

E. BIOLOGICAL RESOURCES ASSESSMENT AND WETLANDS EVALUATION

BIOLOGICAL RESOURCES ASSESSMENT

PROPOSED WILLOW ROAD EXTENSION/U.S. 101 INTERCHANGE

SAN LUIS OBISPO COUNTY, CALIFORNIA

Submitted to:

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LSA Project No. RAJ334

LSA

July 2005

TABLE OF CONTENTS

INTRODUCTION	1
ASSESSMENT METHODS	1
EXISTING ENVIRONMENTAL SETTING.....	6
OVERVIEW OF STUDY AREA RESOURCES	6
PLANT COMMUNITIES AND HABITAT TYPES.....	6
WILDLIFE	12
WILDLIFE MOVEMENT AND HABITAT FRAGMENTATION.....	13
SENSITIVE BIOLOGICAL RESOURCES	14
REGULATORY SETTING	22
SIGNIFICANCE CRITERIA	26
PROJECT-RELATED IMPACTS.....	27
GENERAL IMPACTS TO BIOLOGICAL RESOURCES	27
MITIGATION MEASURES.....	37
REFERENCES	45

APPENDICES

- A: Summary of Sensitive Species
- B: Sensitive Species List from USFWS
- C: Vascular Plant Species Observed
- D: Animal Species Observed
- E: List of Cumulative Projects

FIGURES AND TABLES

FIGURES

Figure 1: Project Location	2
Figure 2: Vegetation Communities Map	7
Figure 3: Sensitive Plant Species Location.....	15
Figure 4: Jurisdictional Area Map	23
Figure 5: Botanical Survey Limits.....	31
Figure 6: Oak Tree Locations	33
Figure 7: Location of Projects on Nipomo Mesa for Cumulative Impacts Study Area	36

TABLES

Table A: California Native Plant Society Sensitive Plant Species Designations.....	3
Table B: Existing Vegetation Communities within the Project Boundary	8
Table C: Nonnative Species (List A) within Project Boundaries	25
Table D: Maritime Chaparral Habitats within the Project Boundary	30
Table E: Coast Live Oak Tree Summary within Project Boundary.....	32
Table F: Oak Woodland Habitats within the Project Boundary	32

INTRODUCTION

This biological report has been prepared to assess the potential impacts to biological resources within the study area of the proposed extension of Willow Road and interchange of Willow Road/U.S. Route 101 (US 101) in the community of Nipomo, California. This report includes general information regarding the studies performed within the approximately 40 hectare (100 acre) study area, their findings, and analysis of project impacts and recommended mitigation measures. The assessment is based on general and focused surveys of the study area.

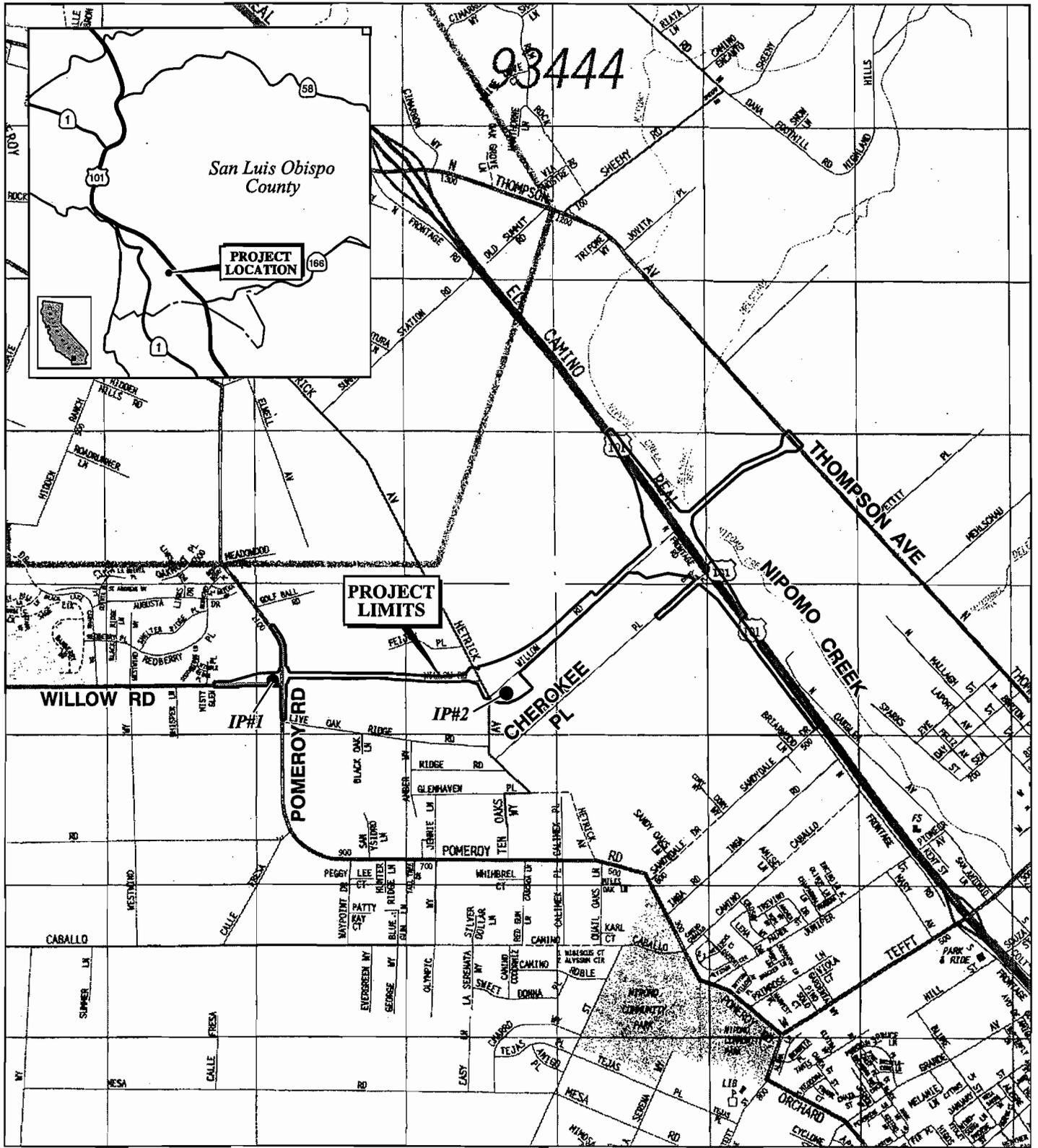
The County of San Luis Obispo (County) proposes to construct the extension of Willow Road and connect it with U.S. Route 101 (US 101) in the community of Nipomo, south San Luis Obispo County. The proposed project includes the extension of Willow Road east from its existing terminus approximately 1000 feet west of Pomeroy Road to Thompson Avenue, construction of a frontage road between Willow Road and Sandydale Drive, and construction of a new US 101/Willow Road interchange between postmile (PM) 5.75 and PM 6.0. The County is the Lead Agency for environmental analysis under the California Environmental Quality Act (CEQA). The proposed project's regional location and project vicinity are shown in Figure 1. The description of the existing condition (No Project/No Build Alternative) and the conceptual improvement plans for the proposed project are provided in Appendix A.

Funding sources for the extension of Willow Road and the frontage road include local development fees and other local monies. Funding sources for the construction of the interchange include local development fees, other local monies, and State Transportation Improvement Program (STIP) funds. The proposed extension of Willow Road and the interchange are identified in the San Luis Obispo Council of Government's (SLOCOG) Regional Transportation Plan (RTP) as a major proposed short-term project and in the Circulation Element of the County General Plan and the 1994/1995 South County Circulation Study.¹ The Willow Road interchange is listed in SLOCOG's Regional Transportation Improvement Program (RTIP) (Project ID No. 4745).

ASSESSMENT METHODS

Surveys were conducted by LSA Associates, Inc. (LSA) to generally characterize the biological resources of the site and to ascertain the presence or absence of sensitive plants and animals, or the likelihood of their occurring in the study area. The purpose of the surveys was to evaluate the site based on the existing conditions with particular focus on the native vegetation and sensitive species within the study area.

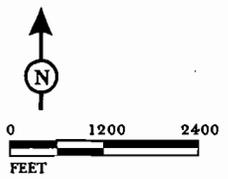
¹ Willow Road Extension Draft EIR, pg. V-24, March 1999.



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LEGEND
 IP#1 ● - Infiltration Pond

FIGURE 1



Willow Road Extension/U.S. 101 Interchange
 Project Location

SOURCE: THE THOMAS GUIDE

Literature Review

Prior to surveys, a literature review and records search were conducted to identify the existence or potential occurrence of sensitive, or special interest, biological resources (e.g., plant and animal species) in or within the vicinity of the study area. Current database records reviewed by LSA included the following:

- California Natural Diversity Data Base information (i.e., RareFind 2; CNDDDB 2003), which is administered by the California Department of Fish and Game (CDFG). This database covers lists of sensitive animal and plant species, as well as sensitive natural communities that occur within California.
- California Native Plant Society’s Electronic Inventory of Rare and Endangered Vascular Plants of California (CNPSEI 2000), which identifies four specific designations, or “Lists,” of sensitive plant species and summarizes regulations that provide for the conservation of sensitive plants (see Table A below). The following quote is excerpted from the CNPS Inventory section that deals with the California Environmental Quality Act (CEQA) and sensitive plant conservation: “The DFG recognizes that Lists 1A, 1B, and 2 of the CNPS Inventory consist of plants that, in a majority of cases, would qualify for listing [pursuant to CEQA Guidelines Section 15380], and the CDFG recommends they be addressed in Environmental Impact Reports (EIRs).”

Table A: California Native Plant Society Sensitive Plant Species Designations

List	Classification
1A	Presumed Extinct in California
1B	Rare or Endangered in California and Elsewhere
2	Rare or Endangered in California, More Common Elsewhere
3	Need More Information
4	Plants of Limited Distribution

LSA conducted searches in each of these databases for sensitive species expected to occur within the vicinity of the study area. Sensitive species known by LSA to occur in the general area were also considered. The sensitive plant and animal species that could potentially occur within the study area and that were surveyed for are listed in Appendix A. A list of federally listed plants and animals that potentially occur within the project area was received from the USFWS on January 6, 2004 (Appendix B).

The Final Environmental Impact Report (FEIR) for the Willow Road Extension Project (County of San Luis Obispo 1999), along with other documents previously completed for the proposed project and several project alternatives, were also reviewed by LSA.

Surveys

Surveys for sensitive plants on the property were conducted on April 8, April 9, June 2, June 3, and June 4, 2003, and April 13, 2004, by LSA biologists Micaele Maddison and Jim Harrison. In addition,

a survey for sensitive plants was conducted on June 17, 2004, by LSA biologists Micaele Maddison and Sara Cohn. A plant species list was compiled and vegetation communities were identified. Vegetation communities were determined and delineated on an orthographically corrected 1 inch: 200 ft aerial photograph. Both the original EIR and Holland (1986) were used as references to classify habitat communities within the study area. Plant nomenclature follows that of *The Jepson Manual, Higher Plants of California* (Hickman 1993).

A wildlife survey was completed by LSA wildlife biologist Eric Lichtwardt on June 17, 2003. During this survey an animal species list was compiled. Taxonomy and nomenclature follow Laudenslayer et al. (1991. A checklist of the amphibians, reptiles, birds, and mammals of California. California Fish and Game 77:109–141); and the American Ornithologists' Union (1998. The A.O.U. Checklist of North American Birds, 7th ed. American Ornithologists' Union, Washington, D.C.).

The literature review showed that the project site is within the range of the California red-legged frog (*Rana aurora draytonii*). Therefore, a habitat suitability assessment for the California red-legged frog was conducted by LSA biologist Eric Lichtwardt (LSA 2003b). The site assessment focused on the proposed bridge crossing of Nipomo Creek, but the entire site and a one-mile radius from the project boundary was surveyed for the presence of potential California red-legged frog habitat using an aerial photograph; potential habitat was then verified in the field. The wildlife biologist mapped the known localities of California red-legged frog within five miles (8 kilometers) of the project boundaries, and described the upland and aquatic habitats within 1 mile (1.6 kilometers) of the project boundaries to determine the likelihood that California red-legged frog may occur on the project site.

An oak tree survey was completed by LSA biologists Micaele Maddison and Elizabeth Scheinbach on September 2, 3, 4, 5, 6, 15, 16, and 17, 2003. The location of oak trees within the study area, as well as trees outside the boundary with branches overhanging the boundary, were mapped. In addition, data pertaining to the individual trees, including overall health, diameter at breast height (dbh) and approximate height were collected. The locations of oak trees were mapped using a combination of topographic base map (scale: 1 in: 100 feet) covering the study area and a submeter accuracy Trimble Global Positioning System (GPS) unit. However, property access was denied at 750 Willow Road. Therefore, although some of the surveys were completed within this parcel prior to access denial, not all surveys covered this parcel, including the oak tree survey and spring botanical surveys.

During the course of the surveys described above, LSA assessed the biological condition of the study area, including vegetation, wildlife, and suitability of habitat for the presence of various sensitive species. All plant and animal species observed or otherwise detected on site were noted. A list of the vascular plant species observed and a list of animal species observed are attached as Appendices C and D, respectively.

Wetland Delineation

A wetland jurisdictional delineation on the entire study area was conducted by LSA biologists Elizabeth Scheinbach and Micaele Maddison on two separate site visits: September 2 and September 17, 2003. The study area was surveyed on foot for both federal and State jurisdictional areas. Areas of potential jurisdiction were evaluated according to U.S. Army Corps of Engineers (Corps) and CDFG criteria. The boundaries of the potential jurisdictional areas were observed in the field and mapped on topographic base maps (scale: 1 in: 100 feet) covering the study area. In addition, the boundaries of

the riparian habitats and the area of potential jurisdiction within Nipomo Creek was recorded using a submeter accuracy Trimble GPS unit (LSA 2003a). Additional observations on the presence of water in Nipomo Creek were made during all surveys throughout the year. Subsequently, a jurisdictional delineation report was prepared, and the results of this report are summarized in this Biological Resources Assessment.

EXISTING ENVIRONMENTAL SETTING

OVERVIEW OF STUDY AREA RESOURCES

The study area, which is on the Nipomo Mesa, is mainly used for agricultural purposes, such as grazing, nursery activities, and crop cultivation with some areas that are developed with paved or dirt roads. 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 also evident within the study area.

PLANT COMMUNITIES AND HABITAT TYPES

The vegetation on the property is a mosaic of several typical habitat types. Eighteen plant communities, or variations, were identified within the study 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 are illustrated on the vegetation communities map (Figure 2). Table B provides the acreage of the site occupied by the various vegetation communities. A list of plant species observed, along with their scientific names, during the surveys is presented in Appendix C.

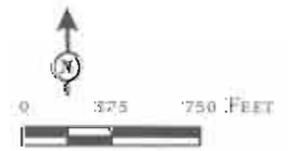
To remain consistent with the original EIR, LSA biologists classified the plant communities with reference to the original environmental documentation for the Willow Road FEIR. Specific criteria within this document were used to distinguish among habitat types and to refine habitat types within the current study area. In addition, Holland (1986) was used as a reference for description of habitat communities within the project area. These systems were used as guidelines and were modified as necessary to characterize the range of vegetation types and disturbances in the study area. The plant community map (Figure 2) reflects the predominance of the various habitat types in any particular polygon.

The total study area, which is approximately 40 hectares (100 acres), supports 11 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 2). Mixed habitats types are a combination of two different habitat types, whereas ecotones are transitional habitat types. The dominant basic habitats within the study area are developed areas (such as roads) and oak woodland. 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.



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FIGURE 2



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	Rudera		

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

Table B: Existing Vegetation Communities within the Project Boundary

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		2.25 (5.57)
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		2.51 (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 riggut 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 will 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 either side 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.

Ruderal Herbaceous (2.25 Hectares [5.57 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 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 would flow into Nipomo Creek.

Willow Riparian (0.02 Hectare [0.05 Acre]). The willow riparian habitat within the study 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 (2.51 Hectares [6.20 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 is provided in Appendix D.

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*), and Western toad (*Bufo boreas*).

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*).

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 (*Psaltriparus 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. In fact, during the oak tree survey, when all oaks were measured and closely inspected, the incidence of large tree cavities was rare within the project boundaries. In addition, neither guano nor urine stains, which are signs of bat presence, were observed on the oak trees. Although bats may use bridges or undercrossings for roosting, such as the earthen cattle undercrossing beneath the U.S. 101, no bats or their sign were observed at this location during the survey. Some of the days the oak tree survey was conducted extended well into dusk. Bats, when present, are typically foraging at that time. The biologists who conducted the oak tree survey did not observe bats at that time. Although adjacent parcels may have water services, there are not many ponding areas where bats could obtain water within the project boundaries.

WILDLIFE MOVEMENT AND HABITAT FRAGMENTATION

Large areas of habitat or narrower linkages of habitat between expanses of open space provide movement corridors for wildlife. The spatial relationship of food, water, and cover is generally of greatest importance, with movement patterns in temperate areas of California following a daily (rather than seasonal) cycle. Movement serves to facilitate the geographic distribution of genetic material, thus maintaining a level of variability in the gene pool of an animal population. Influxes of animals from nearby larger populations contribute to the genetic diversity of a local population, helping ensure the population's ability to adapt to changing environmental conditions. Movement may occur in small groups, but most often is executed individually. Many plant species that depend on relatively sedentary insects for pollination also benefit from habitat linkages that allow for genetic exchange and dispersal. Reduced insect movement due to habitat fragmentation results in reduced genetic vigor in those plants.

Although The Land Conservancy of San Luis Obispo County has several holdings on the Nipomo Mesa, none of these holdings are immediately adjacent to the proposed project. 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 criss-crossed with a network of roads and fences, along with large areas of little or no vegetation for cover that constitute hindrances to wildlife movement. Nipomo Creek and the associated riparian vegetation may be used

as a corridor for some wildlife movement. Wildlife dependency upon these riparian/wetland habitats for migration increases as an area urbanizes, as is the case with the areas surrounding Nipomo Creek.

SENSITIVE BIOLOGICAL RESOURCES

Sensitive Species

Legal protection of sensitive species varies widely, from the relatively comprehensive protection afforded to species listed as endangered and/or threatened to no legal status at present. The CDFG, U.S. Fish and Wildlife Service (USFWS), local agencies, and various special interest groups (e.g., California Native Plant Society ([CNPS]) publish watchlists of declining species. These lists often describe the general nature and perceived severity of the species' decline. In addition, recently published findings and preliminary results of ongoing research provide a basis for consideration of species that are candidates for State and/or federal listing. Finally, species that are clearly not rare or threatened either statewide or regionally, but whose local populations are sparse, rapidly dwindling, or otherwise unstable, may be "of local interest."

For purposes of this discussion, the term "sensitive species" refers to those plants and animals occurring, or potentially occurring, on the property 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 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 (CNDDB); or (4) property contains appropriate habitat and is within the known range of a given species. A variety of sources was used to establish the list of sensitive species potentially affected by the project. A foundation for the list of sensitive species within the study area is established by reviewing the CNDDB and CNPS databases. However, these databases are constantly being modified and are not considered a complete list of identified species within a particular area. Therefore, to augment these lists, LSA utilizes local experts with knowledge of the study area, reconnaissance surveys, and agency biologists to enhance the information supplied by the databases.

Several sensitive plant and animal species were identified in the initial literature search that were subsequently excluded from further consideration because the property either lacks suitable conditions to support these species or the site is located well beyond their normal range.

For this section, sensitive species are broken down into 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 summarizes the status of those sensitive species known to occur or potentially occurring on the property. Figure 3 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



LSA



LEGEND

Project Boundary

2003 Spring Botanical Survey

California spineflower (approx. 40,825)

Sand mesa manzanita (24)

Mile's milk vetch (2)

Sand almond (33)

FIGURE 3

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

SOURCE: County of San Luis Obispo
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literature review as potentially occurring on site or in the study area were Pismo clarkia (*Clarkia speciosa* ssp. *immaculata*), 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 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). The USFWS Recovery Plan for the Pismo clarkia indicates that the population on the south side of Willow Road has approximately 15 individuals on private land. The population on the north side of Willow Road, which was also on private land, was scraped during the Black Lake golf course development and the soil and seed were moved as mitigation. Although a large population of four spot Clarkia (*Clarkia purpurea* var. *quadrivulnera*) was identified during spring surveys at this location, Pismo clarkia was not observed within the project area at the time of the spring surveys that were conducted for the 1999 FEIR in 2003 or in 2004. It has been documented that these plants do not necessarily appear in the same locations in consecutive years, which suggests that a seedbank may exist in the soils of potential habitats (USFWS 1998). Since the 2003 springtime botanical surveys were completed, the project area has been revised slightly and portions of the revised project area are outside of the boundary that was used for spring surveys. Although subsequent surveys on site were conducted in 2003 within the revised project boundary (such as the jurisdictional delineation and the oak tree survey), these surveys were conducted outside the blooming period for this annual species. 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. However, at the intersection of Willow and Pomeroy Roads the genus clarkia is known to occur, and a small area on the northwest corner of this intersection had not been surveyed in 2003. In addition, this area had been mowed prior to the April 2004 survey. Therefore, LSA visited this intersection after looking at the reference site to determine the condition of the clarkia in this area and found that this area had been recently cleared and graded for the construction of the proposed Vellaggio housing development. The status of the botanical surveys and environmental permitting for the housing development is not known at this time. In addition, access to the parcel on the northwest corner of Hetrick Avenue and Willow Road was denied by the property owner and there is potential habitat for this species within this parcel. The understory vegetation within this parcel has been subject to clearing and maintenance activities. Such activities increase the ability of this species to germinate and grow in subsequent seasons if a seed bank is present. Therefore, the presence of Pismo clarkia within the entire current project boundary cannot be definitively ruled out.

Marsh sandwort, federally and state listed as an endangered species, and Gambel's watercress, federally listed as endangered and state listed as threatened, are found in freshwater marshes and swamps. One area of freshwater marsh is adjacent to Nipomo Creek within the project area. Although this area has been used for livestock grazing, the vegetation had not been grazed at the time of the botanical surveys. In addition, the project boundary at this location was not revised after spring botanical surveys. Therefore, these species are unlikely to occur on site as they were not observed within the freshwater marsh habitat during springtime surveys.

La Graciosa thistle, federally listed as endangered and state listed as threatened, is found in riparian scrub habitat along riverbanks. This species is not expected to occur on site as no riparian scrub habitat was located within the project boundaries and it was not observed during springtime surveys.

Nipomo Mesa lupine is found on the Nipomo mesa in coastal dunes or just inland from the coastal dunes. This species is not expected to occur within the project area as it is located outside the coastal zone. In addition, this species was not observed during spring botanical surveys.

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*). No additional sensitive plant species were observed in the 2004 survey area. Sand mesa manzanita and Mile's milk vetch are species that are listed by the CNPS on their List 1B, i.e., plants considered rare and endangered in California and elsewhere. California spineflower and sand almond are species listed by CNPS on List 4, i.e., plants of limited distribution. Two general locations of sand mesa manzanita were observed within the study area during botanical surveys (Figure 3). One was north of the proposed Willow Road alignment, west of Hetrick Avenue; the other was on either side of the US 101. One population of Mile's milk vetch was found in the field south of Cherokee place, west of US 101, within the proposed frontage road alignment. Three general locations of California spineflower were observed within the project area during 2003 botanical surveys. One was within the northwest corner of the Willow and Pomeroy Road intersection, one was adjacent to the westernmost sand mesa manzanita occurrence, and several populations were observed within the agricultural field south of Cherokee Place, west of the US 101, along the proposed frontage road alignment. One general location of sand almond was observed within the study area. These were scattered occurrences along Cherokee Place and in the southwestern corner of the proposed Willow Road alignment and the US 101 (Figure 3).

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. Mile's milk vetch was not documented during on-site surveys for the FEIR. sand mesa manzanita was documented as occurring within all maritime chaparral habitats within the project right of way. California spineflower was documented within the agricultural field west of the US 101 and south of Cherokee Place. Sand almond was documented in the maritime chaparral habitat along the western frontage road alignment south of Cherokee place.

Sensitive Wildlife Species

Listed Species. On May 13, 1996, the California red-legged frog was listed as a threatened species by the USFWS (USFWS 2002). No California red-legged frogs were observed on site, or within the adjacent areas, during the on-site assessments. A habitat suitability assessment conducted by LSA biologist Eric Lichtwardt determined that suitable habitat (pools, surface water) for the California red-legged frog within one mile of the project site appears to be limited. However, there is no suitable habitat to support breeding populations of this species on or immediately adjacent to the site. In addition, the CNDDDB does not currently report any observations of this species in Nipomo Creek.

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. Immediately downstream of the project site, there is extensive

willow riparian habitat. However, in areas where the streambed downstream was accessible, there was little surface water present with the exception of two small pools. While not likely, during periods of wet weather, 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 USPWS. 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. According to Moyle (2002), the local steelhead in this area is the south/central coast steelhead, which is a subset of *Oncorhynchus mykiss irideus*. Although NOAA Fisheries believes that historic observations have been made of steelhead in Nipomo Creek, the current potential for steelhead occurrence within the project boundary or the adjacent reaches is very limited. In addition, these historic occurrences of steelhead in Nipomo Creek have not been documented (Swift, et al. 1993). 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 this degraded condition of the downstream habitat would discourage the migration of salmonids upstream (Shopolov 1944). Furthermore, the "Arizona" crossing of Nipomo Creek upstream of the Santa Maria River confluence, along with various culverts downstream of the project crossing are considered barriers to fish migration. Arizona crossings are a type of stream crossing where the road bed is constructed in the channel so that the water flows over the paved surface. Culverts are a type of stream crossing where the road bed is constructed over the channel so that the water flows through a pipe. Both types of crossings can hinder migration of fish due to excessive water velocities in high flows, inadequate water depth during low flows, or excessive elevation drops at the outlet. No water was observed within the Nipomo Creek channel during the biological surveys completed during the 2003 year, and the sandy substrate within the channel is not suitable for steelhead, which prefer gravel-sized material for spawning. Fry and juvenile steelhead prefer a cobble/rubble substrate (CDFG 1996). In addition, 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. In addition, 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 were 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*) is a State Species of Special Concern. This species primarily occurs in grassland habitats, but may be found in valley-foothill hardwood woodlands. Vernal pools are essential for breeding and egg-laying. No vernal pools were observed within or adjacent to the project boundaries. Therefore, this species is not expected to occur within or adjacent to the study area.

The southwestern pond turtle (*Clemmys marmorata pallida*), a State Species of Special Concern, inhabits permanent or nearly permanent bodies of water in many habitat types. In addition, they require basking sites such as partially submerged logs, vegetation mats or open mud banks. No potential habitat exists for this species within the study area.

The following additional sensitive animal species, which are discussed in more detail in Appendix A, have a moderate or high potential to occur on site or as more than occasional migrants:

- California legless lizard
- 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. LSA biologists identified four primary plant communities considered sensitive by State and/or local agencies; these communities occur with varied abundance on site. In addition, wetlands and waters of the United States are considered significant by both federal and State agencies. Each sensitive habitat identified in the project boundary is described in more detail below.

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 successional to oak woodlands, as tree seedlings are found beneath shrub canopies.

Oak Woodland. This habitat type 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. Animals are affected by these differences in terms of food supply, nesting sites, and predator cover, and respond accordingly to their own ecological requirement (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). Most of California's oaks are found on private property and are located in suburban and semirural areas subject to development. In many areas of the 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. Prior to awarding a grant for an oak conservation easement, restoration, or enhancement project, or any public education or outreach project, Section 1366 of the Act requires that a City or County shall prepare an Oak Woodlands Management Plan (Wildlife Conservation Board 2004) that is more protective than the applicable provisions of law in existence on the date of the proposal (Wildlife Conservation Board 2004). 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. This plan is intended to be used by the diverse group of landowners and organizations interested in oak woodland conservation in San Luis Obispo County. However, 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 an "ecologically sensitive oak woodland," as it contains single-layered canopy; riparian zone; burrows; and some downed woody debris. The greater the number of the habitat components present in the definition, the greater the oak woodland ecological sensitivity. 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. Livestock grazing typically occurs within this habitat within the project area. Most herbs in this habitat are also found in "grassland" areas throughout the project site. However, in such places they may be, to a considerable extent, relics from a time before trees had been cleared away (Hoover 1970).

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 are riparian habitat obligates and large mammals that require access to water use the band of riparian habitat as a wildlife corridor. Most stands of willow riparian habitat are even aged, reflecting their flood mediated, episodic reproduction (Southern California Botanists 1989). 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. According to the findings by LSA, the total area of jurisdictional waters of the United States within the study area is approximately 0.08 hectare (0.19 acres), of which 0.01 hectare (0.03 acre) is the Nipomo Creek drainage (Figure 4). 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 4). There were several earthen ditches adjacent to Willow Road and US 101 that convey runoff from the adjacent roads. One earthen ditch approximately 30 feet in length is located on the northwest corner of the Willow and Pomeroy Road intersection. This ditch is parallel with Willow Road and conveys runoff from the road to a small detention area adjacent to the intersection. Two culverts both convey runoff from US 101 to the fields east of US 101. These culverts drain into earthen ditches, which eventually disappear as the topography levels out. These ditches are excavated on dry land and do not have connectivity to traditional navigable waters of the United States nor do they support wildlife habitat. Therefore, they would not likely be considered jurisdictional by either the Corps or the CDFG.

Nipomo Creek and the associated riparian vegetation functions primarily to increase the diversity of habitat on the property, and may retain seasonal moisture to provide breeding habitat for common amphibians.

REGULATORY SETTING

Federal Endangered Species Act

Endangered and threatened wildlife species, as well as designated critical habitat, are protected from unauthorized “take,” pursuant to Section 9 of the Endangered Species Act (the Act). “Take” as defined by the Act means to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or attempt to engage in any such conduct. The term “harm” has been broadly interpreted to include destruction of occupied habitat, such as may occur in the course of clearing and grading land for development.

Endangered and Threatened plant species are protected from harm under Section 9 of the Act (CNPS 2001).

- The removal and reduction into possession of endangered plants from lands under Federal jurisdiction.
- The removal, cutting, digging, damage, or destruction of endangered plants on any other area in knowing violation of state law or regulation.

The USFWS may authorize take only when that take is incidental to, but not the purpose of, an otherwise lawful activity. The three means of authorizing such takes are as follows:

- 10a Permit: Pursuant to Section 10(a) of the Act, if a Habitat Conservation Plan (HCP) has been prepared pursuant to the regulations at 50 CFR 17.22 (b)(2) and 50 CFR 17.32 (b)(2) and is approved by USFWS. This process requires documentation per the National Environmental Policy Act (NEPA), as well as public noticing of the HCP by the USFWS.
- Formal Section 7 Consultation: between the USFWS and a federal project sponsor or permitting agency. In this case, the U.S. Army Corps of Engineers may be a permitting agency. Formal Section 7 consultation occurs when a project “may affect” a listed species or designated critical habitat. Incidental take can be authorized via a statement in the Biological Opinion that results from formal Section 7 consultation. There are no specific requirements for public noticing of the Corps action or the Section 7 consultation, if the Corps authorization is done under the nationwide permit process that applies to projects with minimal impacts to jurisdictional waters.
- Section 4(d) Special Rules: for threatened Species only.

California Endangered Species Act

Under the California Endangered Species Act (CESA), no person shall “import into this state, export out of this state, or take, possess, purchase, or sell within this state, any species, or any part or product thereof, that the commission determines to be an endangered species or a threatened species, or attempt any of those acts.” Through permits or memorandums of understanding the CDFG may authorize the import, export, take or possession of any endangered species, threatened species, or candidate species for scientific, educational or management purposes, if all of the following conditions are met:

1. The take is incidental to an otherwise lawful activity.

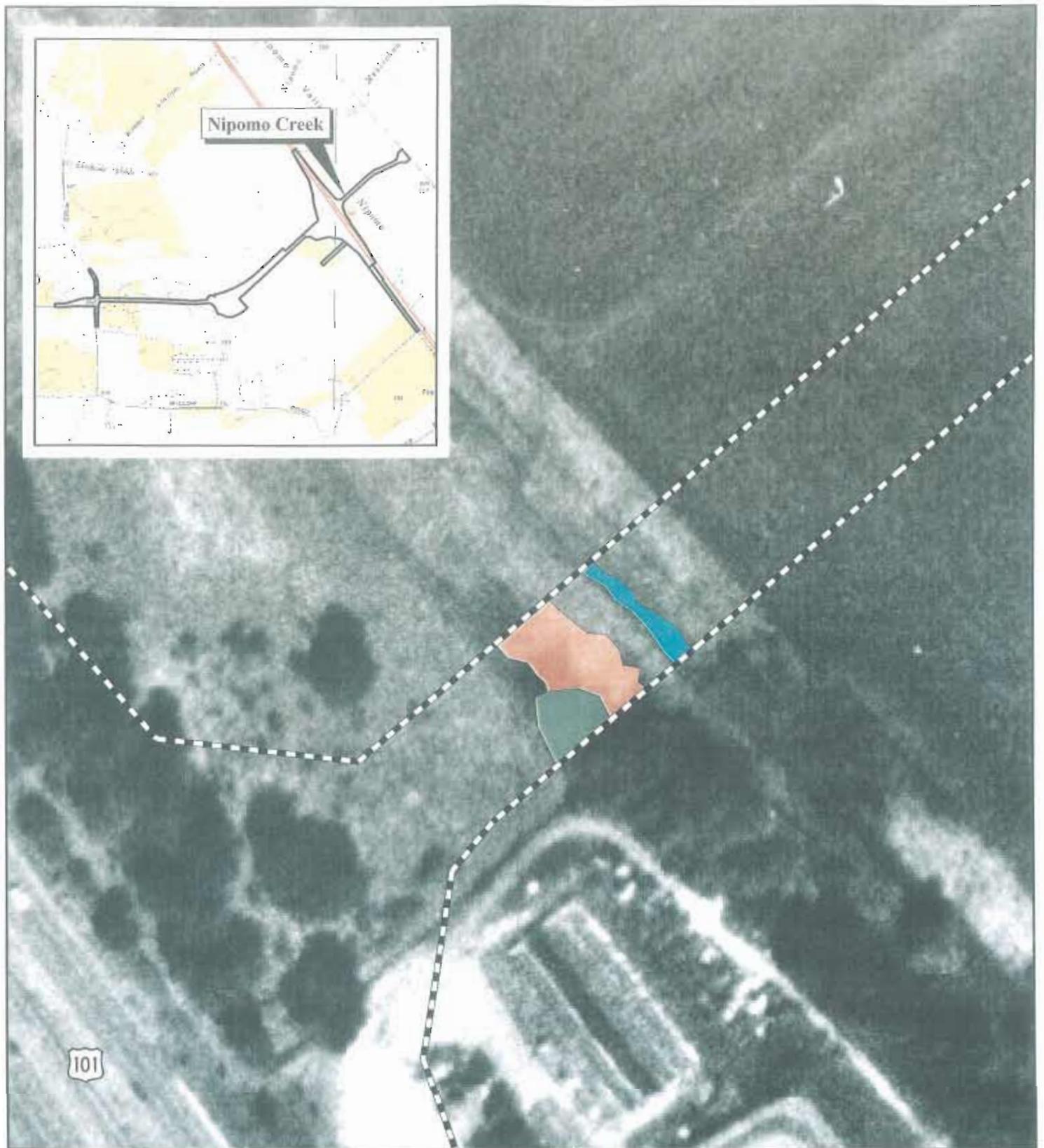


FIGURE 4

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 Project
Jurisdictional Area Map*



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

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2. The impacts of the authorized take shall be minimized and fully mitigated. The measures required to meet this obligation shall be roughly proportional in extent to the impact of the authorized taking of the species.
3. Where various measures are available to meet this obligation, the measures required shall maintain the applicant's objectives to the greatest extent possible. All required measures shall be capable of successful implementation. For purposes of this section only, impacts of taking include all impacts on the species that result from any act that would cause the proposed taking.
4. The permit is consistent with any regulations adopted pursuant to Sections 2112 and 2114 of the Fish and Game Code which refer to specifics of strategies for recovery of endangered or threatened species.
5. The applicant shall ensure adequate funding to implement the measures required by paragraph (2) and for monitoring compliance with, and effectiveness of, those measures.

However, the CDFG may determine, based on the best scientific evidence and other information that is reasonably available, that the permit may be not be issued if issuance of the permit would jeopardize the continued existence of the species.

Wetlands/Streambeds

Jurisdictional Waters of the United States. The U.S. Army Corps of Engineers regulates discharges of dredged or fill material into "Waters of the United States." These waters include wetlands and nonwetland bodies of water that meet specific criteria. Corps regulatory jurisdiction pursuant to Section 404 of the Clean Water Act is founded on a connection or nexus between the water body in question and interstate commerce. This connection may be direct, through a tributary system linking a stream channel with traditional navigable waters used in interstate or foreign commerce, or may be indirect, through a nexus identified in the Corps regulations.

The discharge of fill material into waters of the United States requires a Section 404 authorization issued by the Corps. This authorization typically requires an application or notification that addresses specific information requirements. These typically include a project description, a delineation of the affected waters, and a mitigation proposal. Certain discharges can be authorized under an existing nationwide permit (NWP), such as NWP 14, which authorizes certain linear transportation projects, provided all of the specific and general NWP conditions are met. The maximum acreage of fill under this NWP is 0.5 acre. If a project is not eligible for authorization under an existing nationwide or general permit, an individual permit (IP) is required.

Regardless of whether a project is authorized by the NWP or IP process, it must comply with several other federal regulations, most notably the Endangered Species Act, the National Historic Preservation Act (for protection of cultural resources), and Section 401 of the Clean Water Act, which is administered by the State Water Resources Control Board, through the Regional Water Quality Control Boards.

California Department of Fish and Game. The CDFG, through Section 1602 of the California Fish and Game Code provisions of the State of California Administrative Code, is empowered to issue agreements for any alteration of a river, stream, or lake where fish or wildlife resources may be affected adversely. Streams (and rivers) are defined by the presence of a channel bed and banks and at least an intermittent flow of water. CDFG regulates wetland areas only to the extent that those wetlands are part of a river, stream, or lake as defined by CDFG. A public project that impacts any of the jurisdictional drainages on the property will require a Streambed Alteration Agreement from CDFG under Section 1602 of the Fish and Game Code.

Nesting Birds

The federal Migratory Bird Treaty Act regulations and portions of the California Fish and Game Code prohibit the “take” of all native bird species and their nests. While these laws and regulations were originally intended to control the intentional take of birds and/or their eggs and nests by collectors, falconers, etc., they can nevertheless be applied to incidental take, e.g., destroying an active nest by cutting down a tree. In some cases, it is possible to obtain permits for relocating or removing nests.

Invasive Species

Executive Order 13112 (<http://www.fhwa.dot.gov/environment/020399em.htm>) dated February 3, 1999, requires federal agencies to address how their projects will affect the spread of invasive species. The Federal Highway Administration (FHWA) issued guidance (http://www.fhwa.dot.gov/environment/inv_guid.htm) on August 10, 1999, directing the use of the State of California List of Noxious Weed Species, which is the California Exotic Pest Plant Council’s (CalEPPC) list of exotic pest plants, to comply with a NEPA analysis for a given project. Therefore, as the compliance with the Federal policy is implemented by Caltrans, a State agency, potential impacts by the project involving invasive species must be addressed in CEQA. Table C outlines the nonnative species that occur within the project boundaries and that are on List A of the CalEPPC list of exotic pest plants. List A species require eradication, containment, and rejection or other holding action at the State and county level.

Table C: Nonnative Species (List A) 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 calycina</i>

SIGNIFICANCE CRITERIA

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 under Section 404 of the Clean Water Act;
- Substantial interference with movement of native resident or migratory wildlife species or with established native resident or migratory wildlife corridors, or impeding 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);
- Conflict with provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved habitat conservation plan.

PROJECT-RELATED 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 assumes impacts within the entire project boundary.

GENERAL IMPACTS TO BIOLOGICAL RESOURCES

General impacts associated with the project include the following:

- Direct loss of habitat 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 significant.
- Degradation of habitat and disturbance or mortality of species adjacent to the proposed road alignments 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, 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, this is a significant issue.
- Although no active nests were observed during 2003 surveys of the project boundary, 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.

Impacts to Sensitive Species

Wildlife

Reptiles. 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, and the coast patch-nosed snake. 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.

Birds. Oak woodland and chaparral habitats within the proposed project boundaries are also potential habitats for the 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. 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 B, 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. However, 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.

California Red-Legged Frog. 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 this period, 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). 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). In addition, for the protection of sensitive resources, such as this species, restrictions on dust, noise, lighting, and additional construction monitoring activities shall be outlined in the SWPPP and BMPs. With the implementation of these measures, potential impacts to this federally listed species would not be significant.

California Tiger Salamander. Although there is potential estivation habitat on-site for the federally listed as threatened California Tiger Salamander, there is no potential breeding pools on or adjacent to the site. In addition, the historic CNDDDB records in Lopez Canyon, which are the closest recorded observations to the site, have been extirpated with the conversion of the canyon to Lopez Lake. Therefore, this species is not expected to occur on, or adjacent to the site and, as such, the project will not impact this species.

Steelhead. Although NOAA Fisheries believes that 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 due to the degraded condition of the habitat near the Santa Maria confluence and the existing downstream to fish migration (McGoogan 2003). In addition, the segment of Nipomo Creek within the project boundaries has been heavily degraded by livestock grazing, there is a lack of water within the Nipomo Creek channel, and the substrate within the channel is not suitable for steelhead. Therefore, this species is not expected to occur within the study area and will not be impacted by the proposed project. However, the NOAA Fisheries has indicated that a potential exists for the future restoration of the Nipomo Creek watershed, such as the removal of barriers to fish migration. If this occurs, then the project crossing as described previously will not affect the future migration of steelhead through this reach of Nipomo Creek.

Therefore, with the implementation of the project design features for the bridge crossing, no impacts to this federally listed species will occur with the construction of this project.

Plants. Occurrences of the federally and state-listed as endangered Pismo clarkia 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*) and verified as such by Dr. David Keil (personal communication, July 21, 2003). Therefore, the Pismo clarkia was not observed within the study area at the time of 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 5). 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 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 the current project boundary cannot be definitively ruled out.

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 3.

Impacts to these species are mitigated to a level less than significant through the implementation of the mitigation measures outlined in the section below.

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 with a few project design features, such as the abutments for the bridge proposed outside the Nipomo Creek channel and the channel left as an earthen channel, there is a potential for construction to compact Nipomo Creek and associated riparian vegetation. In addition, as identified in Table B, assuming that construction for the proposed project will occur within the entire project boundary, the proposed road alignment will impact an area of freshwater marsh and willow riparian habitats. 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, this is not a significant impact within the project boundary. Nevertheless, the delineation report will be submitted to the Corps and the CDFG for confirmation that these habitats are subject to jurisdictional requirements, and the agencies will likely require mitigation for the project impacts.

Although the maritime chaparral throughout the project area has been subjected to various degrees of disturbances, this habitat type is of limited distribution and provides 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. Table D summarizes the impacts to various maritime chaparral habitats within the project boundary. As indicated previously, this assumes construction within the entire project boundary.

There is a potential for invasive 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 contributed to 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 weed control 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.

In addition to invasion by nonnative species as identified above, potential indirect effects on plant communities are anticipated to include increased susceptibility of adjacent native habitats to erosion, siltation, runoff into riparian systems, and increased dust accumulation on plant leaves.

Table D: 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)

The construction of the Willow Road alignment, interchange, and associated facilities will result in the direct removal of oak woodland habitat as well as individual oak trees (Figure 6). As summarized in Table E, there are 938 coast live oak trees (*Quercus agrifolia*) within the current proposed project boundary, of which 810 are greater than 6 inches dbh. This also includes the oak trees within the parcel located on the northwest corner of Willow Road and Hetrick Avenue, 750 Willow Road, which was estimated to be 15 trees.



FIGURE 5

LSA



LEGEND

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

Willow Road Extension/U.S. 101 Interchange Project
Botanical Survey Limits

SOURCE: County of San Luis Obispo.
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Table E: 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 B and Table F, 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 F: Oak Woodland 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” is it considered to be “ecologically sensitive oak woodland.” Nevertheless, 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 short-term loss of habitat, which will remain significant even after mitigation.

The construction of the frontage road will potentially result in the degradation of the adjacent oak woodland habitat. 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, will be considered significant.



LSA



LEGEND

-  Project Boundary
- Oak Tree dbh (Count)**
 -  less than 6 inches (113)
 -  6 inches and greater (310)

SOURCE: County of San Luis Obispo.
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FIGURE 6

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

Impacts to Jurisdictional Waters

The proposed project may impact wetland and non-wetland waters potentially subject to Corps jurisdiction. In addition, the proposed project may impact additional riparian habitat that may be subject to CDFG jurisdiction. The jurisdictional status of drainages is similar to those described within this report and are normally determined on a case-by-case basis by the regulatory agencies. A preliminary Jurisdictional Delineation Report was prepared and sent to the Corps for approval in December of 2004. However, 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, LSA recommends that the agencies be consulted for a final determination regarding the jurisdictional delineation. Then the acreages of the potential impacts to jurisdictional areas may be finalized. Any substantial impacts (e.g., greater than 0.1 acre) to jurisdictional areas within the project area will be considered significant.

Impacts to Wildlife Movement

Fragmentation of habitats is caused by developing a corridor through the habitats. This lessens the value of the remaining habitat pieces by reducing the movement and communication of animals from side to side. However, effects are not associated with the proposed project, since the proposed alignment primarily follows existing road alignments.

Wildlife may depend upon the Nipomo Creek riparian/wetland habitats as a movement route. The type of creek crossing can significantly impact this movement activity. Although the bridge project design features will reduce the potential impacts to wildlife movement that occurs in this corridor, indirect effects such as construction/operation 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.

Indirect Impacts

Indirect impacts include both 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 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, thereby increasing the amount of habitat disturbed.

Wildlife in the vicinity of the road would be subjected to construction and operations noise, high intensity lighting, storm water runoff, erosion, urban pests, and invasive plant material. 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. 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 an existing roadway currently at the same location, and the creek crossing will be designed to allow the movement of wildlife beneath the roadway, the increase in traffic, construction/operation noise, lighting, storm water runoff, and invasive plant material is not expected to be significantly greater than the existing condition.

Cumulative Impacts

Cumulative biological impacts are the collective result of any number of related or unrelated projects ongoing or proposed within a geographical area that together have a greater impact on biological resources than any one project considered individually. The study area for the cumulative impacts includes projects on the Nipomo Mesa, adjacent to US 101 (Figure 7). Residential and commercial development projects within this geographic range have been identified by the County and are provided in Appendix E.

From a biological perspective, this geographic area 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 on the Nipomo mesa and immediately adjacent to Nipomo Creek may ultimately increase 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.

ID	Type	Name	Location
1	Private	Cypress Ridge Tract Map & Development Plan	Halcyon Road & El Campo Road
2	Private	Black Lake Specific Plan Amendment & Tract Map	Willow Road & Pomeroy Road
3	Private	Meier/Herreck Tract Map	Old Nipomo Road, Thompson Road & Chestnut Road
4	Private	Teter Tract Map	Pomeroy Road & Live Oak Ridge Road
5	Private	Greenhart Farms Development Plan	Zenon Road, south of Cheesepeake Place
6	Private	Murphy Tract Map	Division Street & Tyrus Court
7	Private	Katzenstein Parcel Map	Zenon Road & Black Lake Canyon
8	Private	Armstrong Tract Map	Orchard Road & Grande Street
9	Private	Sheilds & Shields Tract Map	US 101 & Hwy 166
10	Private	Lampe Tract	South Oakglen Avenue
11	Private	Busick Tract Map	El Campo Road & US 101
12	Private	Sejera/Thompson Tract Map	Thompson Avenue & US 101
13	Private	Belsher & Becker Tract Map	Pomeroy Road near Willow Road
14	Private	Ball Seed Development Plan	Zenon Road & Cheasapeake Place
15	Private	The Woodlands Specific Plan	East of SR 1, one mile south of Willow Road
16	Public	No. Mesa Assessment District	Portions of El Campo Road, Zenon Road, & Stanton Road
17	Public	Widen portion of Halcyon Road	Halcyon Road
18	Private	Nipomo Oaks/Melschau	Willow Road & Hetnck Avenue
19	Private	Brand	South Frontage Road & Southland Avenue
20	Private	Craig/Lucia Mar School District	Willow Road & Via Concha
21	Private	Cypress Ridge	El Campo Road & Halycon Road
22	Private	SLO County-Summit Station & Robertson et. al.	Pomeroy Road/Frontage Road/Los Berros Road
23	Private	Anderson	Northeast corner of Guadelupe Road & Willow Road
24	Private	Vellagio	Near Willow Road & Pomeroy Road
25	Private	Robinson Weaver	Northwest of the corner of Sandydale Drive and N. Frontage Road, just west of US 101
26	Private	Biorn LUO Amendment	Immediately west of the Highway 166/US 101 interchange

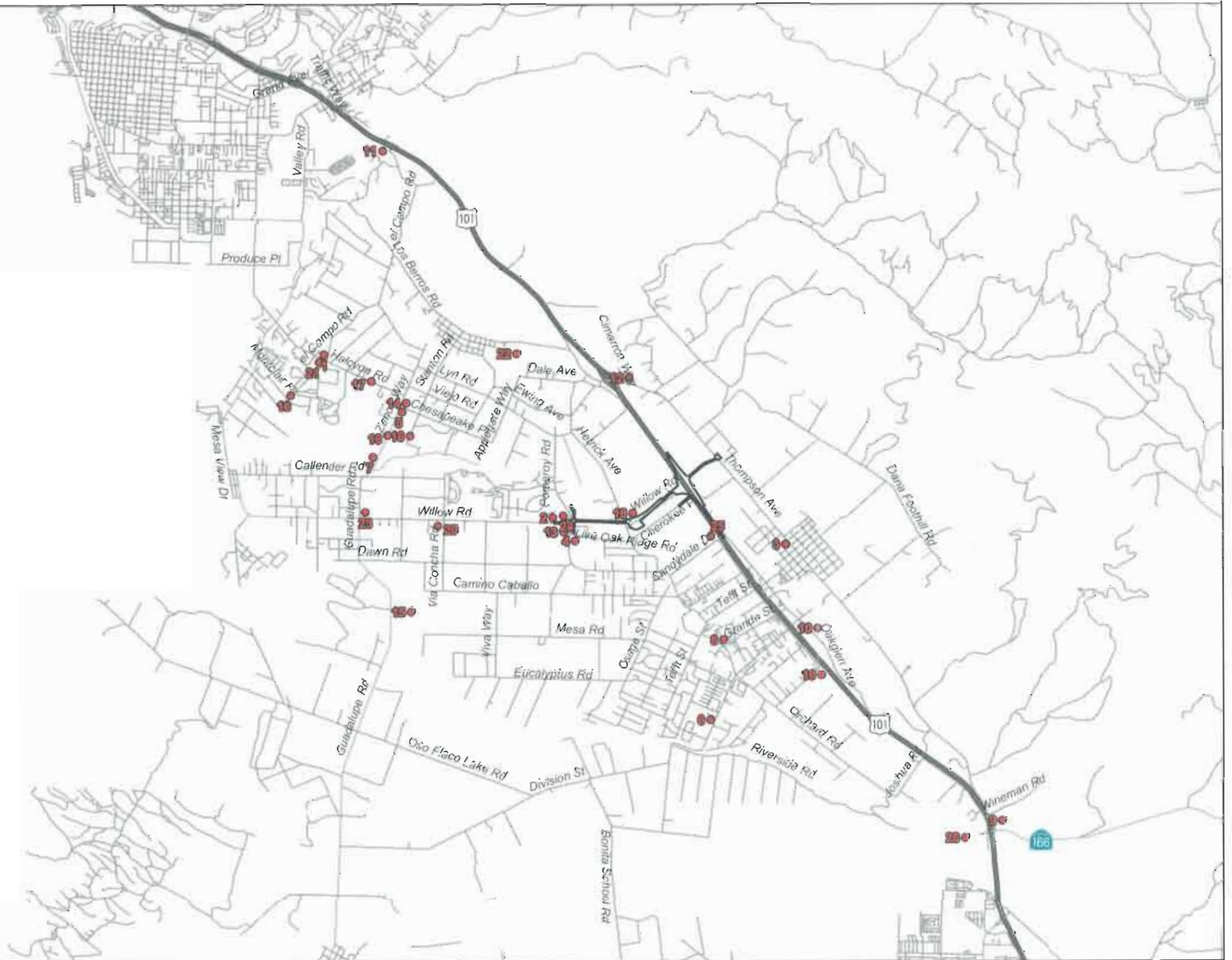
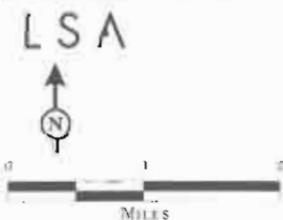


FIGURE 7



Willow Road Extension Project
Cumulative Projects

SOURCE: Census 2000 Tiger/Line Data, County of San Luis Obispo Planning and Building Department.

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- Impacts to jurisdictional wetlands within Nipomo Creek.
- Impacts to potential habitat for sensitive species
- 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 with the proposed project, the existing nonnative component of vegetation, the proposed road alignment incorporating existing roadway sections, 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. However, the proposed project's contribution to cumulative impacts to sensitive species, such as the sand almond, sand mesa manzanita, California mucronea, Mile's milkvetch, and the various sensitive wildlife species, along with the contribution to cumulative impact of the proposed project to sensitive habitat types including oak woodland and maritime chaparral within the cumulative study areas has a potential to be significant without mitigation. Indirect impacts (e.g., human disturbance, increased occurrences of invasive plant species) would be chronic and could degrade the habitat value along the periphery of the proposed interchange and road. 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, including the introduction of invasive nonnative plant species, grazing, and maintenance activities, these impacts are not expected to significantly increase from the existing condition. In addition, the project is an infrastructure support for the County general plan and as such, is a planned project.

MITIGATION MEASURES

Mitigation Measures to Address General Impacts to Biological Resources

- MM 1 All construction-related activities shall be confined to the proposed boundaries by installing construction fencing along the boundary to prevent any construction activities from encroaching into adjacent areas. All construction staging will occur within the proposed roadway or in existing developed areas.
- MM 2 Prior to construction, The Department and the County shall designate a project biologist responsible for overseeing biological monitoring, regulatory compliance, and restoration activities in association with construction in accordance with the adopted mitigation measures and applicable law.
- MM 3 A qualified biologist shall monitor all construction activities within and adjacent to native habitats to ensure that construction does not encroach into these areas.
- MM 4 Vegetation removal 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 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 qualified project biologist.

- MM 5 The biologist shall provide quarterly monitoring reports documenting compliance with the avoidance and minimization measures, and shall submit the mitigation report to the California Department of Transportation (The Department), the County, and the appropriate resource agencies.
- MM 6 Construction activities in the Nipomo Creek area shall occur outside the rainy season to ensure that sedimentation within the drainage does not occur during construction activities.
- MM 7 Permanent fences or other approved methods (such as planting suitable native trees and shrubs in the buffer area along the side of the road and native habitats) shall be used to discourage off-road disturbance from pedestrians and vehicles in sensitive habitat areas.
- MM 8 No nonnative plant material shall be brought onto the construction site. Due to the vegetative reproduction characteristics of the species in Table 5.1, any occurrence of this 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 may be applied to proposed exotic weed removal activities and include:
- Prior to exotic plant removal, a biologist shall 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 the qualified biologist.
 - The County shall ensure that the enhancement site is kept free of exotic reintroduction for a period of five years following the completion of the exotic plant removal.

With the implementation of these measures, the general impacts to biological resources will be mitigated to a level less than significant.

Mitigation Measures to Address Impacts to Sensitive Species

Wildlife.

- MM 9 Preconstruction surveys shall be conducted within 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 qualified biological monitor should be present during vegetation clearing and grading activities to capture and relocate any sensitive wildlife species.
- MM 10 As construction for the project will not be initiated until after 2008 and wildlife may move into an area, prior to tree removal or alteration of the earthen cattle U.S. 101 undercrossing, a qualified bat biologist shall survey all potential roosting habitat proposed for removal by the proposed construction during the spring and summer months (May–August). If a roost is found, the animals shall be excluded 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 a 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 hibernating or maternity bats are not present, then tree removal shall be initiated within 30 days of the survey. 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.
- MM 11 The use of lights on the new road shall be minimized to reduce impacts of the new road on sensitive wildlife species. If lights are required for the crossing, then 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.
- MM12 Construction activities in the Nipomo Creek area shall occur outside the rainy season (October–April) to ensure construction activities do not affect dispersing California red-legged frogs.

Plants.

- MM 13 The final project boundary shall be surveyed 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. If the Pismo clarkia is observed in the remaining project boundaries the appropriate permit must be obtained from the CDFG. Mitigation efforts for this species 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.

MM 14 If the *Habitat Creation, Conservation, and Enhancement Plan* described below includes the relocation of sensitive shrub species, or planting of sensitive plant species seed collected from these existing populations of sand almond, sand mesa manzanita, Mike's milkvetch, and California spineflower within the project area, then impacts to these sensitive species would be mitigated to a less than significant level.

Mitigation Measures to Address Impacts to Sensitive Habitats

Mitigation measures to address sensitive riparian habitats are identified in the conditions of approval to address impacts to jurisdictional waters.

MM 15 To reduce impacts to sensitive habitats, such as maritime chaparral and oak woodland, trash and debris deposits adjacent to native habitats will be disposed of daily during construction.

MM 16 In addition to mitigation for impacts to oak woodland sensitive habitat type, 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 dbh removed by development activities. Impacted or damaged trees should 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 program shall be prepared along with the revegetation/habitat restoration and enhancement plan described above prior to project grading for review and approval of the County of San Luis Obispo, Department of Planning and Building. 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 adjacent to project facilities, particularly in the vicinity of the US 101, and (d) identify all areas to be permanently set aside for oak replacement. Therefore, mitigation is required to offset impacts to: (1) individual oak trees and (2) the oak habitats within the project boundaries. According to the County Oak Tree guidelines, at least 3,692 oak trees are required to be planted to mitigate for impacts to individual trees. This does not include mitigation for the individual trees at 750 Willow Road. Final numbers of oak trees and corresponding diameters, including the parcel on the northwest corner of Willow Road and Hetrick Avenue, should be assessed prior to obtaining building permits. 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.

MM 17 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. Given the degraded condition of the habitat on site, following mitigation ratios are recommended for the various options:

- Habitat creation should be implemented at a 1:1 ratio. This option provides an opportunity to fulfill the County tree replacement standards by planting oak trees for habitat creation.
- Habitat conservation should 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 should be implemented at a 2:1 ratio as this option includes habitats that have 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.

Regardless of the preferred mitigation option or combination of options, a Revegetation/Habitat Restoration 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 Revegetation/Habitat Restoration and Enhancement Plan shall be prepared and at least initially implemented prior to initiation of construction. It is critical for the plan to discuss not only the creation, conservation, or enhancement of habitat, but the recreation, 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. 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

- The 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 the edge effects are reduced and the ratio of surface area to the perimeter of conserved habitats is maximized.
- Once a suitable site for land acquisition is found, an environmental review 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 Department of Planning and Land Use will be responsible for keeping track of the land, resources, and monitoring efforts.

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 set aside in perpetuity after enhancement.

Conditions of Approval to Address Impacts to Jurisdictional Waters

MM 17 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 (DFG) 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 for any impacts to areas subject to jurisdiction. There are no predetermined ratios for habitat replacement. The nature and

extent of habitat replacement is determined on a regular casebycase 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 restoration either upstream or downstream to mitigate impacts to Nipomo Creek to less than significant. If this type of restoration is not possible within the adjacent reaches of Nipomo Creek, the proponent shall contribute to a restoration program of the Nipomo Watershed. The mitigation plan must be submitted to the agencies for their approval, along with the permit applications.

Implementation of the above Conditions of Approval would reduce impacts to sensitive riparian habitats, wetland habitats, and associated drainages subject to Corps and CDFG jurisdiction to less than significant.

MM 18 Construction activities should occur outside the rainy season (October–May) to ensure that sedimentation within the drainage does not occur during construction activities. If construction must occur during the rainy season, then the SWPPP and BMPs shall be prepared to include measures to keep sediment out of the creek during storm events (for example, excavation spoils being stored outside the creek). In addition, the SWPPP and BMPs will identify measures to restrict dust, noise, and lighting.

MM 19 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 this habitat type. Spoil sites shall not be located within CDFG and Corps jurisdictional areas including this habitat type or in areas where it could be washed into Nipomo Creek.

Mitigation Measures to Address Impacts to Wildlife Movement

MM 20 The use of lights on the new 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 The Department's approval. If lights are required for the crossing, then 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.

MM 21 The design of the new bridge shall include solid concrete railing, which decreases noise from traffic. In addition, the proposed crossing shall have an earthen bottom and the vegetation within the channel will be replanted with native species after construction is completed. Therefore, although wildlife movement within this channel will be temporarily discouraged due to the lack of vegetation after construction, in time the site will contain adequate vegetation cover and daylight so that animals may continue to use Nipomo Creek channel as a wildlife movement corridor.

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 can be mitigated to a level less than significant by establishing and maintaining environmental protection rules for project personnel including the following:

MM 22 A dust control program shall be 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.

MM 23 All project personnel are to obey speed limit rules both along public roads and designated project access. Driving off designated project routes shall not be permitted.

MM 24 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.

MM 25 Best management practices shall be 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 the US 101.

Mitigation Measure to Address Cumulative Impacts

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

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APPENDIX A

SUMMARY OF SENSITIVE SPECIES

Summary of Sensitive Species

Species	Habitat and Distribution	Activity/Blooming Period	Status Designation ¹	Probability of Occurrence ²
SPECIES LISTED OR PROPOSED FOR LISTING				
VASCULAR PLANTS				
Marsh sandwort <i>Arenaria paludicola</i>	Occurs in various freshwater habitats such as bogs, fens, marshes, and swamps in California, Oregon, and Washington.	May–August	Fed.: FE State: CE CNPS: 1B	Low. Not observed during spring survey conducted in 1997 or 2003. However, project boundary has moved since spring botanical surveys.
La Graciosa thistle <i>Cirsium loncholepis</i>	Occurs around lake edges, riverbanks, and other wetlands in either riparian or coastal scrub. Often in coastal dune areas. Southern San Luis Obispo County and Northern Santa Barbara County from the Pismo Dune Lake area south to the mouth of the Santa Ynez River.	May–August	Fed.: FE State: CT CNPS: 1B	Low. Not observed during spring survey conducted in 1997 or 2003. However, project boundary has moved since spring botanical surveys.
Gambel's watercress <i>Rorippa gambelii</i>	Occurs in either freshwater or brackish marshes and swamps, in or above the water level. Two populations remain in San Luis Obispo County. One at Little Oso Flaco Lake and Oso Flaco Lake. One population at Vandenberg Air Force Base in northern Santa Barbara County.	April–September	Fed.: FE State: CR CNPS: 1B	Absent. Not observed during spring surveys conducted for the FEIR or in 2003. No potential habitat on or adjacent to the site.
Pismo clar-kia <i>Clarkia speciosa</i> ssp. <i>immaculata</i>	Occurs in a variety of habitats including the margins and openings of chaparral, as well as valley and foothill grassland, typically on sandy substrate.	May–July	Fed.: FE State: CT CNPS: 1B	High. Known occurrences documented on the northwest and southwest corner of the Willow and Pomeroy Road intersection. Although not observed during spring survey conducted in 1997 or 2003, the project boundary has moved since the surveys. May occur following fire or clearing of maritime chaparral. Surveys should be conducted within the revised project boundary next spring.
Nipomo Mesa lupine <i>Lupinus nipomensis</i>	Occurs in coastal dunes on the Nipomo mesa, restricted to dry sandy flats of the back dunes.	March–May	Fed.: FE State: CE CNPS: 1B	Absent. Proposed project inland from the back dunes area. No potential habitat on or adjacent to the site. Not observed during spring surveys conducted in 1997 or 2003.
AMPHIBIANS				
California red-legged frog <i>Rana aurora draytonii</i>	Streams with slow-moving water and deep pools; dense, shrubby riparian vegetation at pool edges. Coastal streams from Marin County to northern Baja California.	Dec.–Apr.	Fed.: FT State: CSC	Absent. No potential habitat observed within or adjacent to the project area during habitat suitability assessment. Species not observed within the project area during surveys in 1997

Species	Habitat and Distribution	Activity/Blooming Period	Status Designation ¹	Probability of Occurrence ²
California tiger salamander <i>Ambystoma californiense</i>	Vernal pools or other seasonal water sources are used for breeding. Need underground refuges. Usually good squirrel burrows	Oct-Feb	Fed.: FE State: CSC	or 2003. Closest documented occurrence is approximately 2.5 miles north. Absent. No potential breeding sites, no pools observed within or adjacent to project boundaries. Refuges (California ground squirrel burrows) present.
BIRDS				
Western snowy plover <i>Charadrius alexandrinus nivosus</i>	Needs sandy, gravelly or friable soils for nesting, occurs on sandy beaches, salt pond levees, and shores of large alkali lakes. Federal listing applies only to the Pacific coastal population.		Fed.: FT State: CSC	Absent. The proposed project occurs outside the coastal zone.
California Least tern <i>Sterna antillarum brauni</i>	Nests along the coast to San Francisco Bay south to northern Baja California. Colonial breeder on bare or sparsely vegetated, flat substrates: sand beaches, alkali flats, landfills, or paved areas	Spring and Fall	Fed.: FE State: CE	Absent. The proposed project occurs outside the coastal zone.
FISH				
South/central coast steelhead <i>Oncorhynchus mykiss tshawytscha</i>	Gravel-sized substrate preferred for spawning. Cobble/rubble substrate preferred for fry and juveniles. Prefer pools with riffle and glide complexes.	Year-round	Fed.: FT State: —	Absent. Portion of Nipomo Creek on site does not have suitable habitat. Degraded habitat quality downstream, culverts and stream crossings are barriers to fish migration.
INVERTEBRATES				
Vernal pool fairy shrimp <i>Branchinecta lynchi</i>	Occurs in vernal pools. Widely distributed in California from Shasta County, south through much of the Central Valley, into Riverside County.	Spring	Fed.: FT State: —	Absent. No potential habitat on site.
SPECIES NOT LISTED NOR PROPOSED FOR LISTING				
VASCULAR PLANTS				
Hoover's bentgrass <i>Agrostis hooveri</i>	Occurs on sandstone and siliceous shale within chaparral as well as valley and foothill grassland.	April-July	Fed.: — State: — CNPS: IB	Low. Not observed during spring survey conducted in 1997 or 2003. However, project boundary has moved since spring botanical surveys.
Sand Mesa manzanita <i>Arctostaphylos rufis</i>	Occurs within maritime chaparral and coastal scrub with sandy soils.	November-February	Fed.: — State: — CNPS: IB	Observed. Documented during both spring surveys conducted in 1997 and 2003.

Species	Habitat and Distribution	Activity/Blooming Period	Status Designation ¹	Probability of Occurrence ²
Well's manzanita <i>Arctostaphylos wellsii</i>	Occurs within chaparral on sandstone outcrops.	December–April	Fed.: — State: — CNPS: 1B	Low. Not observed during spring survey conducted in 1997 or 2003. However, project boundary has moved since spring botanical surveys.
Mile's milkvetch <i>Astragalus didymocarpus</i> var. <i>milestanus</i>	Typically occurs within coastal scrub or in grassy areas with either clay or serpentine soils.	March–June	Fed.: — State: — CNPS: 1B	Observed. Observed during spring surveys conducted in 2003.
Branching beach aster <i>Corethrogyne leucophylla</i>	Occurs in closed cone onceras forest, coastal dunes	May–Dec	Fed.: ** State: "" CNPS: 1B	Absent: no potential habitat on site.
San Luis mariposa lily <i>Calochortus obispoensis</i>	Occurs in chaparral or coastal sage scrub as well as valley and foothill grassland, often on serpentine substrate.	May–July	Fed.: — State: — CNPS: 1B	Low. Not observed during spring survey conducted in 1997 or 2003. However, project boundary has moved since spring botanical surveys.
Leafy tarplant <i>Deinandra increscens</i> ssp. <i>foliosa</i>	Occurs in valley and foothill grassland.	June–September	Fed.: — State: — CNPS: 1B	Low. Not observed during spring survey conducted in 1997 or 2003. However, project boundary has moved since spring botanical surveys.
Dune larkspur <i>Delphinium parryi</i> ssp. <i>blachmaniae</i>	Occurs within maritime chaparral on coastal dunes.	April–May	Fed.: — State: — CNPS: 1B	Low. Not observed during spring survey conducted in 1997 or 2003. However, project boundary has moved since spring botanical surveys. May occur following fire or clearing of maritime chaparral.
Blochman's leafy daisy <i>Erigeron blochmaniae</i>	Occurs in coastal scrub on beach dunes.	July–August	Fed.: "" State: "" CNPS: 1B	Absent. Site outside the coastal zone.
Saints daisy <i>Erigeron sanctorum</i>	Occurs in coastal scrub and dunes, as well as, woodlands.	March–July	Fed.: — State: — CNPS: 4	Low. Not observed during spring survey conducted in 1997 or 2003. However, project boundary has moved since spring botanical surveys. May occur following fire or clearing of maritime chaparral.
San Luis Obispo wallflower <i>Erysimum capitatum</i> ssp. <i>lompocense</i>	Occurs on sandy hillsides and mesas.	February–May	Fed.: — State: — CNPS: 1B	Low. Not observed during spring survey conducted in 1997 or 2003. However, project boundary has moved since spring botanical surveys.

Species	Habitat and Distribution	Activity/Blooming Period	Status Designation ¹	Probability of Occurrence ²
Kallag's horkelia <i>Horkelia cuneata</i> ssp. <i>sericea</i>	Occurs in sandy or gravelly opening of maritime chaparral, coastal scrub.	April–September	Fed.: — State: — CNPS: 1B	Low. Not observed during spring survey conducted in 1997 or 2003. However, project boundary has moved since spring botanical surveys.
San Luis Obispo County lupine <i>Lupinus ludovianus</i>	Occurs in chaparral and in open areas on sandy soil or sandstone.	April–July	Fed.: — State: — CNPS: 1B	Low. Not observed during spring survey conducted in 1997 or 2003. However, project boundary has moved since spring botanical surveys.
Crisp monardella <i>Monardella crispera</i>	Occurs in coastal scrub on stabilized sand of the immediate coast, coastal dunes.	April–August	Fed.: — State: — CNPS: 1B	Absent. Not observed during spring survey conducted in 1997 or 2003. No potential habitat within or adjacent to the project area.
San Luis Obispo monardella <i>Monardella frutescens</i>	May occur in coastal scrub with sandy soils. Generally occurs within borders of open sandy areas, typically adjacent to backdune scrub vegetation.	May–September	Fed.: — State: — CNPS: 1B	Absent. Not observed during spring survey conducted in 1997 or 2003. Project area outside of coastal dunes.
California spineflower <i>Micronaea californica</i>	Typically occurs in chaparral and coastal scrub.	March–August	Fed.: — State: — CNPS: 4	Observed. Observed during both spring surveys conducted in 1997 and in 2003.
Short lobed broomrape <i>Orobancha parishii</i> ssp. <i>brachyloba</i>	Occurs in sandy soil near the ocean, on shrubs such as <i>Isocoma menziesii</i> .	April–October	Fed.: — State: — CNPS: 1B	Low. Not observed during spring survey conducted in 1997 or 2003. However, project boundary has moved since spring botanical surveys.
Sand almond <i>Prunus fasciculata</i> var. <i>punctata</i>	Occurs in oak woodland with sandy soils.	April–October	Fed.: — State: — CNPS: 4	Observed. Observed during both spring surveys conducted in 1997 and in 2003.
Black-flowered figwort <i>Scrophularia atrata</i>	Occurs in chaparral, coastal dunes, coastal scrub, as well as riparian scrub with sandy or diatomaceous shales. Found typically around swales and in sand dunes.	April–July	Fed.: — State: — CNPS: 1B	Absent. Not observed during spring survey conducted in 1997 or 2003. No potential habitat on or adjacent to the site.
AMPHIBIANS				
Western spadefoot <i>Scaphiopus hammondi</i>	Grasslands and occasionally hardwood woodlands; largely terrestrial, but for breeding, requires rain pools or other ponded water for 3+ weeks; burrows in loose soils during dry season; Central Valley and foothills, coast ranges, inland valleys, to Baja California.	October–April (following onset of winter rains)	Fed.: ** State: CSC	Low. Habitat on site appears unsuitable. No ponding areas within or immediately adjacent to study area boundaries.

Species	Habitat and Distribution	Activity/Blooming Period	Status Designation ¹	Probability of Occurrence ²
REPTILES				
Southwestern pond turtle <i>Clemmys marmorata pallida</i>	Permanent or nearly permanent water in a wide variety of habitats; requires basking sites such as partially submerged logs, rocks, or open mud banks. Central California to northwestern Baja California.	Year-round with reduced activity November–March	Fed.: ** State: CSC	Absent. No permanent or nearly permanent water on or adjacent to the project area.
California horned lizard <i>Phrynosoma coronatum frontale</i>	Wide variety of habitats including coastal sage scrub, grassland, riparian woodland; typically on or near loose sandy soils; California, west of the mountains from Butte County to Los Angeles County.	April–July (with reduced activity August–October)	Fed.: ** State: CSC	Observed. Observed during both 1997 and 2003 surveys.
Two-striped garter snake <i>Thamnophis hammondi</i>	Highly aquatic. Only in or near permanent sources of water. Streams with rocky beds supporting willows or other riparian vegetation. South eastern slope of the Diablo Range and Salinas Valley South in the South Coast and Transverse ranges to the Mexican border and on Santa Catalina Island.	Diurnal year-round	Fed.: ** State: CSC	Low. No permanent water source on or adjacent to the site.
California legless lizard <i>Anniella pulchra pulchra</i>	Central California to northern Baja California. Frequents loose soils and humus of relatively open habitats. Susceptible to drying, and lives only where it can reach damp soil.	Nearly year-round	Fed.: ** State: CSC	Moderate. Habitat on site may be suitable.
Coast patch-nosed snake <i>Salvadora hexalepis virgultea</i>	Coastal chaparral, washes, sandy flats, and rocky areas from San Luis Obispo County to northwestern Baja California.	Active diurnally throughout most of the year	Fed.: ** State: —	Moderate. Habitat on site may be suitable.
BIRDS				
White-tailed kite <i>Elanus leucurus</i>	Open country in South America and southern North America.	Year-round	Fed.: — State: CSA	High. Habitat on site appears suitable and species is widespread throughout the area.
Northern harrier <i>Circus cyaneus</i>	Open country in the temperate zone worldwide.	Year-round	Fed.: — State: CSC	High. Habitat on site appears suitable and species is widespread throughout the area.
Cooper's hawk <i>Accipiter cooperi</i>	Primarily forest and woodlands through North America.	Year-round; predominant in summer	Fed.: — State: CSC	High. Habitat on site appears suitable.
Sharp shinned hawk <i>Accipiter striatus</i>	Mixed woodland habitats.	Year-round; predominant in summer	Fed.: — State: CSC	High. Habitat on site appears suitable.

Species	Habitat and Distribution	Activity/Blooming Period	Status Designation ¹	Probability of Occurrence ²
Burrowing owl <i>Athene cunicularia</i>	Open grasslands, agricultural fields, and road cuts within ground squirrel burrows.	Year-round; predominant in summer	Fed.: — State: CSC	Moderate. Habitat on site appears suitable except for ongoing cattlegrazing, diskimg, and mowing within some areas of the site.
Golden eagle <i>Aquila chrysaetos</i>	Generally open country of the Temperate Zone worldwide.	Year-round	Fed.: — State: CFP	Low. Some habitat suitable for foraging.
Merlin <i>Falco columbarius</i>	Open country; breeds in the Holarctic and winters south to the Tropics.	Fall-winter	Fed.: ** State: CSC	Moderate. Habitat is suitable for foraging and migrant and wintering individuals probably use the site on occasion.
Long-eared owl <i>Asio otus</i>	Scarce and local in forests and wildlands throughout much of the northern hemisphere.	Nocturnal year-round	Fed.: — State: CSC	Low. Restricted to areas away from human disturbance.
Loggerhead shrike <i>Lanius ludovicianus</i>	Open country in much of North America.	Year-round	Fed.: — State: CSC	High. Observed during surveys for FEIR. However, not observed during 2003 surveys
California horned lark <i>Eremophila alpestris acia</i>	Open grasslands and fields, agricultural areas from northern coastal California to northwestern Baja California.	Year-round	Fed.: — State: CSC	Low. Habitat appears marginal. May occur as a flyover.
California yellow warbler <i>Dendroica peeechia brewsteri</i>	Riparian woodland while nesting in the western U.S. and northwestern Baja California; more widespread in brushy areas and woodlands during migration and winter, when occurring from western Mexico to northern South America.	Summer	Fed.: — State: CSC	Low. Riparian habitat adjacent to Nipomo Creek appears marginal during nesting season due to ongoing grazing and agricultural activities.
Yellow-breasted chat <i>Icteria virens</i>	Nests in riparian habitats across much of North America, but extirpated from many areas.	April-Sept.	Fed.: — State: CSC	Low. Riparian habitat adjacent to Nipomo Creek appears marginal during nesting season due to ongoing grazing and agricultural activities.
Bell's sage sparrow <i>Amphispiza belli belli</i>	Occupies chaparral and coastal sage scrub from west central California to northwestern Baja California	Year-round	Fed.: ** State: CSC	Low. Not detected on bird surveys.
Tricolored blackbird <i>Agelaius tricolor</i>	Open country in western Oregon, California, and northwestern Baja California.	Year-round	Fed.: ** State: CSC	Low. The regular disturbances, as well as the habitat in general on site are not suitable for nesting, but the species may occasionally forage on site and undoubtedly occurs as a flyover.

Species	Habitat and Distribution	Activity/Blooming Period	Status Designation ¹	Probability of Occurrence ²
MAMMALS				
Pallid bat <i>Antrozous pallidus</i>	Varied habitats in western North America.	Year-round; Nocturnal	Fed.: — State: CSC	High. Habitat appears suitable.
California mastiff bat <i>Eumops perotis californicus</i>	In California, most records are from rocky areas at low elevations where roosting primarily occurs in crevices.	Nocturnal; warmer months	Fed.: ** State: CSC	High. Roosting habitat not present on site, but this species travels widely when foraging.
Yuma myotis <i>Myotis yumanensis</i>	Varied habitats in western North America.	Nocturnal; warmer months	Fed.: ** State: —	High. Habitat within the project area is suitable.
Small-footed myotis <i>Myotis ciliolabrum = leibii</i>	Rocky areas in varied habitats throughout much of western North America.	Warmer months	Fed.: ** State: —	Moderate. Habitat may be suitable.
San Diego desert woodrat <i>Neotoma lepida intermedia</i>	Frequents poorly vegetated arid lands and is especially associated with cactus patches. Occurs along the Pacific slope from about San Luis Obispo to northwestern Baja California.	Year round	Fed.: ** State: CSC	Low. Habitat on site appears unsuitable.
American badger <i>Taxidea taxus</i>	Occurs throughout California and much of North America. Primary habitat requirements seem to be sufficient food and friable soils in relatively open, uncultivated ground in grasslands, woodlands, and desert.	Year round	Fed.: -- State: S4 on cnddb	High. Active dens and sign found during surveys for the FEIR. However, no dens or sign observed during 2003 surveys.
FISH				
Arroyo Chub <i>Gila orcutti</i>	Slow water stream section with mud or sand bottoms in Los Angeles Basin south coastal streams	Year round	Fed.: -- State: CSC	Absent. No habitat on site.

1. For a description of status designations, see Legend on following page.

2. Based on the following categories: **Absent; Low; Moderate; High; Observed.**

Legend: Status Designation

FEDERAL STATUS

FE	Federally listed as Endangered.
FT	Federally listed as Threatened.
PE	Federally proposed as Endangered.
PT	Federally proposed as Threatened.

Note: The U.S. Fish and Wildlife Service (USFWS) has recently revised its classification system for candidate taxa (species, subspecies, and other taxonomic designations), as described below.

C	Certain species formerly designated as "Category 1" (C1) and a few "Category 2" (C2) candidates for federal listing are now known as "Candidate." Refers to taxa for which the U.S. Fish and Wildlife Service (USFWS) has sufficient information available to support a proposal to list as Endangered or Threatened. Issuance of the proposal(s) is anticipated, but precluded at this time.
**	Species formerly designated as "Category 1" (C1) or "Category 2" (C2) candidates for federal listing; not designated presently as "Candidate" species, these C1 and C2 designations have been discontinued by the USFWS. The State now refers to these taxa as "Species of Concern."
C3a	Species considered to be extinct.
C3b	Former federal candidate for listing as Endangered or Threatened, but which is not believed by the Service to represent a distinct taxa meeting the Endangered Species Act's definition of a "species." Species taxonomically invalid.
C3c	Former federal candidate for listing as Endangered or Threatened, but which has been determined by the Service to be too widespread and/or not threatened at this time.

STATE STATUS

CE	State listed as Endangered.
CT	State listed as Threatened.
CR	State listed as Rare.
CFP	California Fully Protected. Species legally protected under special legislation enacted prior to the California Endangered Species Act.
CCE	State candidate for listing as Endangered.
CCT	State candidate for listing as Threatened.
CSC	California Species of Special Concern. These are taxa with pops. declining seriously or otherwise highly vulnerable to human developments.
CSA	Species included on the California Department of Fish and Game's list of "Special Animals" of California. No specific designation assigned.

CALIFORNIA NATIVE PLANT SOCIETY LISTING

1A	List of plants presumed extinct in California.
1B	List of plants considered by the California Native Plant Society (CNPS) to be Rare, Threatened, or Endangered in California and elsewhere.
2	List of plants considered by CNPS to be Rare, Threatened, or Endangered in California, but more common elsewhere.
3	CNPS review list of plants suggested for consideration as Endangered but about which more information is needed.
4	CNPS watch list of plants of limited distribution, whose status should be monitored.
C	Species Covered by Central Coastal Subregion NCCP/HCP.
CC	Species Conditionally Covered by Central Coastal Subregion NCCP/HCP.
NC	Species Not Covered by Central Coastal Subregion NCCP/HCP.

APPENDIX B

SENSITIVE SPECIES LIST FROM USFWS



United States Department of the Interior

FISH AND WILDLIFE SERVICE

Ventura Fish and Wildlife Office
2493 Portola Road, Suite B
Ventura, California 93003

In Reply Refer To: PAS 803.865.1107

RECEIVED

JAN 12 2004

January 6, 2004

Micaele Maddison, Project Manager/ Biologist
LSA Associates, Inc.
20 Executive Park, Suite 200
Irvine, California 92614-4731

Subject: Species List for the Proposed Willow Road Extension Project, San Luis Obispo County, California

Dear Ms. Maddison:

This letter is in response to your request of August 7, 2003, and received in our office on August 18, 2003, for information on listed and proposed threatened or endangered species which may be present in the vicinity of the subject project on the Nipomo Mesa. You are making this request on behalf of the California Department of Transportation. We have enclosed a species list for the subject action area.

The U.S. Fish and Wildlife Service's (Service) responsibilities include administering the Endangered Species Act of 1973, as amended (Act), including sections 7, 9, and 10. Section 9 of the Act prohibits the taking of any federally listed endangered or threatened species. Section 3(18) of the Act defines take to mean to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or to attempt to engage in any such conduct. Service regulations (50 CFR 17.3) define harm to include significant habitat modification or degradation which actually kills or injures wildlife by significantly impairing essential behavioral patterns, including breeding, feeding or sheltering. Harassment is defined by the Service as an intentional or negligent action that creates the likelihood of injury to wildlife by annoying it to such an extent as to significantly disrupt normal behavior patterns which include, but are not limited to, breeding, feeding, or sheltering. The Act provides for civil and criminal penalties for the unlawful taking of listed species.

Exemptions to the prohibitions against take may be obtained through coordination with the Service through interagency consultation for projects with Federal involvement pursuant to section 7 or through the issuance of an incidental take permit under section 10(a)(1)(B) of the Act. If the subject project is to be funded, authorized, or carried out by a Federal agency and may affect a listed species, the Federal agency must consult with the Service, pursuant to section 7(a)(2) of the Act. If a proposed project does not involve a Federal agency but may result in the take of a listed animal species, the project proponent should apply for an incidental take permit,

Micaele Maddison

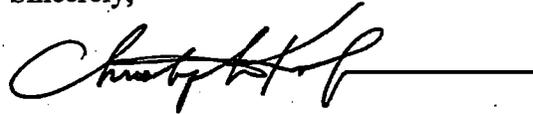
2

pursuant to section 10(a)(1)(B) of the Act. Once you have determined if the proposed project will have a lead Federal agency, we can provide you with more detailed information regarding the section 7 or 10(a)(1)(B) permitting process.

Only listed species receive protection under the Act. However, other sensitive species should be considered in the planning process in the event they become listed or proposed for listing prior to project completion. We recommend that you review information in the California Department of Fish and Game's (CDFG) Natural Diversity Data Base and that you contact the CDFG at (916) 324-3812 for information on other species of concern that may occur in this area.

If you have any questions, please contact Mary Root of my staff at (805) 644-1766.

Sincerely,

A handwritten signature in black ink, appearing to read "Christopher Kofron", is written over a horizontal line.

Christopher Kofron
Division Chief, San Luis Obispo County

Enclosure

**ENDANGERED, THREATENED, PROPOSED, AND CANDIDATE SPECIES
WHICH MAY OCCUR IN THE VICINITY OF THE PROPOSED WILLOW ROAD
EXTENSION PROJECT, SAN LUIS OBISPO COUNTY, CALIFORNIA**

Amphibians

California red-legged frog	<i>Rana aurora draytonii</i>	T
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Fish

Steelhead trout*	<i>Oncorhynchus mykiss irideus</i>	T, CH
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Invertebrates

Vernal pool fairy shrimp	<i>Branchinecta lynchi</i>	T, CH
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Plants

Gambel's watercress	<i>Rorippa gambellii</i>	E
Marsh sandwort	<i>Arenaria paludicola</i>	E
Nipomo Mesa lupine	<i>Lupinus nipomensis</i>	E
Pismo clarkia	<i>Clarkia speciosa ssp. immaculata</i>	E

Key:

E - Endangered T - Threatened CH Critical Habitat
PCH - Critical habitat which has been proposed

* Species for which the National Marine Fisheries Service has responsibility. For more information, call the Santa Rosa Field Office at 707-575-6050 or go to <http://swr.ucsd.edu/>.

APPENDIX C

VASCULAR PLANT SPECIES OBSERVED

APPENDIX C

VASCULAR PLANT SPECIES OBSERVED

The following vascular plant species were observed in the study area by LSA biologist(s) Micaele Maddison and Jim Harrison during site surveys conducted on April 8, April 9, June 2, June 3, and June 4, 2003, as well as April 13, 2004. An additional survey was conducted on June 17, 2004, by LSA biologists Micaele Maddison and Sara Cohn.

* Introduced, nonnative species

PTERIDOPHYTA

Pteridaceae

Pteridium aquilinum var. *pubescens*

FERNS AND FERN-ALLIES

Brake Family

Bracken fern

GYMNOSPERMAE

Cupressaceae

Calocedrus decurrens

CONE-BEARING PLANTS

Cypress Family

Incense cedar

Pinaceae

* *Pinus* sp.

Pine Family

Pine

ANGIOSPERMAE: DICOTYLEDONAE

Aizoaceae

* *Carpobrotus edulis*

* *Tetragonia tetragonioides*

Carpet-Weed Family

Hottentot-fig

New Zealand spinach

Amaranthaceae

* *Amaranthus albus*

Amaranth Family

Tumbling pigweed

Anacardiaceae

Rhus trilobata

* *Schinus molle*

Toxicodendron diversilobum

Sumac Family

Squaw bush

Peruvian pepper tree

Poison oak

Apiaceae

Apiastrum angustifolium

* *Conium maculatum*

* *Foeniculum vulgare*

Carrot Family

Mock parsley

Poison hemlock

Sweet fennel

Araliaceae

- * *Hedera helix*

Asclepiadaceae

- Asclepias* sp.

Asteraceae

- Achillea millefolium*
- Acourtia microcephala*
- Amblyopappus pusillus*
- Ambrosia acanthicarpa*
- Ambrosia psilostachya*
- * *Anthemis cotula*
- Arctotis stoechadifolia*
- Artemisia californica*
- Baccharis pilularis*
- * *Carduus pycnocephalus*
- * *Centaurea melitensis*
- * *Chamomilla suaveolens*
- Cirsium occidentale*
- * *Cnicus benedictus*
- * *Conyza bonariensis*
- * *Conyza canadensis*
- Corethrogyne filaginifolia*
- Deinandra increscens* ssp. *increscens*
- Ericameria ericoides*
- Ericameria pinifolia*
- Eriophyllum confertiflorum* var. *confertiflorum*
- Eriophyllum staechadifolium*
- Filago californica*
- Gnaphalium californicum*
- * *Gnaphalium luteo-album*
- Gnaphalium stramineum*
- Hedypnois cretica*
- Helianthus annuus*
- Heterotheca grandiflora*
- * *Hypochaeris glabra*
- * *Hypochaeris radicata*
- * *Lactuca serriola*
- * *Picris echioides*
- * *Senecio vulgaris*
- * *Silybum marianum*
- * *Sonchus arvensis*
- * *Sonchus asper* ssp. *asper*
- Stephanomeria* sp.
- Uropappus lindleyi*
- * *Xanthium spinosum*

Ginseng Family

- English ivy

Milkweed Family

- Milkweed

Sunflower Family

- Yarrow
- Sacapellote
- Coast weed
- Annual bur-sage
- Western ragweed
- Dog mayweed
- Blue-eyed African daisy
- California sagebrush
- Coyote bush
- Italian thistle
- Tocalote
- Pineapple weed
- Cobweb thistle
- Blessed thistle
- Flax-leaved horseweed
- Common horseweed
- Cudweed aster
- Tarweed
- Mock heather
- Pine-bush
- Golden yarrow
- Seaside woolly sunflower
- California filago
- California everlasting
- Weedy cudweed
- Cotton-batting plant
- Crete weed
- Western sunflower
- Telegraph weed
- Smooth cat's-ear
- Rough cat's-ear
- Prickly lettuce
- Bristly ox-tongue
- Common groundsel
- Milk thistle
- Perennial sow-thistle
- Prickly sow-thistle
- Wreath-plant
- Silver puffs
- Spiny clotbur

Boraginaceae

Amsinckia sp.
Cryptantha sp.
Pectocarya pencillata
Plagiobothrys sp.

Brassicaceae

* *Brassica nigra*
* *Brassica rapa*
Descurainia pinnata
* *Hirschfeldia incana*
Lepidium lasiocarpum var. *lasiocarpum*
* *Raphanus raphanistrum*
* *Raphanus sativus*
* *Rorippa nasturtium-aquaticum*
* *Sisymbrium irio*

Cactaceae

Opuntia littoralis

Caprifoliaceae

Lonicera subspicata var. *denudata*
Sambucus mexicana

Caryophyllaceae

Cardionema ramosissimum
Polycarpon depressum
* *Silene gallica*
Silene laciniata ssp. *major*
* *Spergula arvensis* ssp. *arvensis*
* *Spergularia rubra*
* *Stellaria pallida*

Chenopodiaceae

* *Chenopodium album*
Chenopodium berlandieri
Chenopodium californicum
Chenopodium dessicatum
* *Salsola tragus*

Cistaceae

Helianthemum scoparium

Crassulaceae

* *Crassula argentea*

Borage Family

Fiddleneck
Cryptantha
Winged pectocarya
Popcorn-flower

Mustard Family

Black mustard
Field mustard
Western tansy-mustard
Shortpod mustard
Hairy-pod peppergrass
Jointed charlock
Wild radish
White water-cress
London rocket

Cactus Family

Coastal prickly pear

Honeysuckle Family

Southern honeysuckle
Mexican elderberry

Pink Family

Sand mat
California polypody
Common catchfly
Mexican pink
Corn spurry
Sand spurry

Goosefoot Family

Lamb's quarters
Pitseed goosefoot
California goosefoot

Russian-thistle

Rock-Rose Family

Peak rush-rose

Stonecrop Family

Jade plant

Cucurbitaceae

Marah macrocarpus

Cuscutaceae

Cuscuta californica

Ericaceae

Arctostaphylos rudis

Euphorbiaceae

Croton californicus

Croton setigerus

Fabaceae

Astragalus didymocarpus var. *milesianus*

Lotus purshianus var. *purshianus*

Lotus scoparius var. *scoparius*

Lotus strigosus

Lupinus bicolor

Lupinus microcarpus

Lupinus nanus

Lupinus sparsiflorus

* *Medicago polymorpha*

* *Melilotus alba*

* *Melilotus indica*

Trifolium barbigerum var. *andrewsii*

Trifolium hirtum

* *Vicia benghalensis*

* *Vicia faba*

Vicia hassei

Fagaceae

Quercus agrifolia var. *agrifolia*

Geraniaceae

* *Erodium botrys*

* *Erodium cicutarium*

Geranium carolinianum

Hydrophyllaceae

Eucrypta chrysanthemifolia

Lamiaceae

* *Marrubium vulgare*

Salvia mellifera

Scutellaria tuberosa

Gourd Family

Wild cucumber

Dodder Family

California witch's hair

Heath family

Sand mesa manzanita

Spurge Family

California croton

Doveweed

Legume Family

Two seeded milkvetch

Spanish lotus

Coastal deerweed

Strigose lotus

Miniature lupine

Yellow annual lupine

Douglas' annual lupine

Coulter's lupine

California burclover

White sweetclover

Yellow sweetclover

Gray's clover

Bristled clover

Purple vetch

Faba bean

Southern slender vetch

Beech Family

Coast live oak

Geranium Family

Long-beaked filaree

Red-stemmed filaree

Carolina geranium

Waterleaf Family

Common eucrypta

Mint Family

Horehound

Black sage

Skullcap

Lythraceae

- Lythrum californicum*
- * *Lythrum hyssopifolia*

Malvaceae

- * *Malva parviflora*
- Malvella leprosa*

Myrtaceae

- * *Eucalyptus camaldulensis*

Onagraceae

- Camissonia bistorta*
- Camissonia micrantha*
- Camissonia strigulosa*
- Clarkia purpurea* var. *quadrivulnera*
- Epilobium ciliatum*

Oxalidaceae

- * *Oxalis pes-caprae*

Paeoniaceae

- Paeonia californica*

Papaveraceae

- Eschscholzia caespitosa*
- Eschscholzia californica*

Plantaginaceae

- * *Plantago coronopus*
- Plantago erecta*
- * *Plantago lanceolata*
- * *Plantago major*
- Plantago ovata*

Plumbaginaceae

- * *Limonium perezii*

Polemoniaceae

- Navarretia hamata*

Polygonaceae

- Chorizanthe angustifolia*
- Eriogonum fasciculatum*
- Eriogonum gracile* var. *gracile*
- Mucronea californica*
- * *Polygonum arenastrum*

Loosestrife Family

- California loosestrife
- Grass poly

Mallow Family

- Cheeseweed
- Alkali-mallow

Myrtle Family

- Red gum

Evening Primrose Family

- Southern suncup
- Small primrose
- Strigulose evening primrose
- Four spot clarkia
- Green willowherb

Oxalis Family

- Bermuda-buttercup

Peony Family

- California peony

Poppy Family

- Collarless poppy
- California poppy

Plantain Family

- Cut-leaved plantain
- California plantain
- English plantain
- Common plantain
- Woolly plantain

Leadwort Family

- Perez's sea-lavender

Phlox Family

- Hooked Navarretia

Buckwheat Family

- Narrow-leaved spineflower
- California buckwheat
- Slender eriogonum
- California spineflower
- Common knotweed

Pterostegia drymarioides
* *Rumex acetosella*
* *Rumex crispus*
Rumex salicifolius

Granny's hairnet
Sheep sorrel
Curly dock
Willow dock

Portulacaceae

Calandrinia maritima
Calyptridium monandrum
Claytonia perfoliata
* *Portulaca oleracea*

Purslane Family

Seaside calandrinia
Common pussypaws
Miner's lettuce
Common purslane

Primulaceae

* *Anagallis arvensis*

Primrose Family

Scarlet pimpernel

Rhamnaceae

Ceanothus cuneatus var. *fascicularis*
Ceanothus impressus var. *nipomensis*
Rhamnus californica ssp. *californica*

Buckthorn Family

Coast ceanothus
Nipomo ceanothus
California coffeeberry

Rosaceae

Adenostoma fasciculatum
Cercocarpus betuloides
Horkelia cuneata var. *cuneata*
Prunus fasciculata var. *punctata*
Prunus ilicifolia ssp. *ilicifolia*

Rose Family

Chamise
Mountain mahogany
Wedge-leaved horkelia
Sand almond
Holly-leaved cherry

Rubiaceae

Galium angustifolium ssp. *angustifolium*
* *Galium aparine*
Galium trifidum var. *pacificum*

Madder Family

Narrow-leaved bedstraw
Common bedstraw
Trifid bedstraw

Salicaceae

Salix lasiolepis

Willow Family

Arroyo willow

Saururaceae

Anemopsis californica

Lizard's-tail Family

Yerba mansa

Scrophulariaceae

Castilleja exserta
Linaria sp.
Mimulus aurantiacus
Scrophularia californica

Figwort Family

Purple owl's clover
Toadflax
Bush monkey flower
California figwort

Solanaceae

* *Nicotiana glauca*
Solanum douglasii
Solanum nigrum

Nightshade Family

Tree tobacco
Douglas' nightshade
Black nightshade

Solanum xanti var. *obispoense*

Chaparral nightshade

Urticaceae

Hesperocnide tenella

Nettle Family

Western nettle

ANGIOSPERMAE: MONOCOTYLEDONAE

MONOCOT FLOWERING PLANTS

Cyperaceae

Cyperus esculentus

Eleocharis acicularis var. *acicularis*

Sedge Family

Yellow umbrella-sedge

Needle spikerush

Juncaceae

Juncus bufonius

Juncus effusus

Juncus xiphioides

Rush Family

Toad rush

Common rush

Iris-leaved rush

Liliaceae

* *Aloe* sp.

Dichelostemma capitatum ssp. *capitatum*

Yucca whipplei

Zigandenus sp.

Lily Family

Aloe

Blue dicks

Whipple's yucca

Death camas

Poaceae

* *Avena barbata*

* *Avena fatua*

* *Bromus diandrus*

* *Bromus hordeaceus*

* *Bromus madritensis* ssp. *rubens*

* *Cynodon dactylon*

Dactylis glomerata

* *Ehrharta calycina*

* *Gastridium ventricosum*

Hordeum jubatum

* *Hordeum murinum* ssp. *leporinum*

* *Lamarckia aurea*

Leymus triticoides

* *Lolium multiflorum*

Nassella pulchra

* *Paspalum dilatatum*

* *Poa annua*

* *Polypogon monspeliensis*

* *Vulpia myuros* var. *hirsuta*

Vulpia octiflora

Grass Family

Slender wild oat

Common wild oat

Ripgut grass

Soft chess

Foxtail chess

Bermuda grass

Orchard grass

Veldtgrass

Nit grass

Foxtail barley

Hare barley

Goldentop

Beardless wild-rye

Italian ryegrass

Purple needlegrass

Dallis grass

Annual bluegrass

Rabbitfoot grass

Foxtail fescue

Typhaceae

Typha angustifolia

Cat-Tail Family

Narrow-leaved cat-tail

Taxonomy and scientific nomenclature conform to Hickman (1993); common names from Abrams (1923, 1944, 1951) were used only when species specific common names were not identified in Roberts (1998).

APPENDIX D
ANIMAL SPECIES OBSERVED

APPENDIX D

ANIMAL SPECIES OBSERVED

This is a list of the vertebrates noted in the study area by LSA biologists. Presence may be noted if a species is seen or heard, or identified by the presence of tracks, scat, or other signs.

* Introduced species

REPTILIA

Iguanidae

Sceloporus occidentalis

Uta stansburiana

Phrynosoma coronatum frontale

AVES

Cathartidae

Cathartes aura

Accipitridae

Buteo jamaicensis

Falconidae

Falco sparverius

Columbidae

Zenaida macroura

Tytonidae

Tyto alba

Strigidae

Bubo virginianus

Picidae

Picoides nuttallii

Tyrannidae

Contopus sordidulus

Sayornis nigricans

Tyrannus vociferans

REPTILES

Iguanid Lizards

Western fence lizard

Side-blotched lizard

California horned lizard

BIRDS

New World Vultures

Turkey vulture

Kites, Hawks, Eagles and Ospreys

Red-tailed hawk

Falcons

American kestrel

Pigeons and Doves

Mourning dove

Barn Owls

Barn owl

Typical Owls

Great horned owl

Woodpeckers

Nuttall's woodpecker

Tyrant Flycatchers

Western wood-pewee

Black phoebe

Cassin's kingbird

Vireonidae

Vireo gilvus

Corvidae

Aphelocoma californica

Corvus brachyrhynchos

Hirundinidae

Stelgidopteryx serripennis

Hirundo rustica

Paridae

Baeolophus inornatus

Aegithalidae

Psaltriparus minimus

Timaliidae

Chamaea fasciata

Mimidae

Mimus polyglottos

Parulidae

Geothlypis trichas

Emberizidae

Pipilo maculatus

Pipilo crissalis

Melospiza melodia

Icteridae

Agelaius phoeniceus

Molothrus ater

Fringillidae

Carpodacus mexicanus

Carduelis psaltria

MAMMALIA

Talpidae

Scapanus latimanus

Leporidae

Sylvilagus audubonii

Vireos

Warbling vireo

Jays, Magpies, and Crows

Western scrub-jay

American crow

Swallows

N. rough-winged swallow

Barn swallow

Titmice

Oak titmouse

Bushtits

Bushtit

Babblers

Wrentit

Mimic Thrushes

Northern mockingbird

Wood Warblers

Common yellowthroat

New World Sparrows

Spotted towhee

California towhee

Song sparrow

American Orioles

Red-winged blackbird

Brown-headed cowbird

Fringillid Finches

House finch

Lesser goldfinch

MAMMALS

Moles

Broad-footed mole

Rabbits and Hares

Audubon's cottontail

Lepus californicus

Black-tailed jackrabbit

Sciuridae

Spermophilus beecheyi

Squirrels

California ground squirrel

Geomyidae

Thomomys bottae

Pocket Gophers

Botta's pocket gopher

Cricetidae

Neotoma fuscipes

Cricetid Rodents

Dusky-footed woodrat

Canidae

* *Canis familiaris*

Foxes, Wolves, and Allies

Domestic dog

Mustilidae

Mustela frenata

Weasels

Long-tailed weasel

Bovidae

* *Bos bovis*

Bison, Goats, and Sheep

Domestic cattle

Equidae

* *Equus caballus*

Horses, Asses, and Zebras

Domestic horse

Taxonomy and nomenclature follow Laudenslayer et al. (1991. A Checklist of the Amphibians, Reptiles, Birds, and Mammals of California. California Fish and Game 77:109-141); and the American Ornithologists' Union (1998. The A.O.U. Checklist of North American Birds, 7th Ed. American Ornithologists' Union, Washington D.C.).

APPENDIX E
LIST OF CUMULATIVE PROJECTS

Type	Project Name	Description	Location	Current Status
Private	Cypress Ridge Tract Map & Development Plan	18 hole golf course, 386 homes	At Halcyon Road & El Campo in Mesa Village area	Approved
Private	Black Lake Specific Plan Amendment & Tract Map	Increase existing Specific Plan densities by 44 units	Willow Road and Pomeroy	Approved
Private	Meier/Herreck Tract Map	Resubdivide 113 lots into 183 lots (70 lot increase)	Old Nipomo, Thompson Rd. & Chestnut	Approved
Private	Teter Tract Map	Resubdivision from 3 to 4 lots (one lot increase)	Pomeroy & Live Oak	Approved
Private	Greenhart Farms Development Plan	415,000 sq.ft. greenhouse	Zenon Rd., south of Cheasepeake	Approved
Private	Murphy Tract Map	6-lot subdivision	Division St. & Tyrus Ct.	Approved
Private	Katzenstein Parcel Map	4-lot subdivision	Zenon Rd. & Black Lake Canyon	Approved
Private	Armstrong Tract Map	27-lot subdivision	Orchard and Grande	
Private	Sheilds & Shields Tract Map	41-lot subdivision	Hwy 101 & Hwy 166	Approved
Private	Lampe Tract	7-lot subdivision	S. Oak Glen	
Private	Busick Tract Map	18-lot subdivision	El Campo Rd. & Hwy 101	To P/C in Aug/04
Private	Sejera/Thompson Tract Map	13-lot subdivision	Thompson & Hwy 101	Approved
Private	Belsher & Becker Tract Map	4-lot subdivision	Pomeroy near Willow	Approved
Private	Ball Seed Development Plan	208,000 sq.ft. greenhouse	Zenon & Cheasapeake	
Private	The Woodlands Specific Plan	1,320 dwelling units, 31 acres commercial/business park, 18 acre (500 unit) resort hotel, and two golf courses (45 holes)	East of Hwy 1, one mile south of Willow Road	Approved; 1st tract/golf course approved and under construction
Public	North Mesa Assessment District	Improve various roads on north side of Black Lake Canyon	Portions of El Campo, Zenon, Stanton	Approved
Public	Widen portion of Halcyon Road	Widen portion of Halcyon Road		Approved
Private	Nipomo Oaks/Melschau	Change 40 acres designated agriculture land to commercial retail (175,000 sq.ft.)	Willow & Hetrick	Pending
Private	Brand	Change 32 acres residential rural land to residential suburban and 40 acres rural lands to commercial service	S. Frontage Road & Southland	Pending
Private	Craig/Lucia Mar School District	Change 40 acres residential rural land to 16 acres recreation and 24 acres of public utilities (school and ancillary uses)	Willow & Via Concha	Pending

Private	Cypress Ridge	Change 18 acres of residential suburban land to recreation, including a 102 room lodge and clubhouse expansion	El Campo & Halycon	Approved
Private	SLO County-Summit Station and Robertson et. al.	Amend the land use ordinance to remove two standards that apply to Summit Station. Increase development potential of 46 primary and 184 secondary dwellings	Pomeroy/Frontage Rd/Los Berros	Approved
Private	Anderson	Change 38 acres agricultural land to residential rural	NE corner Guadalupe & Willow	Approved
Private	Vellagio	20 Lots, Tract 2381	Near Willow Road and Pomeroy Road	Approved
Private	Robinson Weaver	Mini Storage with offices, approximately 2.5 acres	Northwest of the corner of Sandydale Drive and N. Frontage Road, just west of Hwy 101	Approved
Private	Biom LUO Amendment	Change up to 50 acres from CS/RS to IND	Immediately west of Hwys 166/101 interchange	Pending

WILLOW ROAD EXTENSION/US 101 INTERCHANGE
PROJECT
SAN LUIS OBISPO COUNTY, CALIFORNIA

DELINEATION OF WETLANDS AND JURISDICTIONAL WATERS SUBJECT TO U.S. ARMY
CORPS OF ENGINEERS AND CALIFORNIA DEPARTMENT OF FISH AND GAME
REGULATORY AUTHORITY

Prepared for:

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and

State of California
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LSA Project No. RAJ334

July 2005

TABLE OF CONTENTS

EXECUTIVE SUMMARY	1
INTRODUCTION	3
REGULATORY BACKGROUND	3
METHODS	7
RESULTS AND DISCUSSION	8
CONCLUSIONS	11
REFERENCES	12

ATTACHMENTS

A: AERIAL PHOTOGRAPH AND COLOR PHOTOGRAPHS OF THE PROJECT AREA

Figure 2: Jurisdictional Area Map

Figure 3: Photo Points within the Project Area

B: DATA SHEETS

FIGURES AND TABLES

FIGURES

Figure 1: Project Location	2
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TABLES

Table A: Hydrophytic Vegetation.....	5
Table B: Potential Jurisdictional Waters of the United States within Project Study Area	11

EXECUTIVE SUMMARY

The County of San Luis Obispo (County), in cooperation with the California Department of Transportation District 5 (Caltrans) and the Federal Highway Administration (FHWA) proposes to construct the State Route 101 (US 101)/Willow Road interchange between the kilopost (KP) 9.4 (postmile [PM]5.75) and KP 9.8 (PM 6.0) in the community of Nipomo, south San Luis Obispo County, California. The FHWA will be the federal Lead Agency for environmental approval under the National Environmental Policy Act (NEPA), with oversight by Caltrans District 5.

The project would involve the installation of an interchange where the extension of Willow Road would cross the US 101. This interchange would be constructed with Willow Road as an undercrossing to the US 101. A two-lane bridge is proposed for the crossing of Willow Road over Nipomo Creek. From this bridge, Willow Road would be extended east to connect to Thompson Road. In addition, a park and ride facility would be constructed in the southwest quadrant of the US 101/Willow Road interchange. The project area is located in an unsectioned portion of Township 12 North, Range 35 West, San Bernardino Base Line and Meridian. The entire project area is depicted on the USGS *Nipomo* 7.5-minute topographic quadrangle (Figure 1).

Rajappan and Meyer Consulting Engineers, Inc., retained LSA Associates, Inc. (LSA) to conduct a wetland/jurisdictional delineation as part of the preparation of environmental documentation for the project. The on-site examination of vegetation, soils, and hydrology was conducted according to the U.S. Army Corps of Engineers (Corps) three-parameter (vegetation, soils, hydrology) method of wetland delineation (1987 Manual). This report identifies the potential jurisdictional area within the study area and does not analyze the potential impacts from the proposed project. Included in the site evaluation was an analysis of current aerial photographs, topographic maps, and soils information. It is expected that the area of potential impact will be within the study area, which includes the area east of the US 101, north of the existing nursery, across existing agricultural fields, to Thompson Avenue. In addition, the area of the proposed interchange on the west of US 101 was included in this study area.

The areas examined for the purposes of this jurisdictional delineation included Nipomo Creek and the immediate vicinity (Attachment A, Figures 2 and 3). Only those areas that contain potentially jurisdictional water bodies are shown. The study area was evaluated by surveying the area on foot and noting significant changes in the channel. Each potentially jurisdictional feature within the study area was evaluated individually. There were approximately 30 meters (100 linear feet) of earthen channel within the study area.

The completed jurisdictional delineation revealed that 0.08 hectare (0.19 acre) were jurisdictional waters of the U.S., of which 0.01 hectare (0.03 acre) meets the Corps definition of nonwetland waters of the United States, and 0.07 hectare (0.16 acre) meets all three parameters required to qualify as a jurisdictional wetland under Section 404 of the Clean Water Act.

Potential California Department of Fish and Game (CDFG) jurisdiction is equivalent to the potential Corps jurisdiction.

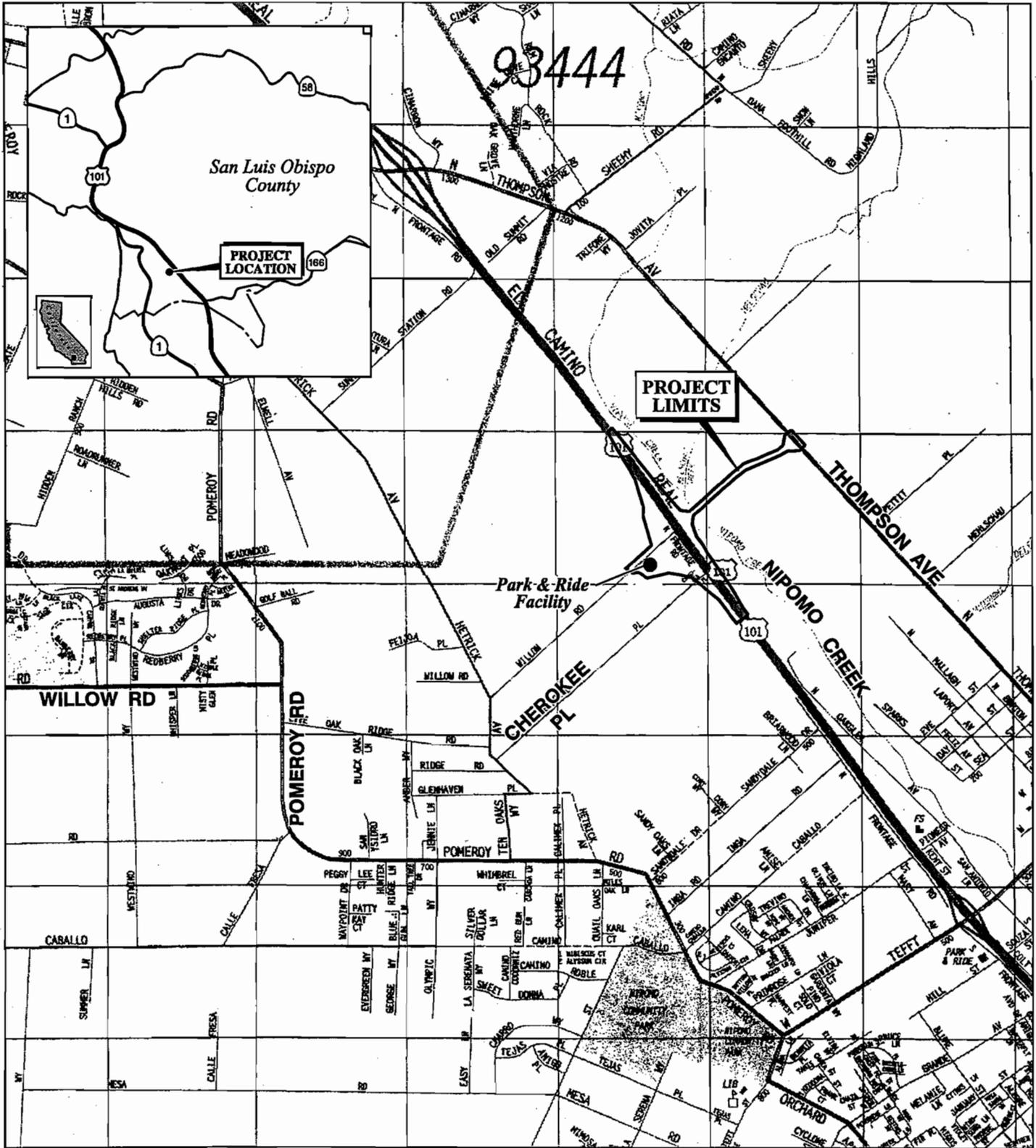
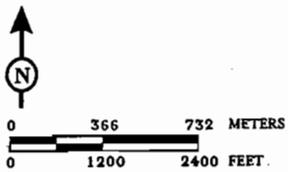


FIGURE 1



SOURCE: THE THOMAS GUIDE

U.S. 101/Willow Road Interchange Project

Project Location

05-SLO-101 KP 9.49.8 (PM 5.86.0)

EA#474500

INTRODUCTION

The following evaluation of regulatory jurisdiction has been prepared by LSA for use by the Corps, the Regional Water Quality Control Board (RWQCB), and the CDFG as part of their review of applications for permit authorization under Section 404 of the federal Clean Water Act (CWA) and Section 401 of the federal Clean Water Act, and for Streambed Alteration Agreement processing under Section 1602 of the California Fish and Game Code, respectively.

LSA was retained by Rajappan and Meyer Consulting Engineers, Inc. to conduct a wetland/jurisdictional delineation for the proposed project area. The on-site examination of vegetation, soils, and hydrology was conducted according to the Corps three-parameter (vegetation, soils, hydrology) method of wetland delineation (1987 Manual). Included in the site evaluation was an analysis of current aerial photographs, topographic maps, and soils information. It is expected that the area of potential impact will be within the study area, which includes the area east of the US 101, north of the existing nursery, across existing agricultural fields, to Thompson Avenue. In addition, the area of the proposed interchange on the west of US 101 was included in this study area. The elevation of the site ranges from approximately 100 meters (330 feet) within Nipomo Creek to about 110 meters (360 feet) at Thompson Avenue.

The wetland/jurisdictional delineation field evaluation was conducted along Nipomo Creek on September 2, 2003, by LSA biologists Micaele Maddison and Elizabeth Scheinbach. An additional field evaluation was conducted by these same biologists on September 17, 2003.

Nipomo Creek is an earthen channel within the proposed study area. To the west of Nipomo Creek is an area dominated by freshwater marsh, and immediately adjacent to the freshwater marsh on the west side is an area dominated by willow riparian habitat.

REGULATORY BACKGROUND

U.S. Army Corps of Engineers

The Corps regulates discharges of dredged or fill material into *waters of the United States*. These *waters* include *wetlands* and nonwetland bodies of water that meet specific criteria. Corps regulatory jurisdiction pursuant to Section 404 of the CWA is founded on a connection, or *nexus*, between the water body in question and interstate commerce. This connection may be direct, through a tributary system linking a stream channel with traditional navigable waters used in interstate or foreign commerce, or may be indirect, through a nexus identified in the Corps regulations. The following definition of waters of the United States is taken from the discussion provided at 33 CFR 328.3:

“The term waters of the United States means:

- (1) All waters which are currently used, or were used in the past, or may be susceptible to use in interstate or foreign commerce . . . ;
- (2) All interstate waters including interstate wetlands;
- (3) All other waters such as intrastate lakes, rivers, streams (including intermittent streams) . . . the use, degradation or destruction of which could affect interstate or foreign commerce . . . ;

- (4) All impoundments of waters otherwise defined as waters of the United States under the definition; and
- (5) Tributaries of waters defined in paragraphs (a) (1)–(4) of this section.”

In the past, an indirect nexus could potentially be established if isolated waters provided habitat for migratory birds, even in the absence of a surface connection to a navigable water of the United States. The 1984 rule that enabled the Corps to expand jurisdiction over isolated waters of this type became known as the Migratory Bird Rule.

On January 9, 2001, the United States Supreme Court narrowly limited the Corps jurisdiction of “non-navigable, isolated, intrastate” waters based solely on the use of such waters by migratory birds. The Court’s ruling derives from the case *Solid Waste Agency of Northern Cook County v. United States Army Corps of Engineers*, No. 99-1178 (January 9, 2001) (SWANCC). The Supreme Court, in a 5-4 decision, determined that the Corps exceeded its statutory authority by asserting CWA jurisdiction over an abandoned sand and gravel pit in northern Illinois, which provides habitat for migratory birds.

The Corps typically regulates as *waters of the United States* any body of water displaying an *ordinary high water mark* (OHWM). Corps jurisdiction over nontidal waters of the United States extends laterally to the OHWM or beyond the OHWM to the limit of any adjacent wetlands, if present (33 CFR 328.4). The OHWM is defined as “that line on the shore established by the fluctuations of water and indicated by physical characteristics such as a clear natural line impressed on the bank, shelving, changes in the character of soil, destruction of terrestrial vegetation, the presence of litter and debris, or other appropriate means that consider the characteristics of the surrounding area” (33 CFR 328.3). Jurisdiction typically extends upstream to the point where the OHWM is no longer perceptible.

The Corps and the Environmental Protection Agency (EPA) define wetlands as follows:

“Those 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 to life in saturated soil conditions.”

In order to be considered a *jurisdictional wetland* under Section 404, an area must possess three wetland characteristics: *hydrophytic vegetation*, *hydric soils*, and *wetland hydrology*. Each characteristic has a specific set of mandatory wetland criteria that must be satisfied in order for that particular wetland characteristic to be met. Several parameters may be analyzed to determine whether the criteria are satisfied.

Hydrophytic vegetation is plant life that grows, and is typically adapted for life, in permanently or periodically saturated soils. The hydrophytic vegetation criterion is met if more than 50 percent of the dominant plant species from all strata (tree, shrub, and herb layers) is considered hydrophytic. Hydrophytic species are those included on the *National List of Plant Species That Occur in Wetlands* (Reed 1988), published by the U.S. Fish and Wildlife Service (USFWS). Each species on the list is rated according to a wetland indicator category, as shown in Table A.

To be considered hydrophytic, the species must have *wetland indicator status*, i.e., be rated as OBL, FACW, or FAC.

Table A: Hydrophytic Vegetation

Category		Probability
Obligate Wetland	OBL	Almost always occur in wetlands (estimated probability > 99%)
Facultative Wetland	FACW	Usually occur in wetlands (estimated probability 67% to 99%)
Facultative	FAC	Equally likely to occur in wetlands and nonwetlands (estimated probability 34% to 66%)
Facultative Upland	FACU	Usually occur in nonwetlands (estimated probability 67% to 99%)
Obligate Upland	UPL	Almost always occur in nonwetlands (estimated probability > 99%)

The delineation of hydrophytic vegetation is typically based on the three (five, if only one or two strata are present) most dominant species from each vegetative stratum (strata are considered separately); when more than 50 percent of these dominant species are hydrophytic (i.e., FAC, FACW, or OBL), the vegetation is considered hydrophytic.

Hydric soils are saturated or inundated long enough during the growing season to develop anaerobic conditions that favor growth and regeneration of hydrophytic vegetation. Soils are considered hydric when the National Technical Committee for Hydric Soils (NTCHS) criteria are met. Current criteria (as of October 1992) are as follows:

1. All Histosols except Folists; or
2. Soils in Aquic suborders, Aquic subgroups, Albolls suborder, Salothids great group, Pell great groups of vertisols, Pachic subgroups, or Cumulic subgroups that are:
 - A) Somewhat poorly drained and have a frequently¹ occurring water table at less than 6 inches from the surface for a significant period (usually more than two weeks) during the growing season; or
 - B) Poorly drained or very poorly drained and have either:
 - (1) A frequently occurring water table at less than 6 inches from the surface for a significant period (usually more than two weeks) during the growing season if textures are coarse sand, or fine sand in all layers within 20 inches; or
 - (2) A frequently occurring water table at less than 12 inches from the surface for a significant period (usually more than two weeks) during the growing season if

¹ The term "frequent" is defined by the NTCHS as more than 50 years out of 100 or more than 50 percent probability in any one year.

permeability is greater than 6.0 inches/hour in all layers within 20 inches of the surface;
or

- (3) A frequently occurring water table at less than 18 inches from the surface for a significant period (usually more than two weeks) during the growing season if permeability is less than 6.0 inches/hour in all layers within 20 inches of the surface; or
3. Soils that are frequently ponded for long duration or very long duration¹ during the growing season; or
4. Soils that are frequently flooded for long duration or very long duration during the growing season.

There are a number of indirect indicators that may signify the presence of hydric soils including hydrogen sulfide generation, the presence of iron and manganese concretions, certain soil colors, gleying, and the presence of mottling. Generally, hydric soils are dark in color or may be gleyed (bluish, greenish, or grayish), resulting from soil development under anoxic (without oxygen) conditions. Bright mottles within an otherwise dark soil matrix indicate periodic saturation with intervening periods of soil aeration.

Hydric indicators are particularly difficult to observe in sandy soils, which are often recently deposited soils of flood plains (entisols) and usually lack sufficient fines (clay and silt) and organic material to allow use of soil color as a reliable indicator of hydric conditions. Hydric soil indicators in sandy soils include accumulations of organic matter in the surface horizon, vertical streaking of subsurface horizons by organic matter, and organic pans. In some situations, it may be impossible to find any hydric soil indicators due to recent deposits of sandy materials (e.g., accreting sandbars). These are described as "Atypical Situations" in the 1987 Manual, which prescribes use of the other two parameters (vegetation and hydrology) for wetland delineations when no hydric soils indicators can be found.

Under natural conditions, development of hydrophytic vegetation and hydric soils is dependent on a third characteristic: wetland hydrology. Areas with wetland hydrology are those where the presence of water has an overriding influence on vegetation and soil characteristics due to anaerobic and reducing conditions, respectively (Environmental Laboratory 1987). The wetland hydrology parameter is satisfied if the area is seasonally inundated or saturated to the surface for a consecutive number of days equal to 12.5 percent or more of the growing season² (Corps 1992). Areas saturated to the surface for less than 5 percent of the growing season do not meet the hydrology criterion. Areas saturated to the surface between 5.0 and 12.5 percent of the growing season may or may not meet the hydrology criterion. In these situations, other hydrology indicators must be considered, and the vegetation test should be critically reviewed (Corps 1991).

¹ Long duration is defined by the NCHS as a single event ranging from 7 to 30 days; very long duration is defined as a single event that lasts longer than 30 days.

² The growing season is defined as that portion of the year when the soil temperature at 50.04 centimeters (19.7 inches) below the ground surface is greater than biologic zero (5°C [41°F]) (USDA Soil Survey Staff 1975); this can be estimated from regional climatological data such as that provided in County soil surveys.

Hydrology is often the most difficult criterion to measure in the field, due to seasonal and annual variations in water availability. Some of the indicators that are commonly used to identify wetland hydrology include visual observation of inundation or saturation, watermarks, recent sediment deposits, surface scour, and oxidized root channels (rhizospheres) resulting from prolonged anaerobic conditions.

Wetland delineations for Section 404 permitting purposes must be done according to the 1987 Manual (Environmental Laboratory 1987). This manual provides two different approaches to delineating wetlands (i.e., routine and comprehensive), depending on the complexity of the site and whether there is a need for quantitative evaluation and extensive documentation. For the majority of wetland delineations, the routine on-site evaluation method is appropriate.

Determination of wetland limits may be obfuscated by a variety of natural environmental factors, including cyclic periods of drought and flooding or highly ephemeral stream systems. During periods of drought, bank return flows are reduced, and water tables may be lowered. This results in a corresponding lowering of ordinary high water and invasion of upland plant species into wetland areas. Conversely, extreme flooding may create physical evidence of high water well above what might be considered ordinary and may allow temporary invasion of hydrophytic species into nonwetland areas. In highly ephemeral systems, typical of Southern California, these problems are encountered frequently. In these situations, professional judgment and knowledge of local ecological conditions come into play in delineating wetlands.

California Department of Fish and Game

The CDFG, through provisions of the California Fish and Game Code (Section 1602), is empowered to issue agreements for any alteration of a river, stream, or lake where fish or wildlife resources may be adversely affected. Streams (and rivers) are defined by the presence of a channel bed and banks and at least an intermittent flow of water. CDFG regulates wetland areas only to the extent that those wetlands are a part of a river, stream, or lake as defined by CDFG.

In obtaining CDFG Agreements, the limits of wetlands are not typically determined. The reason for this is that CDFG generally includes, within the jurisdictional limits of streams and lakes, any riparian habitat present. Riparian habitat includes willows, mulefat, and other vegetation typically associated with the banks of a stream or lake shoreline. In most situations, wetlands associated with a stream or lake would fall within the limits of riparian habitat. Thus, defining the limits of CDFG jurisdiction based on riparian habitat will automatically include any wetland areas and may include additional areas that do not meet the Corps criteria for soils and/or hydrology (e.g., where riparian woodland canopy extends beyond the banks of a stream away from frequently saturated soils).

METHODS

A routine wetland delineation was conducted, and areas of potential jurisdiction were evaluated according to the Corps 1987 Manual (i.e., Environmental Laboratory 1987) and CDFG criteria. The study area was surveyed on foot for both potential wetlands and nonwetland jurisdictional waters as well as streambed and riparian resources. General site characteristics were also noted. Although the

delineation was conducted on September 2 and 17, 2003, observations were made within the Nipomo Creek drainage during the various other surveys of the parcel. The dates of these other surveys were April 8 and 9, June 2, 3, and 17, and August 28, 2003.

Portions of the study area that contained potentially jurisdictional waters were on the east side of the US 101 within the boundaries of the proposed project, specifically Nipomo Creek and the immediately adjacent areas. (Attachment A, Figures 2 and Figures 3).

Measurements of jurisdictional areas were taken in the field and mapped on an aerial photograph base (scale: 1 inch = 100 feet). In addition, the boundaries of the riparian habitats and the area of potential jurisdiction within Nipomo Creek were recorded using a submeter accuracy Trimble Global Positioning System (GPS) unit. The jurisdictional area for the project was calculated using Geographic Information Systems (GIS).

All areas within the study area supporting species of plant life potentially indicative of wetlands were evaluated according to routine wetland delineation procedures described in the 1987 Manual. Standard data forms were completed for each sample plot; transcriptions of these data forms are included in Attachment B of this report. At each sample plot, the dominant and subdominant plant species were identified, and their wetland indicator (Reed 1988) status was noted. Soil characteristics were assessed by digging a soil pit and examining the various profiles to determine the presence or absence of hydric indicators. Finally, hydrologic conditions, including any surface inundation, saturated soils, groundwater levels, and/or other wetland hydrology indicators, were noted. All water bodies were examined for evidence of an OHWM, which defines the lateral limit of the Corps jurisdictional boundaries unless adjacent wetlands are determined to be present.

RESULTS AND DISCUSSION

General Site Characteristics

Nipomo Creek is an earthen channel within the study area. Approximately 30 meters (100 linear feet) of earthen channel is within the study area and this segment of channel varies in width from about 2.44 meters (8 feet) to about 5.18 meters (17 feet). Adjacent to Nipomo Creek, there is an area of freshwater marsh habitat and an area of willow riparian habitat.

Nipomo Creek and the adjacent riparian areas have been heavily impacted by the domestic cows and horses that have been grazing in this area. The banks of the creek have been heavily trampled so that the OHWM was indiscernible. Therefore, the stream bank to stream bank width was measured as the OHWM.

There are several earthen ditches adjacent to Willow Road and US 101 that convey runoff from the adjacent roads. One earthen ditch is located on the northwest corner of Willow Road and Pomeroy Road. This ditch, which is approximately 9 meters (30 feet) in length, is parallel to Willow Road and conveys runoff from the road to a small detention area adjacent to the intersection. Two culverts convey runoff from US 101 to the fields east of US 101. These culverts drain into earthen ditches, which eventually disappear as the topography levels out. These ditches are excavated on dry land and do not have connectivity to traditional navigable waters of the United States. Therefore, they would not be considered jurisdictional by either the Corps or the CDFG.

Jurisdictional Waters: U.S. Army Corps of Engineers and Wetlands Delineation

Vegetation. Vegetation that grows within Nipomo Creek is dominated by ruderal species with minimal hydrophytic components. This vegetation includes such species as alkali-mallow (*Malvella leprosa*), bristly ox-tongue (*Picris echioides*), and sweet fennel (*Foeniculum vulgare*). Alkali mallow is classified as a facultative species, which means that it is equally likely to occur in wetlands and nonwetlands. However, the other dominant species within the drainage is a facultative upland species, which occurs in nonwetlands. Therefore, the vegetation within the creek is a very weak indicator of wetlands.

There are two areas of predominantly hydrophytic vegetation adjacent to Nipomo Creek. One is the habitat identified as freshwater marsh and the other is the habitat identified as willow riparian. The freshwater marsh is dominated by hydrophytic vegetation which included beardless wild-rye (*Elymus triticoides*), common toad rush (*Juncus bufonius*), narrow-leaved cat-tail (*Typha angustifolia*), rabbitfoot grass (*Polypogon monspelienses*), and California dock (*Rumex salicifolius*). In addition, the willow riparian habitat is dominated by hydrophytic vegetation, which includes Arroyo willow (*Salix lasiolepis*), iris-leaved rush (*Juncus xiphioides*) and rabbitfoot grass. The vegetation in these riparian habitats has been trampled and eaten by cattle and horses grazing in the area. These areas of hydrophytic vegetation are separated from Nipomo Creek by a small berm that is dominated by upland ruderal vegetation, which includes summer mustard (*Hirschfeldia incana*), common ripgut grass (*Bromus diandrus*) and wild oat (*Avena sp.*).

Soils. The study area is located on the Nipomo Mesa, which is mostly derived from dune sand. However, the soils of the study area are derived from river and stream terrace deposits of cobble and pebble gravel, sand and silt (Campbell 1951). These sandy, silty soils typically do not exhibit hydric indicators.

The soils within the Nipomo Creek channel are very loose sand disturbed by grazing livestock. However, over the sandy soils, the freshwater marsh and willow riparian areas have a thin, dark surface layer where vegetation is decomposing. This surface layer has been compacted by livestock trampling. A soil pit was excavated within the willow riparian habitat adjacent to Nipomo Creek as it is a slightly higher elevation than the area of freshwater marsh (Attachment B). If the soils in the higher elevation proved to be hydric soils, then the soils in the area of freshwater marsh would be hydric as well.

In those areas suspected of being wetlands, such as the freshwater marsh and willow riparian habitats, the sandy soil type did not support any conclusive indicators of hydric soils. Rather, the low chroma of the soil and the potential presence of an aquic moisture regime were much more definitive hydric soils indicators. Three site visits were conducted within the study area, the first two of these site visits (April and June, 2003) were botanical surveys and were unrelated to this jurisdictional delineation conducted in September, 2003. However, these site visits have afforded additional opportunities to observe and note the presence of water in these wetland areas in various times throughout the year. Standing water was observed in the freshwater marsh during the April 2003 botanical survey and damp soils were observed in this area during the other site visits. Therefore, an aquic moisture regime is expected to occur within the rainy season for a sufficient length of time to meet the hydrology

criteria. The soils were damp in the willow riparian area during the botanical surveys, as well as during the delineation. Therefore, an aquic moisture regime is expected to occur within the rainy season for a sufficient length of time to meet the hydrology criteria. Runoff from the adjacent nursery and agricultural uses appears to be a perennial water source for the freshwater marsh and willow riparian habitats.

Hydrology

The annual growing season in this part of central California is estimated at 365 days. Assuming an average annual growing season of 365 days, soils would need to be saturated to the surface for a minimum of 5 percent of the growing season, or about 18 consecutive days, in order to satisfy the wetland hydrology criterion. A definitive determination would require saturation for 12.5 percent of the growing season, or about 45 consecutive days.

Nipomo Creek is an ephemeral blue line drainage with a well-defined channel, and in areas adjacent to the project site that are not being grazed, exhibits shelving, vegetative debris patterns, water marks on the banks, and flow patterns. However, standing water was not observed in Nipomo Creek during spring botanical surveys (April and June, 2003), and there was no standing water in Nipomo Creek at the time of the jurisdictional delineation (September 2003). In addition, the soils in Nipomo Creek were always dry, not damp as with the area of freshwater marsh and the willow riparian habitats.

The soils in the freshwater marsh and willow riparian habitats were determined to have wetland hydrology and are expected to be saturated within 30 centimeters (12 inches) of the surface for well in excess of 45 consecutive days.

Jurisdictional Status of Drainages

In addition, the stream has an interstate commerce nexus by virtue of ultimately being a tributary to a traditional navigable water of the United States (i.e., the Pacific Ocean). That is, Nipomo Creek is a tributary to Santa Maria River, which is tributary to the Pacific Ocean. Nipomo Creek, which flows from the northwest to the southeast within the study area, was examined for possible jurisdictional status. Nipomo Creek is identified as an ephemeral drainage, without hydrophytic vegetation, with an interstate commerce nexus. Therefore, Nipomo Creek was determined to be a nonwetland water of the United States. The portion of Nipomo Creek within the study area has been heavily impacted by grazing activities. Therefore, the OHWM of Nipomo Creek was indiscernible within the study area. For the purposes of this delineation, LSA identified the top of the streambank as the OHWM for identifying the boundaries of nonwetland waters subject to Corps jurisdiction within the study area. This may be slightly larger than the actual OHWM. However, given the small amount of nonwetland waters within the study area, the small bank elevation and the narrow drainage channel, LSA expects that the difference in these areas is negligible.

Although the areas of hydrophytic vegetation (i.e. the freshwater marsh and willow riparian habitats) are separated from Nipomo Creek by a small berm with upland vegetation, both of these habitats possess all three wetland characteristics along with a hydraulic connection with Nipomo Creek. This hydraulic connection exists in one area where the livestock have trampled the berm so that the water from the freshwater marsh may overflow into Nipomo Creek. Therefore, the freshwater marsh and

willow riparian habitats are determined to be jurisdictional wetlands. The jurisdictional acreages are summarized in Table B.

Table B: Potential Jurisdictional Waters of the United States within Project Study Area

Jurisdictional Area	Area Hectares (Acres)
Wetland	0.07 (0.16)
Nonwetland waters	0.01 (0.03)
Jurisdictional Waters	0.08 (0.19)

The results summarized above in Table B represents the potential jurisdictional area currently within the study area. They do not represent the potential impacts from the proposed project.

The jurisdictional status of drainages similar to those described below are normally determined on a case-by-case basis by the regulatory agencies. LSA recommends that the agencies be consulted during an on-site meeting with the Corps for a final determination regarding these drainages and structures and to verify the results of LSA's jurisdictional determination.

California Department of Fish and Game

The OHWM indicators within the portion of Nipomo Creek within the study area were not discernible at the time of the site visits due to the impacts to the streambanks from cattle and horse grazing activities. Therefore, LSA identified the streambank width as the area of nonwetland waters subject to Corps jurisdiction. This would be equivalent to the area of the drainage channel that would be subject to CDFG jurisdiction. In addition, the freshwater marsh and willow riparian habitats adjacent to Nipomo Creek would be subject to CDFG jurisdiction. Therefore, Table B identifies the acreages subject to CDFG jurisdiction as well as Corps jurisdiction.

CONCLUSIONS

Based on the analysis, LSA found a total of 0.08 hectare (0.19 acre) of jurisdictional waters of the United States, of which 0.07 hectare (0.16 acre) is jurisdictional wetlands and 0.01 hectare (0.03 acre) are jurisdictional nonwetland waters of the United States. In addition, these same areas would be subject to CDFG jurisdiction.

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ATTACHMENT A

**AERIAL PHOTOGRAPHS AND COLOR PHOTOGRAPHS OF THE
PROJECT AREA**

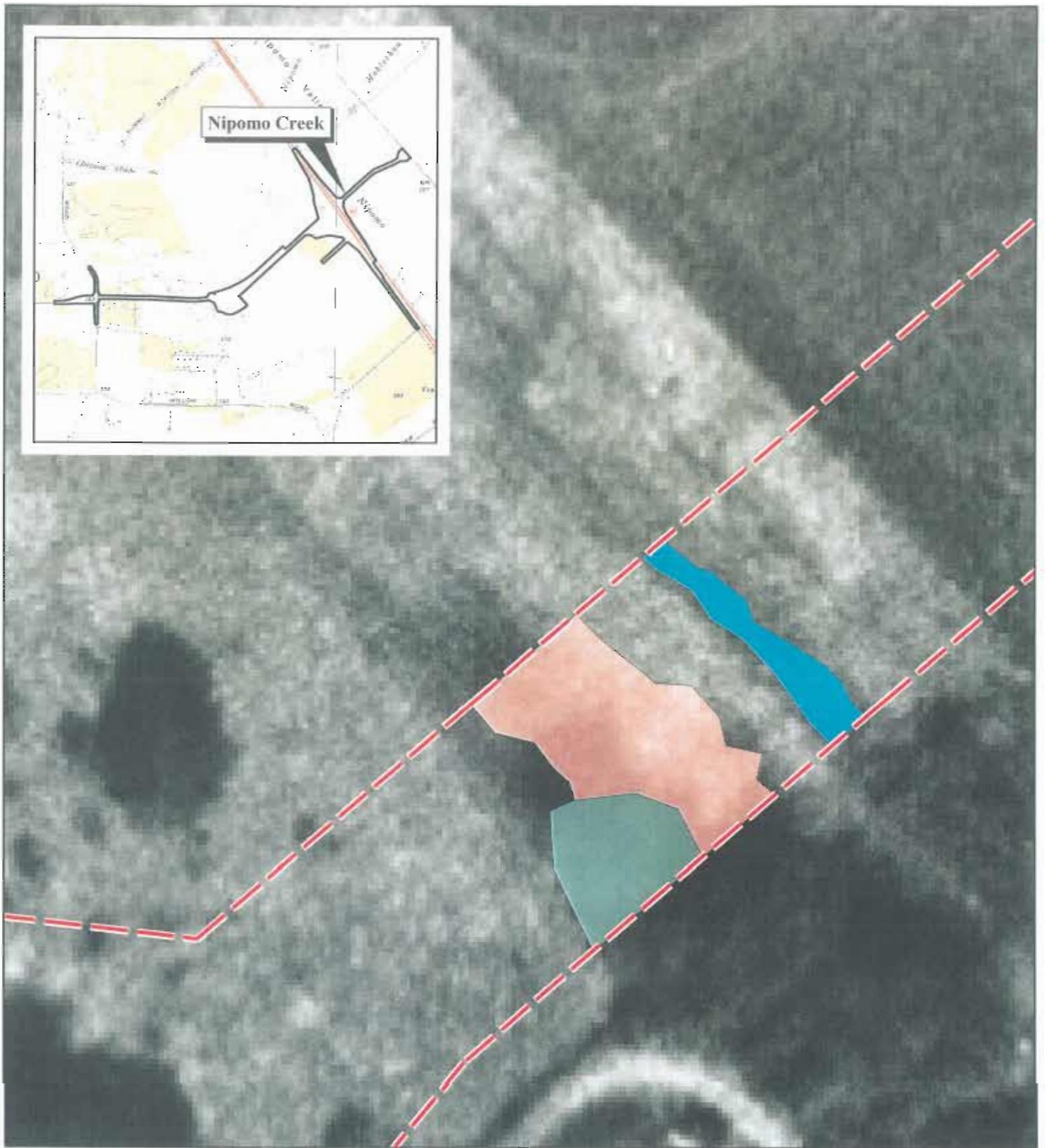


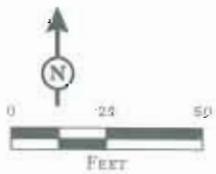
FIGURE 2

LSA

LEGEND

-  Final Impact Limits
-  Freshwater Marsh (0.11 ac)
-  Nipomo Creek (0.03 ac / 100.6 ft)
-  Willow Riparian (0.05 ac)

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



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

E:\RA\334\GIS\Fig2_delineation.mxd (11/3/03)



View to the northwest along Nipomo Creek.



View to the southeast of Nipomo Creek, as well as adjacent freshwater marsh and willow riparian habitats.

FIGURE 3

ATTACHMENT B

DATA SHEETS

LSA

DATA FORM 1
 ROUTINE WETLAND DETERMINATION
 (1987 ACOE Wetland Delineation)

Project/Site: <u>RAJ 334</u>	Date: <u>9/02/03</u>
Applicant/Owner: _____	County: <u>ESLO</u>
Delineator(s): <u>M. Maddison + L. Schreiner</u>	State: <u>CA</u>
Do Normal Circumstances exist? (if No, explain in final Remarks) <u>Y</u>	Plant Community: <u>Ruderal</u>
Does an Atypical Situation exist? (if Yes, explain in final Remarks) <u>N</u>	Transect No.: _____
Is this a Problem Area? (if Yes, explain in final Remarks) <u>N</u>	Plot No.: <u>SPI</u>

VEGETATION

Dominant Plant Species	Stratum	Indicator	Subdominant Plant Species	Stratum	Indicator
<u>Malvella leprosa</u>		<u>FAC</u>	<u>Picris echioides</u>		<u>FAC</u>
<u>Fennel</u>		<u>FAC</u>			
		FAC			
Percent of Dominant Species that are OBL, FACW or FAC (Excluding FAC): <u>50%</u>					
Remarks: <u>weak indicator of hydrophytic vegetation w/in Nipomo Creek channel</u>					

HYDROLOGY

<p>Recorded Data (describe in Remarks)</p> <p>_____ Stream, Lake or Tide Gage</p> <p>_____ Aerial Photographs</p> <p>_____ Other</p> <p>_____ No Recorded Data Available</p> <p>Wetland Hydrology Indicators:</p> <p>Primary Indicators:</p> <p>_____ Inundated</p> <p>_____ Saturated in Upper 12 Inches</p> <p>_____ Water Marks</p> <p>_____ Drift Lines</p> <p>_____ Sediment Deposits</p> <p>_____ Drainage Patterns in Wetlands</p>	<p>Field Observations:</p> <p>Depth of Surface Water: _____</p> <p>Depth to Free Water in Pit: _____</p> <p>Depth to Saturated Soil: _____</p> <p>Secondary Indicators (2 or more required):</p> <p>_____ Oxidized Root Channels in Upper 12 Inches</p> <p>_____ Water-Stained Leaves</p> <p>_____ Local Soil Survey Data</p> <p>_____ FAC-Neutral Test</p> <p>_____ Other (explain in Remarks)</p>
<p>Remarks: <u>⊙</u></p>	

LSA

DATA FORM 1
 ROUTINE WETLAND DETERMINATION
 (1987 ACOE Wetland Delineation)

Project/Site: <u>RA5334</u>	Date: <u>6/9/03</u>
Applicant/Owner: _____	County: <u>SLO</u>
Delineator(s): <u>M. Maddison, L. Scheinbach</u>	State: <u>CA</u>
Do Normal Circumstances exist? (if No, explain in final Remarks) <u>Y</u>	Plant Community: <u>Freshwater marsh</u>
Does an Atypical Situation exist? (if Yes, explain in final Remarks) <u>N</u>	Transect No.: _____
Is this a Problem Area? (if Yes, explain in final Remarks) <u>N</u>	Plot No.: <u>SP2</u>

VEGETATION

Dominant Plant Species	Stratum	Indicator	Subdominant Plant Species	Stratum	Indicator
<u>Lemna trit.</u>		<u>fac+</u>	<u>Polypogon monsp.</u>		<u>FACW+</u>
<u>Juncus bufonius</u>		<u>facU+</u>	<u>Rumex salicifolius</u>		<u>Obl</u>
<u>Typha angust.</u>		<u>Obl</u>			
Percent of Dominant Species that are OBL, FACW or FAC (Excluding FAC-):			<u>76.6%</u>		
Remarks:					

HYDROLOGY

<p>Recorded Data (describe in Remarks)</p> <p>_____ Stream, Lake or Tide Gage</p> <p>_____ Aerial Photographs</p> <p>_____ Other</p> <p>_____ No Recorded Data Available</p> <p>Wetland Hydrology Indicators:</p> <p>Primary Indicators:</p> <p>_____ Inundated</p> <p>_____ Saturated in Upper 12 Inches</p> <p>_____ Water Marks</p> <p>_____ Drift Lines</p> <p>_____ Sediment Deposits</p> <p>_____ Drainage Patterns in Wetlands</p>	<p>Field Observations:</p> <p>Depth of Surface Water: _____</p> <p>Depth to Free Water in Pit: _____</p> <p>Depth to Saturated Soil: _____</p> <p>Secondary Indicators (2 or more required):</p> <p>_____ Oxidized Root Channels in Upper 12 Inches</p> <p>_____ Water-Stained Leaves</p> <p>_____ Local Soil Survey Data</p> <p>_____ FAC-Neutral Test</p> <p>_____ Other (explain in Remarks)</p>
<p>Remarks: <u>dig soil pit in SP3. + if that's wetland (higher elev) then this will be as well.</u></p>	

WETLAND DATA FORM
(Continued)

SOILS

Name (Series/Phase): _____		Drainage Class: _____			
Taxonomy (Subgroup): _____		Field Observations Confirmed Mapped Type? _____			
Profile Descriptions:					
Depth	Horizon	Matrix Color (Munsell Moist)	Mottle Color (Munsell Moist)	Mottle Abundance/ Contrast	Texture, Concretions, Structure, etc.
Hydric Soil Indicators:					
_____	Histosol	_____	Concretions		
_____	Histic Epipedon	_____	High Organics in Surface Layer (Sandy Soils)		
_____	Sulfidic Odor	_____	Organic Streaking (Sandy Soils)		
_____	Aquic Moisture Regime	_____	Listed on Local Hydric Soils List		
_____	Reducing Conditions	_____	Listed on National Hydric Soil List		
_____	Gleyed or Low-Chroma Soils	_____	Other (explain in Remarks)		
Remarks: <i>see remark in hydrology</i>					

WETLAND DETERMINATION

Hydrophytic Vegetation Present?	<i>yes.</i>	
Wetland Hydrology Present?	<i>SP3 yes</i>	Is This Sampling Point Within a Wetland? <i>yes.</i>
Hydric Soils Present?	<i>SP3 yes</i>	
Remarks: <i>Cattle in area have trimmed, vegetation (flattened). Other plant species noted during botanical surveys in April + June include Juncus buffonius Cyperus esculentus & Uroia raseii separated from Ripomo creek by berm which has upland vegetation.</i>		

LSA

DATA FORM 1
 ROUTINE WETLAND DETERMINATION
 (1987 ACOE Wetland Delineation)

Project/Site: <u>RAJ334</u>	Date: <u>9/2/03</u>
Applicant/Owner: _____	County: <u>SLO</u>
Delineator(s): <u>M. Maddison ; L. Scheinbach</u>	State: <u>CA</u>
Do Normal Circumstances exist? (if No, explain in final Remarks) <u>Y</u>	Plant Community: <u>Willow riparian</u>
Does an Atypical Situation exist? (if Yes, explain in final Remarks) <u>N</u>	Transect No.: _____
Is this a Problem Area? (if Yes, explain in final Remarks) <u>N</u>	Plot No.: <u>SP3</u>

VEGETATION

Dominant Plant Species	Stratum	Indicator	Subdominant Plant Species	Stratum	Indicator
<u>Salix lasiolepis</u>		<u>FACW</u>			
<u>Polygonum mon.</u>		<u>FACW</u>			
<u>Juncus xiphioides</u>		<u>Obl</u>			
Percent of Dominant Species that are OBL, FACW or FAC (Excluding FAC):			<u>100%</u>		
Remarks:					

HYDROLOGY

<p>Recorded Data (describe in Remarks)</p> <p>_____ Stream, Lake or Tide Gage</p> <p>_____ Aerial Photographs</p> <p>_____ Other</p> <p>_____ No Recorded Data Available</p> <p>Wetland Hydrology Indicators:</p> <p>Primary Indicators:</p> <p><u>No</u> Inundated</p> <p><u>No</u> Saturated in Upper 12 Inches</p> <p><u>No</u> Water Marks</p> <p><u>No</u> Drift Lines</p> <p><u>No</u> Sediment Deposits</p> <p>_____ Drainage Patterns in Wetlands</p>	<p>Field Observations:</p> <p>Depth of Surface Water: <u>NONE</u></p> <p>Depth to Free Water in Pit: <u>NONE</u></p> <p>Depth to Saturated Soil: <u>0</u></p> <p>Secondary Indicators (2 or more required):</p> <p>_____ Oxidized Root Channels in Upper 12 Inches</p> <p>_____ Water-Stained Leaves</p> <p>_____ Local Soil Survey Data</p> <p>_____ FAC-Neutral Test</p> <p>_____ Other (explain in Remarks)</p>
<p>Remarks: <u>Soil not quite saturated but wet and holds together. Little in dry season - Weak hydrologic indicators.</u></p>	

WETLAND DATA FORM
(Continued)

SOILS

Name (Series/Phase): _____		Drainage Class: _____			
Taxonomy (Subgroup): _____		Field Observations Confirmed Mapped Type? _____			
Profile Descriptions:					
Depth	Horizon	Matrix Color (Munsell Moist)	Mottle Color (Munsell Moist)	Mottle Abundance/ Contrast	Texture, Concretions, Structure, etc.
0-24"		5YR	2.5/2	None	sandy
Hydric Soil Indicators:					
<u>No</u>	Histosol	<u>No</u>	Concretions		
<u>No</u>	Histic Epipedon	<u>Yes</u>	High Organics in Surface Layer (Sandy Soils)		
<u>No</u>	Sulfidic Odor	<u>No</u>	Organic Streaking (Sandy Soils)		
<u>No</u>	Aquic Moisture Regime		Listed on Local Hydric Soils List		
<u>No</u>	Reducing Conditions		Listed on National Hydric Soil List		
<u>Yes</u>	Gleyed or Low-Chroma Soils		Other (explain in Remarks)		
Remarks: <i>Sandy soil, dark surface layer where vegetation is decomposed (1" thick)</i>					

WETLAND DETERMINATION

Hydrophytic Vegetation Present?	<u>Yes</u>	Is This Sampling Point Within a Wetland? <u>Yes</u>
Wetland Hydrology Present?	<u>Yes</u>	
Hydric Soils Present?	<u>Yes</u>	
Remarks: <i>associated w/ Ripomo Creek. veg. also with w. Hemlock & some coyote bush also present. ornalis piscaprae, conyza canadensis, picris echinoides, lotium multiflorum.</i>		
<i>Cattle have created animal trails & compacted soil. Have flattened understorey since visit in April. adjacent to freshwater marsh. higher (slightly) in elev. than marsh & Ripomo Creek.</i>		