

V.F. BIOLOGICAL RESOURCES

This section addresses potential impacts to biological resources resulting from implementation of the proposed project. The *Biological Resources Assessment: Willow Road Extension/US 101 Interchange Project* (July 2005), the *Wetlands Delineation Report* (Volume III, Appendix E), and the *Red Legged Frog Site Assessment* (Volume III, Appendix F), were reviewed and incorporated into this analysis. These documents, in their entirety, are provided in Appendix E.

1. Existing Conditions

The project area is a mix of native habitats, agricultural uses, such as grazing, nursery activities, and crop cultivation and developed areas such as roads or houses. Disturbances from grazing activities, agricultural and nursery activities, as well as maintenance activities associated with residences such as landscaping, firebreaks, mowing, disking, and domestic animals are evident within the project area.

Plant Communities and Habitat Types. The vegetation in the project area is a mosaic of several typical habitat types. Seventeen plant communities, or variations, were identified within the project area, including four primary plant communities considered sensitive by state and/or local agencies: oak woodland, maritime chaparral, willow riparian, and freshwater marsh.

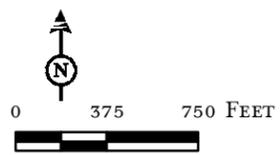
In addition to these native and naturalized plant communities, ornamental plantings, eucalyptus groves, and developed and/or disturbed areas were also identified. All of these areas are illustrated on the vegetation communities map (Figure V.F-1). Table V.F-1 provides the acreage of each community type found in the project area. A list of plant species observed, along with their scientific names, during the surveys is presented in Appendix C of the Biological Resources Analysis, which is provided in Appendix E of this SEIR.

The total project area, which is approximately 40 hectares (100 acres), supports 17 basic habitat types. Due to various levels and timing of disturbances within the study area, these habitat types are further distinguished as mixed or ecotones (Figure V.F-1). Mixed habitats types are a combination of two different habitat types, whereas ecotones are transitional habitat types. The dominant natural habitat within the study area is oak woodland (14.69 acres). Other plant communities present within the study area include annual grassland, maritime chaparral, ruderal herbaceous, agriculture, coastal sage scrub, freshwater marsh, willow riparian, eucalyptus groves, and ornamental landscaping. Each habitat type is described in detail below.



FIGURE V.F-1

LSA



LEGEND

- | | | | | | | |
|----------------------|-----------------|-------------------------|------------------|---------------|------------------------|--------------------|
| Project Boundary | AG/MC ecotone | Annual Grassland (AG) | Eucalyptus Grove | Mixed OW/MC | Oak Woodland (OW) | Ruderal Herbaceous |
| Disturbed Vegetation | AG/Ruderal | CSS/AG ecotone | Freshwater Marsh | OW/MC ecotone | Ornamental Landscaping | Willow Riparian |
| Agriculture (Crops) | Developed Areas | Maritime Chaparral (MC) | Oak Savannah | Ruderal | | |

SOURCE: County of San Luis Obispo.
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Willow Road Extension/U.S. 101 Interchange Project
 Vegetation Communities

Table V.F-1: Existing Vegetation Communities within the Project Area

Vegetation Community	Abbreviation	Total Hectares (Acres)
Developed Areas (roads)		7.22 (17.84)
Oak Woodland	OW	5.95 (14.69)
Disturbed Oak Savannah		0.56 (1.38)
Annual Grassland	AG	4.49 (11.09)
Disturbed Annual Grassland		1.47 (3.62)
Maritime Chaparral	MC	0.81 (2.00)
Annual Grassland/Maritime Chaparral ecotone	AG/MC ecotone	1.07 (2.65)
Mixed Oak Woodland/Maritime Chaparral	Mixed OW/MC	0.23 (0.56)
Disturbed Oak Woodland/Maritime Chaparral ecotone	OW/MC ecotone	4.93 (12.17)
Ruderal Herbaceous		2.86 (7.09)
Disturbed Ruderal		0.10 (0.25)
Annual Grassland/Ruderal	AG/Ruderal	5.59 (13.82)
Agriculture (Crops)		2.48 (6.14)
Coastal Sage Scrub/Annual Grassland ecotone	CSS/AG ecotone	0.58 (1.43)
Freshwater Marsh		0.04 (0.11)
Willow Riparian		0.02 (0.05)
Eucalyptus Grove		1.89 (6.20)
Ornamental Landscaping		0.17 (0.43)
TOTAL		40.47 (100.0)

Developed (7.22 Hectares [17.84 Acres]). This habitat consists of the existing paved and graded dirt roads throughout the project area.

Oak Woodland (5.95 Hectares [14.69 Acres]). This habitat type, which occurs in the southwest corner of the proposed Willow Road and US 101 interchange, is dominated by a dense coast live oak (*Quercus agrifolia*) canopy. There are scattered native shrubs such as coast ceanothus (*Ceanothus cuneatus* var. *fascicularis*), Nipomo ceanothus (*Ceanothus impressus* var. *nipomensis*), California coffee berry (*Rhamnus californica* ssp. *californica*), and poison oak (*Toxicodendron diversilobum*). The understory is typically annual grassland or ruderal with wild oat (*Avena* sp.), long-beaked filaree (*Erodium botrys*), telegraph weed (*Heterotheca grandiflora*) and California croton (*Croton californicus*). Although this habitat has been used for grazing livestock, many oak propagules (seedlings) are present.

Disturbed Oak Savannah (0.56 Hectare [1.38 Acres]). This habitat, which occurs on the northwest corner of Willow Road and Hetrick Avenue, appears to be the result of constant land management by landowners to suppress the shrub understory beneath the coastal live oak canopy. Understory species such as chamise (*Adenostoma fasciculatum*) and poison oak are continually sprayed or mechanically removed, and annual grasses are mowed and/or disked. The nonnative grass species include veldtgrass (*Ehrharta calycina*), foxtail chess (*Bromus madritensis*), and some scattered ruderal forbs such as long-beaked filaree, field mustard (*Brassica rapa*), and telegraph weed.

Annual Grassland (4.49 Hectares [11.09 Acres]). This habitat type, which occurs along US 101, is subject to periodic disturbance from highway right-of-way maintenance activities. This habitat is dominated by nonnative veldtgrass, with some scattered ruderal herbaceous species such as telegraph weed, common catchfly (*Silene gallica*), and Douglas' annual lupine (*Lupinus nanus*).

Disturbed Annual Grassland (1.47 Hectares [3.62 Acres]). This habitat type, which is located along the existing Willow Road alignment, is similar to the annual grassland above, except it is subject to regular disturbances such as grazing, mowing, and disking. This habitat type is dominated by ripgut grass (*Bromus diandrus*) and veldtgrass, with some scattered natives such as Douglas' nightshade (*Solanum douglasii*) and coastal deerweed (*Lotus scoparius*). Other subdominant species within this habitat are smooth cat's ear (*Hypochaeris glabra*), rough cat's ear (*Hypochaeris radicata*), telegraph weed, and long-beaked filaree.

Maritime Chaparral (0.81 Hectare [2.00 Acre]). A small area of this habitat type west of the Willow Road/Hetrick Avenue intersection has not been subject to much disturbance. This area is dominated by coast ceanothus and Nipomo ceanothus. Other subdominants include black sage (*Salvia mellifera*), bush monkey flower (*Mimulus aurantiacus*), chamise, poison oak, coyote bush (*Baccharis pilularis*), Douglas' nightshade, and chaparral nightshade (*Solanum xantii* var. *obispoense*). Herbaceous understory species include narrow-leaved spineflower (*Chorizanthe angustifolia*), California everlasting (*Gnaphalium californicum*), and milkweed (*Asclepias* sp.).

Annual Grassland/Maritime Chaparral Ecotone (1.07 Hectares [2.65 Acres]). This habitat type is located on the northwest corner of the Willow and Pomeroy Road intersection. This transitional habitat is the product of regular disturbances such as fire and disking and is a combination of annual grassland and maritime chaparral. After time, the habitat would most likely revert to maritime chaparral should the disturbances be removed.

Mixed Oak Woodland/Maritime Chaparral (0.23 Hectare [0.56 Acre]). This habitat type is a mixture of coast live oak canopy and maritime chaparral species, which include chamise, Nipomo ceanothus, black sage, and bush monkey flower. Two patches of this habitat type are located west of the Willow Road and Hetrick Avenue intersection. Herbaceous species such as tarweed (*Deinandra increscens* ssp. *increscens*), cryptantha (*Cryptantha* sp.), wedge-leaved horkelia (*Horkelia cuneata* ssp. *cuneata*), California everlasting, narrow-leaved spineflower, hooked navarretia (*Navarretia hamata*), and chaparral nightshade are scattered throughout the understory.

Disturbed Oak Woodland/Maritime Chaparral Ecotone (4.93 Hectares [12.17 Acres]). This habitat is located on both sides of US 101 within the north portion of the proposed interchange. This transitional habitat appears to be the result of previous and ongoing disturbances such as livestock grazing and disking and would most likely revert to maritime chaparral if the disturbances were removed. Beneath the sparsely scattered coast live oak trees, this habitat has a predominance of nonnative grasses that include veldtgrass and wild oat, although some scattered patches of scrub with bush monkey flower, black sage, and California buckwheat (*Eriogonum fasciculatum*) occur. In addition, the habitat includes a subdominant component of chaparral species that include coffeeberry, coast ceanothus, Nipomo ceanothus, and poison oak, all of which may give way to maritime chaparral if left undisturbed.

Ruderal Herbaceous (2.86 Hectares [7.09 Acres]). This habitat type is intermixed with components of ruderal vegetation and nonnative grasses and occurs west of the US 101, south of the proposed Willow Road alignment, within the proposed frontage road alignment. This habitat type is dominated by wild oat, ripgut grass, and long-beaked filaree. Scattered occurrences of Douglas' annual lupine, as well as other nonnatives typically used for cattle grazing occur within this habitat type. The plants within this habitat type are typically nonnative, invasive annual species, and their occurrence is not necessarily limited to the ruderal habitat type, but they may occur scattered within the other habitat types within the study area. In addition, within this habitat are large populations of California spineflower (*Mucronea californica*). Overall, the occurrence of this species is patchy throughout the field adjacent to US 101. However, this species is very common at this location and could be considered a subdominant species. The density of this species in this field was documented within the 1999 FEIR "after the hay crop had been mowed, and the field left fallow, [this area] supported large patches of California spineflower that were conspicuous from the US 101 as extensive pink patches in the mowed field." Other common species in this area include telegraph weed, California croton, common catchfly, and veldtgrass.

Disturbed Ruderal (0.10 Hectare [0.25 Acre]). This habitat type, which is within and adjacent to Nipomo Creek, is currently used for livestock grazing. The dominant species are sweet fennel (*Foeniculum vulgare*), bristly ox-tongue (*Picris echioides*), and field mustard with some annual grasses such as Italian ryegrass (*Lolium multiflorum*) and beardless wild-rye (*Elymus triticoides*).

Annual Grassland/Ruderal (5.59 Hectares [13.82 Acres]). Extensive livestock grazing in this area has produced this mixed habitat type in the field along the proposed Willow Road alignment, east of Hetrick Avenue. Dominant species within this habitat are long-beaked filaree, wild oat, and veldtgrass. Other species present in this habitat type are doveweed (*Croton setigerus*), telegraph weed, slender eriogonum (*Eriogonum gracile* var. *gracile*), ripgut grass, foxtail fescue (*Vulpia myuros*), and coastal deerweed.

Agriculture (2.48 Hectares [6.14 Acres]). The easternmost portion of the proposed alignment is either active or fallow agricultural fields dominated by agricultural crops, ruderal forbs, and nonnative grasses.

Coastal Sage Scrub/Annual Grassland Ecotone (0.58 Hectare [1.43 Acres]). This habitat occurs on the northeast corner of Willow Road and Hetrick Avenue in a field used for livestock grazing. The coastal sage scrub components within this habitat type are California sagebrush (*Artemisia californica*), mock heather (*Ericameria ericoides*), pinebush (*Ericameria pinifolia*), and coastal deerweed. The annual grassland components include veldtgrass, foxtail chess, and wild oat. Ruderal species, such as long-beaked filaree, telegraph weed, California croton, common catchfly, California filago (*Filago californica*), and field mustard also occur within this habitat type.

Freshwater Marsh (0.04 Hectare [0.11 Acre]). This habitat type occurs west of Nipomo Creek, east of US 101, and is dominated by herbaceous cover, annual grasses, and some ruderal forbs. The hydrophytic vegetation includes beardless wild-rye, common toad rush (*Juncus bufonius*), narrow-leaved cattail (*Typha angustifolia*), rabbitfoot grass (*Polypogon monspelienses*), and California dock (*Rumex salicifolius*). This habitat type appears to be supported by irrigation runoff from the adjacent plant nursery. Although separated from Nipomo Creek by a small berm, the

berm has been trampled in cattle grazing activities so that the water from the freshwater marsh flows into Nipomo Creek.

Willow Riparian (0.02 Hectare [0.05 Acre]). The willow riparian habitat within the project area occurs on the west side of the freshwater marsh associated with Nipomo Creek. It is possible that this habitat type, as with the freshwater marsh, is supported by irrigation runoff from the adjacent nursery. Mature arroyo willow (*Salix lasiolepis*) form a dense, closed overstory. Understory species include iris-leaved rush (*Juncus xiphiodes*), poison hemlock (*Conium maculatum*), Bermuda buttercup (*Oxalis pes-caprae*), Italian ryegrass, bristly ox-tongue, and rabbit foot grass. Cattle have created trails throughout this area.

Eucalyptus Grove (1.89 Hectares [4.67 Acres]). This habitat type is dominated by a eucalyptus (*Eucalyptus* sp.) tree canopy and is typically located along roadways and property lines throughout the project area. Some nonnative ruderal vegetation such as veldtgrass and California burclover (*Medicago polymorpha*) are scattered within the eucalyptus groves.

Ornamental Landscaping (0.17 Hectare [0.43 Acre]). This habitat type is located in the westernmost portion of the proposed Willow Road alignment. This area is mulched and planted with ornamental species used for landscaping.

Wildlife. The study area is characterized predominantly by disturbed/developed areas and oak woodland. Wildlife species occurring within the study area are characteristic of those found within these habitats. A list of animal species (including scientific names) observed during the reconnaissance-level surveys and focused bird surveys are provided in Appendix D of the Biological Resources Assessment (Appendix E, Volume III of this SEIR).

No species of amphibians were observed during the surveys. However, focused amphibian surveys were not conducted within the project boundaries. Amphibians that may occur on or near the site include the Pacific chorus frog (*Pseudacris regilla*), Western toad (*Bufo boreas*), California red-legged frog (*Rana aurora draytonii*), and the California Tiger Salamander (*Ambystoma californiense*).

Three reptile species were observed on site: the western fence lizard (*Sceloporus occidentalis*), side-blotched lizard (*Uta stansburiana*), and California horned lizard (*Phrynosoma coronatum frontale*). Other reptiles that may occur within the study area include western whiptail (*Cnemidophorus tigris*), southern alligator lizard (*Gerrhonotus multicarinatus*), gopher snake (*Pituophis melanoleucus*), coachwhip (*Masticophis flagellum*), common kingsnake (*Lampropeltis getulus*), and western rattlesnake (*Crotalus viridis*).

At least 26 species of birds were observed on site during the course of focused surveys. Birds observed on site within the disturbed or developed habitats during the LSA surveys were characteristic of these habitats. These include the mourning dove (*Zenaida macroura*), northern mockingbird (*Mimus polyglottos*), house finch (*Carpodacus mexicanus*), brown headed cowbird (*Molothrus ater*), and American crow (*Corvus brachyrhynchos*). Bird's species that were not observed onsite, but have the potential to occur on or near the site are discussed within the subsequent Sensitive Biological Resources section (See page V.F-12).

Annual grassland habitat located throughout the site provides suitable foraging habitat for a variety of granivorous bird species, as well as raptor species. Birds observed in the grassland habitat include the mourning dove, Cassin's kingbird (*Tyrannus vociferans*), song sparrow (*Melospiza melodia*), and California towhee (*Pipilo crissalis*). In addition to the foraging habitat provided by the annual grassland habitats, raptor species could use the oak woodland habitats within the study area for perching or nesting. Raptor species such as the turkey vulture (*Cathartes aura*), great horned owl (*Bubo virginianus*), red-tailed hawk (*Buteo jamaicensis*), and American kestrel (*Falco sparverius*) were observed either foraging over the annual grassland or perched within oak trees during the surveys. Other bird species identified within the oak woodland habitats were Nuttall's woodpecker (*Picoides nuttallii*), western wood-pewee (*Contopus sordidulus*), oak titmouse (*Baeolophus inornatus*), and bushtit (*Psaltirparus minimus*).

The riparian habitat areas include both willow riparian and freshwater marsh. Given the proximity of these two communities, they have very similar avian faunas. Typical species detected included black phoebe (*Sayornis nigricans*), common yellowthroat (*Geothlypis trichas*), and red-winged blackbird (*Agelaius phoeniceus*).

Most mammalian species observed during the surveys were located primarily within the annual grassland habitat. They include the Audubon's cottontail (*Sylvilagus auduboni*), black-tailed jackrabbit (*Lepus californicus*), dusky-footed woodrat (*Neotoma fuscipes*), broad-footed mole (*Scapanus latimanus*), and long-tailed weasel (*Mustela frenata*). Burrows from Botta's pocket gophers (*Thomomys bottae*) and the California ground squirrel (*Spermophilus beecheyi*) were also observed. All of these animals serve as prey for raptor species. Other species expected to occur, though not observed during the on-site surveys, include Virginia opossum (*Didelphis virginianus*), skunks (*Mephitis mephitis* and *Spilogale gracilis*), and raccoon (*Procyon lotor*). Mammal species associated with rural development within the study area include dog (*Canis familiaris*), cattle (*Bos bovis*), and horse (*Equus caballus*). The presence of the domestic cattle and horses grazing in various areas throughout the study area indicates regular disturbances within these areas. Bats were not observed within the project area or the vicinity during any of the surveys. However, evidence of bats was observed during subsequent site visits and the presence of oak trees and cattle-under crossing could potentially serve as bat habitats.

Wildlife Movement and Habitat Fragmentation. Large areas of habitat or narrower linkages of habitat between expanses of open space provide movement corridors for wildlife. In the vicinity of the project, there is a patchwork of native habitats, agricultural, and developed areas, with no clearly defined major wildlife corridors. In addition, the flat topography of the mesa is crisscrossed with a network of roads and fences, along with large areas of little or no vegetation for cover, which constitutes hindrances to wildlife movement. Nipomo Creek and the associated riparian vegetation may be used as a corridor for some wildlife movement. Wildlife rely on riparian/wetland habitats for their migration routes, especially as an area urbanizes. This is true with the areas surrounding Nipomo Creek.

Sensitive Biological Resources.

Sensitive Species. For purposes of this discussion, the term "sensitive species" refers to those plants and animals occurring, or potentially occurring, on the project site and designated as endangered or rare (as defined by CEQA and its Guidelines), or of current local, regional, or State

concern. These are species that are rare, locally restricted, or declining in a significant portion of their range. Inclusion in the sensitive species analysis for this property is based on satisfying at least one of the following criteria: (1) direct observation of the species on the property site during one of the biological surveys conducted for this report; (2) sighting by other qualified and reputable observers; (3) record reported by the California Natural Diversity Data Base (CNDDDB); or (4) property contains appropriate habitat and is within the known range of a given species. The discussion of sensitive species observed or thought to occur at the project site is broken down into two sections: those listed as endangered or threatened by the State and/or federal agencies and those not listed as such. Plant communities/habitats of concern are considered separately. Appendix A in the Biological Resources Analysis (Appendix E of this SEIR) summarizes the status of those sensitive species known to occur or potentially occurring on the property. Figure V.F-2 shows the locations of observed sensitive plant species.

Sensitive Plant Species. No federally listed, state listed, or proposed endangered or threatened plant species were observed on the site during the surveys. The listed plant species or species proposed for listing identified in the literature review as potentially occurring on site or in the study area were:

- Pismo clarkia (*Clarkia speciosa* ssp. *Immaculate*);
- marsh sandwort (*Arenaria paludicola*);
- Gambel's watercress (*Rorippa gambelii*);
- La Graciosa thistle (*Cirsium loncholepis*); and
- Nipomo Mesa lupine (*Lupinus nipomensis*).

The **Pismo clarkia** is federally listed as endangered and state listed as rare, and is known from fewer than 15 locations between Pismo Beach and Nipomo Mesa in a variety of habitats including chaparral and oak woodlands, as well as valley and foothill grassland. The literature search identified reported occurrences of this species near the intersection of Pomeroy and Willow Roads (the westernmost portion of the proposed project area). Pismo clarkia was not observed within the project area at the time of the spring surveys that were conducted for the 1999 FEIR or in 2003 (See Volume III, Appendix E). After the 2003 springtime botanical surveys were completed, the project impact area was revised slightly and portions of the revised project impact area were then outside of the boundary that was used for spring surveys. Therefore, additional botanical surveys were conducted in 2004. Prior to conducting the June 2004 botanical survey, an LSA botanist visited a known reference population for Pismo clarkia. During this visit, it was determined that the Pismo clarkia had finished blooming for the year although plants were still detectable. As no clarkia species were observed outside of the northwest and southwest corners of the intersection of Willow Road and Pomeroy Road, Pismo clarkia is not expected to occur within these areas. Access to the parcel on the northwest corner of Hetrick Avenue and Willow Road (750 Willow Road) was denied by the property owner and there is potential habitat for this species within this parcel. Therefore, the presence of Pismo clarkia within the entire current project boundary cannot be definitively ruled out.

The following sensitive plant species are not expected to occur within the project area:

- Marsh sandwort, federally and state listed as an endangered species;
- Gambel's watercress, federally listed as endangered and state listed as threatened;
- La Graciosa thistle, federally listed as endangered and state listed as threatened; and
- Nipomo Mesa lupine.

Four sensitive plant species were found during the botanical surveys conducted in spring 2003: sand mesa manzanita (*Arctostaphylos rudis*), Mile's milk vetch (*Astragalus didymocarpus* var. *milesianus*), California spineflower (*Mucronea californica*), and sand almond (*Prunus fasciculata* var. *punctata*) (See Figure V.F-2, Sensitive Plant Locations). With the exception of Mile's milk vetch, these species correspond with the sensitive plant species observed during the original biological assessment completed for the 1999 FEIR.

Sensitive Wildlife Species.

Listed Species. The **California red-legged frog** (*Rana aurora draytonii*) was not observed on site, or within the adjacent areas, during the on-site assessments. Based on a habitat suitability assessment (see Appendix F, Volume III) it was determined that suitable habitat (pools, surface water) for the California red-legged frog within one mile of the project site appears to be limited. Furthermore, there is no suitable habitat to support breeding populations of this species on or adjacent to the site. In addition, the CNDDDB does not report any observation of this species in the Nipomo Creek watershed. The closest record of this species is in the Los Berros Creek drainage, which is located approximately 2.5 miles north of the project site. However, the California red-legged frog could potentially move into the project site from adjacent populations.

The Santa Barbara County population of **California Tiger Salamander** (*Ambystoma californiense*) was federally listed as endangered on September 21, 2000 by the USFWS. On July 22, 2002, the USFWS listed the Sonoma County population of this species as endangered. Subsequently, in August 2004, this species was federally listed as threatened throughout its range by the USFWS (USFWS, 2002). No California Tiger Salamanders were observed on-site, or within the adjacent areas, during on-site assessments. Although there are ground squirrel burrows which may provide opportunities for estivation on-site, there are no suitable pools for breeding habitat within or immediately adjacent to, the project boundary. In addition, the CNDDDB has two historic records for this species in San Luis Obispo County in the vicinity of the project. Both records occurred in Lopez Canyon which has since been converted to Lopez Lake. Therefore, this species is considered extirpated from the area and is not expected to occur on or adjacent to the project.

South/central coast steelhead (*Oncorhynchus mykiss irideus*) is listed as "Threatened" by the NOAA fisheries. Although NOAA fisheries believes that historic observations have been made of steelhead in Nipomo Creek, the creek is not within designated critical habitat for steelhead and the current potential for steelhead occurrence within the project boundary or the adjacent reaches is very limited. Although there are occurrences of steelhead in the Santa Maria River, the habitat condition near the Santa Maria River confluence with Nipomo Creek is extremely degraded and

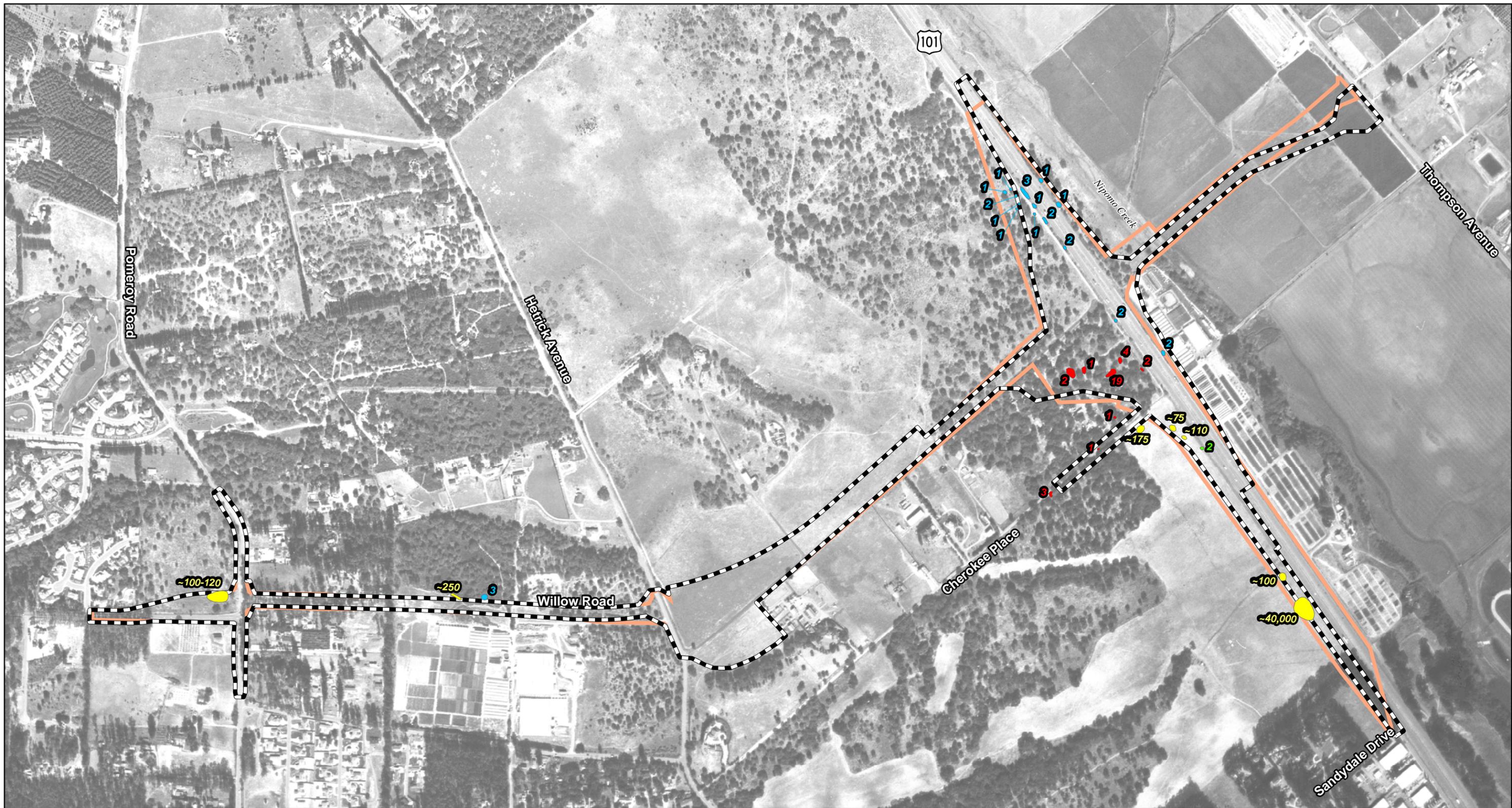
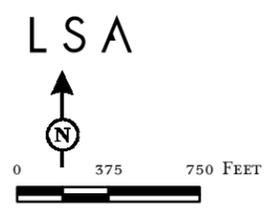


FIGURE V.F-2



LEGEND

-  Project Boundary
-  2003 Spring Botanical Survey
-  California spineflower (approx. 40,825)
-  Sand mesa manzanita (24)
-  Mile's milk vetch (2)
-  Sand almond (33)

Willow Road Extension/U.S. 101 Interchange Project
Sensitive Plant Locations

SOURCE: County of San Luis Obispo.
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this degraded condition of the downstream habitat would discourage the migration of salmonids upstream (Shopolov 1944).

No water was observed within the Nipomo Creek channel during the biological surveys completed in 2003. In addition, the sandy substrate within the channel is not suitable for steelhead, which prefers gravel-sized material for spawning. Furthermore, the segment of Nipomo Creek within the project area has been heavily degraded by livestock grazing. Therefore, this species is not expected to occur within the study area, or in the adjacent stream reaches.

Non-Listed Species. One sensitive reptile species, California horned lizard (*Phrynosoma coronatum frontale*), was observed during both the 1997 and the 2003 surveys. The California horned lizard is a State Species of Special Concern. Habitat on and adjacent to the study area is appropriate for this species, so substantial populations may be present in the vicinity. Two additional sensitive species observed during the 1997 surveys, but not during 2003 surveys, were the loggerhead shrike (*Lanius ludovicianus*) and the American badger (*Taxidea taxus*), both of which are State Species of Special Concern.

Western spadefoot toad (*Scaphiopus hammondi*) and the southwestern pond turtle (*Clemmys marmorata pallidaa*) are State Species of Special Concern. Potential habitat for these species was not observed within or adjacent to the project area. Therefore, these species are not expected to occur within or adjacent to the project area.

Although no bats were observed during the 1997 and 2003 surveys, suitable habitat exists within the project area. Existing oak trees and the cattle undercrossing have the potential to serve as suitable roosting habitat for native bat species.

The following additional sensitive animal species, which are discussed in more detail in Appendix A of the Biological Resources Analysis (Appendix E, Volume III of this SEIR) have a moderate or high potential to occur on site or as more than occasional migrants:

- California legless lizard
- California Tiger Salamander
- Coast patch-nosed snake
- White-tailed kite
- Northern harrier
- Cooper's hawk
- Sharp shinned hawk
- Burrowing owl
- Merlin
- Pallid bat
- California mastiff bat
- Yuma myotis
- Small-footed myotis

Sensitive Habitats. Habitats are considered to be sensitive biological resources based on (1) federal, State, or local laws regulating their development; (2) limited distributions; and/or (3) the habitat requirements of sensitive plants or animals occurring on the site. Four primary plant communities considered sensitive by State and/or local agencies were identified on site during field surveys. Each sensitive habitat identified in the project boundary is described in more detail below and are shown on Figure V.F-1, Vegetation Communities. Wetlands and waters of the United States are considered by federal and State agencies to be sensitive habitats. They are also described below and identified on Figure V.F-1.

Maritime Chaparral. Historically, large areas of California's central coast are reported to have been covered with dense chaparral. Today, only small, isolated fragments of northern and central maritime chaparral can be found growing in well-drained sandy soils along ridgelines and on coastal terraces between Sonoma and Santa Barbara Counties (Van Dyke et al., 2001). This habitat has either been removed or severely degraded over most of its range. Therefore, this habitat is regionally rare and declining. In addition, two sensitive plant species, sand mesa manzanita and sand almond, were observed within this habitat during on-site botanical surveys. This habitat is the primary habitat of a number of plant and animal species considered sensitive as identified in the sensitive species table. Typically, species within this habitat type are adapted to frequent fires, either through stump resprouting or seed bank dormancy (Hoover 1970). This means that species in this habitat type may either appear in profusion the year after a stand of maritime chaparral is burned, or otherwise germinate sparingly, if at all. Therefore, some disturbances, such as chaparral clearing, disking, and grazing activities along the proposed alignment could promote the growth of herbaceous species, including sensitive species, during the next growing season should the disturbance be halted. In addition, the constant disturbance of the understory throughout the site may mean that none of the habitat within the project area is at the climax stage of development. Although oak trees are often a component of maritime chaparral, the maritime chaparral within the project area may be succeeded by oak woodlands, as tree seedlings are found beneath shrub canopies.

Oak Woodland. Oak Woodland is considered sensitive by the County and CDFG, because the structural diversity of this habitat type provides relatively high wildlife habitat values. In each type of oak habitat (e.g., forest, woodland, savanna), there is a different set of co-occurring plant species. Wildlife is affected by these differing plant combinations in terms of food supply, nesting sites, and predator cover, and respond according to their own ecological requirements (Pavlik 1991). The structural diversity of oak habitat provides shelter to many kinds of wildlife. Bats are often dependent on oaks for feeding and resting during spring and fall migrations (Pavlik 1991). State oak populations are experiencing little or no tree replacement. Although there are periodic seasons of good acorn germination and seedling establishment, there is a persistent failure for seedlings to become pole-size trees (Pavlik 1991). Therefore, despite protection, California's oaks and oak habitats are declining.

The California Wildlife Conservation Board implemented the Oak Woodlands Conservation Act of 2001 and adopted guidelines to administer the program. In addition to a general plan, the County of San Luis Obispo has prepared an Oak Woodlands Management Plan in response to the overwhelming public favor of conserving the oak resources of the area. The plan is voluntary and for informational purposes and is not binding by law (Native Tree Committee of San Luis Obispo County 2003).

The oak woodland within the project boundary would not be considered “Biologically functional oak woodland” according to the California Oak Foundation. Rather, the site may be considered “ecologically sensitive oak woodland,” as it contains single-layered canopy; riparian zone; burrows; and some downed woody debris. As the project area has a single-layered canopy with very limited burrow occurrence, the oak woodland within the project site would be considered to have minimal ecological sensitivity.

Willow Riparian. Riparian habitats are considered high-quality wildlife habitats because they provide protective cover, water, and food for a variety of species. Many animal species require riparian habitat for survival. Some large mammals that require access to water may use the band of riparian habitat as a wildlife corridor. This habitat type within the project area is subject to livestock grazing that may contribute to the even aged nature of this stand. This habitat, which occurs east of US 101, appears to be supported, at least in part, by water runoff from the adjacent nursery. In addition, as this habitat type is associated with drainages, it is considered sensitive by the CDFG and the Corps.

Freshwater Marsh. This habitat type, which often resembles grasslands, is seasonally flooded by freshwater and is dominated by persistent hydrophytic vegetation. Although standing water is typically not present within this habitat throughout the year, in this case, continual runoff from the adjacent nursery provides enough water to saturate soils. This habitat is considered sensitive by the CDFG and the Corps, as it is much reduced over its entire range and is associated with drainages.

Wetlands and Waters. Streambeds and associated wetland areas are regulated by the Corps and by the CDFG as described below under “Regulatory Setting.” Thus, they are considered sensitive resources. The total area of jurisdictional waters of the United States within the project area is approximately 0.08 hectare (0.19 acre), of which 0.01 hectare (0.03 acre) is the Nipomo Creek drainage (Figure V.F-3). Nipomo Creek and the associated riparian vegetation functions primarily to increase the diversity of habitat on the property, and may retain enough seasonal moisture to provide breeding habitat for common amphibians.

Two jurisdictional areas that also meet the federal criteria as a wetland are the freshwater marsh and willow riparian habitats adjacent to the Creek, which amount to 0.06 hectare (0.16 acres). The drainage courses and associated riparian habitat meet all of CDFG’s criteria for jurisdictional waters of the State (Figure V.F-3).

2. Thresholds of Significance

For a discussion of Federal and State regulatory requirements pertinent to this project, such as the Federal Endangered Species Act, the California Endangered Species Act, the Clean Water Act, the California Fish and Game Code, the Migratory Bird Treaty Act, and Federal Executive Order 13112 addressing invasive species, see Appendix E, pages 21-25.

Based on Appendix G of the State CEQA Guidelines and the County Initial Study Checklist, project effects upon biological resources may be significant if any of the following result:

- Substantial direct or indirect effect on any species identified as a candidate, sensitive, or special status species in local/regional plans, policies, or regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service;

- Substantial effect upon sensitive natural communities identified in local/regional plans, policies, or regulations or by agencies above including substantial reduction or elimination of species diversity or abundance;
- Substantial effect (e.g., fill, removal, hydrologic interruption) upon federally protected wetlands or navigable waterways of the U.S. under Section 404 of the Clean Water Act;
- Substantial interference with movement of native resident or migratory wildlife species, fragmentation of established native resident or migratory wildlife corridors, inhibit the use of native wildlife nursery sites, or fragment, eliminate, or otherwise disrupt foraging areas or access to food sources;
- Conflict with any local policies/ordinances that protect biological resources (e.g., tree preservation policy or ordinance); or
- Conflict with provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved habitat conservation plan.

3. Project Impacts

Construction of the proposed project will result in direct and indirect impacts to vegetation and wildlife habitats, including native and sensitive habitats. The following impact assessment evaluates impacts within the entire project area.

Sensitive Wildlife Species. California horned lizard, a sensitive species, was observed on site during both the 2003 and 1999 FEIR surveys. The American badger and the loggerhead shrike were observed within the project boundaries during surveys for the FEIR in 1997. In addition, the chaparral and oak woodland habitats within the proposed project boundaries are potential habitats for the California legless lizard, coast patch-nosed snake, white-tailed kite, northern harrier, Cooper's hawk, sharp shinned hawk, burrowing owl, merlin, grasshopper sparrow, pallid bat, California mastiff bat, yuma myotis, and small-footed myotis. If these species are present within the project boundaries, there is a potential for construction activities to kill or injure individuals. In addition, vegetation removal within the project boundary will remove potential foraging, breeding, and denning habitat for these species.

Wildlife in the vicinity of the project would be subjected to construction/operating noise, high-intensity lighting, storm water runoff erosion/sedimentation, urban pests, and invasive plant material. In addition, removing or altering habitat during construction would result in the direct loss of small mammals, reptiles, amphibians, and other animals of lesser mobility that live in the habitats within the project area. More mobile wildlife species within the study area may be able to vacate the area but would be forced to move into the remaining areas of open space. Consequently, this movement of individuals may result in an increase in competition for available resources in those areas and could result in impacts to individuals of wildlife populations that cannot compete successfully. For acreages of impacts to potential habitat, please refer to Table V.F-1, provided previously. Therefore, the potential exists for the proposed project to directly and/or indirectly impact these species, and these impacts would be considered significant. The mitigation measures prescribed in Section 5 will reduce these impacts to less than significant.

Potential impacts to Cooper's hawk, northern harrier, white-tailed kite, burrowing owl, and yellow warbler are considered low given the absence of these species from the vicinity of the project during surveys.

Although the federally listed threatened **California red-legged frog** may potentially occur in ponding areas in Nipomo Creek downstream of the proposed project, no potential breeding habitat for this species is located on or immediately adjacent to the proposed project. Although this species may migrate through the area in the rainy season if it is present downstream, if construction activities in the Nipomo Creek area occur outside the rainy season and Best Management Practices are employed to minimize erosion, then the proposed project will not directly impact this federally listed species.

If construction must occur during the rainy season, then focused protocol surveys shall be conducted within and adjacent to the project area to determine whether this species is present. If red-legged frogs are found within the project limits, additional measures shall be developed in coordination with the USFWS to avoid impacts to this species during construction. These measures shall include the preparation and implementation of a Storm Water Pollution Prevention Plan (SWPPP) and Best

Management Practices (BMPs) as specified in Mitigation Measures L-1, L-3 and F-18, which require regulatory compliance to protect receiving waters during construction. The SWPPP and BMPs must include measures to keep sediment out of the creek during and after storm events (for example, excavation spoils being stored well outside the creek). With the implementation of Mitigation Measures L-1, L-3, F-9, F-11, F-13, and F-18, potential impacts to this federally listed species would be less than significant.

Although NOAA Fisheries believes that **South/Central Coast steelhead** have historically been observed in Nipomo Creek, these historic occurrences of steelhead have not been documented (Swift 1993). The current potential for steelhead within the project boundaries and the adjacent Nipomo Creek reaches is very limited to fish migration due to the degraded condition of the habitat near the Santa Maria confluence and the existing downstream (McGoogan 2003). In addition, the segment of Nipomo Creek within the project boundaries has been heavily degraded by livestock grazing, lacks water within the creek channel, and does not contain channel substrate suitable for steelhead. Therefore, this species is not expected to occur within the study area and will not be impacted by the proposed project.

Sensitive Plant Species. Occurrences of the endangered **Pismo clarkia** (federally and state-listed) are documented on the northwest and southwest corners of the Willow and Pomeroy Road intersection. Although a large population of Clarkia was observed at this location, it was identified as four spot clarkia (*Clarkia purpurea* var. *quadrivulnera*). Therefore, the Pismo clarkia was not observed within the study area at the time of 2003 botanical surveys. However, since the 2003 spring botanical surveys were conducted, the study area has moved slightly and in some instances occurs outside the spring survey limits (Figure V.F-4). In addition, these plants do not necessarily appear in the same location in consecutive years, which suggests that a seed bank may exist in soils of potential habitats. Although botanical surveys were conducted in some of these revised study areas in 2004, the property at 750 Willow Road, which has potential habitat for this species, was not surveyed due to the property owner's refusal to allow access to that property. Therefore, the presence of this species within that portion of the current project boundary cannot be definitively ruled out.

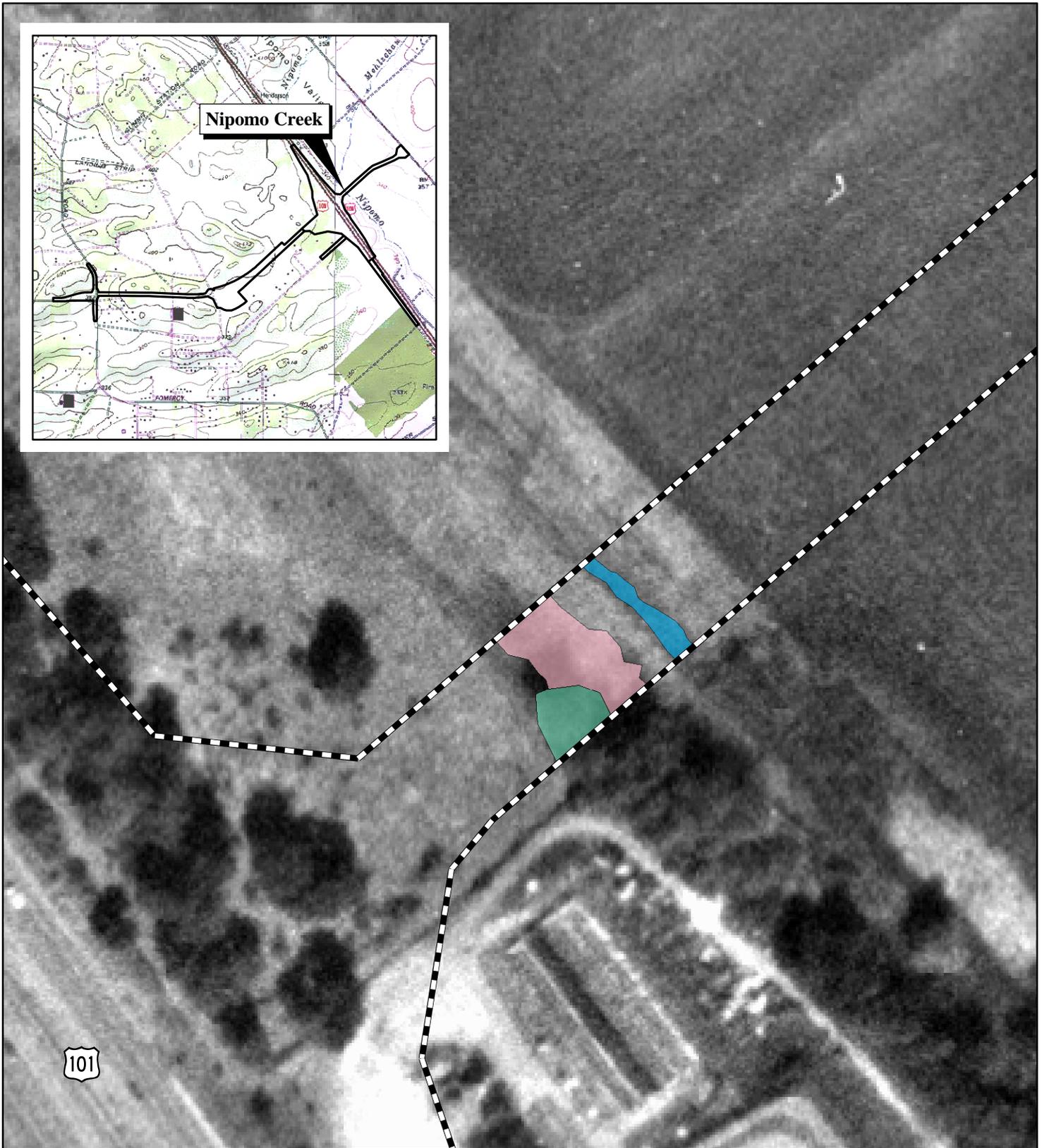
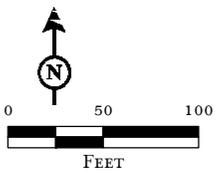


FIGURE V.F-3

LSA



LEGEND

-  Project Boundary
-  Freshwater Marsh (0.11 ac)
-  Nipomo Creek (0.03 ac / 100.6 linear ft)
-  Willow Riparian (0.05 ac)

*Willow Road Extension/U.S. 101 Interchange Project
Jurisdictional Area Map*

SOURCE: County of SLO, USGS 7.5' QUAD(s) - Oceano ('94), Nipomo ('65), Calif.

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Mitigation efforts for Pismo clarkia have frequently involved experimental attempts to establish populations in dedicated open spaces. However, to the USFWS's knowledge, none of these attempts have successfully created viable, self-sustaining populations. Therefore, attempts to reestablish populations on undeveloped portions of sites that will remain in open space would not be considered adequate mitigation under CEQA. According to the USFWS Recovery Plan, securing protection for large, self-sustaining populations is the primary recovery need for Pismo Clarkia. Only one naturally occurring population is currently protected. Secured sites should include adequate surrounding habitat to allow for population expansion and movement and to support pollinators. Habitat may be secured through fee purchase, conservation easements, and set asides as mitigation under CEQA.

Four sensitive plant species were observed within the study area during spring surveys. Limited occurrences of sand mesa manzanita, Mile's milkvetch, and sand almond as well as large populations of California spineflower were observed within the spring survey boundary. Population estimates, along with their locations within the project boundary at the time of the 2003 and 2004 spring surveys, are provided on Figure V.F-2.

Implementation of Mitigation Measures F-12 and F-16 prescribed in Section 5, Biological Mitigation Measures, will reduce impacts to these species to less than significant.

Impacts to Sensitive Habitat Types. The proposed project includes a two-lane bridge for the Willow Road crossing over Nipomo Creek. Although the bridge is being designed to leave the creek channel earthen and to locate the bridge abutments outside of the creek channel, there is a potential for construction to impact Nipomo Creek and associated riparian vegetation.

The proposed road alignment would impact a small area of **freshwater marsh and willow riparian habitats** (see Table V.F-1). Although the freshwater marsh and willow riparian habitats may provide some habitat for sensitive species, these habitats are highly degraded and of low habitat quality in comparison to the adjacent riparian habitats. Therefore, project impacts to freshwater marsh and willow riparian habitats will not be significant. Nevertheless, because the Corps and the CDFG have jurisdiction over these resources, the project must be reviewed and authorized by these agencies. It is likely that the agencies will require mitigation for project impacts to freshwater marsh and willow riparian habitats (see regulatory requirements for freshwater marsh and willow riparian habitats discussed in the Biological Resources Assessment report in Appendix E, pages 21-25).

Although the **maritime chaparral** throughout the project area has been subjected to various degrees of disturbances, this habitat type is of limited distribution and therefore any remaining stands are considered important for providing habitat for many sensitive species, including the California horned lizard, sand almond, and sand mesa manzanita observed in this habitat during site surveys. In addition, existing disturbances to maritime chaparral do not reduce the importance of this habitat type. Therefore, without mitigation, the removal of maritime chaparral habitat within the project boundary is considered a significant impact. Implementation of Mitigation Measure F-16 will reduce impacts to maritime chaparral habitat to less than significant. Table V.F-2 summarizes the impacts to various maritime chaparral habitats within the project boundary.

Table V.F-2: Maritime Chaparral Habitats within the Project Boundary

Vegetation Community	Total Hectares (Acres)
Maritime Chaparral	0.81 (2.00)
Annual Grassland/ Maritime Chaparral Ecotone	1.07 (2.65)
Mixed Oak Woodland/ Maritime Chaparral	0.23 (0.56)
Disturbed Oak Woodland/ Maritime Chaparral Ecotone	4.93 (12.17)
Total	7.04 (17.38)

There is a potential for **invasive plant species** to be imported to the adjacent native habitats and the Nipomo Creek drainage via contaminated construction equipment or imported materials such as soils. The dispersal of invasive species propagules in the area may be caused by vehicles on the roadway, the inadvertent inclusion of invasive species in seed mixes applied adjacent to the highway, and the spread of invasives during maintenance operations, such as mowing. In addition, the dynamic conditions associated with the creek create an ideal environment for the transportation and spread of any invasive exotic. Without mitigation, impacts from invasive species are considered a significant impact. Table V.F-3 lists the nonnative species that occur within the project boundaries and that are on the California Exotic Pest Plant Council's list of noxious weed species that require eradication, containment, and rejection or other holding action at the State and county level. Implementation of Mitigation Measure F-8 will reduce impacts from invasive plant species to less than significant.

Table V.F-3: Nonnative Species within Project Boundaries

Species Common Name	Latin Name
Hottentot Fig	<i>Carpobrotus edulis</i>
Sweet Fennel	<i>Foeniculum vulgare</i>
Foxtail chess	<i>Bromus madritensis ssp. rubens</i>
Veldtgrass	<i>Ehrharta calcyna</i>

The construction of the proposed Willow Road extension, interchange, and associated facilities will result in the **direct removal of oak woodland habitat as well as individual oak trees** (Figure V.F-5). As summarized in Table V.F-4, there are an estimated 938 coast live oak trees (*Quercus agrifolia*) within the current proposed project boundary, of which 810 are greater than 6 inches dbh. A physical count of oak trees present on the 750 Willow Road property was not available as access was denied by the property owner. Visual assessment of an aerial map of the project area allows an approximate count of an additional fifteen trees within the proposed alignment; however, sufficient information was not available to estimate the dbh of those trees.

Table V.F-4: Coast Live Oak Tree Summary within Project Boundary

Size	Quantity
> 6 inches dbh	810
< 6 inches dbh	113
Unmeasured dbh	15
Total	938

As indicated in both Table V.F-1 and Table V.F-5, below, 11.67 ha (28.80 acres) of oak woodland habitat including various subtypes and mixtures of oak habitats will be directly impacted by the construction of Willow Road.

Table V.F-5: Oak Woodlands Habitats within the Project Boundary

Vegetation Community	Total Hectares (Acres)
Oak Woodland	5.95 (14.69)
Disturbed Oak Savannah	0.56 (1.38)
Mixed Oak Woodland/Maritime Chaparral	0.23 (0.56)
Disturbed Oak Woodland/Maritime Chaparral Ecotone	4.93 (12.17)
Total	11.67 (28.80)

As the oak woodland habitat within the project area has been subjected to various degrees of disturbances, such as grazing, mowing, and debris storage, it is not considered “biologically functional oak woodland”. But it is considered to be “ecologically sensitive oak woodland.” This habitat type is especially valuable and of limited distribution, and in some areas it is not regenerating. In addition, it provides habitat for well over 300 terrestrial species (Pavlik 1991). Disturbances to this habitat type only partially reduce its importance. As the development of mature large trees requires 60–80 years, the direct removal of this habitat type will result in unavoidable loss of habitat, which will remain significant even after mitigation until such time as the oak woodland habitat provided for in the mitigation becomes ecologically functional.

The construction activities associated with the proposed frontage road will potentially result in the degradation of the adjacent oak woodland habitat (see Figure V.F-5). This oak woodland habitat has not been subjected to as many disturbances as some of the other oak woodland habitat in the project area and therefore the habitat is considered to be of higher quality. In addition, the oak woodland habitat along the frontage road is adjacent to annual grasslands. Grassland habitat adjacent to stands of oak trees offers valuable habitat to hawks and owls that perch in the oak trees and forage in the open grassland. Although existing paved and dirt road alignments were incorporated in the design of the proposed project, the direct impacts to oak woodland and individual oak trees for the construction of the road extension, interchange and associated facilities, along with the indirect impacts to adjacent oak woodland habitats, are considered significant. Mitigation Measures F-15 and F-16 are required to offset impacts to both individual oak trees and the oak habitats within the project boundaries.

Impacts to Jurisdictional Waters. The proposed project may impact wetland (0.16 acre) and non-wetland (0.03 acre) waters potentially subject to Corps of Engineers (Corps) jurisdiction. In addition, the proposed project may impact additional riparian habitat that may be subject to CDFG jurisdiction.

Based on the project design addressed in this SEIR, approximately 0.19 acre of jurisdictional waters of the U.S. would be directly impacted by the proposed road extension crossing over Nipomo Creek (Jurisdictional Delineation Report, LSA Associates, Inc. Appendix E).

Once the footprint and associated ground disturbance for the construction of the crossing, along with the ground disturbance associated with the construction activities is finalized, the Corps and CDFG shall be consulted for a final determination regarding the jurisdictional delineation. The acreages of the potential impacts to jurisdictional areas will then be finalized. Any substantial impacts (e.g., greater than 0.1 acre) to jurisdictional areas within the project area will be considered significant for which mitigation will be required. Mitigation is required for all impacts and compensatory mitigation is required for permanent loss. Mitigation shall include preparation of a Habitat Mitigation and Monitoring plan (see Mitigation Measure F-17).

Impacts to Wildlife Movement. Fragmentation of habitats is caused by developing a corridor through functional, intact habitats. Segmenting intact habitat lessens the value of the remaining habitat pieces by reducing the movement and communication of animals from one habitat segment to another. However, these effects are not associated with the proposed project, since the proposed alignment in the areas other than the proposed Nipomo Creek crossing primarily follows existing road alignments.

Wildlife may depend upon the Nipomo Creek riparian/wetland habitats as a movement corridor. Although the bridge project design features will reduce the potential long-term impacts to wildlife movement in this corridor, indirect effects such as construction and long-term operational noise, lights, storm water runoff, erosion, increased mortality associated with vehicular interactions, urban pets, invasive plant material, and introduced human activity in the area could potentially impact wildlife movement in the Nipomo Creek Corridor. In addition, habitat shifts (toward introduced, nonnative species) that may occur over time can render wildlife corridors unusable by many species, as those that are substantially degraded may no longer provide food or shelter. Therefore, impacts to the Nipomo Creek Corridor are a potentially significant impact. By implementing Mitigation Measures F-20 and F-21, impacts to wildlife movements will be temporary and, therefore, long-term impacts will be reduced to less than significant.

Indirect Impacts. Indirect impacts include: (1) construction-related impacts such as impacts from dust, potential fuel spills from construction equipment, and activities of equipment or personnel outside designated construction areas; and (2) operation impacts such as effect on adjacent habitats caused by runoff, traffic, and litter. Operation of proposed project facilities will increase automobile and pedestrian traffic in the vicinity, as well as human presence and human use of the area. Consequently, the presence of trash and noise, as well as increased fire risk, will increase around project facilities. These indirect impacts lower the value of adjacent habitats for wildlife and plants, and, therefore, may be considered potentially significant.

Wildlife in the vicinity of the proposed road extension and interchange would be subjected to construction and operations noise, high intensity lighting, storm water runoff, erosion, urban pests, invasive plant material, increased vehicle speeds, and increased traffic. These conditions will exist



FIGURE V.F-4

LSA

LEGEND

- Project Boundary
- 2003 Spring Botanical Survey Limits
- 2004 Botanical Survey Limits
- Unsurveyed Area



SOURCE: County of San Luis Obispo.
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Willow Road Extension/U.S. 101 Interchange Project
 Botanical Survey Limits

over the short-term, during project construction, as well as over the long-term, while the proposed project is operational. These influences can extend well into areas adjacent to construction to the point where wildlife far from the project footprint may be forced to vacate the area due to the chronic nature of the construction disturbance. Implementation of mitigation measures C-1 through C-3 will aid in the reduction of construction related noise impacts and, therefore, will reduce noise-related disturbance to wildlife and wildlife movement. Implementation of mitigation measures F-22 through F-25 will aid in the reduction of all other indirect impacts associated with construction and operation of the proposed project.

In addition, individuals that do not vacate adjacent habitats may still perish due to predation or competitive effects with other animals encountered during dispersal movements. However, as there is existing pavement at the same location, and the Nipomo Creek crossing will be designed to allow the continual movement of wildlife beneath the roadway, the increase in traffic, construction/operation noise, lighting, storm water runoff, and invasive plant material is expected to be less than significant upon implementation of the aforementioned mitigation measures.

Impacts to General Biological Resources. In addition to the impacts discussed above pertaining to sensitive wildlife, plants and habitats, the following impacts on all biological resources will be associated with the project:

Direct loss of habitat will occur as a result of vegetation removal during construction. These impacts are considered permanent impacts. This is not significant where the existing habitat condition is disturbed, developed or ruderal. However, where the habitat is native or sensitive, this impact would be considered potentially significant.

Potential damage to habitat or increased species' mortality adjacent to the proposed road alignments will be caused by construction and traffic noise, spread of invasive exotic plant species along the proposed alignments, vehicular impact, roadside maintenance activities (i.e. maintenance of shoulders, berms, and drainage structures), litter, etc. These effects lower the value of adjacent habitats for wildlife and plants, thereby increasing the amount of habitat disturbed. Along much of the proposed alignment, the habitat is disturbed and non natives have been introduced, especially along existing roadways and in areas used for grazing. However, in sensitive or undisturbed habitats, the project's impacts are potentially significant.

Although no active nests were observed during 2003 surveys of the project area, many of the bird species recorded during on-site surveys are expected to nest within the project boundary, including the following raptors: red-tailed hawk, barn owl, and great horned owl. Therefore, a potential exists for the proposed project to impact nesting birds.

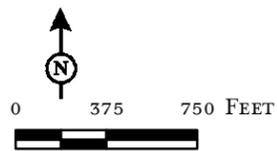
Implementation of Mitigation Measures F-1 through F-8 will reduce the impacts on general biological resources to a level that is less than significant.

4. Cumulative Impacts

Cumulative biological impacts are the collective result of any number of related or unrelated projects ongoing or proposed within geographical areas that together have a greater impact on biological resources than any one project considered individually. The study area for assessing the cumulative biological impacts of the proposed project is provided in Figure IV-1 in Chapter IV, Cumulative Projects.



LSA



LEGEND

-  Project Boundary
- Oak Tree dbh (Count)**
-  less than 6 inches (113)
-  6 inches and greater (810)

FIGURE V.F-5

Willow Road Extension/U.S. 101 Interchange Project
Oak Tree Survey

From a biological perspective, the geographic area defined in Section IV.B and shown in Figure IV-1 is considered appropriate for the cumulative analysis because: (1) impacts to water quality upstream of Nipomo Creek may be compounded by additional impacts downstream; (2) due to the limited distribution of riparian habitats, projects along Nipomo Creek are more likely to result in significant impacts to these sensitive habitat types; (3) due to the limited distribution and/or suitable habitat for the sensitive species identified within this assessment, projects within and adjacent to the sensitive native habitat, such as maritime chaparral, oak woodland, and various riparian habitats could have cumulative impacts to sensitive species; (4) fragmentation of riparian habitats by these projects could cause impacts to wildlife movement within Nipomo Creek; (5) impacts to jurisdictional waters along Nipomo Creek may result in significant cumulative impacts; (6) increase in impervious substrates immediately adjacent to Nipomo Creek may ultimately increase surface water levels; and (7) the topography, geology, and old dune sand soils of the Nipomo Mesa are distinct from surrounding areas in southern central coastal California.

The proposed project may result in a contribution to regional (or cumulative) effects which include:

- Direct impacts to sensitive habitats such as oak woodland maritime chaparral and riparian habitats;
- Direct and indirect impacts to a variety of sensitive plant and wildlife species;
- Introduction of nonnative invasive plant species;
- Potential increased disturbance by increasing accessibility of adjacent native habitats to human use;
- Increased potential for fire;
- Introduction of regular road maintenance activities along Willow Road;
- Impacts to jurisdictional wetlands within Nipomo Creek;
- Impacts to potential habitat for sensitive species; and
- Impacts to hydrologic function, water quality, erosion/sedimentation potential and groundwater resources within the Nipomo Creek watershed.

However, due to the high level of disturbance to existing native habitats such as oak woodland and maritime chaparral caused by maintenance activities, brush clearing, and grazing in the project area, the small amount of permanent impacts to riparian resources associated with Nipomo Creek that can be attributed to the proposed project, the existing nonnative component of vegetation, the proposed road alignment incorporating existing roadway sections, oak and sensitive habitat restoration plans, and the project design features associated with the proposed Nipomo Creek crossing, the project will not contribute significantly to most of the cumulative impacts identified above.

The proposed project's contribution to cumulative impacts on sensitive species, such as the sand almond, sand mesa manzanita, California mucronea, and Mile's milkvetch; on various sensitive wildlife species; and on sensitive habitat types including oak woodland and maritime chaparral has the potential to be significant without mitigation. However, as there is an existing roadway along or immediately adjacent to most of the proposed alignment, and the native habitats within the vicinity are currently subject to extensive disturbances already, including the introduction of invasive nonnative

plant species, grazing, and maintenance activities, these project impacts are not expected to cause a significant contribution to the projected cumulative impacts.

5. Mitigation Measures

Mitigation Measures for General Impacts to Biological Resources

F-1, Construction Fencing. All construction-related activities shall be confined to the proposed boundaries by installing construction fencing along the boundary prior to any ground disturbance to prevent any construction activities from encroaching into adjacent areas. All construction staging will occur within the proposed roadway or in existing developed areas as these areas are less likely to contain habitat suitable for sensitive species. Project construction plans shall include this measure in the specifications. All fencing shall remain in good working order for the duration of all construction-related activities. All-weather signs stating “Sensitive Area – Stay Out” shall be posted every 50 feet.

F-2, Project Biologist. Prior to initiating construction, the California Department of Transportation (Caltrans) and the County shall designate a qualified project biologist responsible for overseeing biological monitoring, regulatory compliance, and restoration activities in association with project construction in accordance with the adopted mitigation measures and applicable law.

F-3, Biological Monitor. Prior to initiating construction, the County shall designate a qualified biologist to monitor all construction activities within and adjacent to native habitats to ensure that construction does not encroach into these areas.

F-4, Vegetation Removal Restriction/Nesting Birds. During construction, vegetation removal or construction activities shall not occur during the primary nesting season for local birds (April 1–August 31) where oak woodlands, wetlands, and maritime chaparral occur on, or adjacent to, the proposed project. If vegetation removal or construction activities must occur in these areas during this period, then preconstruction surveys shall be conducted in the appropriate habitats within and adjacent to the project boundary to identify nesting birds within or adjacent to the proposed project. If active nests are observed within or adjacent to the project boundary then a buffer is required until either the young have fledged or the nest becomes inactive. The preconstruction survey limits and buffer shall be designated by the project biologist prior to construction in the affected nesting areas. Limits and buffers shall be clearly marked in the field and shown on applicable construction plans.

F-5, Monitoring Reports. During construction, the project biologist shall provide quarterly monitoring reports documenting compliance with the avoidance and minimization measures, and shall submit the mitigation report to Caltrans, the County, and the appropriate resource agencies. All recommended remedial work shall be completed within 30 days of identification unless the biologist determines another time is more biologically appropriate.

F-6, Avoidance of Work During the Rainy Season. Construction activities in the Nipomo Creek area shall occur outside the rainy season to minimize sedimentation within the drainage. Project construction plans shall include this measure in the specifications.

F-7, Sensitive Habitat Buffers. Permanent fences or other approved methods (such as planting suitable native trees and shrubs in the buffer area between the side of the road and native habitats)

shall be used to discourage off-road disturbance from pedestrians and vehicles in sensitive habitat areas. Project construction plans shall include these measures in the specifications.

F-8, Non-Native Vegetation Removal. The construction contractor and project biologist shall ensure that no nonnative plant material shall be brought onto the construction site. Due to the vegetative reproduction characteristics of the species in Table C of the Biological Resources Analysis (Appendix E) any occurrence of these species shall be removed from the site prior to vegetation-clearing activities at the direction of the project biologist. In addition, the potential for contribution of funds to programs, such as the removal of invasive species from riparian habitats like Nipomo Creek, should be considered in the mitigation and monitoring plan. The following measures shall be used as applicable to minimize impacts from non-native vegetation:

- Prior to exotic plant removal, the County shall retain a qualified biologist to conduct focused protocol surveys to determine the presence or absence of sensitive species within the area slated for exotic vegetation removal.
- If sensitive species are observed within the areas slated for exotic vegetation removal, then consultation with the USFWS shall be required prior to implementing any work activities.
- Exotic weed removal shall be completed during the fall and winter months. All material removed shall be bagged and disposed of at a landfill.
- All exotic weed removal activities shall be monitored by a qualified biologist.
- The County shall ensure that the habitat enhancement site is kept free of exotic reintroduction for a period of five years following the completion of the exotic plant removal.
- All seed mixes used for erosion control purposes shall be native or considered non-aggressive by a qualified biologist and shown on all applicable plans.

Mitigation Measures for Impacts to Sensitive Species

F-9, Preconstruction Surveys. The project biologist shall perform preconstruction surveys in appropriate habitats, within and adjacent to the project boundary, for sensitive species, such as the California horned lizard. If sensitive species are found within the preconstruction survey area, a biological monitor (qualified to handle species, when required), designated by the County, should be present during vegetation clearing and grading activities to capture and relocate any sensitive wildlife species.

F-10, Bat Biologist. As the project area has the potential to provide suitable bat habitat, during the spring and summer (May–August) and prior to vegetation removal or alteration of existing structures, the County shall designate a qualified bat biologist to survey all potential roosting habitat proposed for removal by the proposed construction.

If a roost is found, the bats shall be discouraged from returning to their roosting area and the resource removed immediately so that the bats cannot return and would be forced to find alternative roost sites. Since each roost situation is different, the qualified bat biologist shall determine the manner of exclusion. Tree removal shall be completed between September and November or March to April to avoid hibernating bats (December–February) and maternity season (May–August) if feasible. If tree removal must occur during hibernating or maternity season, then the designated qualified bat biologist

shall conduct surveys prior to tree removal to determine if hibernating or maternity bats are present within or adjacent to the project limits. The limits of the buffer will be determined by the bat biologist. If they are present, then the bat biologist shall designate a buffer around the location where tree removal cannot occur until the bats have finished hibernating or the young have left the roost. If hibernating or maternity bats are not present, then tree removal shall be initiated within 30 days of the survey.

F-11, Temporary and Long-Term Lighting Minimization. During construction, if deemed necessary by the project biologist, lighting screens shall be used to reduce light pollution during evening construction. In addition, construction crews shall also reduce the number of times the lights are turned on and off to avoid sudden changes that may disturb wildlife and/or wildlife movement. The use of long-term lights on the proposed road shall be minimized to reduce impacts of the proposed road on sensitive wildlife species. Any lights at the interchange shall contain low light features where feasible, including (1) low-intensity street lamps, (2) lower elevation street poles, or (3) shielding by internal silvering of globes or external opaque reflectors.

F-12, Pismo Clarkia Surveys. The final project boundary shall be surveyed by the project biologist as designated by the County, during the blooming period for Pismo clarkia (May–July) prior to issuing the construction contract. If surveys locate Pismo clarkia within the portion of the project with federal involvement then a Biological Assessment would need to be prepared and submitted to the USFWS and CDFG and applicable requirements of the Federal and California Endangered Species Acts would need to be met prior to any construction or site preparation activities. A preservation plan shall be prepared that, at a minimum, would result in no net loss of the plant. If the Pismo clarkia is observed in the remaining project boundaries, the appropriate permit must be obtained from the CDFG.

F-13, California Red-Legged Frog. Construction activities in the Nipomo Creek area shall occur outside the rainy season to ensure that the proposed project will not impact the California red-legged frog. If construction must occur during the rainy season, then focused protocol surveys shall be conducted within and adjacent to the project area to determine whether this species is present. If red-legged frogs are found within the project limits, additional measures shall be developed in coordination with the USFWS to avoid impacts to this species during construction. These measures shall include the preparation and implementation of a Storm Water Pollution Prevention Plan (SWPPP) and Best Management Practices (BMPs).

Mitigation Measures for Impacts to Sensitive Habitats

F-14, Trash Disposal. The contractor shall ensure that trash and debris deposits adjacent to native habitats shall be disposed of daily during construction to reduce impacts to sensitive habitats, such as maritime chaparral and oak woodland. Project construction plans shall include this measure in the specifications.

F-15, Oak Tree Replacement. Mitigation for removal or damage of oak trees must be accomplished by replacing trees removed or damaged at a ratio in accordance with the County of San Luis Obispo standards. The County of San Luis Obispo recommends a 4:1 replacement of oak trees greater than 6 inches diameter at breast height (dbh) removed by development activities. Impacted or damaged trees shall be replaced at a 2:1 ratio. When work under driplines cannot be avoided, all limb trimming and root cutting shall follow good arborists' practices. An oak tree replacement plan shall be prepared

along with the Habitat Creation, Conservation and Enhancement Plan described below prior to project grading for review and approval of the County of San Luis Obispo, Department of Planning and Building with the intent of successfully reestablishing the removed or damaged oak trees. At a minimum, the plan shall (a) identify the number of oak trees to be removed and impacted, (b) specify the number and location of oak trees to be planted, (c) provide replanting in compatible areas near project facilities, and (d) identify all areas to be permanently set aside for oak replacement. Oak trees removed or damaged by project activities must be replaced by locally collected acorns or other propagules, preferably collected from within the area of the proposed construction. Final numbers of oak trees and corresponding diameters shall be assessed prior to the start of construction based on final design.

F-16, Habitat Creation, Conservation, and Enhancement Plan. A Habitat Creation, Conservation and Enhancement Plan shall be prepared to mitigate maritime chaparral and oak woodland habitats, as well as any riparian habitats associated with Nipomo Creek, impacted or removed during construction in accordance with agency and County requirements. This Habitat Creation, Conservation and Enhancement Plan shall be prepared and at least initially implemented prior to initiation of construction. The plan shall discuss not only the creation, conservation, or enhancement of habitat, but the re-creation, conservation, or enhancement of the original ecological function of habitats impacted by the project. To accomplish this, the plan shall include identification of areas where native habitats are to be restored, conserved, or enhanced or other means of ensuring no net loss of sensitive native habitats. In addition, this plan shall identify the potential occurrence of the sensitive plant species such as sand almond, sand mesa manzanita, and California spineflower to provide the opportunity to include the mitigation for project-related impacts to these sensitive botanical resources.

Three options have been identified to mitigate for impacts to oak woodland and maritime chaparral. These options include habitat creation, habitat conservation and habitat enhancement all of which may be used individually or in combination to fulfill the mitigation requirements for the impacts to both the sensitive habitat types and individual oak trees associated with this project. The following mitigation ratios shall be applied for the various options:

- Habitat creation shall be implemented at a 1:1 ratio. This option provides an opportunity to replace impacted chaparral and fulfill the County tree replacement standards by planting oak trees for habitat creation.
- Sensitive habitat conservation shall be implemented at a 1:1 ratio. In addition, enhancement of the area set aside for conservation with new plantings provides an opportunity to fulfill the County tree replacement standard, as long as other existing sensitive habitats are not displaced from planted trees at maturity.
- Habitat enhancement shall be implemented at a 2:1 ratio as this option includes sensitive habitats that are already been owned by the County and preserved that are not part of any other mitigation program. This option may provide an opportunity to fulfill the County tree replacement standards by planting oak trees where existing habitat is considered degraded or non-native.

Additional details, as described below, shall be incorporated into the plan where applicable to assist in the success of each of the mitigation options.

Habitat Creation

- Oak trees should be replaced using locally collected acorns or other propagules, preferably collected from within the area of the proposed construction.
- Sensitive plant species, including sand almond, sand mesa manzanita, and California spineflower shall be propagated from local seed stock, preferably from seed or propagules salvaged from within the proposed alignment.
- Sufficient topsoil shall be stockpiled for use in the revegetation areas.
- Grazing or other vegetation-disturbing activities shall not be permitted within areas proposed as mitigation.
- These areas would be set aside in perpetuity after creation.
- Monitoring by a qualified individual for no less than three years.

Habitat Conservation

- A conservation easement shall be selected to preserve a larger area of high-quality sensitive habitat that contains the same sensitive species, specifically the sand almond, sand mesa manzanita, and California spineflower, at similar population levels as will be impacted by the proposed project.
- The development rights of the property shall be relinquished to another entity that has its primary purpose the preservation, protection, or enhancement of land in its natural condition or use; the CDFG; or to another State or local government entity if otherwise authorized to acquire and hold title to real property.
- The easement should be created in such a way that further impact to sensitive species cause by edge effects are reduced and the ratio of surface area to the perimeter of conserved habitats is maximized. In this way, the area can provide suitable foraging and nesting habitat for native species.
- Once a suitable site for land acquisition is found, a biological assessment of the resources present on site shall be performed, and a report shall be generated that includes information on the baseline environmental data on the property.
- The County Department of Public Works will be responsible for keeping track of the land, resources, and monitoring efforts and provide this information to the Planning and Building Department (Environmental Division).

Habitat Enhancement

- Oak trees shall be replaced using locally collected acorns or other propagules, preferably collected from within the area of the proposed construction.
- As with habitat creation, the sensitive plant species including sand almond, sand mesa manzanita, and California spineflower shall be propagated from local seed stock, preferably from seed or propagules salvaged from within the proposed alignment.
- These areas would be monitored by a qualified individual for no less than 3 years and set aside in perpetuity after enhancement

F-17, Conditions of Approval to Address Impacts to Jurisdictional Waters. To reduce impacts to riparian habitats and associated drainages subject to Corps and/or CDFG jurisdiction, the following are required:

- A U.S. Army Corps of Engineers (Corps) authorization pursuant to Section 404 of the Clean Water Act is required for any discharge of dredge or fill material into jurisdictional areas of Nipomo Creek.
- A Section 1602 Streambed Alteration Agreement with the California Department of Fish and Game (CDFG) will be required in the event of any alteration of Nipomo Creek or the associated riparian vegetation.
- To obtain the Corps permit and CDFG streambed alteration agreement, a Habitat Mitigation and Monitoring plan shall be prepared by a qualified biologist for any impacts to areas subject to state or federal jurisdiction. There are no predetermined ratios for habitat replacement. The nature and extent of habitat replacement is determined on a regular case by case basis. Generally, habitat replacement ratios exceed 1 to 1 in order to compensate for the gradual nature of revegetation and off-site habitat replacement. As the vegetation within the Nipomo Creek crossing is degraded, this plan may include additional restoration either upstream or downstream of Nipomo Creek. If this type of restoration is not possible within the adjacent reaches of Nipomo Creek, the County shall contribute to a restoration program of the Nipomo Watershed at the replacement ratio established by the permit. Restoration within the watershed will result in the replacement of jurisdictional habitat lost by the proposed project. The mitigation plan must be submitted to the agencies for their approval, along with the permit applications.

F-18, SWPPP and BMPs. Construction activities within or adjacent to drainages and Nipomo Creek (including roadside ditches that discharge to Nipomo Creek) should occur outside the rainy season (October–May) to ensure that construction activities do not cause sedimentation of the creek. If construction must occur during the rainy season, then the SWPPP shall be prepared and construction site BMPs shall be installed before any construction begins to include measures to keep sediment out of Nipomo creek during storm events (for example, excavation spoils being stored and trapped outside the creek, and siltation basins installed down-gradient). In addition, the SWPPP and BMPs will identify measures to restrict dust.

F-19, Construction Equipment Staging. No fueling, lubrication, storage, or maintenance of construction equipment within 46 meters (150 feet) of CDFG or Corps jurisdictional areas shall be permitted, which includes riparian and sensitive habitats. Spoil sites shall not be located within CDFG and Corps jurisdictional areas, including riparian and sensitive habitats, or in areas where it could be washed into Nipomo Creek.

Mitigation Measures for Impacts to Wildlife Movement

F-20, Creek Crossing Lighting. The use of lights on the proposed creek crossing shall be minimized to reduce impacts on wildlife movement under the crossing. No artificial lighting shall be installed or used in or around the bridge/culvert unless otherwise required to meet Caltrans approval. If lights are required for the crossing, a biologist shall be retained to assist in the creation of a lighting plan design. Low-light features shall be used where feasible, including: (1) low-intensity street lamps, (2) lower

elevation street poles, or (3) shielding by internal silvering of globes or external opaque reflectors. This measure shall be included on the construction specifications.

F-21, New Bridge. Prior to project design plan approval, the County of San Luis Obispo Public Works Department shall ensure that the design of the new bridge over Nipomo Creek shall include solid concrete railing, which decreases noise from traffic. In addition, the proposed Nipomo Creek crossing shall have an earthen bottom and the vegetation within the channel will be replanted with native species after construction is completed.

Mitigation Measures to Address Indirect Impacts

In addition to measures considered during the design phase of the project, such as engineering the road to the minimum dimensions possible and selecting the project location along or immediately adjacent to existing roadways to avoid and reduce potential habitat fragmentation and foraging impacts, indirect impacts to sensitive and undisturbed habitats can be mitigated to a level less than significant by establishing and maintaining environmental protection rules for project personnel including the following:

F-22, Dust Control Program. The County and construction contractor shall ensure that a dust control program is in place during construction so that native trees and shrubs are not damaged due to dust covering the leaves. A maximum speed limit of 15 miles per hour will be posted on all construction routes. Watering trucks shall be used regularly with sufficient frequency to eliminate visible dust behind construction vehicles.

F-23, Speed Limits. The construction contractor shall ensure that all construction personnel obey speed limit rules both along public roads and designated project access. Driving off designated project routes shall not be permitted. This measure shall be included in the construction plan specifications.

F-24, Pollution Prevention. The County and construction contractor shall ensure that pollution prevention practices shall be employed to prevent contamination of native habitats by construction-related materials. All project-related trash shall be collected and properly disposed of at the end of each work day. This measure shall be included in the construction plan specifications.

F-25, Best Management Practices. The County and construction contractor shall ensure that Best Management Practices (BMPs) are employed to minimize erosion from the construction of project facilities and deposition of soil or sediment in off-site areas, especially in the vicinity of the riparian/wetlands areas associated with Nipomo Creek, east of US 101. This measure shall be included in the construction plan specifications. Specific water quality BMPs are specified in Section V.L. of this EIR.

Mitigation Measure to Address Cumulative Impacts

Implementation of the mitigation measures contained herein will mitigate the proposed project's cumulative impacts to less than significant. Therefore, no additional measures are required.

6. Residual Impacts

The proposed project would directly impact 28.8 acres of oak woodland habitat, including various subtypes and mixtures of oak habitats. Included in the impacted oak woodland are 938 oak trees, 810 of which are greater than six inches dbh, and 15 of which were estimated to exist on the 750 Willow Road property. Preparation of an Oak Tree Replacement Plan is prescribed in Mitigation Measure F-15 and Oak Woodland Habitat Creation, Conservation and Enhancement is prescribed in Mitigation Measure F-16. Project impacts to oak woodland and oak trees are nevertheless considered significant adverse impacts until the replacement trees and restored/enhanced habitat is considered viable.