A	Woodlands in study area are not of sufficient density.
White-tailed kite *Elanus leucurus*	–/FP	Nests in tall shrubs and trees, forages in grasslands, agricultural fields, and marshes.	**HP**	Suitable woodlands are present in the study area. Species may breed and/or forage in the area.
Vaux's swift *Chaetura vauxi*	–/SC	Nests in snags in coastal coniferous forests; forages aerially.	A	Suitable nesting and roosting habitat (snags) is not present in the study area.
Loggerhead shrike *Lanius ludovicianus*	–/SC	Nests in tall shrubs and dense trees, forages in grasslands, marshes, and ruderal habitats.	**HP**	Suitable breeding and foraging habitat is present in the study area.
Tricolored blackbird *Agelaius tricolor*	–/SC	Breeds near fresh water in dense emergent vegetation.	A	Dense emergent vegetation is not present in or adjacent to the study area.
American badger *Taxidea taxus*	–SC	Herbaceous, shrub, and open stages of most habitats with dry, friable soils.	A	Species is unlikely to den in the study area due to the intensity of human disturbance.

1Status Codes: T = Threatened; SC = Species of Special Concern (State); FP = California Fully Protected Species.

2Absent [A] - no habitat present and no further work needed. Habitat Present [HP] -habitat is, or may be present. The species may be present.

Adult California red-legged frogs have been observed to breed from late November through early May after the onset of warm rains (Storer 1925; Jennings and Hayes 1994). Females attach an egg mass of 2,000 to 6,000 moderate-sized (0.08 to 0.11 inch diameter) eggs to an emergent vegetation brace such as tule stalks (*Scirpus* spp.), annual grasses (Poaceae), or willow (*Salix* spp.) roots just below the water surface (Livezey and Wright 1947; Storer 1925).

Historically, the California red-legged frog ranged from Point Reyes National Seashore in Marin County inland to the Central Valley and the Redding vicinity and south to northwestern Baja California, Mexico. It occurred in 46 counties in California. Today, that range has been reduced to 31 counties (U.S. Fish and Wildlife Service 2007). Populations outside of the San Francisco Bay area and central coast areas are isolated, and the species is predominantly extirpated from the southern Transverse and Peninsular ranges in California, although some populations persist.

Suitable California red-legged frog breeding habitat [i.e., dense, shrubby, or emergent riparian vegetation closely associated with deep (greater than 2 $^{1}/_{3}$-feet deep) still or slow-moving water] is not present in or immediately adjacent to the study area. However, the seasonal wetlands within the project site and adjacent areas could provide suitable non-breeding aquatic habitat during the wet season; and there is at least some potential that California red-legged frogs could migrate through the site if they are present in the project vicinity. The nearest CNDDB recorded occurrences of California red-legged frogs to the project study area are located approximately 13 miles to the northeast and approximately 14 miles to the northwest (California Department of Fish and Game 2003a).

Other Special-Status Species Potentially Occurring on the Site

Western Burrowing Owl (*Athene cunicularia hypugaea*)
Federal Status: None **State Status: Species of Special Concern**

The western burrowing owl inhabits open, dry grasslands and deserts, as well as open stages of pinyon-juniper and ponderosa pine. Western burrowing owls typically nest in abandoned rodent burrows, particularly those of California ground squirrels, which they modify each year. The nesting season is between February 1 and August 31. Burrowing owls forage in open grassland areas adjacent to nest sites. The species has also been documented in open areas near human habitation, especially airports and golf courses.

Data for burrowing owls in the Sierra foothill and valley portions of El Dorado County is sparse, despite the presence of large areas of annual grasslands in this location (California Department of Fish and Game 2003b). Historic references imply that burrowing owls were common or abundant from the foot of the Sierras to the ocean. However, the foothill counties currently have large areas of (introduced) annual grasslands with populations of ground squirrels, and yet there are very few occurrence records for burrowing owls that have been collected by CDFG staff while reviewing other projects (California Department of Fish and Game 2003b).

Grassland habitat is present in the study area, and there is at least some possibility that western burrowing owls could be present if ground squirrel burrows occur in these grasslands.

White-tailed Kite (*Elanus leucurus*)
Federal Status: None **State Status: Fully Protected Species**

The white-tailed kite can be found in association with the herbaceous and open stages of a variety of habitat types, including open grasslands, meadows, emergent wetlands, and agricultural lands. Nests are constructed near the top of dense oaks, willows, or other tree stands located adjacent to foraging areas. The species forages in undisturbed, open grasslands, meadows, farmlands, and emergent wetlands. White-tailed kites are seldom observed more than 0.5 mile from an active nest during the breeding season (Zeiner et al. 1990).

The white-tailed kite is found year-round in the project region. The woodland and grassland habitats in and adjacent to the study area provide suitable breeding and foraging habitat for this species.

Loggerhead Shrike (*Lanius ludovicianus*)
Federal Status: None **State Status: Species of Special Concern**

The loggerhead shrike prefers open habitats with scattered shrubs, trees, posts, fences, utility lines, or other perches located in open-canopied valley foothill hardwood, valley foothill hardwood-conifer, valley foothill riparian, pinyon-juniper, juniper, desert riparian, and Joshua tree habitats. Loggerhead shrikes skewer their prey to thorns or barbs on barbed-wire fences. The purpose of this trait may be to help kill the prey or to cache the food for later consumption. Loggerhead shrikes are found in lowlands and foothills throughout California. The woodlands and grasslands in and adjacent to the study area provide suitable breeding and foraging habitat for this species.

3.4 Rare Natural Communities

In addition to inventorying reported occurrences of special-status species, the CNDDB serves to inventory reported locations of rare natural communities. Communities respond to environmental changes and can be thought of as an indicator of the overall health of an ecosystem and its component species. Rare natural communities are those communities that are of highly limited distribution. They may or may not contain rare, threatened, or endangered species. The CNDDB ranks natural communities according to their rarity and endangerment in California. No rare natural communities occur within or adjacent to the study area boundary (California Department of Fish and Game 2003a).

3.5 Native Trees

One hundred thirty-four (134) native trees greater than 4 inches in dbh were identified within the study area (Figure 4). This includes seventy-eight (78) interior live oak, nine (9) gray pine (*Pinus sabiniana*), thirty-one (31) valley oak, one (1) willow, eight (8) black walnut (*Juglans californica*), four (4) California black oak (*Quercus kelloggii*), one (1) ponderosa pine (*Pinus ponderosa*), and two (2) blue oak (*Quercus douglasii*). Attachment F provides a data summary for all recorded trees including the species, dbh, dripline radius, general condition, and a map identifying the location of each tree.

3.6 Jurisdictional Waters (Including Wetlands)

Two seasonal wetlands were delineated within the study area. These features occupy 0.094 acre of the study area and are subject to federal jurisdiction. The boundaries of waters of the United States in

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Legend

- Study Area (8.993 Acres)
- Data Point
- Culvert
- Contour (1 ft. Intervals)

Non-Jurisdictional Features

- Roadside Ditch (0.014 Acre)

Waters of the U.S.

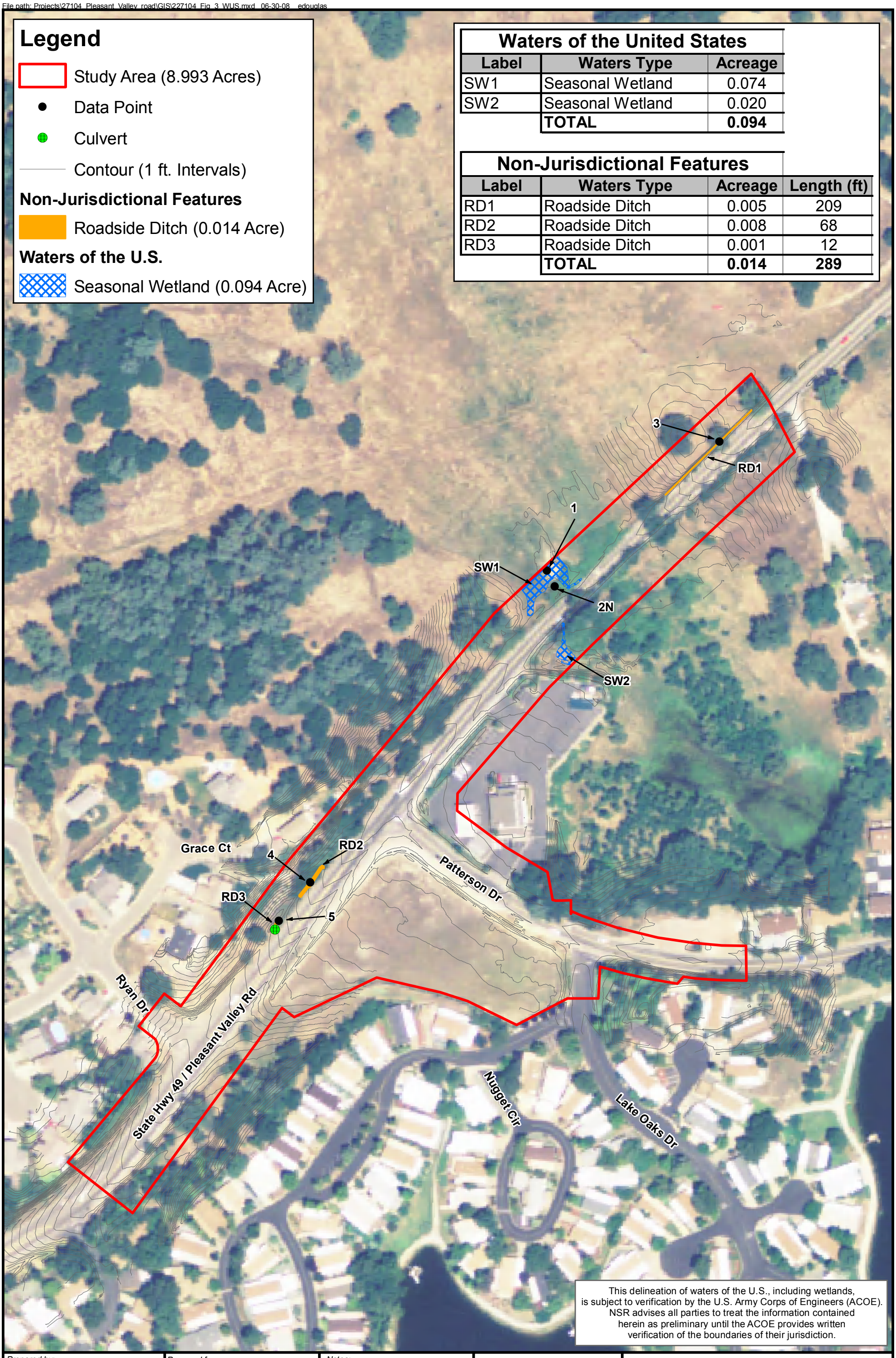
- Seasonal Wetland (0.094 Acre)

Waters of the United States

Label	Waters Type	Acreage
SW1	Seasonal Wetland	0.074
SW2	Seasonal Wetland	0.020
	TOTAL	**0.094**

Non-Jurisdictional Features

Label	Waters Type	Acreage	Length (ft)
RD1	Roadside Ditch	0.005	209
RD2	Roadside Ditch	0.008	68
RD3	Roadside Ditch	0.001	12
	TOTAL	**0.014**	**289**



This delineation of waters of the U.S., including wetlands, is subject to verification by the U.S. Army Corps of Engineers (ACOE). NSR advises all parties to treat the information contained herein as preliminary until the ACOE provides written verification of the boundaries of their jurisdiction.

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Notes:

Delineator: Mr. Brandon Amrhein
Date: June 26, 2008

Imagery Source: USDA
2005 NAIP Imagery

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Feet

Figure 4
Waters of the U.S., Including Wetlands
June 30, 2008
Pleasant Valley Road (SR 49)/Patterson Drive
Intersection Signalization Project

the study area are illustrated in Figure 4. Three additional features (roadside ditches) not subject to federal jurisdiction were also delineated.

4 Regulatory Framework For Biological Resources

This section describes the federal and state regulation of special-status species, waters of the United States, and other sensitive biological resources.

4.1 Federal

U. S. Army Corps of Engineers

Section 404, Clean Water Act

The objective of the Clean Water Act (CWA 1977, as amended) is to restore and maintain the chemical, physical, and biological integrity of the nation's waters. Discharge of dredged or fill material into waters of the United States, including jurisdictional wetlands, is regulated by the U.S. Army Corps of Engineers (USACE) under Section 404 of the CWA (33 USC 1251-1376). USACE regulations implementing Section 404 define waters of the United States to include intrastate waters, including lakes, rivers, streams, wetlands, and natural ponds, the use, degradation, or destruction of which could affect interstate or foreign commerce. Wetlands are defined for regulatory purposes as "areas that are inundated or saturated by surface or groundwater at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions" (33 CFR 328.3; 40 CFR 230.3). To comply with the federal policy that there be no net loss of wetlands, impacts must be minimized and compensatory mitigation (e.g., wetland creation/enhancement) is required for unavoidable impacts.

The placement of structures in, under, or over navigable waters of the United States is also regulated by the USACE under Section 10 of the Rivers and Harbors Act of 1899 (33 USC 401 et seq.). Projects are permitted under either individual or general (i.e., nationwide) permits depending on the nature, size, and type of the project.

The Pleasant Valley Road (SR49)/Patterson Drive Intersection Signalization Project is expected to operate under Nationwide Permit 14 (for Linear Transportation Projects). To conduct work under this permit, the Project must meet a set of criteria which include: the Project must be a linear transportation project, the discharge of fill material into waters of the United States can not exceed 0.5 acre, and any stream channel modification, including bank stabilization, is limited to the minimum necessary to construct or protect, appropriate measures must be taken to maintain normal downstream flows and minimize flooding to the maximum extent practicable (when temporary structures, work, and discharges, including cofferdams, are necessary for construction activities). Additionally, the permit will require the submittal of a pre-construction notification (PCN) to the district engineer prior to commencing the activity if: (1) the loss of waters of the United States exceeds 1/10 acre; (2) there is a discharge in a special aquatic site, (3) there is the a potential to affect

any listed species or designated critical habitat in or in close proximity to the project, or (4) there is the potential to cause effects to any historic properties listed, determined to be eligible for listing on, or potentially eligible for listing on the National Register of Historic Places, including previously unidentified properties..

U.S. Fish and Wildlife Service/National Oceanic and Atmospheric Administration

Federal Endangered Species Act

The Endangered Species Act (ESA) defines "take" (Section 9) and generally prohibits the "taking" of animal species listed as endangered or threatened (16 USC. 1532, 50 CFR 17.3). Under the ESA, the "take" of a federally listed species is deemed to occur when an intentional or negligent act or omission causes the agent of the action "to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or to attempt to engage in any such conduct." The term "harm" includes acts that actually kill or injure wildlife. Such acts may include significant habitat modification or degradation when it actually kills or injures wildlife by significantly impairing essential behavioral patterns, including breeding, feeding, or sheltering. Listed plants are not protected from take. However, it is illegal to collect or maliciously harm them on federal lands, and the ESA prohibits interstate or international trade in listed plant and animal species.

Section 7 of the ESA requires federal agencies, in consultation with the Secretary of the Interior, to ensure that their actions do not jeopardize the continued existence of endangered or threatened species (plant or animal), or result in the destruction or adverse modification of designated critical habitat for these species.

Critical Habitat

Critical habitat is defined in Section 3(5)(A) of the ESA as "(i) the specific areas within the geographical area occupied by a species, at the time it is listed in accordance with the ESA, on which are found those physical or biological features (I) essential to the conservation of the species and (II) that may require special management considerations or protection; and (ii) specific areas outside the geographical area occupied by a species at the time it is listed, upon a determination that such areas are essential for the conservation of the species." Section 3(3) of the ESA defines "conservation" as "to use and the use of all methods and procedures which are necessary to bring an endangered species or threatened species to the point at which the measures provided pursuant to the ESA are no longer necessary" (i.e., the species is recovered and removed from the list of endangered and threatened species).

The designation of critical habitat directly affects only federal agencies, by prohibiting actions they fund, authorize, or carry out from destroying or adversely modifying critical habitat. Individuals, businesses, and other non-federal entities are not affected by the designation of critical habitat so long as their actions do not require a permit, a license, funding, or other support from a federal agency. No critical habitat is present in the study area.

Bald and Golden Eagle Protection Act This law, originally passed in 1940, provides for the protection of the bald eagle and the golden eagle (as amended in 1962) by prohibiting the take,

possession, sale, purchase, barter, offer to sell, purchase or barter, transport, export or import, of any bald or golden eagle, alive or dead, including any part, nest, or egg, unless allowed by permit (16U.S.C 668(a); 50 CFR 22). "Take" includes pursue, shoot, shoot at, poison, wound, kill, capture, trap, collect, molest or disturb (16U.S.C. 688(c); 50 CFR 22.3). A violation of the Act can result in a fine imprisonment, or both.

Migratory Bird Treaty Act (MBTA) Migratory birds are protected under the Migratory Bird Treaty Act (MBTA) of 1918 (16 USC 703-711). The MBTA makes it unlawful to take, possess, buy, sell, purchase, or barter any migratory bird listed in 50 CFR Part 10, including feathers or other parts, nests, eggs, or products, except as allowed by implementing regulations (50 CFR 21). Most of the birds found in the study area are protected under the MBTA. Thus, project construction has the potential to directly take nests, eggs, young, or individuals of protected species. Further, construction disturbance during the breeding season could result in the incidental loss of fertile eggs or nestlings, or otherwise lead to the abandonment of nests, which may be a violation of the MBTA. Measures that may be instituted to help ensure compliance with the MBTA include the following:

Measures that may be instituted to help ensure compliance with the MBTA include the following:

- Grading and other construction activities shall be scheduled to avoid the nesting season to the extent possible. The nesting season for most birds in the study area extends from March through August.

If the nesting season cannot be avoided, the following measures shall be instituted:

- A qualified biologist shall conduct pre-construction surveys no more than 1 week prior to the initiation of construction in any given area to ensure that no nests of species protected by the MBTA would be disturbed during project implementation.

- If an active nest more than half completed is found, a construction-free buffer zone shall be established around the nest. The size of the buffer zone shall be determined by a qualified biologist in consultation with the USFWS and/or the CDFG.

4.2 State

California Endangered Species Act

Under the California Endangered Species Act (CESA), the CDFG is responsible for maintaining a list of endangered and threatened species (California Fish and Game Code 2070). The CDFG also maintains a list of "candidate species," which are species that the CDFG formally notices as being under review for addition to the list of endangered or threatened species. The CDFG also maintains lists of "species of special concern," which serve as species "watch lists."

Pursuant to the requirements of the CESA, an agency reviewing a proposed project within its jurisdiction must determine whether any state listed endangered or threatened species may be present in the project area and determine whether the proposed project could have a significant impact on such species. In addition, the CDFG encourages informal consultation on any proposed project that may affect a candidate species.

Project-related impacts to species listed as threatened or endangered under the CESA would be considered significant. State listed species are fully protected under the mandates of the CESA. "Take" of protected species incidental to otherwise lawful management activities may be authorized under California Fish and Game Code Section 2081. Authorization from the CDFG would be in the form of an Incidental Take Permit.

California Department of Fish and Game

Streambed Alteration Agreement (Sections 1600-1616 of the California Fish and Game Code)

The CDFG has jurisdictional authority over fish and wildlife resources associated with rivers, streams, and lakes under California Fish and Game Code Sections 1600 to 1616. The CDFG must be notified when any person, business, state or local government agency, or public utility proposes an activity that would:

- divert, obstruct, or change the natural flow or the bed, channel or bank of any river stream or lake;
- use material from a streambed; or
- result in the disposal or deposition of debris, waste, or other material where it can pass into any river, stream, or lake.

The notification requirement applies to any work undertaken in or near a river, stream, or lake that flows at least intermittently through a bed or channel. This includes ephemeral streams, desert washes, and watercourses with a subsurface flow. It may also apply to any work undertaken within the flood plain of a body of water.

If the CDFG determines that the proposed project or activity could have substantial adverse effects on fish or wildlife, a Streambed Alteration Agreement is required. As part of this agreement, CDFG may require reasonable modifications in the proposed construction that would allow for the protection of the fish and wildlife resources. The project proponent must notify the CDFG before beginning construction activities within lands under CDFG jurisdiction.

Native Plant Protection Act

The Native Plant Protection Act (California Fish and Game Code Sections 1900-1913) prohibits the taking, possessing, or sale within the state of any plants with a state designation of rare, threatened, or endangered, as defined by CDFG.

Birds of Prey

Under Section 3503.5 of the California Fish and Game Code, it is unlawful to take, possess, or destroy any birds in the orders of Falconiformes or Strigiformes (birds of prey) or to take, possess, or destroy the nest or eggs of any such bird, except as otherwise provided by this code or any regulation adopted pursuant thereto.

Migratory Birds

The State Fish and Game Code Section 3513 states that it is unlawful to take or possess any migratory nongame bird as designated in the Migratory Bird Treaty Act or any part of such migratory nongame bird except as provided by rules and regulations adopted by the Secretary of the Interior under provisions of the Migratory Treaty Act. Under Code Section 3513 the CDFG may considerer impacts similar to those described above under the MBTA a significant impact. Instituting the same measures described under the MBTA above would help ensure compliance with the Fish and Game Code Section 3513.

"Fully Protected" Species

California statutes also accord "fully protected" status to a number of specifically identified birds, mammals, reptiles, amphibians, and fish. These species cannot be "taken," even with an incidental take permit (California Fish and Game Code, Sections 3505, 3511, 4700, 5050, and 5515).

California Regional Water Quality Control Board

Section 401 Water Quality Certification

The Regional Water Quality Control Board (RWQCB) is responsible for enforcing and protecting water resources associated with the proposed project. The RWQCB also regulates the discharge of wastes to surface waters through the National Pollutant Discharge Elimination System (NPDES) permit process. Waste Discharge Requirements are established in NPDES permits to protect beneficial uses.

The RWCQCB requires that a project proponent apply for and obtain a CWA Section 401 Water Quality Certification for any project that requires a CWA Section 404 permit from the USACE.

Porter-Cologne Water Quality Control Act

Activities that result in the discharge of fill material into "State waters" that are not otherwise under the jurisdiction of the Corps (e.g., "isolated" wetlands without a commerce connection or significant nexus to navigable waters of the U.S.) may require issuance of a Waste Discharge Requirements (WDRs) permit by the RWQCB pursuant to the Porter-Cologne Water Quality Control Act (Porter-Cologne Act) and in compliance with the California Wetlands Conservation Policy (CWCP).

The Porter-Cologne Act authorizes the RWQCB to issue permits to control pollution [i.e., WDRs and National Pollutant Discharge Elimination System (NPDES) permits (see below)] in compliance with implementation of water quality standards as outlined in the region's Basin Plan and taking into consideration beneficial uses to be protected. The RWQCB regulates all pollutant or nuisance discharges that may affect either surface water or groundwater. A report of waste discharge must be filed with the RWQCB if Applicant proposes to discharge waste (e.g., discharge fill material into isolated wetlands). No discharge may take place until: (1) the RWQCB issues WDRs or a waiver of the WDRs, and (2) 120 days have passed since complying with reporting requirements.

The CWCP is structured similar to the Memorandum of Agreement (MOA) between the EPA and USACE (February 6, 1990) with the goal to "ensure no overall net loss and achieve a long-term net gain in the quantity, quality, and permanence of wetlands acreage and values." In doing so, impacts to isolated wetlands require mitigation at a ratio determined on a case-by-case basis. However, at a minimum, one acre of similar or "in-kind" wetland is required to be replaced for every acre of wetlands affected by a project such that there will be no net loss of wetlands throughout the state. This policy is regulated by the RWQCB in conjunction with the Water Quality Criteria (WQC) and/or WDRs programs described above and herein.

The WDRs application must also be supported by a current delineation of the boundaries of waters of the U.S. and features determined to be isolated as well as a map showing the areal extent of fills, excavations, and other disturbances proposed to result in the discharge of fill material into waters of the State. Authorization of a WDRs permit by the RWQCB is contingent upon approval of a mitigation plan whereby it is demonstrated that impacts to wetlands would not result in a net loss in quantity and quality. The application should be submitted to the RWQCB.

4.3 Local

El Dorado County Oak Woodland Management Plan

On May 6, 2008, El Dorado County adopted an Oak Woodland Management Plan (OWMP). The purpose of the plan is to outline the County's strategy for conservation of its valuable oak woodland resources. The OWMP sets forth several policies that address forest and oak woodland resources and how they should be protected.

The term "oak woodland" is defined in the Oak Woodland Conservation Act (CDFG Code §1361) as an oak stand with greater than 10 percent canopy cover or that may have historically supported greater than 10 percent canopy cover. For the purposes of the OWMP, the conservation focus is on existing oak woodlands.

Under policy 7.4.4.4 of the General Plan, all new development projects that would result in soil disturbance on certain parcels require participation in the OWMP unless an exemption rule applies. The parcels must meet one of the following criteria: (1) parcels less than or equal to one acre with at least 10 percent total oak woodland canopy cover; or (2) parcels greater than one acre with at least 1 percent oak woodland canopy cover.

This project is larger than 1 acre and has at least 1 percent oak woodland canopy cover; however, under Section 2 of the OWMP, public road and public utility projects are exempt from the canopy retention and replacement standards, when the new alignment is dependent on the existing alignment. This exemption applies to road widening and realignments that are necessary to increase capacity, to protect public health and safety, and to improve the safe movement of people and goods in existing public road rights-of-way, as well as acquired rights-of-way necessary to complete a project.

The Pleasant Valley Road (SR 49)/Patterson Drive Intersection Signalization Project meets the requirements of this exemption. Although the Project is exempt from the canopy retention and replacement standards, the measure also specifies that the County DOT shall minimize, where

feasible, the impacts to oaks through the design process and right-of-way acquisition for such projects.

5 Environmental Consequences

5.1 Significance Criteria

Significance criteria used to analyze the potential impacts of the Pleasant Valley Road/Patterson Drive Improvements Project on sensitive biological resources include factual and scientific information as well as regulatory standards of county, state, and federal agencies, including the CEQA *Guidelines*. The Proposed Project would have a significant impact on the environment if it results in any of the following:

- A substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special-status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service;
- A substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service;
- A substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.), or state protected waters as defined by the Porter-Cologne Act California Water Code, through direct removal, filling, hydrological interruption, or other means;
- Substantial interference with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impeding 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 (HCP), Natural Community Conservation Plan (NCCP), or other approved local, regional, or state habitat conservation plan.

5.2 Impacts and Mitigation Measures

A botanical survey of the project study area was conducted in May 2008 and no special-status plant species were observed. Therefore, the proposed project in not anticipated to results in impacts to special-status plants. The project study area does not contain riparian habitat or rare natural communities, and project activities would not result in impacts to these resources. The proposed project would not result in the construction of any new roads or other potential wildlife barriers.

Thus, the project would not interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites. The project study area is not located within an area subject to a HCP, NCCP, or other approved habitat conservation plan. Therefore, project activities would not conflict with the provisions of any habitat conservation plans.

Sensitive biological resources present within the project site include suitable habitat for special-status animal species, federally jurisdictional wetlands, and native trees. Potential impacts to these resources and recommended mitigation measures are discussed below.

Potential Impact 1: Disturbance to California Red-Legged Frog

Suitable California red-legged frog (CRLF) breeding habitat [i.e., dense, shrubby, or emergent riparian vegetation closely associated with deep (greater than 2 1/3-feet deep), still or slow-moving water] is not present in or immediately adjacent to the project area. However, the seasonal wetlands within the project area and adjacent vicinity could provide suitable non-breeding aquatic habitat during the wet season, and there is at least some potential that California red-legged frogs could migrate through the site if they are present in the project vicinity.

Given the absence of known populations of California red-legged frog in the project vicinity (the nearest CNDDB recorded occurrences is approximately 13 miles away) and the developed nature of the project area (i.e., existing roadway, residential/commercial), the occurrence of California red-legged frog in the project study area is considered unlikely; however, the species can not be ruled out completely. Impacts to California red-legged frog would be considered significant. In order to minimize potential impacts to CRLF the following mitigation measures shall be implemented.

Recommended Mitigation Measures

Measure 1.1 Appropriate sediment and pollution control measures (e.g., silt fences, coir rolls, hay bales, catch basins, etc.) shall be in place prior to the onset of construction activities at all locations where there is a potential for surface runoff to drain into the seasonal wetlands. Sediment and pollution control measures shall be monitored and maintained until all construction activities have ceased. Temporary stockpiling of excavated or imported material shall be placed as far away from the seasonal wetlands as practicable. Excess excavated soil shall be used on site or disposed of at a regional landfill or other appropriate facility. Stockpiles that are to remain on the site through the wet season shall be protected to prevent erosion (i.e., through measures similar to above).

Measure 1.2 Direct impacts (i.e., discharge of dredged or fill material) to the seasonal wetland shall be avoided to the extent practicable. If direct impacts to the seasonal wetlands are completely avoided, no further mitigation is necessary. If direct impacts to the seasonal wetlands can not be completely avoided, the following measures shall be implemented.

Measure 1.3 A qualified biologist shall conduct a pre-construction inspection for California red-legged frog within the project area and within 500 feet of the project areas (where

accessible) within 24 hours prior to initiation of any construction activities within the seasonal wetlands. If any California red-legged frogs are detected during the pre-construction inspection, the U.S. Fish and Wildlife Service shall be notified and no construction activities within the seasonal wetlands shall be initiated until Incidental Take authorization, or other authorization to proceed has been obtained from the U.S. Fish and Wildlife Service.

Potential Impact 2: Loss of Western Burrowing Owls or Occupied Habitat

Western burrowing owls (California Species of Special Concern) and their nests are protected under both federal and state laws and regulations, including the Migratory Bird Treaty Act and California Fish and Game Code section 3503.5. Suitable habitat (grassland) for burrowing owls is present in the study area. The loss of occupied burrowing owl habitat, or habitat known to have been occupied by owls during the nesting season within the past three years, is considered significant. Further, if burrowing owls are present, construction during the breeding season could result in the incidental loss of fertile eggs or nestlings or otherwise lead to nest abandonment. Disturbance that causes nest abandonment and/or loss of reproductive effort is considered a "taking" by CDFG. The destruction of active burrows is also considered a taking. Any loss of individual owls or fertile eggs, any activities resulting in nest abandonment, or the destruction of active owl burrows may constitute a significant adverse effect. Therefore, construction activities such as tree removal, site grading, etc., that disturb a nesting burrowing owl on-site or immediately adjacent to the construction zone, or destroy occupied burrows, could constitute a significant impact.

Recommended Mitigation Measures

Measure 2.1 Protocol-level surveys for burrowing owls shall be conducted by a qualified biologist prior to any soil-disturbing activity occurring within the study area and a surrounding area of potential effect (i.e. the area within approximately 250 feet of project boundaries). The surveys shall be conducted per the CDFG guidelines (http://www.dfg.ca.gov/wildlife/species/survey_monitor.html#Birds) these guidelines specify that surveys should extend 500 feet beyond the study area, require survey transects to be no more than 100 feet apart, and will require a map of all burrows identified. If burrows are identified a breeding season survey will be required over 4 site visits. These surveys shall be conducted during the two hours before sunset to one hour after or from one hour before to two hours after sunrise. Surveys should be conducted during weather that is conducive to observing owls outside their burrows. (avoid surveys during heavy rain, high winds, or dense fog). If no burrowing owls are detected during these surveys no further mitigation is necessary. If burrowing owls are detected the proceeding measures shall be implemented.

Measure 2.2 All burrows occupied by western burrowing owl, and a 250-foot buffer, shall not be disturbed during the nesting season (February 1 through August 31) unless a qualified biologist verifies through non-invasive methods that either: (1) the birds have not begun egg-laying and incubation; or (2) that juveniles from the occupied burrows are foraging independently and are capable of independent survival.

Measure 2.3 In the event that a biologist determines that owls can be moved the owls must be moved away from the Project Area using passive relocation techniques (e.g., one-way doors). All passive relocation measures shall be implemented by a qualified biologist. Construction activities within 250 feet of burrows (formerly occupied by burrowing owl) containing passive relocation devices shall not be initiated for a minimum of 15 days after the installation of passive relocation devices unless the qualified biologist, based on observation of the owls successfully relocating to alternate burrows, allows a shortened waiting period

Measure 2.4 If burrowing owls are present in the project area, any permanent loss of burrowing owl foraging and nesting habitat within the project area shall be offset by either (1) acquiring and permanently protecting off-site, at a location satisfactory to El Dorado County, a minimum of 6.5 acres of suitable foraging habitat per pair or unpaired resident owl, or (2) purchasing the requisite number of acres of credit at a CDFG-approved mitigation bank.

Potential Impact 3: Loss of White-Tailed Kites, Loggerhead Shrikes, Other Raptors, and Migratory Birds

White-tailed kites, loggerhead shrikes, other raptors, and migratory birds could nest in or adjacent to the study area. Any direct or indirect impacts to these protected birds are considered potentially significant and would require mitigation. Direct impacts can occur when construction activities have the potential to directly take nests, eggs, young, or individuals of protected species. This can occur when vegetation removal or grading of habitat (depending on the species) occurs. Indirect impacts such as noise and vibration disturbance can result in the incidental loss of fertile eggs or nestlings or otherwise lead to the abandonment of nests or young.

Migratory birds are protected under the Migratory Bird Treaty Act (MBTA) of 1918 (16 USC 703-711). The MBTA makes it unlawful to harm or take any part of bird species protected under the act. Most of the birds found in the Project Area, including the white-tailed kite, loggerhead shrike, and most raptors are protected under the MBTA. Additionally, the western burrowing owl and white-tailed kite are also protected the Under Section 3503.5 of the California Fish and Game Code. This regulation makes it unlawful to take, possess, or destroy any birds in the orders of Falconiformes or Strigiformes (birds of prey), or to take, possess, or destroy the nest or eggs of any such bird. Project construction has the potential to directly take nests, eggs, young, or individuals of protected species when vegetation and trees are removed. Further, construction disturbance during the breeding season could result in the incidental loss of fertile eggs or nestlings, or otherwise lead to the abandonment of nests – for example, due to noise or vibration.

To protect nesting birds that may use the study area as habitat, the following mitigation measures should be implemented

White-tailed kites, loggerhead shrike, and other raptors could nest in or adjacent to the study area. Thus, construction disturbance during the breeding season could result in the loss of fertile eggs or nestlings, or otherwise lead to nest abandonment. Loss of fertile eggs or nesting white-tailed kites, or any activities resulting in nest abandonment, could be considered a significant impact.

Recommended Mitigation Measures

Measure 3.1 To the extent practicable, construction activities shall be conducted outside of the nesting season. Each species has a slightly different nesting period, some of which start earlier or extend longer into the year. If construction occurs between October 1 and February 14 the nesting season of all protected birds potentially occurring in the study area would be avoided, and no further mitigation would be necessary. If construction activities are to occur during the nesting season, the following measures shall be implemented. Depending on when project construction will commence, the nesting season for some protected bird species may be avoided. The following list provides the estimated nesting periods for white-tailed kites, loggerhead shrikes, other raptors, and other migratory birds protected under the MBTA.

White-tailed kite	October 1 through February 14
Loggerhead shrike	March 1 through August 31
Other raptors	March 1 through August 31
Most non-raptor, migratory birds	March 1 through August 31

Measure 3.2 Any potential nesting substrate (e.g., shrubs and trees) that would be removed by the Project should be removed before the onset of the nesting season. This would help preclude nesting and substantially decrease the likelihood of direct impacts.

Measure 3.3 Pre-construction surveys for nesting birds shall be conducted by a qualified biologist to ensure that no nests will be disturbed during Project implementation. These surveys shall be conducted no more than 7 days prior to the initiation of construction activities. During this survey, the biologist shall inspect all trees within 250 feet of projected impact areas for white-tailed kite, loggerhead shrike, and other raptor nests and 50 feet for non-raptor, migratory birds. If an active nest is found within 250 feet, or 50 feet respectively, of a projected impact area, the biologist (in consultation with the CDFG) shall determine the extent of a construction-free buffer zone to be established around the identified nest.

Potential Impact 4: Loss of Foraging and/or Roosting Habitat for Special-Status Birds

Project construction could result in a small reduction of foraging and/or roosting habitat for white-tailed kites and loggerhead shrikes. However, due to the small nature of the project and the regional abundance of similar habitats, project-related impacts to foraging and/or roosting habitat are considered to be less than significant.

Recommended Mitigation Measures

No mitigation measures are recommended.

Potential Impact 5: Loss of Seasonal Wetlands

Recommended Mitigation Measures

Measure 5.1 Direct impacts (i.e., discharge of dredged or fill material) to the seasonal wetlands shall be limited to the minimum area and linear distance necessary to accomplish the project objectives.

Measure 5.2 All required permits and authorizations shall be obtained from the U.S. Army Corps of Engineers, Regional Water Quality Control Board, and the California Department of Fish and Game prior to any direct impacts to the seasonal wetlands. All terms and conditions of the required permits and authorizations shall be met.

Measure 5.3 To the extent practicable, all construction activities that involve direct impacts to the seasonal wetlands shall be conducted during the dry season (i.e., periods of low to no stream flow) to minimize the potential for erosion.

Measure 5.4 Any permanent loss of seasonal wetlands shall be offset by purchasing credits (1:1 acreage ratio) at a U.S. Army Corps of Engineers-approved mitigation bank or by payment of in-lieu fees to a U.S. Army Corps of Engineers-approved in-lieu fee program (according to current fee schedule).

Measure 5.5 Any seasonal wetland areas temporarily impacted by construction activities shall be restored, as close as practicable, to pre-construction contours and conditions.

Measure 5.6 Appropriate sediment control measures (e.g., silt fences, coir rolls, hay bales, catch basins, etc.) shall be in place prior to the onset of construction activities within the seasonal wetlands and in all project areas where there is a potential for surface runoff to drain into the seasonal wetlands. Sediment control measures shall be monitored and maintained until construction activities have ceased. Temporary stockpiling of excavated or imported material shall be placed as far away from the seasonal wetlands as practicable. Excess excavated soil shall be used on site or disposed of at a regional landfill or other appropriate facility. Stockpiles that are to remain on the site through the wet season shall be protected to prevent erosion (e.g., silt fences, straw bales).

Potential Impact 6: Loss of Native Trees

The County has adopted an Oak Woodland Management Plan (OWMP) that outlines the strategy for conservation of its valuable oak woodland resources. The OWMP also sets forth further guidance on General Plan Policy 7.4.4.4, which addresses forest and oak woodland resources. The proposed project could result in the removal of trees subject to the County's OWMP.

In addition to the direct removal of trees, there is also the potential for oak tree mortality in trees retained within and adjacent to the project area. This potential is related to the magnitude of root disturbance. Root disturbance, including construction-related impacts such as changes in grade or trenching, paving, and operation of heavy equipment within one (1) to two (2) crown widths distance

of the trunk, can interrupt critical gas-exchange and/or water and nutrient uptake thereby killing all roots outward from the point of disturbance. Summer irrigation associated with the maintenance of project landscaping could also contribute to oak death.

Recommended Mitigation Measures

Measure 6.1 The project shall adhere to the tree canopy retention and replacement standards described in the OWMP as applicable (El Dorado County Development Services Department 2008).

Measure 6.2 To protect oak trees intended to remain undisturbed, a 4-foot tall, brightly colored fence shall be installed as far outside the edge of the tree driplines as feasible. No encroachment into the fenced areas shall be permitted; fencing shall remain in place until all construction activities have ceased. Upon completion of construction activities, the fencing shall be removed.

Measure 6.3 If a retained tree has roots that must be severed, the cuts shall occur at the maximum distance from the trunk as is practicable. Any roots over 1 inch in diameter that are damaged as a result of construction activities shall be traced back and cleanly cut behind any split, cracked, or damaged area.

Measure 6.4 Stockpiling of materials or equipment shall not occur under the dripline of any retained oak tree.

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ATTACHMENT A

CNDDB Query Results

Print table Export entire table to a text file Close window

Results for quads centered on PLACERVILLE Quad (3812067) - 61 elements selected

Record	QUADNAME	ELMCODE	SCINAME	COMNAME	FEDSTATUS	CALSTATUS	DFGSTATUS	CNPSLIST
1	Aukum	AAABH01050	Rana boylii	foothill yellow-legged frog	None	None	SSC	
2	Aukum	CARA2443CA	Central Valley Drainage Hardhead/Squawfish Stream	Central Valley Drainage Hardhead/Squawfish Stream	None	None		
3	Aukum	PML L0G020	Chlorogalum grandiflorum	Red Hills soaproot	None	None		1B 2
4	Camino	AAABH01050	Rana boylii	foothill yellow-legged frog	None	None	SSC	
5	Camino	AMACC02010	Lasionycteris noctivagans	silver-haired bat	None	None		
6	Camino	ARAAD02031	Actinemys marmorata marmorata	northwestern pond turtle	None	None	SSC	
7	Camino	CARA2130CA	Sacramento-San Joaquin Foothill/Valley Ephemeral Stream	Sacramento-San Joaquin Foothill/Valley Ephemeral Stream	None	None		
8	Camino	CARA2421CA	Central Valley Drainage Resident Rainbow Trout Stream	Central Valley Drainage Resident Rainbow Trout Stream	None	None		
9	Camino	CARA2443CA	Central Valley Drainage Hardhead/Squawfish Stream	Central Valley Drainage Hardhead/Squawfish Stream	None	None		
10	Camino	I PLE23020	Cosumnoperla hypocrena	Cosumnes spring stonefly	None	None		
11	Camino	PDER 040V0	Arctostaphylos nissenana	Nissenan manzanita	None	None		1B 2
12	Camino	PDONA05053	Clarkia biloba ssp. brandegeeae	Brandegee's clarkia	None	None		1B 2
13	Camino	PDROS0W0C0	Horkelia parryi	Parry's horkelia	None	None		1B 2
14	Camino	PML L0D095	Calochortus clavatus var. avius	Pleasant Valley mariposa-lily	None	None		1B 2
15	Coloma	AAABH01050	Rana boylii	foothill yellow-legged frog	None	None	SSC	
16	Coloma	ABPBXB0020	Agelaius tricolor	tricolored blackbird	None	None	SSC	
17	Coloma	ARAAD02031	Actinemys marmorata marmorata	northwestern pond turtle	None	None	SSC	
18	Coloma	PDAST8H1V0	Packera layneae	Layne's ragwort	Threatened	Rare		1B 2
19	Coloma	PDAST9X0D0	Wyethia reticulata	El Dorado County mule ears	None	None		1B 2
20	Coloma	PDCON040H0	Calystegia stebbinsii	Stebbins' morning-glory	Endangered	Endangered		1B.1
21	Coloma	PDONA05053	Clarkia biloba ssp. brandegeeae	Brandegee's clarkia	None	None		1B 2
22	Coloma	PML L0G020	Chlorogalum grandiflorum	Red Hills soaproot	None	None		1B 2
23	Fiddletown	ARAAD02031	Actinemys marmorata marmorata	northwestern pond turtle	None	None	SSC	
24	Fiddletown	CARA2443CA	Central Valley Drainage Hardhead/Squawfish Stream	Central Va ley Drainage Hardhead/Squawfish Stream	None	None		
25	Garden Valley	ABNKC12060	Accipiter gentilis	northern goshawk	None	None	SSC	
26	Garden Valley	ABPBXB0020	Agelaius tricolor	tricolored blackbird	None	None	SSC	
27	Garden Valley	AMACC01020	Myotis yumanensis	Yuma myotis	None	None		
28	Garden Valley	AMACC02010	Lasionycteris noctivagans	silver-haired bat	None	None		
29	Garden Valley	ARAAD02031	Actinemys marmorata marmorata	northwestern pond turtle	None	None	SSC	
30	Garden Valley	PDAST8H1V0	Packera layneae	Layne's ragwort	Threatened	Rare		1B.2
31	Garden Valley	PDER 040V0	Arctostaphylos nissenana	Nissenan manzanita	None	None		1B.2
32	Garden Valley	PDONA05053	Clarkia biloba ssp. brandegeeae	Brandegee's clarkia	None	None		1B 2
33	Garden Valley	PDROS0W0C0	Horkelia parryi	Parry's horkelia	None	None		1B 2
34	Garden Valley	PML L0G020	Chlorogalum grandiflorum	Red Hills soaproot	None	None		1B 2
35	Latrobe	CARA2443CA	Central Valley Drainage Hardhead/Squawfish Stream	Central Va ley Drainage Hardhead/Squawfish Stream	None	None		
36	Latrobe	PDONA05053	Clarkia biloba ssp. brandegeeae	Brandegee's clarkia	None	None		1B 2
37	Placerville	ABNGA04040	Ardea alba	great egret	None	None		
38	Placerville	ABPBXB0020	Agelaius tricolor	tricolored blackbird	None	None	SSC	
39	Placerville	AMACC02010	Lasionycteris noctivagans	silver-haired bat	None	None		
40	Placerville	ARAAD02031	Actinemys marmorata marmorata	northwestern pond turtle	None	None	SSC	
41	Placerville	CARA2443CA	Central Valley Drainage Hardhead/Squawfish Stream	Central Valley Drainage Hardhead/Squawfish Stream	None	None		
42	Placerville	PDAST8H1V0	Packera layneae	Layne's ragwort	Threatened	Rare		1B 2
43	Placerville	PDCPR07080	Viburnum ellipticum	oval-leaved viburnum	None	None		2.3
44	Placervi le	PDER 040V0	Arctostaphylos nissenana	Nissenan manzanita	None	None		1B 2
45	Placerville	PDONA05053	Clarkia biloba ssp. brandegeeae	Brandegee's clarkia	None	None		1B 2
46	Placerville	PDROS0W0C0	Horkelia parryi	Parry's horkelia	None	None		1B 2
47	Shingle Springs	ARACF12022	Phrynosoma coronatum (frontale population)	coast (California) horned lizard	None	None	SSC	
48	Shingle Springs	PDAST8H1V0	Packera layneae	Layne's ragwort	Threatened	Rare		1B 2
49	Shingle Springs	PDAST9X0D0	Wyethia reticulata	El Dorado County mule ears	None	None		1B 2
50	Shingle Springs	PDCIS020F0	Helianthemum suffrutescens	Bisbee Peak rush-rose	None	None		3.2
51	Shingle Springs	PDCON040H0	Calystegia stebbinsii	Stebbins' morning-glory	Endangered	Endangered		1B.1
52	Shingle Springs	PDRHA04190	Ceanothus roderickii	Pine Hill ceanothus	Endangered	Rare		1B 2
53	Shingle Springs	PDRUB0N0E7	Galium californicum ssp. sierrae	El Dorado bedstraw	Endangered	Rare		1B 2
54	Shingle Springs	PDSTE03030	Fremontodendron decumbens	Pine Hill flannelbush	Endangered	Rare		1B 2
55	Shingle Springs	PML L022V0	Allium jepsonii	Jepson's onion	None	None		1B 2
56	Shingle Springs	PML L0G020	Chlorogalum grandiflorum	Red Hills soaproot	None	None		1B.2
57	Slate Mtn.	ABNKC12060	Accipiter gentilis	northern goshawk	None	None	SSC	
58	Slate Mtn.	AMACC01020	Myotis yumanensis	Yuma myotis	None	None		
59	Slate Mtn.	AMACC02010	Lasionycteris noctivagans	silver-haired bat	None	None		
60	Slate Mtn.	PDER 040V0	Arctostaphylos nissenana	Nissenan manzanita	None	None		1B 2
61	Slate Mtn.	PDROS0W0C0	Horkelia parryi	Parry's horkelia	None	None		1B 2

Print table Export entire table to a text file Close window

ATTACHMENT B

U.S. Fish and Wildlife Service Species List

United States Department of the Interior

FISH AND WILDLIFE SERVICE

Sacramento Fish and Wildlife Office
2800 Cottage Way, Room W-2605
Sacramento, California 95825

March 20, 2009

Document Number: 090320020148

Brandon Amrhein
North State Resources, Inc.
1321 20th Street
Sacramento, CA 95811

Subject: Species List for Pleasant Valley Road (SR 49)/Patterson Drive Intersection Signalization Project

Dear: Mr. Amrhein

We are sending this official species list in response to your March 20, 2009 request for information about endangered and threatened species. The list covers the California counties and/or U.S. Geological Survey 7½ minute quad or quads you requested.

Our database was developed primarily to assist Federal agencies that are consulting with us. Therefore, our lists include all of the sensitive species that have been found in a certain area *and also ones that may be affected by projects in the area*. For example, a fish may be on the list for a quad if it lives somewhere downstream from that quad. Birds are included even if they only migrate through an area. In other words, we include all of the species we want people to consider when they do something that affects the environment.

Please read Important Information About Your Species List (below). It explains how we made the list and describes your responsibilities under the Endangered Species Act.

Our database is constantly updated as species are proposed, listed and delisted. If you address proposed and candidate species in your planning, this should not be a problem. However, we recommend that you get an updated list every 90 days. That would be June 18, 2009.

Please contact us if your project may affect endangered or threatened species or if you have any questions about the attached list or your responsibilities under the Endangered Species Act. A list of Endangered Species Program contacts can be found at www.fws.gov/sacramento/es/branches.htm.

Endangered Species Division

TAKE PRIDE IN AMERICA

U.S. Fish & Wildlife Service

Sacramento Fish & Wildlife Office

Federal Endangered and Threatened Species that Occur in or may be Affected by Projects in the Counties and/or U.S.G.S. 7 1/2 Minute Quads you requested

Document Number: 090320020148

Database Last Updated: January 29, 2009

Quad Lists

Listed Species

Invertebrates

Desmocerus californicus dimorphus
valley elderberry longhorn beetle (T)

Fish

Hypomesus transpacificus
delta smelt (T)

Oncorhynchus mykiss
Central Valley steelhead (T) (NMFS)

Oncorhynchus tshawytscha
Central Valley spring-run chinook salmon (T) (NMFS)
winter-run chinook salmon, Sacramento River (E) (NMFS)

Amphibians

Rana aurora draytonii
California red-legged frog (T)

Plants

Senecio layneae
Layne's butterweed (=ragwort) (T)

Quads Containing Listed, Proposed or Candidate Species:

PLACERVILLE (510A)

County Lists

Listed Species

Invertebrates

Desmocerus californicus dimorphus
valley elderberry longhorn beetle (T)

Lepidurus packardi
vernal pool tadpole shrimp (E)

Fish

Oncorhynchus (=Salmo) clarki henshawi
Lahontan cutthroat trout (T)

Oncorhynchus mykiss
Central Valley steelhead (T) (NMFS)

Oncorhynchus tshawytscha
Central Valley spring-run chinook salmon (T) (NMFS)

Amphibians

Ambystoma californiense
California tiger salamander, central population (T)

Rana aurora draytonii
California red-legged frog (T)
Critical habitat, California red-legged frog (X)

Reptiles

Thamnophis gigas
giant garter snake (T)

Plants

Calystegia stebbinsii
Stebbins's morning-glory (E)

Ceanothus roderickii
Pine Hill ceanothus (E)

Fremontodendron californicum ssp. decumbens
Pine Hill flannelbush (E)

Galium californicum ssp. sierrae
El Dorado bedstraw (E)

Senecio layneae
Layne's butterweed (=ragwort) (T)

Proposed Species

Amphibians

Rana aurora draytonii
Critical habitat, California red-legged frog (PX)

Candidate Species

Amphibians

Bufo canorus
Yosemite toad (C)

Rana muscosa
mountain yellow-legged frog (C)

Mammals

Martes pennanti
fisher (C)

Plants

Rorippa subumbellata
Tahoe yellow-cress (C)

Key:

(E) *Endangered* - Listed as being in danger of extinction.
(T) *Threatened* - Listed as likely to become endangered within the foreseeable future.
(P) *Proposed* - Officially proposed in the Federal Register for listing as endangered or threatened.
(NMFS) Species under the Jurisdiction of the National Oceanic & Atmospheric Administration Fisheries Service. Consult with them directly about these species.
Critical Habitat - Area essential to the conservation of a species.
(PX) *Proposed Critical Habitat* - The species is already listed. Critical habitat is being proposed for it.
(C) *Candidate* - Candidate to become a proposed species.
(V) Vacated by a court order. Not currently in effect. Being reviewed by the Service.
(X) *Critical Habitat* designated for this species

Important Information About Your Species List

How We Make Species Lists

We store information about endangered and threatened species lists by U.S. Geological Survey 7½ minute quads. The United States is divided into these quads, which are about the size of San Francisco.

The animals on your species list are ones that occur within, **or may be affected by** projects within, the quads covered by the list.

- Fish and other aquatic species appear on your list if they are in the same watershed as your quad or if water use in your quad might affect them.
- Amphibians will be on the list for a quad or county if pesticides applied in that area may be carried to their habitat by air currents.
- Birds are shown regardless of whether they are resident or migratory. Relevant birds on the county list should be considered regardless of whether they appear on a quad list.

Plants

Any plants on your list are ones that have actually been observed in the area covered by the list. Plants may exist in an area without ever having been detected there. You can find out what's in the surrounding quads through the California Native Plant Society's online Inventory of Rare and Endangered Plants.

Surveying

Some of the species on your list may not be affected by your project. A trained biologist and/or botanist, familiar with the habitat requirements of the species on your list, should determine whether they or habitats suitable for them may be affected by your project. We recommend that your surveys include any proposed and candidate species on your list. See our Protocol and Recovery Permits pages.

For plant surveys, we recommend using the Guidelines for Conducting and Reporting Botanical Inventories. The results of your surveys should be published in any environmental documents prepared for your project.

Your Responsibilities Under the Endangered Species Act

All animals identified as listed above are fully protected under the Endangered Species Act of 1973, as amended. Section 9 of the Act and its implementing regulations prohibit the take of

a federally listed wildlife species. Take is defined by the Act as "to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect" any such animal.

Take may include significant habitat modification or degradation where it actually kills or injures wildlife by significantly impairing essential behavioral patterns, including breeding, feeding, or shelter (50 CFR §17.3).

Take incidental to an otherwise lawful activity may be authorized by one of two procedures:

- If a Federal agency is involved with the permitting, funding, or carrying out of a project that may result in take, then that agency must engage in a formal consultation with the Service.

  During formal consultation, the Federal agency, the applicant and the Service work together to avoid or minimize the impact on listed species and their habitat. Such consultation would result in a biological opinion by the Service addressing the anticipated effect of the project on listed and proposed species. The opinion may authorize a limited level of incidental take.

- If no Federal agency is involved with the project, and federally listed species may be taken as part of the project, then you, the applicant, should apply for an incidental take permit. The Service may issue such a permit if you submit a satisfactory conservation plan for the species that would be affected by your project.

  Should your survey determine that federally listed or proposed species occur in the area and are likely to be affected by the project, we recommend that you work with this office and the California Department of Fish and Game to develop a plan that minimizes the project's direct and indirect impacts to listed species and compensates for project-related loss of habitat. You should include the plan in any environmental documents you file.

Critical Habitat

When a species is listed as endangered or threatened, areas of habitat considered essential to its conservation may be designated as critical habitat. These areas may require special management considerations or protection. They provide needed space for growth and normal behavior; food, water, air, light, other nutritional or physiological requirements; cover or shelter; and sites for breeding, reproduction, rearing of offspring, germination or seed dispersal.

Although critical habitat may be designated on private or State lands, activities on these lands are not restricted unless there is Federal involvement in the activities or direct harm to listed wildlife.

If any species has proposed or designated critical habitat within a quad, there will be a separate line for this on the species list. Boundary descriptions of the critical habitat may be found in the Federal Register. The information is also reprinted in the Code of Federal Regulations (50 CFR 17.95). See our Map Room page.

Candidate Species

We recommend that you address impacts to candidate species. We put plants and animals on our candidate list when we have enough scientific information to eventually propose them for listing as threatened or endangered. By considering these species early in your planning process you may be able to avoid the problems that could develop if one of these candidates was listed before the end of your project.

Species of Concern

The Sacramento Fish & Wildlife Office no longer maintains a list of species of concern. However, various other agencies and organizations maintain lists of at-risk species. These lists provide essential information for land management planning and conservation efforts. More info

Wetlands

If your project will impact wetlands, riparian habitat, or other jurisdictional waters as defined by section 404 of the Clean Water Act and/or section 10 of the Rivers and Harbors Act, you will need to obtain a permit from the U.S. Army Corps of Engineers. Impacts to wetland habitats require site specific mitigation and monitoring. For questions regarding wetlands, please contact Mark Littlefield of this office at (916) 414-6580.

Updates

Our database is constantly updated as species are proposed, listed and delisted. If you address proposed and candidate species in your planning, this should not be a problem. However, we recommend that you get an updated list every 90 days. That would be June 18, 2009.

ATTACHMENT C

CNPS Electronic Inventory Query Results

Inventory of Rare and Endangered Plants

v7-09a 1-13-09

Status: search results - Fri, Mar. 20, 2009 12:55 c

{QUADS_123} =~m/510A|526C|526D|509B|509C|525C|510B|510C|5 Search

Tip: Having trouble with a multi-word search? Try a single word, e.g. ginger or cobra .[all tips and help.][search history]

Your Quad Selection: Placerville (510A) 3812067, Coloma (526C) 3812078, Garden Valley (526D) 3812077, Camino (509B) 3812066, Aukum (509C) 3812056, Slate Mountain (525C) 3812076, Shingle Springs (510B) 3812068, Latrobe (510C) 3812058, Fiddletown (510D) 3812057

Hits 1 to 14 of 14

Requests that specify topo quads will return only Lists 1-3.

To save selected records for later study, click the ADD button.

ADD checked items to Plant Press | check all | check none

Selections will appear in a new window.

open	save	hits	scientific	common	family	CNPS
	☐	1	**Allium jepsonii**	Jepson's onion	Liliaceae	List 1B.2
	☐	1	**Arctostaphylos nissenana**	Nissenan manzanita	Ericaceae	List 1B.2
	☐	1	**Calochortus clavatus var. avius**	Pleasant Valley mariposa lily	Liliaceae	List 1B.2
	☐	1	**Calystegia stebbinsii**	Stebbins' morning-glory	Convolvulaceae	List 1B.1
	☐	1	**Ceanothus roderickii**	Pine Hill ceanothus	Rhamnaceae	List 1B.2
	☐	1	**Chlorogalum grandiflorum**	Red Hills soaproot	Liliaceae	List 1B.2
	☐	1	**Clarkia biloba ssp. brandegeeae**	Brandegee's clarkia	Onagraceae	List 1B.2
	☐	1	**Fremontodendron decumbens**	Pine Hill flannelbush	Sterculiaceae	List 1B.2
	☐	1	**Galium californicum ssp. sierrae**	El Dorado bedstraw	Rubiaceae	List 1B.2
	☐	1	**Helianthemum suffrutescens**	Bisbee Peak rush-rose	Cistaceae	List 3.2
	☐	1	**Horkelia parryi**	Parry's horkelia	Rosaceae	List 1B.2
	☐	1	**Packera layneae**	Layne's ragwort	Asteraceae	List 1B.2
	☐	1	**Viburnum ellipticum**	oval-leaved viburnum	Caprifoliaceae	List 2.3
	☐	1	**Wyethia reticulata**	El Dorado County mule ears	Asteraceae	List 1B.2

To save selected records for later study, click the ADD button.

ADD checked items to Plant Press | check all | check none

Selections will appear in a new window.

ATTACHMENT D

Plant Species Observed in the Study Area

Plant Species Observed in the Study Area
Field Visit Date: May 9, 2008; NSR Biologist Paul Kirk

SCIENTIFIC NAME	COMMON NAME	FAMILY NAME
Grassland/Seasonal Wetland		
Aegilops triuncialis	Goatgrass	Poaceae
Avena barbata	Slender oat	Poaceae
Baccharis pilularis	Coyote brush	Asteraceae
Bromus diandrus	Ripgut brome	Poaceae
Bromus hordeaceus	Soft brome	Poaceae
Bromus tectorum	Cheatgrass	Poaceae
Carex sp.	Sedge	Cyperaceae
Centaurea solstitialis	Yellow star-thistle	Asteraceae
Cirsium vulgare	Bull thistle	Asteraceae
Conium maculatum	Poison hemlock	Apiaceae
Cynosurus echinatus	Hedgehog dogtail	Poaceae
Distichlis spicata	Inland saltgrass	Poaceae
Eleocharis macrostachya	Common spikerush	Cyperaceae
Epilobium sp.	Willowweed	Onagraceae
Foeniculum vulgare	Fennel	Apiaceae
Geranium molle	Dovefoot geranium	Geraniaceae
Hemizonia fitchii	Fitch's tarweed	Asteraceae
Hordeum jubatum	Foxtail barley	Poaceae

SCIENTIFIC NAME	COMMON NAME	FAMILY NAME
Hordeum marinum	Mediterranean barley	Poaceae
Juglans californica	California black walnut	Juglandaceae
Juncus bufonius	Toad rush	Juncaceae
Juncus tenuis	Poverty rush	Juncaceae
Lactuca serriola	Prickly lettuce	Asteraceae
Lathyrus sp.	Peavine	Fabaceae
Lolium perenne	English ryegrass	Poaceae
Lotus corniculatus	Birdsfoot trefoil	Fabaceae
Lythrum hyssopifolium	Loosestrife	Lythraceae
Medicago lupulina	Black medick	Fabaceae
Phalaris sp.	Canarygrass	Poaceae
Plantago lanceolata	Narrowleaf plantain	Plantaginaceae
Prunus sp.	Plum	Rosaceae
Quercus lobata	Valley oak	Fagaceae
Ranunculus sp.	Buttercup	Ranunculaceae
Raphanus sativus	Wild radish	Brassicaceae
Rubus discolor	Himalayan blackberry	Rosaceae
Rumex acetosella	Common sheep sorrel	Polygonaceae
Rumex crispus	Curly dock	Polygonaceae
Taeniatherum caput-medusae	Medusa-head	Poaceae

SCIENTIFIC NAME	COMMON NAME	FAMILY NAME
Taraxacum officinale	Common dandelion	Asteraceae
Trifolium hirtum	Rose clover	Fabaceae
Verbena bonariensis	Purpletop vervain	Verbenaceae
Vicia sativa	Spring vetch	Fabaceae
Woodland/Grassland/Pasture		
Aegilops triuncialis	Goatgrass	Poaceae
Brassica nigra	Black mustard	Brassicaceae
Bromus diandrus	Ripgut brome	Poaceae
Bromus hordeaceus	Soft brome	Poaceae
Bromus tectorum	Cheatgrass	Poaceae
Castilleja campestris	Yellow owl's clover	Scrophulariaceae
Cirsium vulgare	Bull thistle	Asteraceae
Clarkia purpurea	Winecup fairyfan	Onagraceae
Conium maculatum	Poison hemlock	Apiaceae
Cynosurus echinatus	Hedgehog dogtail	Poaceae
Dichelostemma capitatum	Blue dicks	Liliaceae
Elymus glaucus	Blue wildrye	Poaceae
Erodium cicutarium	Red-stemmed filaree	Geraniaceae
Hordeum jubatum	Foxtail barley	Poaceae
Hypericum perforatum	Klamathweed	Hypericaceae
Lathyrus sp.	Peavine	Fabaceae
Lupinus bicolor	Miniature lupine	Fabaceae
Medicago lupulina	Black medick	Fabaceae
Pinus sabiniana	Foothill pine	Pinaceae
Poa bulbosa	Bluegrass	Poaceae
Quercus lobata	Valley oak	Fagaceae
Quercus wislizenii	Interior live oak	Fagaceae
Rhamnus tomentella	Coffeeberry	Rhamnaceae
Trifolium hirtum	Rose clover	Fabaceae
Trifolium sp.	Clover	Fabaceae
Ruderal		
Aira caryophyllea	Silver hairgrass	Poaceae
Brassica nigra	Black mustard	Brassicaceae
Bromus diandrus	Ripgut brome	Poaceae
Bromus hordeaceus	Soft brome	Poaceae

SCIENTIFIC NAME	COMMON NAME	FAMILY NAME
Bromus tectorum	Cheatgrass	Poaceae
Centaurea solstitialis	Yellow star-thistle	Asteraceae
Chamomilla suaveolens	Pineapple weed	Asteraceae
Cirsium vulgare	Bull thistle	Asteraceae
Cynosurus echinatus	Hedgehog dogtail	Poaceae
Eremocarpus setigerus	Turkey mullein	Euphorbiaceae
Eschscholzia sp.	Poppy	Papaveraceae
Heteromeles arbutifolia	Toyon	Rosaceae
Hordeum jubatum	Foxtail barley	Poaceae
Hypochaeris glabra	Smooth cat's ear	Asteraceae
Galium sp.	Bedstraw	Rubiaceae
Juglans californica	California black walnut	Juglandaceae
Kickxia sp.	Fluellin	Scrophulariaceae
Lotus purshianus	Spanish clover	Fabaceae
Malva neglecta	Common mallow	Malvaceae
Medicago polymorpha	Burclover	Fabaceae
Quercus lobata	Valley oak	Fagaceae
Quercus wislizenii	Interior live oak	Fagaceae
Raphanus raphanistrum	Radish	Brassicaceae
Rumex acetosella	Common sheep sorrel	Polygonaceae
Silybum marianum	Milkthistle	Asteraceae
Torilis arvensis	Field hedge-parsley	Apiaceae
Toxicodendron diversilobum	Poison oak	Anacardiaceae
Trifolium hirtum	Rose clover	Fabaceae
Vicia sativa	Spring vetch	Fabaceae
Vulpia myuros	Rattail fescue	Poaceae

ATTACHMENT E

Special-Status Wildlife Species Considered for Analysis

Summary of Special-Status Species Review – Animals

COMMON NAME *SCIENTIFIC NAME*	STATUS[1] (FED/STATE/ CNPS)	GENERAL HABITAT DESCRIPTION	GENERAL HABITAT (PRESENT/ ABSENT)[2]	RATIONALE
Federal or State Listed Species				
vernal pool tadpole shrimp *Lepidurus packardi*	E/—	Grass or mud-bottomed swales in grasslands on old alluvial soils underlain by hardpan.	A	No vernal pools are present.
valley elderberry longhorn beetle *Desmocerus californicus dimorphus*	T/—	Elderberry trees in the Central Valley.	A	Elderberry shrubs are not present.
Central Valley steelhead DPS *Oncorhynchus mykiss irideus*	T/—	Spawn and rear in Sacramento River and its tributaries. Require cool, swift, shallow water; clean, loose gravel for spawning; and runs and suitable large pools in which to rear and over-summer.	A	No suitable aquatic habitat is present.
Central Valley spring-run Chinook salmon ESU *Oncorhynchus tshawytscha*	T/T	Spawn and rear in main-stem Sacramento River and suitable perennial tributaries. Require cool year-round water temperatures and deep pools for over-summering habitat. Spawn in riffles with gravel and cobble substrate.	A	No suitable aquatic habitat is present.
Lahontan cutthroat trout *Oncorhynchus clarki henshawi*	T/—	Large rivers and small tributary streams; tolerant of high temperatures and high alkalinity; intolerant of competition with non-native salmonids.	A	No suitable aquatic habitat is present.
delta smelt *Hypomesus transpacificus*	T/T	During low outflow years, in reaches with slow flow.	A	No suitable aquatic habitat is present.
Yosemite toad *Bufo canorus*	C/SC	Wet meadows and seasonal ponds in the central high Sierra at elevations of about 6,400 feet to 11,320 feet.	A	Project site is not within the species' known range.

COMMON NAME *SCIENTIFIC NAME*	STATUS[1] (FED/STATE/ CNPS)	GENERAL HABITAT DESCRIPTION	GENERAL HABITAT (PRESENT/ ABSENT)[2]	RATIONALE
California red-legged frog *Rana aurora draytonii*	T/—	Streams, freshwater pools and ponds with overhanging vegetation.	**P**	Potentially suitable non-breeding aquatic habitat is present.
mountain yellow-legged frog *Rana muscosa*	C/SC	Ponds, lakes, and streams at moderate to high elevations.	A	Project site is not within the species' known range.
California tiger salamander *Ambystoma californiense*	T/SC	Vernal or temporary pools in annual grasslands, or open stages of woodlands.	A	Project site is not within the species' known range.
giant garter snake *Thamnophis gigas*	T/T	Freshwater marshes and low gradient streams with emergent vegetation; adapted to drainage canals and irrigation ditches with mud substrate.	A	Project site is not within the species' known range.
bald eagle *Haliaeetus leucocephalus*	D/E, FP	Requires large bodies of water, or free-flowing rivers with abundant fish and adjacent snags and large trees for perching and nesting.	A	Suitable habitat is not present.
American peregrine falcon *Falco peregrinus anatum*	—/E	Forages in many habitats; requires cliffs for nesting.	A	Suitable habitat (cliffs) is not present.
Swainson's hawk *Buteo swainsoni*	—/T	Breeds in stands with few trees in juniper-sage flats, riparian areas, and oak savannah; forages in adjacent livestock pasture, grassland, or grain fields.	A	Project site is not within the species' known range.
bank swallow *Paria riparia*	—/T	Colonial nester on vertical banks or cliffs with fine-textured soils near water.	A	Suitable cliffs, vertical banks not present.
willow flycatcher *Empidonax traillii*	—/E	Breeds locally in riparian habitats in mountains and southern deserts.	A	Riparian woodlands not present within or adjacent to study area.

COMMON NAME *SCIENTIFIC NAME*	STATUS[1] (FED/STATE/ CNPS)	GENERAL HABITAT DESCRIPTION	GENERAL HABITAT (PRESENT/ ABSENT)[2]	RATIONALE
Sierra Nevada red fox *Vulpes vulpes necator*	—/T	Red fir and lodgepole pine forests in the sub-alpine zone and alpine fell-fields of the Sierra Nevada.	A	Project site is not within the elevational range of the species.
Fisher *Martes pennanti*	C/—	Conifers and variable hardwood forest with closed canopies and a complex forest floor structure. Riparian habitats often in close proximity to open water.	A	Suitable dense conifer or riparian habitat not present in the project site.
Other Special-Status Species				
Mount Lyell salamander *Hydromantes platycephalus*	—/SC	Largely restricted to alpine or subalpine vegetation associations.	A	Project site is not within the species' known range.
foothill yellow-legged frog *Rana boylii*	—/SC	Rocky streams in a variety of habitats. Found in coast ranges.	A	No streams present in or immediately adjacent to project site.
western spadefoot *Scaphiopus hammondii*	—/SC	Grasslands and occasionally valley-foothill hardwood woodlands; vernal pools or similar ephemeral pools required for breeding.	A	Project site is not within the species' known range.
western pond turtle *Clemmys marmorata*	—/SC	Permanent or nearly permanent water in a variety of habitats.	A	Permanent water not present on project site.
California horned lizard *Phrynosoma coronatum frontale*	—/SC	Frequents a wide variety of habitats; most common in lowlands along sandy washes with scattered low bushes.	A	Suitable habitat not present.
American white pelican *Pelecanus erythrorhynchos*	—/SC	Nests on small islands or remote dikes, flat or gently sloping and lacking shrubs or other obstructions, in large freshwater or saltwater lakes.	A	Suitable aquatic habitat not present.
Golden eagle *Aquila chrysaetos*	—/FP	Breeds on cliffs or in large trees or electrical towers, forages in open areas.	A	Suitable habitat is not present.

COMMON NAME *SCIENTIFIC NAME*	STATUS[1] (FED/STATE/ CNPS)	GENERAL HABITAT DESCRIPTION	GENERAL HABITAT (PRESENT/ ABSENT)[2]	RATIONALE
Western burrowing owl *Athene cunicularia hypugea*	—/SC	Grasslands and ruderal habitats.	**P**	Grasslands present and site within the known winter range.
Short-eared owl *Asio flammeus*	—/SC	Breeds in dense vegetation in open grassland and marshes.	A	Suitable habitat not present.
Long-eared owl *Asio otus*	—/SC	Dense riparian and live oak thickets near meadow edges, and nearby woodland and forest habitats; also found in dense conifer stands at higher elevations.	**P**	Woodlands are present.
Northern harrier *Circus cyaneus*	—/SC	Forages in marshes, grasslands, and ruderal habitats; nests in extensive marshes and wet fields.	A	Suitable open, densely vegetated habitat not present.
Northern goshawk *Accipiter genilis*	—/SC	Breeds in dense, mature conifer and deciduous forests, interspersed with meadows, other openings and riparian areas; nesting habitat includes north-facing slopes near water.	A	Suitable dense forests are not present.
White-tailed kite *Elanus leucurus*	—/FP	Nests in tall shrubs and trees, forages in grasslands, agricultural fields, and marshes.	**P**	Woodlands are present.
Black swift *Cypseloides niger*	—/SC	Nests in moist crevice or cave or sea cliffs above the surf, or on cliffs behind, or adjacent to, waterfalls in deep canyons; forages widely over many habitats.	A	Suitable habitat is not present.
Vaux's swift *Chaetura vauxi*	—/SC	Nests in snags in coastal coniferous forests or, occasionally, in chimneys; forages aerially.	**P**	Woodlands are present.

COMMON NAME *SCIENTIFIC NAME*	STATUS[1] (FED/STATE/ CNPS)	GENERAL HABITAT DESCRIPTION	GENERAL HABITAT (PRESENT/ ABSENT)[2]	RATIONALE
Loggerhead shrike *Lanius ludovicianus*	—/SC	Nests in tall shrubs and dense trees, forages in grasslands, marshes, and ruderal habitats.	**P**	Dense shrubbery adjacent to open grassland/ephemeral wetland is present.
California yellow warbler *Dendroica petechia brewsteri*	—/SC	Breeds in riparian woodlands, particularly those dominated by willows and cottonwoods.	A	Riparian woodlands not present within or adjacent to study area.
Yellow-breasted chat *Icteria virens*	—/SC	Breeds in riparian habitats having dense understory vegetation, such as willow and blackberry.	A	Riparian woodlands not present within or adjacent to study area.
Purple martin *Progne subis*	—/SC	Breeding habitat includes old-growth, multi-layered, open forest and woodland with snags; forages over riparian areas, forest, and woodlands.	A	Suitable forest habitat is not present.
Tricolored blackbird *Agelaius tricolor*	—/SC	Breeds near fresh water in dense emergent vegetation.	**P**	Aquatic habitat is present.
Spotted bat *Euderma maculatum*	—/SC	Ponderosa pine region of the western highlands. Prefers cracks/crevices of high cliffs and canyons.	A	Suitable habitat is not present.
Townsend's western big-eared bat *Corynorhinus townsendii*	—/SC	Roosts in colonies in caves, mines, tunnels, or buildings in mesic habitats. The species forages along habitat edges, gleaning insects from bushes and trees. Habitat must include appropriate roosting, maternity and hibernacula sites free from disturbance by humans.	A	Suitable roosting habitat is not present.
Western mastiff bat *Eumops perotis*	—/SC	Found in central and south coastal California. Roosts primarily in cliffs or high buildings.	A	Suitable roosting habitat is not present.

COMMON NAME *SCIENTIFIC NAME*	STATUS[1] (FED/STATE/ CNPS)	GENERAL HABITAT DESCRIPTION	GENERAL HABITAT (PRESENT/ ABSENT)[2]	RATIONALE
Pallid bat *Antrozous pallidus*	—/SC	Forages over many habitats; roosts in buildings, rocky outcrops and rocky crevices in mines and caves.	A	Suitable roosting habitat is not present.
White-tailed hare *Lepus townsendii*	—/SC	Open forests and sagebrush-grassland associations in the Great Basin Province. They also occur at high elevations along the main crest of the Sierra Nevada. They require thickets of young conifers or deciduous woody plants.	A	Project site is not within the species' known range.
Sierra Nevada snowshoe hare *Lepus americanus tahoensis*	—/SC	Primarily found in montane riparian habitats with thickets of alders and willows and in stands of young conifers interspersed with chaparral.	A	Suitable habitat is not present.
Sierra Nevada mountain beaver *Aplodontia rufa californica*	—/SC	High elevation, high gradient, moderately to densely vegetated moist environments of the Cascade and Sierra Nevada mountain ranges.	A	Project site is not within the species' known elevational range.
American badger *Taxidea taxus*	—SC	Herbaceous, shrub, and open stages of most habitats with dry, friable soils.	**P**	Open habitats present adjacent to project site.
Ring-tailed cat *Bassariscus astutus*	—/FP	Riparian habitats and in brush stands of most forest and shrub habitats. Nests in rock recesses, hollow trees, logs, snags, abandoned burrows or woodrat nests.	A	No riparian or suitable brushy habitat present in study area.

[1]Status Codes: Federal and State Codes: E = Endangered; T = Threatened; C = Candidate; D = Delisted; SC = Species of Concern (Federal) or Species of Special Concern (State)
California Native Plant Society (CNPS) Codes: List 1B = Plants rare, threatened, or endangered in California and elsewhere; List 2 = Plants rare, threatened, or endangered in California but more common elsewhere

[2]Absent [A] means no further work needed. Present [P] means general habitat is present and species may be present

ATTACHMENT F

Native Trees Within the Study Area

Native Trees Greater Than 4 Inches in DBH in the Study Area

TREE ID	COMMON NAME	SCIENTIFIC NAME	DBH (INCHES)	MULTI-TRUNK DBH (INCHES)	DRIPLINE (FEET)	CONDITION
1	Interior Live Oak	*Quercus wislizenii*	32	10+15+ 7	30	Good
2	Interior Live Oak	*Quercus wislizenii*	26	7+7+10+2	30	Good
3	Interior Live Oak	*Quercus wislizenii*	10	4+6	20	Fair
4	Interior Live Oak	*Quercus wislizenii*	15	6+5+4	20	Fair
5	Gray Pine	*Pinus sabiniana*	29	N/A	40	Good
6	Interior Live Oak	*Quercus wislizenii*	8	N/A	20	Fair
7	Interior Live Oak	*Quercus wislizenii*	14	N/A	45	Good
8	Interior Live Oak	*Quercus wislizenii*	13	N/A	40	Good
9	Interior Live Oak	*Quercus wislizenii*	7	N/A	15	Good
10	Valley Oak	*Quercus lobata*	12	N/A	20	Good
11	Valley Oak	*Quercus lobata*	11	N/A	25	Good
12	Valley Oak	*Quercus lobata*	12	N/A	25	Good
13	Willow	*Salix* sp.	15	N/A	15	Poor
14	Valley Oak	*Quercus lobata*	22	N/A	50	Good
15	Valley Oak	*Quercus lobata*	18	N/A	25	Good
16	Valley Oak	*Quercus lobata*	7	N/A	15	Good
17	Valley Oak	*Quercus lobata*	5	N/A	10	Good
18	Valley Oak	*Quercus lobata*	26	6+7+13	15	Fair
19	Black Walnut	*Juglans californica*	7	N/A	20	Good
20	Valley Oak	*Quercus lobata*	18	N/A	40	Good
21	California Black Oak	*Quercus kelloggii*	20	N/A	35	Good
22	Interior Live Oak	*Quercus wislizenii*	9	4+5	15	Good
23	Interior Live Oak	*Quercus wislizenii*	32	4+4+4+7+8+5	25	Good
24	Interior Live Oak	*Quercus wislizenii*	19	5+3+6+5	25	Fair
25	Interior Live Oak	*Quercus wislizenii*	29	7+8+9+5	25	Fair
26	Interior Live Oak	*Quercus wislizenii*	11	3+3+3+2	15	Good
27	Interior Live Oak	*Quercus wislizenii*	13	7+6	20	Good
28	Interior Live Oak	*Quercus wislizenii*	9	4+2+3	20	Good
29	Interior Live Oak	*Quercus wislizenii*	26	4+3+8+11	20	Good
30	Interior Live Oak	*Quercus wislizenii*	14	5+6+3	20	Good

TREE ID	COMMON NAME	SCIENTIFIC NAME	DBH (INCHES)	MULTI-TRUNK DBH (INCHES)	DRIPLINE (FEET)	CONDITION
31	Valley Oak	*Quercus lobata*	34	16+18	35	Good
32	Interior Live Oak	*Quercus wislizenii*	15	3+4+4+4	20	Fair
33	Interior Live Oak	*Quercus wislizenii*	9	5+4	15	Good
34	Interior Live Oak	*Quercus wislizenii*	8	N/A	15	Good
35	Interior Live Oak	*Quercus wislizenii*	11	4+4+3	15	Good
36	Interior Live Oak	*Quercus wislizenii*	12	3+4+5	15	Good
37	Interior Live Oak	*Quercus wislizenii*	10	4+3+3	15	Good
38	Interior Live Oak	*Quercus wislizenii*	23	N/A	45	Good
39	Interior Live Oak	*Quercus wislizenii*	23	4+4+3+3+3+3+3	15	Good
40	Interior Live Oak	*Quercus wislizenii*	7	4+3	12	Good
41	Interior Live Oak	*Quercus wislizenii*	23	13+10	45	Good
42	Interior Live Oak	*Quercus wislizenii*	28	18+10	45	Good
43	Interior Live Oak	*Quercus wislizenii*	12	N/A	40	Good
44	Interior Live Oak	*Quercus wislizenii*	9	4+3+2	10	Good
45	Interior Live Oak	*Quercus wislizenii*	18	8+6+4	20	Good
46	Interior Live Oak	*Quercus wislizenii*	4	N/A	10	Good
47	Gray Pine	*Pinus sabiniana*	5	N/A	10	Good
48	Interior Live Oak	*Quercus wislizenii*	6	N/A	15	Good
49	Interior Live Oak	*Quercus wislizenii*	5	N/A	15	Good
50	Interior Live Oak	*Quercus wislizenii*	20	3+6+4+3+4	15	Good
51	Interior Live Oak	*Quercus wislizenii*	8	5+3	15	Good
52	Interior Live Oak	*Quercus wislizenii*	16	6+6+4	15	Good
53	Interior Live Oak	*Quercus wislizenii*	13	4+4+2+3	15	Good
54	Interior Live Oak	*Quercus wislizenii*	24	12+12	25	Good
55	Interior Live Oak	*Quercus wislizenii*	13	5+5+3	15	Good
56	Interior Live Oak	*Quercus wislizenii*	35	3+3+4+4+3+4+3+3+4+4	15	Good
57	Gray Pine	*Pinus sabiniana*	17	N/A	20	Fair
58	Interior Live Oak	*Quercus wislizenii*	15	5+7+3	15	Good
59	Interior Live Oak	*Quercus wislizenii*	20	N/A	40	Good
60	Interior Live Oak	*Quercus wislizenii*	47	12+12+10+13	35	Good
61	Interior Live Oak	*Quercus wislizenii*	27	13+10+4	35	Fair
62	Interior Live Oak	*Quercus wislizenii*	56	10+11+11+10+10+4	35	Fair

TREE ID	COMMON NAME	SCIENTIFIC NAME	DBH (INCHES)	MULTI-TRUNK DBH (INCHES)	DRIPLINE (FEET)	CONDITION
63	Interior Live Oak	*Quercus wislizenii*	14	9+5	20	Good
64	Interior Live Oak	*Quercus wislizenii*	26	14+4+8	40	Fair
65	Black Walnut	*Juglans californica*	28	15+13	25	Good
66	Gray Pine	*Pinus sabiniana*	13	N/A	10	Good
67	Ponderosa Pine	*Pinus ponderosa*	32	N/A	20	Good
68	Black Walnut	*Juglans californica*	23	10+13	25	Fair
69	Black Walnut	*Juglans californica*	10	N/A	20	Fair
70	Black Walnut	*Juglans californica*	11	5+6	15	Fair
71	Black Walnut	*Juglans californica*	20	8+6+6	20	Fair
72	Valley Oak	*Quercus lobata*	19	N/A	30	Good
73	Valley Oak	*Quercus lobata*	7	4+3	10	Good
74	Interior Live Oak	*Quercus wislizenii*	10.5	3.5+3.5+3.5	10	Good
75	Interior Live Oak	*Quercus wislizenii*	28	18+10	35	Good
76	Black Walnut	*Juglans californica*	22	14+7	15	Fair
77	Valley Oak	*Quercus lobata*	34	N/A	45	Good
78	Blue Oak	*Quercus douglasii*	12	N/A	20	Good
79	Black Walnut	*Juglans californica*	24	7+7+10	12	Fair
80	Interior Live Oak	*Quercus wislizenii*	4	N/A	10	Good
81	Interior Live Oak	*Quercus wislizenii*	14	N/A	20	Good
82	Blue Oak	*Quercus douglasii*	7	N/A	10	Good
83	Valley Oak	*Quercus lobata*	5	N/A	10	Poor
84	Interior Live Oak	*Quercus wislizenii*	10	N/A	15	Good
85	Interior Live Oak	*Quercus wislizenii*	10	N/A	15	Good
86	Interior Live Oak	*Quercus wislizenii*	17	11+3+3	15	Fair
87	Interior Live Oak	*Quercus wislizenii*	41	15+16+10	20	Fair
88	Interior Live Oak	*Quercus wislizenii*	17	9+8	15	Good
89	Interior Live Oak	*Quercus wislizenii*	44	N/A	35	Fair
90	Interior Live Oak	*Quercus wislizenii*	14	N/A	25	Good
91	Valley Oak	*Quercus lobata*	10	5+5	10	Fair
92	California Black Oak	*Quercus kelloggii*	4	N/A	10	Fair/Poor
93	Valley Oak	*Quercus lobata*	4	N/A	10	Fair
94	Valley Oak	*Quercus lobata*	10	5+5	15	Fair
95	Valley Oak	*Quercus lobata*	15	5+3+4+3	15	Fair

TREE ID	COMMON NAME	SCIENTIFIC NAME	DBH (INCHES)	MULTI-TRUNK DBH (INCHES)	DRIPLINE (FEET)	CONDITION
96	Valley Oak	*Quercus lobata*	5	N/A	15	Fair
97	Interior Live Oak	*Quercus wislizenii*	50	15+17+18	35	Poor
98	Valley Oak	*Quercus lobata*	16	N/A	15	Poor
99	Valley Oak	*Quercus lobata*	34	N/A	50	Good
100	Valley Oak	*Quercus lobata*	25	N/A	50	Good
101	Valley Oak	*Quercus lobata*	16	8+8	20	Good
102	Valley Oak	*Quercus lobata*	4	N/A	10	Good
103	Valley Oak	*Quercus lobata*	4	N/A	6	Good
104	Valley Oak	*Quercus lobata*	4	N/A	6	Good
105	Valley Oak	*Quercus lobata*	6	N/A	20	Good
106	Interior Live Oak	*Quercus wislizenii*	10	4+2+4	15	Good
107	California Black Oak	*Quercus kelloggii*	4	N/A	12	Good
108	Interior Live Oak	*Quercus wislizenii*	6	N/A	20	Good
109	Valley Oak	*Quercus lobata*	4	N/A	12	Good
110	Interior Live Oak	*Quercus wislizenii*	12	6+4+2	20	Good
111	California Black Oak	*Quercus kelloggii*	4	N/A	10	Good
112	Valley Oak	*Quercus lobata*	7	N/A	10	Good
113	Interior Live Oak	*Quercus wislizenii*	10	7+3	12	Good
114	Interior Live Oak	*Quercus wislizenii*	8	5+3	12	Good
115	Interior Live Oak	*Quercus wislizenii*	6	N/A	10	Good
116	Interior Live Oak	*Quercus wislizenii*	4	N/A	10	Good
117	Interior Live Oak	*Quercus wislizenii*	9	N/A	20	Fair
118	Interior Live Oak	*Quercus wislizenii*	4	N/A	10	Good
119	Interior Live Oak	*Quercus wislizenii*	8	N/A	12	Fair
120	Gray Pine	*Pinus sabiniana*	15	N/A	15	Good
121	Interior Live Oak	*Quercus wislizenii*	17	4+7+6	18	Fair
122	Gray Pine	*Pinus sabiniana*	14	N/A	12	Good
123	Valley Oak	*Quercus lobata*	6	N/A	10	Good
124	Valley Oak	*Quercus lobata*	4	N/A	10	Poor
125	Interior Live Oak	*Quercus wislizenii*	8	4+4	15	Good
126	Interior Live Oak	*Quercus wislizenii*	5	N/A	10	Good
127	Gray Pine	*Pinus sabiniana*	4	N/A	6	Good
128	Interior Live Oak	*Quercus wislizenii*	4	N/A	8	Good

TREE ID	COMMON NAME	SCIENTIFIC NAME	DBH (INCHES)	MULTI-TRUNK DBH (INCHES)	DRIPLINE (FEET)	CONDITION
129	Gray Pine	*Pinus sabiniana*	6	N/A	10	Good
130	Gray Pine	*Pinus sabiniana*	6	N/A	10	Good
131	Interior Live Oak	*Quercus wislizenii*	4	N/A	15	Fair
132	Interior Live Oak	*Quercus wislizenii*	4	N/A	15	Good
133	Interior Live Oak	*Quercus wislizenii*	4	N/A	12	Good
134	Interior Live Oak	*Quercus wislizenii*	5	N/A	20	Good

Study Area

Tree Type

- Interior Live Oak
- Valley Oak
- Other

N

0 25 50 100
Feet

File Location: Projects\27104_Pleasant_Valley_road\GIS\27104_Appen_F_Tree_Location.mxd Source: North State Resources, Inc., USDA Prepared: 05-29-08 edouglas

North State Resources, Inc.

Pleasant Valley Road (SR 49)/Patterson Drive Intersection Signalization Project

Figure 6
Native Tree Locations