Rancho Estates Mobile Home Park
Fire Improvements Project

APPENDIX

B

BIOLOGICAL ASSESSMENT,
PROPOSED EMERGENCY ACCESS ROAD
BIOLOGICAL ASSESSMENT

Proposed Emergency Access Road

Rancho Goleta Mobile Home Park
7465 Hollister Avenue, Goleta California

June 30, 2015

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1.0 INTRODUCTION

The following revised study describes the biological setting and constraints associated with projected improvements proposed by the Rancho Goleta Mobile Home Park (RGMHP). The property includes a 150-space mobile home rental park and associated landscaping and infrastructure on a 17.84-acre lot located at 7465 Hollister Avenue, Goleta, California. The mobile home site is partially within the Coastal Zone and extends from the Hollister Ave. access in the north to Devereux Creek to the south. Part of the project, a new access road, would be located outside of the RGMHP, within City of Goleta-owned property (See Figure 1).

1.1 PROJECT DESCRIPTION

The project components are intended to improve fire safety and consist of the following (See Figure 1):

1. Install a new 8-inch fire line and a new hydrant starting at the pool area. The 8-inch line would run south along the east side of the western RGMHP interior lane until it is opposite Seagull Drive, offsite.

2. Install an 8-inch fire line to Seagull Drive. Install a replacement hydrant onsite.

3. Continue the new 8-inch line to unit number 439. Install a replacement hydrant. The new 8-inch line ends here.

4. Repave an existing "car wash" area in the southeast corner of the RGMHP to function as a hammerhead turnaround. (This was completed in late 2014.)

5. Install an 8-inch fire line along the north side of Devereux Creek (off-site on City of Goleta property) to a new hydrant at the hammerhead area. (On-site at the hammerhead.)

6. Construct a 20' wide all-weather emergency access road along the north side of Devereux Creek from the south terminus of Coronado Drive to the existing Fire Department hammerhead turnaround. (Off-site west and south of the hammerhead.) Construct a 3-foot-high retaining wall north of road backfilled with soil, sloping upwards, to property line. Seed with native mix.
1.2 PERSONNEL, SURVEY DATES, METHODS

Personnel. Rachel Tierney (Botanical and General Biological Consultant) is the principal contributor, with Paul Collins (Curator of Vertebrate Zoology, Santa Barbara Museum of Natural History) covering wildlife (insects, herpetofauna, mammals).

Resources. A list of potentially occurring sensitive species was obtained from a number of sources. California Department of Fish & Wildlife (CDFW) records under the California Natural Diversity DataBase RareFind 5 identified the range and history of all state collections, California Native Plant Society (CNPS) records were viewed to gather information regarding rare plants, Consortium of Herbaria online records for Dos Pueblos and Goleta USGS quads contain extensive information gathered from a number of herbaria in California. Biological reports of the area including (URS 2004) (Hunt, 2014) and the City of Goleta General Plan contain a list of potentially occurring sensitive species in this region. Aerial photographs (Google Earth) aided navigation of the site and surrounding areas.

Vegetation Survey. A survey of the site and adjacent areas\(^1\) was conducted on February 25, 2015 and March 7, 2015. After a list of potentially occurring sensitive species was produced, the project site and surrounding area was surveyed. Habitat types were characterized and a species list was developed. The location of important habitat boundaries (eucalyptus within the monarch overwintering aggregation; riparian or wetland vegetation, top of bank) was determined. The basis of the Tree Protection Plan was developed.

Survey for Wildlife. The principal focus of the field survey was to examine wetland and upland habitat along the reach of Devereux Creek for suitability for dispersing California Red-legged Frogs and Pond Turtles. Other sensitive wildlife resources evaluated during the field survey included the presence and suitability of trees in the vicinity of the Emergency Access Road for raptor nesting or Monarch Butterflies over-winter roosting.

2.0 SETTING

2.1 Characteristics of the Surrounding Area

The proposed project site sits on the boundary between protected open space and residential development. Several adjoining Open Spaces and Preserves unite immediately to the south, forming an expansive protected tract of important habitat and recreation area. The Land Trust of Santa Barbara owns and maintains the 9.3-acre Coronado Preserve within a few hundred feet of the project site. The Preserve includes the lower reach of Devereux Creek, varied habitats with trails linking it to the Goleta Monarch Grove. This grove contains the largest over-wintering aggregation

\(1\) The survey covered a minimum of 200 feet measured from the outer edge in all directions.
LEGEND
- 8” Fire Line, New
- Fire Hydrant, New
- Fire Hydrant, Replacement
- Proposed Emergency Access Road, Hammerhead portion completed in 2014
- Devereux Creek
- Property Line
- Coastal Zone Boundary

Figure 1: Site Plan & Vicinity Map
Rancho Goleta Mobile Home Park
7465 Hollister Ave, Goleta CA
3/20/15
of Monarch butterflies in California and lies about 250 feet from the project boundary. Large stands of eucalyptus extend throughout the project area, forming thick passages flanking Devereux Creek, and narrower windrows along past and present property boundaries.

The Santa Barbara Shores County Park/Ellwood Mesa Open Space is connected by trails to the west of the project, and is home to two uncommon plant communities: vernal pools and native grasslands, as well as rare plant populations. Further south are the uncommon plant communities: coastal bluff and dune scrub. North of the site and on either side lie fully developed, single family, residential tract-style neighborhoods. Homes were generally built from the 1950s through the 1990s.

### 2.2 Characteristics of the Site

Entrance to the Rancho Goleta Mobile Home Park (RGMHP) is via Hollister Avenue. The MHP contains two north south oriented lanes with a number of cross-connecting ways containing guest parking. Closely packed, single and doublewide units with adjacent parking spaces and minimal landscaping flank the lanes on both sides. The proposed improvements within the RGMHP include installation of a new 8-inch water line, two new fire hydrants, and two replacement hydrants. (See Figure 1: Site Plan.)

Devereux Creek runs more or less perpendicular to the MHP, in a west to east direction at the project site. A steep (3:1 slope) concrete wall, approximately 4 feet tall, houses the floodplain on the northern bank. This wall may appear shortened by the accumulation of fill. The primary low-flow channel is presently about 30 feet south of the wall near Coronado Drive and arches towards the north as it moves downstream (See Figure 2: Vegetation and Impacts). Braids and accumulated debris are present. At the eastern end of the site the low flow channel has moved against the wall or bank. The low-flow bed width ranges from 12 to 20 feet wide. The actual width of the creek is well over the width of the current, low-flow channel. If the concrete wall is the northern bank, and the low flow channel is somewhere in the middle, the southern bank is held by the steep ascent of the slope of the south side of the creek.

Elevations rise steeply and steadily to the south side of the creek. The tall trees with their consistent deep canopy shade contrasts with the informal trail and ruderal grassland established between the drainage and development on the north side of the creek. The proposed access road would be situated within this grassy corridor (See Appendix A: Photographs).
2.3 Flora and Habitats

Community classification for habitat descriptions follow the vegetation-based system developed by the California Native Plant Society (CNPS) (J. Sawyer and T. Keeler-Wolf, J. Evans, 2009). Three habitats or plants communities are distinguished within the project area: Arroyo Willow Thickets; Eucalyptus Woodland Semi Natural Stands; and Bromus diandrus Semi-Natural Stands. These classification types are described below and the vegetation types are mapped on Figure 2.

Salix lasiolepis Shrubland Alliance
(Arroyo Willow Thickets)
Devereux Creek

A dense, tall canopy of riparian tree cover flourishes along the creek. Unfortunately the majority of this vegetation is now comprised of the non-native Shamel Ash (Fraxinus uhdei). Although the Manual of California Vegetation classification system used for this report contains many examples of semi-natural (non-native) systems, no community example matches what is currently present along Devereux Creek. Very often in disturbed urban sites, species associations do not follow normal association groupings. The basic goal of a classification is to solve a communication problem (J. Evans et al, 2009), and to that end, the common use of one collective system makes good sense. The classification choice used in this report follows what was present before vegetation shifted by the invasion of this exotic species, even though the description of the community does not fit what is now present.

Originally from Mexico where it is grown for timber, this ash was introduced in Riverside California around 1925 by Dr. Archie Shamel (Ronald N. Bracewell, 2005). The species, also know as Mexican or evergreen ash, is used as a street tree or in individual homeowners’ landscaping because it grows tall (to 70 feet) quickly and can survive in moist to arid soil conditions. Shamel is now considered an invasive exotic (weed) by the California Native Plant Society, Council for Watershed Health and other organizations because it invades wetlands and creeks.

Many mature Shamel trees are growing in the Goleta streets near the creek. The infestation within the Devereux Creekbed was likely started by seed (samara) blown or carried by birds or other animals. Shamel is shade tolerant, and thus not only does it form the upper canopy layer but the tree also contributes to the mid-strata, an area where there is little light and where not many species can survive.

Fraxinus uhdei has been so successful within Devereux Creek that currently arroyo willow (Salix lasiolepis) – the namesake of this community – is present by only a small cluster of shrubs in the west of the reach and in very occasional individuals, both on the northern bank. It appears the willow, with its high light requirements, has been shaded by the complete overhanging canopy of the fast-growing ash to a point where it could not survive, except on the extreme edges of the woodland. The ash is presently established in locations along the wetness gradient one would expect arroyo willow to grow, which is just below “ordinary high water”. It does not appear to naturally extend outside of the creek. The willow that is present is located in an area with no Shamel overstory.
**LEGEND**

- **Proposed Project**
  - Cement Slope
  - Natural Bank

- **Tree Protection Plan**
  - Trees to be removed during emergency access road installation (6 trees)
  - Tree Protection Zone

**Tree Protection Zone**

All trees identified have a DBH of 6 inches or greater.

**Expected Branches & Limbs Removed in Setback (linear feet):**
- Arroyo Willow - 12'
- Shamel Ash - 10'
- Coast Live Oak - 5'

**Tree No.**
1. Yucca sp.
2. Yucca sp.
3. Yucca sp.
4. Ficus sp.
5. Shamel ash (Frasinus uddei)
6. Yucca sp.
7. Ornamental sapling
8. Shamel ash (Frasinus uddei)
9-12. Blue gum (Eucalyptus globules)
13. Canary Island Palm (Phoenix canariensis)
14. Arroyo Willow
15. Western sycamore
16-18. Arroyo Willow

**Status**
- Protect
- Remove

**Condition**
- Good

**Existing Vegetation**
- *Bromus diandrus* Semi Natural Stands
- Annual brome grassland
- *Salix lasiodes* Shrubland Alliance (Arroyo Willow Thickets)
- Devereux Creek
- Current low flow channel
- Trail
- Wetland Delineation O.P. (Observation Points)

**Figure 2A: Existing Conditions & Proposed Impacts to Trees**

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Like shamel ash, *Eucalyptus globulus* (blue gum) is a non-native tree established throughout this area. Unlike the ash that is found below the "ordinary high water mark\(^2\), Eucalyptus is rooted several feet above the "ordinary high water mark" and extends outward well past the creek environs.

Shamel ash contributes to about 75% of the relative creek canopy within the reach of proposed work. Arroyo willow now contributes approximately 5% to the upper and mid-strata canopy cover of Devereux Creek, and blue gum contributes about 20% of the canopy cover.

Understory species are very limited. Coyotebrush (*Baccharis pilularis*) on the edge of the riparian vegetation was noted, along with sapling trees and palms. The environment under the dense tree canopy within the creek floodplain is open, with felled branches and debris. The ground is bare with a thin moss film. In sections along the outer northern edges where the creek receives sun, the weedy sourgrass (*Oxalis pes-caprae*) carpets the bed along with a small isolated clump of spike rush (*Eleocharis* sp.). Lanky and invasive *privet* sp. were noted in several shaded locations, established in the deep ash shade.

**Eucalyptus globulus Semi-Natural Woodland Stands**  
(*Eucalyptus groves*)

Eucalyptus are invasive trees introduced to California from Australia during the turn of the century. They are fast growing and attractive and are particularly suited to southern California's Mediterranean climate. Eucalyptus have spread by purposeful plantings and by natural invasion and large stands of mature eucalyptus trees are common in coastal regions. In Santa Barbara County, the Coronado Butterfly Preserve and the Goleta Monarch Grove contain the largest over-wintering roosting sites for monarch butterflies in California (Nagano and Sakai, 1987). (See Figure 3: Special Status Wildlife and Environmentally Sensitive Habitat Areas.) The majority of the trees adjacent to the proposed project are *Eucalyptus globulus* or blue gum. Several lemon-scented gums (*E. maculata* var. *citriodora*) were noted on the south side of the creek. Due to the build-up of eucalyptus bark and leaf matter, the dense shade created by the eucalyptus canopy, and the chemicals produced by leaf leachate, understory vegetation is mostly absent.

\(^2\)The term “ordinary high water mark” refers to 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 areas. (Army Corps of Engineers, Regulatory Guidance. Letter, 05-05. Ordinary High Water Mark Identification under the Clean Water Act. Dec. 7, 2005.) In southern California this line is not as evident as in the eastern states where rainfall and stream flow is more consistent. However, the limits of the ordinary high water mark can still be identified in the west intermediate and ephemeral creeks.
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**Bromus diandrus Semi Natural Stands**

Annual brome grassland

The access road would be built within a disturbed corridor of land between the Devereux Creek to the south and the southern property line of private homes on the east-west reach of Daytona Drive to the north. An informal trail connecting to the Ellwood-Mesa trail system now runs through this corridor, with non-native, weedy grasses established on either side.

Representatives of this herbaceous layer (annual and perennial broadleaf weeds and grasses) are ripgut grass (*Bromus diandrus*), barley (*Hordeum glaucum*), Italian ryegrass (*Lolium multiflorum*), mustards (*Brassica spp.*), wild radish (*Raphanus sativus*), milk thistle (*Silybum marianum*), sourgrass (*Oxalis pes-caprae*), nasturtium (*Tropaeolum sp.*), Cutleaf geranium (*Geranium dissectum*), Italian thistle (*Carduus pycnocephalus*), fennel (*Foeniculum vulgare*), German ivy (*Senecio mikanioides*), sow thistle (*Sonchus oleraceus*), sweet clovers (*Melilotus spp.*), redstem filaree (*Erodium cicutarium*), cheeseweed (*Malva parviflora*), and poison hemlock (*Conium maculatum*), all non-native species.

A few ornamental trees are established immediately south of the RGMHP in the area of the repaved hammerhead turnaround. They include *Eucalyptus globulus*, *Fraxinus uhdei* (both planted as ornamental trees), *Ficus sp.* and *Yucca sp.* (See Figure 2 for locations of these trees.)

### 2.4 Fauna

Wildlife observed or expected to occur in habitats found at the project site and in the project area are typical of eucalyptus woodland, arroyo willow thickets along Devereux Creek, annual brome grassland along the fire access corridor, and bare ground and ruderal habitat in the developed areas of the project site. The existing levels of disturbance along the proposed fire access corridor, coupled with the developed nature of the mobile home park, makes habitats on the project site poor quality for wildlife. Increased levels of disturbance from public visitation to eucalyptus woodlands on the Ellwood Mesa preserve south of the project site and along the adjacent Devereux Creek channel are also contributing to the decline in the diversity and abundance of wildlife inhabiting the project site and adjacent open space. Due to the seasonal timing of the field survey, no amphibians or reptiles were observed at the project site during the March 4, 2015 field survey. Amphibians and reptiles that are expected to frequent these disturbed habitats in the project area include Pacific chorus frog (*Pseudacris regilla*), western fence lizard (*Sceloporus occidentalis*), and southern alligator lizard (*Gerrhonotus multicarinatus*). Several snakes are also expected to occur including gopher snake (*Pituophis catenifer*), western terrestrial gartersnake (*Thamnophis elegans*), and common kingsnake (*Lampropeltis getulus*).

A wide variety of birds have been observed over the years on the Ellwood Mesa (Storrer and Collins 1990, URS 2004). Birds that are typical of the eucalyptus and riparian woodlands found to the south of the project site include rock pigeon, Anna’s and Allen’s hummingbirds, Acorn and Nuttall’s woodpecker, northern flicker, black phoebe, Cassin’s kingbird, western scrub-jay, American crow, bushtit, oak titmouse, white-breasted nuthatch, Bewick’s wren, ruby-crowned kinglet (winter only), European starling, orange-crowned warbler, yellow-rumped warbler (winter only), California and spotted towhees, song sparrow, white-crowned sparrow (winter only), dark-eyed junco, house finch, lesser goldfinch, and house sparrow. Eucalyptus woodlands are also used for roosting and
nesting by a variety of raptors including red-tailed and red-shouldered hawks, white-tailed kite, Cooper's hawk, and great horned owl. Black phoebe, Bewick's wren, orange-crowned warbler, common yellowthroat, spotted towhee, and song sparrow frequent arroyo willow thickets along Devereux Creek. Common birds such as Anna's hummingbird, black phoebe, bushtit, northern mockingbird, European starling, lesser goldfinch, house finch, and house sparrow frequent ruderal and landscaped habitats on the project site.

The expected mammal fauna of the project site and adjacent woodlands and creek corridor is depauperate. Small mammals expected to occur include broad-footed mole (Scapanus latimanus), Botta's pocket gopher (Thomomys bottae), deer mouse (Peromyscus maniculatus), house mouse (Mus musculus), and black rat (Rattus rattus). Other mammals observed or expected to occur in the project area include Virginia opossum (Didelphis virginiana), domestic cat (Felis domesticus), domestic dog (Canis familiaris), northern raccoon (Procyon lotor), and striped skunk (Mephitis mephitis). The only mammals observed during the field survey were domestic dog, domestic cat, raccoon (tracks) and Virginia opossum (tracks). The more common species of bats expected to forage in adjacent woodland habitats and developed areas in the mobile home park include California myotis (Myotis californicus), big brown bat (Eptesicus fuscus), and Brazilian free-tailed bat (Tadarida brasiliensis).

3.0 SENSITIVE BIOLOGICAL RESOURCES

This section lists sensitive plants and animals that, if present within or near development, would likely require some form of mitigation. Specific constraints for known populations, and recommendations for further surveys, are contained in Section 4, below.

A “sensitive biological resource” refers to any rare, threatened or endangered plant or animal species. Habitats are also considered sensitive if they exhibit a limited distribution, have high wildlife value, contain sensitive species, or are particularly susceptible to disturbance. A variety of federal, state and local policies and programs protect these resources.

Federal and State Policies. The Federal Endangered Species Act of 1973 (as amended) (ESA) and the published list of endangered and threatened species provide legal protection for threatened and endangered taxa nationwide. The ESA and implementing regulations, Title 16 United States Code (USC) §1531 et seq. (16 USC 1531 et seq.), Title 50 Code of Federal Regulations (CFR) §17.1 et seq. (50 CFR §17.1 et seq.), includes provisions for the protection and management of federally listed threatened or endangered plants and animals and their designated critical habitats. The ESA provides the legal basis for protection. Section 3 of the ESA defines Threatened and Endangered categories as:

Endangered = a plant or animal species that is in danger of extinction throughout all or a significant portion of its range

Threatened = a plant or animal species that is likely to become an endangered species within the foreseeable future throughout all or a significant portion of its range
The U.S. Fish and Wildlife Service is the administering agency charged with managing and enforcing the ESA for terrestrial, avian, and most aquatic species. The USFWS revised its listing status headings in 1996. Only those species for which there is enough information to support a listing proposal will be called "candidates." These were formerly known as "Category 1" candidate species. The USFWS will no longer maintain a list of species formerly known as "Category 2" candidates. These were species for which listing may be appropriate, but for which the USFWS did not have in its possession sufficient biological information to support a proposed rule to list. Former "Category 2" candidates are now called "Federal Species of Concern" (USFWS 1996). This change should not be construed as a change in the biological status of those species, or as a change in the level of concern that should be afforded these species during the evaluation of the effects of any action. Candidate species (taxa that are under review for state or federal listing) can gain protected status at any time, pending sufficient information to warrant such a change.

California has a similar mandate embodied in the California Endangered Species Act of 1970 and its corollary laws: the California Species Preservation Act of 1980 and the California Native Plant Protection Act of 1977. The California Department of Fish and Game (CDFG), along with recommendations from the California Native Plant Society (CNPS), has jurisdiction over the California Species Protection Laws. The CDFG also identifies some wildlife species as "Species of Special Concern." These species are either biologically rare, very restricted in distribution, or declining throughout their range.

Many species qualify for formal protection under the California Environmental Quality Act – Statutes and Guidelines (CEQA, State of California, 1986), even if these plants are not registered under state or federal programs. These include the majority of plants on CNPS Lists 1 and 2 (described below), as well as species that are identified by local authorities as rare, endangered or threatened, regardless of recognition by the USFWS, CDFG or the CNPS.

In addition to the programs described above, the CNPS compiles their own inventory, which includes state- and federally- recognized rare plant species, as well as those plants determined to be rare by this organization. The CNPS maintains several "ranks" in an effort to categorize degrees of concern (CEQA, 2001). Rank 1A includes plants assumed extinct in California. Rank 1B includes species which are rare, threatened or endangered in California and elsewhere. Rank 2 includes plants rare in California, but more common elsewhere. Rank 3, a review list, contains species that require more information. Rank 4 is a watch list, containing species of limited distribution.

### 3.1 Sensitive Plant Species

The region along the proposed access road is the only potential area of concern for sensitive species as the other locations are completely developed. An out-of-season survey of access route, and 200 feet out in the surrounding area, was conducted on February 23, 2015 and March 8, 2015. The survey consisted of a 100% walkover of the Devereux Creek corridor with the focus on identifying sensitive species in their vegetative phase.

Sensitive species considered for this project are listed in Table 2. Included on this tally are species ranked 3 or above within the California Natural Diversity Data Base (CDFG, 2015) for elevations.
Less than 500 feet above sea level and those found within a California Native Plant Society (CNPS 2015) search. The quadrangles searched include: Dos Pueblos Canyon (143B) and Goleta (143A). Rare plants only known from higher elevations, or within chaparral or away from the coast, were not added onto the list of potentially occurring sensitive species as they would not inhabit this site. After considering all results from surrounding quads, those to the north are not included in the search as they did not garner additional species. The list of considered species also includes "locally sensitive" plants, which are compiled on the County's "Special-Status Species Overlay" (2002).

Special-Status Plants. Sensitive plants known to occur in the vicinity of the project area include southern tarplant (Hemizonia parryi ssp. australis), Coulter’s saltbush (Atriplex coulteri), Davidson’s saltbush (Atriplex serenana var. davidsonii), Contra Costa goldfields (Lasthenia conjugens), Coulter’s goldfields (Lasthenia glabrata), and black figwort (Scrophularia atrata). Table 2 identifies locations where these species were last collected, the plant communities they are known from, and the likelihood of occurrence within the project site.

Results of the Survey. No sensitive plant species were identified within the project site during the surveys conducted in conjunction with this report. Although this was not the prime time of year to conduct a rare plant survey, all but two of the six plants appearing on Table 2 begin their flowering stage in March. This (2015) has generally been an early year for flowering, with species hitting developmental stages at the beginning of their range. Davidson’s saltscale (Atriplex serenana var. davidsonii), which starts blooming in April, is found in coastal sage scrub, a community that is not present at the project site. Southern tarplant (Centromadia parryi ssp. australis), flowering from May to November, is associated with isolated, seasonal wetlands (with more or less still water as compared to a flowing creek). The immediate vicinity of the proposed project contains no isolated wetlands. Taking into account 1) the lack of suitable habitat, 2) all the plants listed on the table could be identified without flowers or fruits, at least to a genus, and 3) the extremely disturbed nature of the corridor, an in-season rare plant survey is not recommended.

3.2 Sensitive Animal Species

The region along the proposed access road is the only potential area of concern for sensitive wildlife species since the other locations where development is proposed on the Rancho Goleta Mobile Home Park project site are already completely developed. A field survey of the access road route and woodlands located along Devereux Creek adjacent to this road corridor were surveyed on March 4, 2015. The focus of this survey was to identify whether any suitable habitat occurs for sensitive wildlife species that have been reported elsewhere on the Ellwood Mesa.

A variety of sensitive wildlife species are known to occur along the South Coast of Santa Barbara County and in the Ellwood Mesa-Devereux area (Storrer and Collins 1990, URS 2004, CNDDB 2014). The quadrangles searched for sensitive wildlife records within the project area included Dos Pueblos Canyon (143B) and Goleta (143A). The list of sensitive wildlife species that are likely to occur in the project area was narrowed down to ten by assessing whether there was any suitable habitat on or in the immediate vicinity of the project site (Table 2). Besides federal and state-listed threatened or endangered species, this list also includes “locally sensitive species”, “species of special concern”, and fully protected species.
Sensitive wildlife species from the project area that were eliminated from the list of expected sensitive wildlife species included any species whose preferred habitat was either coastal estuary, sandy beach and dunes, open grassland and open scrub, vernal pools, dense riparian woodland, or chaparral. Sensitive species that were not considered further in this environmental assessment include vernal pool fairy shrimp (*Branchinecta lynchii*), globose dune beetle (*Coelus globosus*), sandy beach tiger beetle (*Cicindela hirticollis gravida*), tidewater goby (*Eucylogobius newberryi*), California horned lizard (*Phrynosoma coronatum frontale*), California legless lizard (*Anniella pulchra pulchra*), coast patch-nosed snake (*Salvadora hexalepis virgultea*) and two-striped gartersnake (*Thamnophis hammondii*). Birds not considered include: brown pelican (*Pelecanus occidentalis californicus*), light-footed clapper rail (*Rallus longirostris levipes*), California least tern (*Sternula antillarum brownii*), western snowy plover (*Charadrius alexandrinus nivosus*), northern harrier (*Circus cyaneus*), osprey (*Pandion haliaetus*), golden eagle (*Aquila chrysaetos*), prairie falcon (*Falco mexicanus*), peregrine falcon (*Falco peregrinus*), burrowing owl (*Athene cunicularia*), short-eared owl (*Asio flammeus*), Loggerhead shrike (*Lanius ludovicianus*), California thrasher (*Toxostoma redivivum*), coast horned lark (*Eremophila alpestris actia*), yellow-breasted chat (*Icteria virens*), Belding’s savannah sparrow (*Passerculus sandwichensis beldingi*) and tricolored blackbird (*Agelaius tricolor*).

Sensitive mammals not considered include: western red bat (*Lasiurus blossevillii*), Yuma myotis (*Myotis yumanensis*), and American badger (*Taxidea taxus*).

**Special-Status Wildlife.** Sensitive wildlife known or expected to occur in the vicinity of the project site include Monarch butterfly (*Danaus plexippus*), California red-legged frog (*Rana draytonii*), southwestern pond turtle (*Actinemys marmorata*), turkey vulture (communal roosts only; *Cathartes aura*), white-tailed kite (*Elanus leucurus*), sharp-shinned hawk (*Accipiter striatus*), Cooper’s hawk (*Accipiter cooperi*), yellow warbler (*Dendroica petechia*), pallid bat (*Antrozous pallidus*), and Townsend’s big eared bat (*Corynorhinus townsendii*). (See Table 2)

**Results of the Survey.** The only sensitive wildlife species observed at the project site or in the project area during the March 4, 2015 survey were monarch butterflies. Several individuals were seen flying over the proposed access road corridor but none appeared to stop to roost or feed in trees found along this road corridor. An examination of Devereux Creek adjacent to the project site showed that there was standing water present along most of this reach of the drainage. However, the depth and width of pools were unsuitable to support a resident breeding population of California red-legged frog or southwestern pond turtle.

Given the current level of disturbance observed along Devereux Creek, it is very unlikely that either of these wetland dependent species could disburse from areas whether the species is known to still occur west of the Ellwood Mesa property. The reach of Devereux Creek adjacent to the proposed fire access road has been modified with the north bank covered by cement. The floor of the drainage and adjacent woodland understory is vegetated with a variety of weeds and there is trash and debris in the creek and in the understory of the adjacent woodland. Neither of these sensitive amphibians or reptiles are expected to occur in wetland habitat located adjacent to the project site.
<table>
<thead>
<tr>
<th>Scientific Name (Common name) Family</th>
<th>Life Form, Elevation &amp; Blooming Period</th>
<th>Associated Habitats</th>
<th>Distribution</th>
<th>Status</th>
</tr>
</thead>
<tbody>
<tr>
<td>Atriplex coulteri (Coulter’s saltbush) Chenopodiaceae</td>
<td>Perennial herb 3-450 meters Mar-Oct</td>
<td>Coastal scrub, Coastal dunes, Valley and foothill grassland</td>
<td>Found in scattered locations in southern coastal California and Baja. No herbarium records from the area (Consortium of Herbaria). Smith (1998) mentions populations in Goleta and ocean bluff at UCSB. Suitable habitat (grassland) present at project site, however community is highly disturbed.</td>
<td>Rank 1B.2</td>
</tr>
<tr>
<td>Atriplex serenana var. davidsonii (Davidson’s saltscale) Chenopodiaceae</td>
<td>Annual 10-200 meters Apr-Oct</td>
<td>Coastal scrub</td>
<td>Collection record (1948) from UCSB bluffs, Hendry’s Beach and other coastal and interior locales in southern California into Baja. Not likely to occur. Suitable habitat (scrub) not present at project site.</td>
<td>Rank 1B.2</td>
</tr>
<tr>
<td>Centromadia parryi ssp. australis (Southern tarplant) Asteraceae</td>
<td>Annual 0-427 meters May-Nov</td>
<td>Associated with the edges of marshes and vernal pools. Often seen in alkaline soils and/or disturbed areas</td>
<td>Found in the project vicinity. Many collection records around Isla Vista and coastal Goleta (Consortium of Herbaria, 2015). Also in scattered locations in southern coastal California and Baja. Not likely to occur. Suitable habitat (seasonal wetland) not present.</td>
<td>Rank 1B.1</td>
</tr>
<tr>
<td>Lasthenia conjugens (Contra Costa goldfields) Asteraceae</td>
<td>Perennial herb 0-470 meters Mar-Jun</td>
<td>Cismontane woodland, Grassland, Vernal pools, Playas</td>
<td>Found in the project vicinity. Older (1950s) collections around “Isla Vista, Goleta and Ellwood” (Consortium of Herbaria, 2015). These populations thought to be extirpated by urban expansion. Not likely to occur. Suitable habitat (vernal pools) not present.</td>
<td>Rank 1B.1 Fed: FE</td>
</tr>
<tr>
<td>Lasthenia glabrata ssp. Coulteri (Coulters goldfield) Asteraceae</td>
<td>Annual 1-1221 meters Feb-Mar</td>
<td>Marshes, Vernal pools, Playas</td>
<td>Found in the project vicinity. Known from the Goleta Slough. Not likely to occur. Suitable habitat (vernal pools) not present.</td>
<td>Rank 1B.1</td>
</tr>
<tr>
<td>Scrophularia atrata (Black figwort) Scrophulariaceae</td>
<td>Perennial herb 10-500 meters Mar-July</td>
<td>Chaparral; Coastal Scrub; Riparian scrub</td>
<td>Found in the project vicinity. Collected in the vicinity of Coal Oil Point and north of SPRR in 1958, this species is typically found in northern coastal Santa Barbara Co. Although unlikely, this species may occur nearby.</td>
<td>Rank 1B.2</td>
</tr>
</tbody>
</table>
SENSITIVITY STATUS

California Native Plant Society Rare Plant Ranks

In the spring of 2011, CNPS officially changed the name “CNPS List” to “California Rare Plant Rank.” The definitions of the California rare plant ranks and the ranking system have not changed, and the ranks are still used to categorize the same degrees of concern, which are described as follows:

Rank 1A (formerly List 1A): Plants Presumed Extinct in California.

Rank 1B (formerly List 1B): Plants Rare, Threatened, or Endangered in California and Elsewhere.

Rank 2 (formerly List 2): Plants Rare, Threatened, or Endangered in California, But More Common Elsewhere. Except for being common beyond the boundaries of California, plants with a California Rare Plant Rank of 2 would have been ranked 1B.

Rank 3 (formerly List 3): Plants About Which More Information is needed - A Review List. Information is needed to assign them to one of the other ranks or to reject them.

Rank 4 (formerly List 4): Plants of Limited Distribution - A Watch List. The plants in this category are of limited distribution or infrequent throughout a broader area in California.

Threat Ranks

The CNPS Threat Rank is an extension added onto the Ranking and designates the level of endangerment by a 1 to 3 ranking with 1 being the most endangered and 3 being the least endangered. A Threat Rank is present for all California Rare Plant Rank 1B’s, 2’s, 4’s, and the majority of California Rare Plant Rank 3’s. California Rare Plant Rank 4 plants are seldom assigned a Threat Rank of 0.1, as they generally have large enough populations to not have significant threats to their continued existence in California. However, certain conditions exist to make the plant a species of concern and hence be assigned a California Rare Plant Rank. In addition, all California Rare Plant Rank 1A (presumed extinct in California), and some California Rare Plant Rank 3 (need more information) plants, which lack threat information, do not have a Threat Rank extension.

- 0.1-Seriously threatened in California (over 80% of occurrences threatened / high degree and immediacy of threat)
- 0.2-Fairly threatened in California (20-80% occurrences threatened / moderate degree and immediacy of threat)
- 0.3-Not very threatened in California (<20% of occurrences threatened / low degree and immediacy of threat or no current threats known)

<table>
<thead>
<tr>
<th>State-Listed Plants</th>
<th>Federally-Listed Plants</th>
</tr>
</thead>
<tbody>
<tr>
<td>CE State-listed, endangered</td>
<td>FE Federally-listed, endangered</td>
</tr>
<tr>
<td>CT State-listed, threatened</td>
<td>FT Federally-listed, threatened</td>
</tr>
<tr>
<td>CR State-listed, rare</td>
<td>PE Federally-proposed, endangered</td>
</tr>
<tr>
<td>CC Candidate for State listing</td>
<td>PT Federally proposed, threatened</td>
</tr>
</tbody>
</table>
Monarch Butterfly Roosts

Monarch Butterflies are listed by the State of California as a California special resource and their overwintering habitat is protected by the County’s Local Coastal Plan (LCP) and by the City of Goleta’s General Plan/Coastal Land Use Plan (GGP/CLUP, City of Goleta 2006). Eucalyptus groves within the Ellwood Complex are designated by the City of Goleta as Environmentally Significant Habitat Areas (ESHAs, Policy CE 4) and are provided protection by Policies CE 4.1-4.6 in the GGP/CLUP (City of Goleta 2006).

Although monarch butterflies are not federally or state-listed as threatened or endangered, their overwintering habitat is threatened by disturbance and by alteration and destruction of habitat. As such the City of Goleta has implemented protection measures for monarch butterfly habitat including protected habitat buffers of up to 100 feet around existing and historic roost sites (Policy CE 4.5), and a seasonal construction window of October 1 to March 1 for any construction taking place within 200 feet of an active monarch butterfly roost (Policy CE 4.6). There are no known monarch butterfly over-winter roosts within 200 feet of the border of the proposed fire access road and as such the above measures for protecting monarch habitat would not apply to the proposed project.

There were a total of eight sites on the Ellwood Mesa where monarch butterflies are known to have formed communal overwinter roosts. Together these sites are known as the Ellwood Complex and include the Sandpiper golf course and Santa Barbara County Park (Site 60), Grove Apartments (Site 61), Ellwood North (Site 62), Ellwood West (Site 63), Ellwood Main (Site 64), Ellwood East (site 65), Ellwood/Ocean Meadows golf course (Site 66), and Hughes Business Park (Site 67, Meade 1999). Only five of these sites (Sandpiper Aggregation, Ellwood North, Ellwood West, Ellwood Main, and Ocean Meadows) are currently being used by overwintering monarch butterflies with approximately 50 acres of eucalyptus woodlands in the Ellwood Complex that are being used on a regular basis by overwintering monarchs (URS 2004).

Three sites (Ellwood West, Ellwood Main and Ellwood East) occur within 1,800 feet of the proposed project site. The largest of these aggregation sites is Ellwood Main which is situated in a small north facing draw in the eucalyptus woodlands SW of the end of Coronado Drive and is approximately 450 feet southwest of the west end of the proposed fire access road to the RGMH park. Ellwood West is located along Devereux Creek west of the Ellwood Main site, is just west of the extension of Santa Barbara Shores Drive, and is approximately 1,742 feet west of the west end of the proposed fire access road. A smaller historic overwinter roost known as Ellwood East was located in the bottom of a north facing slope along Devereux Creek due south of the east end of the proposed fire access road. According to Meade (1999) the Ellwood East site was no longer active as of 1999 and does not appear to have been used for overwintering by monarchs since that time. The eucalyptus woodlands that surround these overwintering roost sites and that occur along the Devereux Creek drainage are also important as foraging habitat for overwintering monarchs.
Table 2. Special-Status Wildlife Species Expected to Occur at or in the Immediate Vicinity of the Rancho Goleta Mobile Home Park Project Site.

<table>
<thead>
<tr>
<th>Common Name (Scientific Name)</th>
<th>Listing Status Fed/State</th>
<th>Distribution</th>
</tr>
</thead>
<tbody>
<tr>
<td>Monarch butterfly <em>(Danaus plexippus)</em></td>
<td>+/-CSC</td>
<td>Overwintering aggregations occur in eucalyptus woodlands south, southwest, west and northwest of the project site (Meade 1999). The nearest aggregation to the project site is the Ellwood main roost which is situated in a small draw approximately 450 feet southwest of the development footprint in the Coronado Butterfly Preserve. Monarchs are expected to forage during the winter in eucalyptus trees both on the project site and on the Coronado Butterfly Preserve that borders the southern boundary of the project site along Devereux Creek.</td>
</tr>
<tr>
<td>California red-legged frog <em>(Rana draytonii)</em></td>
<td>T/CSC</td>
<td>The nearest breeding populations today to the project site occur in Devereux Creek, Bell/Winchester Canyon Creek, and in man-made water features on the Sandpiper Golf Course (Hunt 2014). These locations range from 3,800 to 7,300 feet west of the northwest corner of the project site. No suitable aquatic breeding habitat for this species occurs in the reach of Devereux Creek that borders the project site.</td>
</tr>
<tr>
<td>Southwestern pond turtle <em>(Actinemys marmorata)</em></td>
<td>+/-CSC</td>
<td>The nearest known locations for the occurrence of this species relative to the project site are Goleta Slough, a back dune pond west of the mouth of Devereux Slough (J. Storrer pers. comm.), Devereux Creek just north of its confluence with Devereux Slough (CNDDB record), and Devereux Creek north of Highway 101 (URS 2004). There is no suitable aquatic habitat for this species within the development footprint or in the reach of Devereux Creek that traverses the Ellwood Mesa adjacent to the project site. This species is not expected to occur on or in the immediate vicinity of the project site.</td>
</tr>
<tr>
<td>Turkey vulture <em>(Cathartes aura)</em></td>
<td>Locally Protected</td>
<td>A small communal turkey vulture roost is located along the eastern edge of the Ellwood North eucalyptus grove (Enviropian 1989, Storrer and Collins 1990). This roost is approximately 2,640 feet NW of the SW corner of the project site. The species is not known to have any other communal roost sites elsewhere on the Ellwood Mesa or in the immediate vicinity of the proposed project site.</td>
</tr>
<tr>
<td>White-tailed kite <em>(Elanus leucurus)</em></td>
<td>SC/FP</td>
<td>This species forages in open grasslands on Ellwood Mesa and has been recorded nesting in eucalyptus woodlands south, west and northwest of the project site and in eucalyptus and Monterey cypress windrows that border the eastern and western borders of Ellwood Mesa, and the Venaco Lease on the Devereux parcel to the east of the Ellwood Mesa reserve. The nearest known nesting local to the project site for this species was eucalyptus trees near the Ellwood main butterfly roost where a pair of kites nested in April 1999 (J. Storrer pers. comm.). This</td>
</tr>
<tr>
<td>Bird Species</td>
<td>Notes</td>
<td></td>
</tr>
<tr>
<td>--------------------------------------</td>
<td>---------------------------------------------------------------------------------------------------------------------------------------</td>
<td></td>
</tr>
<tr>
<td><strong>White-tailed kite</strong> (continued)</td>
<td>1999 nest attempt ultimately failed and kites have not attempted to nest at this location that we know of since that time. This nest site is located between 350-400 feet south of the development footprint. This species is not expected to forage at or in the immediate vicinity of the project site due to a lack of suitable open grassland habitat, nor is the species expected to nest or roost in eucalyptus trees found on the property or in trees on the Ellwood Open Space reserve immediately adjacent to the access road corridor to the project site.</td>
<td></td>
</tr>
<tr>
<td><strong>Sharp-shinned hawk</strong> <em>(Accipiter striatus)</em></td>
<td>This species is a common winter visitor to woodland habitats along the South Coast of Santa Barbara County (Lehman 1994). It is expected to occur in the winter on the Ellwood Mesa and to occasionally forage and roost in eucalyptus woodlands in the vicinity of the project site.</td>
<td></td>
</tr>
<tr>
<td><strong>Cooper's hawk</strong> <em>(Accipiter cooperi)</em></td>
<td>Cooper's Hawk is an uncommon resident of woodlands along the South Coast of Santa Barbara County (Lehman 1994) where it has nested occasionally in eucalyptus woodlands on the Ellwood Mesa (URS 2004). In 1999 it nested near the Venaco Lease southeast of the project site (J. Storrer, pers. com.). In 2006 it nested in eucalyptus woodlands east of the Comstock Homes housing development NW of the project site (Meade 2006a and b), and sometime between 2000-2003 it nested in the eucalyptus woodland windrow that borders the western property boundary of the Ellwood Mesa Reserve and the Sandpiper Golf Course west of the project site (URS 2004). Cooper's Hawks are expected to occasionally forage in willow and eucalyptus woodlands in the vicinity of the project site during the winter but are unlikely to nest in close proximity to the proposed fire access road.</td>
<td></td>
</tr>
<tr>
<td><strong>Yellow warbler</strong> <em>(Dendroica petechia)</em></td>
<td>Yellow Warblers are an occasional breeder in dense riparian woodlands and a common spring and fall transient and rare winter visitor along the South Coast of Santa Barbara County (Lehman 1994). They are expected to show up as a migrant in patches of willow woodland found along Devereux Creek in the project area but are unlikely to breed in this habitat due to its small fragmented occurrence.</td>
<td></td>
</tr>
<tr>
<td><strong>Pallid Bat</strong> <em>(Antrozous pallidus)</em></td>
<td>Pallid Bats are a locally common summer breeder to grassland and open scrub habitats in Santa Barbara County (Pierson et al. 2002). They typically forage near the ground for large ground-dwelling arthropods in open habitats and in the understory of open woodland habitats. They typically roost in hollows found in bridges, attics, and in large tree cavities. Eucalyptus woodlands in the project area do not provide good roosting or foraging habitat for this species and as a result, Pallid Bats are only expected to occasionally pass over the project site on their way to open grassland foraging habitat elsewhere on the Ellwood Mesa south of the project site. Thus, there is very low potential for the occurrence of this species in the project area.</td>
<td></td>
</tr>
</tbody>
</table>
Townsend’s big-eared bat (Corynorhinus townsendii) | SC/CSC
---|---
Except for several roosts on Santa Cruz Island, there are no known roosts for this species in southern Santa Barbara county (Pierson et al. 2002). This bat is expected to occur as an uncommon summer breeder along the South Coast of Santa Barbara County. It is a whispering bat that tends to forage almost exclusively on moths found in the vicinity of woodlands (Pierson et al. 2002). Preferred foraging habitats include oak and riparian woodlands. While it is possible that this species could occasionally forage in woodlands found in the project area from off-site roosts located elsewhere along the South Coast, there is a very low potential for its occurrence in the project area.

1. Definitions:

**Federal**: E = listed as endangered under the federal Endangered Species Act; T = proposed for federal listing as threatened under the federal endangered species Act; SC = species of special concern that may warrant listing but for which biological information to support a proposed rule is lacking.

**State**: E = listed as endangered under the California Endangered Species Act; CSC = species of special concern in California; FP = Fully Protected under the California Endangered Species Act.

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Nesting Raptors

Raptor nests are another sensitive wildlife resource that occurs in the vicinity of the Rancho Goleta Mobile Home Park (See Figure 3). The Goleta General Plan/Coastal Land Use Plan (City of Goleta 2006) lists raptor nesting and roosting habitat as an environmentally sensitive habitat that is to be preserved and protected (Policy CE 1.2 and Policy CE8.1). At least five species of raptors are known to have nested in woodlands on the Ellwood Mesa (Storrer and Collins 1990, URS 2004, Althouse and Meade 2006a, b). These include white-tailed kite, red-tailed hawk (*Buteo jamaicensis*), red-shouldered hawk (*Buteo lineatus*), Cooper’s hawk, American kestrel (*Falco sparverius*), and great horned owl (*Bubo virginianus*). The nearest that any of these species are known to have nested to the project site are located in the eucalyptus woodlands south and southwest of the access road corridor.
There is a single record from 1999 of a white-tailed kite nesting in a eucalyptus tree located adjacent to the Ellwood main butterfly roost which is approximately 450 feet southwest of the project site. A red-shouldered hawk was observed nesting in a eucalyptus tree along Devereux Creek near the Rancho Goleta Mobile Home Park on April 21, 1999 (J. Storrer pers. com.). In 2015 there were two active red-tailed hawk nests located in the eucalyptus woodlands south and west of the project site (J. Storrer pers. com.). The first was an active nest found on February 25, 2015 in the eucalyptus grove along Devereux Creek south of Palos Verdes Drive approximately 1,320 feet west of the west end of the access road corridor (J. Storrer pers. com.). The second active red-tailed hawk nest was found on March 8, 2015 in the eucalyptus grove located adjacent to the sewer easement approximately 250-300 feet south of the southeast corner of the access road corridor (J. Storrer pers. com.).

While we know of no other records of these five raptors nesting in woodlands in the vicinity of the project site, at least three of these species (red-tailed hawk, red-shouldered hawk, and great horned owl) can be expected to frequent eucalyptus trees in the vicinity of the project site for roosting/perching and occasionally for nesting. It is clear that they have and are likely to continue to occasionally nest in some of the large eucalyptus trees found within 500 feet of the southern boundary of the project site.

### 3.3 Devereux Creek

Devereux Creek is designated an Environmentally Sensitive Habitat Area (EHSA) in the City of Goleta General Plan CE 1.1, 1.2 (City of Goleta, 2006). Devereux Creek is mapped on the City’s illustration of recognized ESHAs (City of Goleta, 2006, Figure 4-1). The creek has two main forks and several tertiary drainages. The eastern tributaries, emerging at about 600 feet in elevation, flow down an unnamed ravine between Ellwood and Glen Annie Canyons. The primary western fork originates east of Bell (Ellwood) Canyon and runs more or less parallel to the coast and south of Highway 101.

The size of the Devereux watershed is comparatively small. The creek system drains 2,240 acres. In comparison, Goleta Slough is fed by 28,800 acres, which includes the major tributaries of Atascadero, San Pedro and San Jose Creeks. Mission Creek in Santa Barbara is fed by 7,500 acres. The importance of Devereux Creek lies not in the size of the watershed but in the pristine nature of the habitat preserved at the mouth.

Downstream lies Devereux Slough and the Coal Oil Point Reserve, part of the University of California’s Natural Reserve System. Established in 1970 primarily as a place to conduct biological research, the 158-acre protected Reserve contains a 50-acre seasonally tidal estuary that is impounded most of the year (Coal Oil Point, 2015). As does most healthy wetlands, the slough supports a wide variety of species. This is especially true at this slough, as the salinity of the water within the basin increases and decreases significantly during the year. It is considered one of the top ten birding locales of the western United States. As the acreage of coastal wetlands in California dwindles, this protected estuary increases in value.

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3The monarch roosts located nearest to the project are shown on Figure 3 of this report.
Streams or creeks with identifiable bed and banks, show signs of scour, deposition or flow lines would likely be considered jurisdictional “waters” under the Army Corps of Engineers (ACOE)\(^4\), requiring a Section 404 permit under the Federal Clean Water Act if disturbed. These drainages are also protected under the California Department of Fish and Wildlife Code, Section 1600, requiring a Streambed Alteration Agreement with the CDFW if disturbed. The specific jurisdictional area of these agencies includes the streambed, up to the ordinary high water mark (or "Waters of the US") on either bank for the ACOE, and the entire stream from top of bank to top of bank for the CDFG. The Department also includes flanking riparian canopy. Adjacent wetland vegetation, if present, is also included. The methods and results of the delineation are found in Appendix B.

### 4.0 OVERVIEW OF PROTECTIVE POLICIES

This section contains an overview of City and State resource-protective policies and suggested setbacks. Identified sensitive resources are: riparian (creek, stream) habitat; habitat used by Monarch Butterfly; and current or historic raptor nests. Those policies contained within the City of Goleta General Plan / Local Coastal Plan (2006, amended 2009) and the California Coastal Act of 1997 are listed below.

**CITY OF GOLETA - GENERAL PLAN/ COASTAL LAND USE PLAN**

The following principles, goals and policies are directly taken from the Goleta General Plan/Coastal Land Use Plan, Chapter 4.0: Conservation Element, City of Goleta, 2006, amended 2009.

**Policy CE 1: Environmentally Sensitive Habitat Area Designations and Policy [GP/CP]**

Objective: To identify, preserve, and protect the city's natural heritage by preventing disturbance of ESHAs.

**CE 1.1 Definition of Environmentally Sensitive Habitat Areas. [GP/CP]** ESHAs shall include, but are not limited to, any areas that through professional biological evaluation are determined to meet the following criteria:

a. Any area in which plant or animal life or their habitats are either rare or especially valuable because of their special nature or role in an ecosystem and that could be easily disturbed or degraded by human activities and developments.

b. Any area that includes habitat for species and plant communities recognized as threatened or endangered by the state or federal governments; plant communities recognized by the State of California (in the Terrestrial Natural Communities Inventory) as restricted in distribution and very threatened; and those habitat types of limited distribution recognized to be of particular habitat value, including wetlands, riparian vegetation, eucalyptus groves associated with monarch butterfly roosts, oak woodlands, and savannas.

\(^4\)A representative of the Regulatory Branch of the ACOE makes the final decision as to the Corps jurisdiction over any feature after completing a 404 permit application and a formal delineation. Likewise, the CDFG will negotiate an Agreement of jurisdiction during the application process.
Figure 3: Special-Status Wildlife and Environmentally Sensitive Habitat Areas

Monarch Butterfly Aggregation
- White-tailed Kite Nest (1999)
- Red-tailed Hawk Nest (2015)
- Red-shouldered Hawk Nest (1999)

Monarch Butterfly Environmentally Sensitive Habitat (ESHA)

Buffer Zone around Monarch Aggregate (200')

Property Line

Project Area

Scale

Rancho Goleta Mobile Home Park
7465 Hollister Ave, Goleta CA

Rachel Tierney Consulting

3/20/15
c. Any area that has been previously designated as an ESHA by the California Coastal Commission, the California Department of Fish and Game, City of Goleta, or other agency with jurisdiction over the designated area. (Amended by Reso. 09-59, 11/17/09.)

**CE 1.2 Designation of Environmentally Sensitive Habitat Areas.** [GP/CP] ESHAs in Goleta are generally shown in Figure 4-1, and Table 4-2 provides examples of the ESHAs and some locations of each. The provisions of this policy shall apply to all designated ESHAs. ESHAs generally include but are not limited to the following:

a. Creek and riparian areas.

b. Wetlands, such as vernal pools.

c. Coastal dunes, lagoons or estuaries, and coastal bluffs/coastal bluff scrub.

d. Beach and shoreline habitats.

e. Marine habitats.

f. Coastal sage scrub and chaparral.

g. Native woodlands and savannas, including oak woodlands.

h. Native grassland.

i. Monarch butterfly aggregation sites, including autumnal and winter roost sites, and related habitat areas.

j. Beach and dune areas that are nesting and foraging locations for the western snowy plover.

k. Nesting and roosting sites and related habitat areas for various species of raptors.

l. Other habitat areas for species of wildlife or plants designated as rare, threatened, or endangered under state or federal law.

m. Any other habitat areas that are rare or especially valuable from a local, regional, or statewide perspective. (Amended by Reso. 09-59, 11/17/09.)

**CE 1.6 Protection of ESHAs.** [GP/CP] ESHAs shall be protected against significant disruption of habitat values, and only uses or development dependent on and compatible with maintaining such resources shall be allowed within ESHAs or their buffers. The following shall apply:

a. No development, except as otherwise allowed by this element, shall be allowed within ESHAs and/or ESHA buffers.
b. A setback or buffer separating all permitted development from an adjacent ESHA shall be required and shall have a minimum width as set forth in subsequent policies of this element. The purpose of such setbacks shall be to prevent any degradation of the ecological functions provided by the habitat area.

c. Public accessways and trails are considered resource-dependent uses and may be located within or adjacent to ESHAs. These uses shall be sited to avoid or minimize impacts on the resource to the maximum extent feasible. Measures -- such as signage, placement of boardwalks, and limited fencing or other barriers -- shall be implemented as necessary to protect ESHAs.

d. The following uses and development may be allowed in ESHAs or ESHA buffers only where there are no feasible, less environmentally damaging alternatives and will be subject to requirements for mitigation measures to avoid or lessen impacts to the maximum extent feasible: 1) public road crossings, 2) utility lines, 3) resource restoration and enhancement projects, 4) nature education, 5) biological research, and 6) Public Works projects as identified in the Capital Improvement Plan, only where there are no feasible, less environmentally damaging alternatives.

e. If the provisions herein would result in any legal parcel created prior to the date of this plan being made unusable in its entirety for any purpose allowed by the land use plan, exceptions to the foregoing may be made to allow a reasonable economic use of the parcel. Alternatively, the City may establish a program to allow transfer of development rights for such parcels to receiving parcels that have areas suitable for and are designated on the Land Use Plan map for the appropriate type of use and development. (Amended by Reso. 09-59, 11/17/09.)

CE 1.7 Mitigation of Impacts to ESHAs. [GP/CP] New development shall be sited and designed to avoid impacts to ESHAs. If there is no feasible alternative that can eliminate all impacts, then the alternative that would result in the fewest or least significant impacts shall be selected. Any impacts that cannot be avoided shall be fully mitigated, with priority given to onsite mitigation. Offsite mitigation measures shall only be approved when it is not feasible to fully mitigate impacts on site. If impacts to onsite ESHAs occur in the Coastal Zone, any offsite mitigation area shall also be located within the Coastal Zone. All mitigation sites shall be monitored for a minimum period of 5 years following completion, with changes made as necessary based on annual monitoring reports. Where appropriate, mitigation sites shall be subject to deed restrictions. Mitigation sites shall be subject to the protections set forth in this plan for the habitat type unless the City has made a specific determination that the mitigation is unsuccessful and is to be discontinued.

CE 1.8 ESHA Buffers. [GP/CP] Development adjacent to an ESHA shall minimize impacts to habitat values or sensitive species to the maximum extent feasible. Native vegetation shall be provided in buffer areas to serve as transitional habitat. All buffers shall be of a sufficient size to ensure the biological integrity and preservation of the ESHA they are designed to protect.

CE 1.9 Standards Applicable to Development Projects. [GP/CP] The following standards shall apply to consideration of developments within or adjacent to ESHAs

a. Site designs shall preserve wildlife corridors or habitat networks. Corridors shall be of sufficient width to protect habitat and dispersal zones for small mammals, amphibians,
reptiles, and birds.

b. Land divisions for parcels within or adjacent to an ESHA shall only be allowed if each new lot being created, except for open space lots, is capable of being developed without building in any ESHA or ESHA buffer and without any need for impacts to ESHAs related to fuel modification for fire safety purposes.

c. Site plans and landscaping shall be designed to protect ESHAs. Landscaping, screening, or vegetated buffers shall retain, salvage, and/or reestablish vegetation that supports wildlife habitat whenever feasible. Development within or adjacent to wildlife habitat networks shall incorporate design techniques that protect, support, and enhance wildlife habitat values. Planting of nonnative, invasive species shall not be allowed in ESHAs and buffer areas adjacent to ESHAs.

d. All new development shall be sited and designed so as to minimize grading, alteration of natural landforms and physical features, and vegetation clearance in order to reduce or avoid soil erosion, creek siltation, increased runoff, and reduced infiltration of Stormwater and to prevent net increases in baseline flows for any receiving water body.

g. All new development shall be sited and designed to minimize the need for fuel modification, or weed abatement, for fire safety in order to preserve native and/or nonnative supporting habitats. Development shall use fire resistant materials and incorporate alternative measures, such as firewalls and landscaping techniques that will reduce or avoid fuel modification activities.

h. The timing of grading and construction activities shall be controlled to minimize potential disruption of wildlife during critical time periods such as nesting or breeding seasons.

i. Grading, earthmoving, and vegetation clearance adjacent to an ESHA shall be prohibited during the rainy season, generally from November 1 to March 31, except as follows: 1) where erosion control measures such as sediment basins, silt fencing, sandbagging, or installation of geofabrics have been incorporated into the project and approved in advance by the City; 2) where necessary to protect or enhance the ESHA itself; or 3) where necessary to remediate hazardous flooding or geologic conditions that endanger public health and safety.

j. In areas that are not adjacent to ESHAs, where grading may be allowed during the rainy season, erosion control measures such as sediment basins, silt fencing, sandbagging, and installation of geofabrics shall be implemented prior to and concurrent with all grading operations. (Amended by Reso. 09-59, 11/17/09.)

Policy CE 2: Protection of Creeks and Riparian Areas [GP/CP]
Objective: Enhance, maintain, and restore the biological integrity of creek courses and their associated wetlands and riparian habitats as important natural features of Goleta’s landscape.

CE 2.1 Designation of Protected Creeks. [GP/CP] The provisions of this policy shall apply to
creeks shown in Figure 4-1. These watercourses and their associated riparian areas are defined as ESHAs. They serve as habitat for fish and wildlife, provide wildlife movement corridors, provide for the flow of storm water runoff and floodwaters, and furnish open space and passive recreational areas for city residents.

**CE 2.2 Streamside Protection Areas.** [GP/CP] A streamside protection area (SPA) is hereby established along both sides of the creeks identified in Figure 4-1. The purpose of the designation shall be to preserve the SPA in a natural state in order to protect the associated riparian habitats and ecosystems. The SPA shall include the creek channel, wetlands and/or riparian vegetation related to the creek hydrology, and an adjacent upland buffer area. The width of the SPA upland buffer shall be as follows:

a. The SPA upland buffer shall be 100 feet outward on both sides of the creek, measured from the top of the bank or the outer limit of wetlands and/or riparian vegetation, whichever is greater. The City may consider increasing or decreasing the width of the SPA upland buffer on a case-by-case basis at the time of environmental review. The City may allow portions of a SPA upland buffer to be less than 100 feet wide, but not less than 25 feet wide, based on a site specific assessment if (1) there is no feasible alternative siting for development that will avoid the SPA upland buffer; and (2) the project's impacts will not have significant adverse effects on streamside vegetation or the biotic quality of the stream.

b. If the provisions above would result in any legal parcel created prior to the date of this plan being made unusable in its entirety for any purpose allowed by the land use plan, exceptions to the foregoing may be made to allow a reasonable economic use of the parcel, subject to approval of a conditional use permit. (Amended by Reso. 09-30, 5/19/09 and Reso. 09-59, 11/17/09.)

**CE 2.3 Allowable Uses and Activities in Streamside Protection Areas.** [GP/CP] The following compatible land uses and activities may be allowed in SPAs, subject to all other policies of this plan, including those requiring avoidance or mitigation of impacts:

a. Agricultural operations, provided they are compatible with preservation of riparian resources.

b. Fencing and other access barriers along property boundaries and along SPA boundaries.

c. Maintenance of existing roads, driveways, utilities, structures, and drainage improvements.

d. Construction of public road crossings and utilities, provided that there is no feasible, less environmentally damaging alternative.

e. Construction and maintenance of foot trails, bicycle paths, and similar low-impact facilities for public access.

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5 Figure 4-1: Special-Status Species And Environmentally Sensitive Habitat Areas, identifies Devereux Creek as an Environmentally Sensitive Habitat.
f. Resource restoration or enhancement projects.

  g. Nature education and research activities.

  h. Low-impact interpretive and public access signage.

  i. Other such Public Works projects as identified in the Capital Improvement Plan, only where there are no feasible, less environmentally damaging alternatives. (Amended by Reso. 09-59, 11/17/09)

**CE 2.5 Maintenance of Creeks as Natural Drainage Systems.** [GP/CP] Creek banks, creek channels, and associated riparian areas shall be maintained or restored to their natural condition wherever such conditions or opportunities exist. Creeks carry a significant amount of Goleta’s storm water flows. The following standards shall apply:

  a. The capacity of natural drainage courses shall not be diminished by development or other activities.

  b. Drainage controls and improvements shall be accomplished with the minimum vegetation removal and disruption of the creek and riparian ecosystem that is necessary to accomplish the drainage objective.

  c. Measures to stabilize creek banks, improve flow capacity, and reduce flooding are allowed but shall not include installation of new concrete channels, culverts, or pipes except at street crossings, unless it is demonstrated that there is no feasible alternative for improving capacity.

  d. Drainage controls in new development shall be required to minimize erosion, sedimentation, and flood impacts to creeks. Onsite treatment of storm water through retention basins, infiltration, vegetated swales, and other best management practices (BMPs) shall be required in order to protect water quality and the biological functions of creek ecosystems.

  e. Alteration of creeks for the purpose of road or driveway crossings shall be prohibited except where the alteration is not substantial and there is no other feasible alternative to provide access to new development on an existing legal parcel. Creek crossings shall be accomplished by bridging and shall be designed to allow the passage of fish and wildlife. Bridge abutments or piers shall be located outside creek beds and banks, unless an environmentally superior alternative exists. (Amended by Reso. 09-59, 11/17/09)

**Policy CE 4: Protection of Monarch Butterfly Habitat Areas [GP/CP]**

Objective: To preserve, protect, and enhance habitats for monarch butterflies in Goleta, including existing and historical autumnal and winter roost or aggregation sites, and promote the long-term stability of over-wintering butterfly populations.

**CE 4.1 Definition of Habitat Area.** [GP/CP] The monarch butterfly is recognized as a California and Goleta special resource. Although the species is not threatened with extinction, its autumnal and winter aggregation sites, or roosts, are especially vulnerable to disturbance.
Sites that provide the key elements essential for successful monarch butterfly aggregation areas and are locations where monarchs have been historically present shall be considered ESHAs. These elements include stands of eucalyptus or other suitable trees that offer shelter from strong winds and storms, provide a microclimate with adequate sunlight, are situated near a source of water or moisture, and provide a source of nectar to nourish the butterflies.

**CE 4.2 Designation of Monarch Butterfly ESHAs. [GP/CP]** Existing and known historical monarch roost sites, as shown on Figure 4-1, are hereby designated as ESHAs. These include about 20 known roosts, eight of which comprise the Ellwood Complex, a series of sites within a network consisting of eucalyptus groves and windrows interspersed by open fields and crossed by small creeks. This network includes several separate but interconnected autumnal and winter roost sites. The Ellwood Main site, the largest roost in Santa Barbara County and one of the largest in the state, occupies a site along Devereux Creek in the Sperling Preserve, a City-owned tract situated near the coastal bluffs in western Goleta.

**CE 4.3 Site-Specific Studies and Unmapped Monarch ESHAs. [GP/CP]** Any area not designated on Figure 4-1 that is determined by a site-specific study to contain monarch habitats, including autumnal and winter roost sites, shall be granted the same protections as if the area was shown on the figure. Proposal for development on sites shown on this figure or where there is probable cause to believe that monarch habitats may exist shall be required to provide a site-specific study.

**CE 4.4 Protection of Monarch Butterfly ESHAs. [GP/CP]** Monarch butterfly ESHAs shall be protected against significant disruption of habitat values, and only uses or development dependent on and compatible with maintaining such resources shall be allowed within these ESHAs or their buffer areas. The following standards shall apply:

- a. No development, except as otherwise allowed by this policy, shall be allowed within monarch butterfly ESHAs or ESHA buffers.

- b. Since the specific locations of aggregation sites may vary from one year to the next, the focus of protection shall be the entire grove of trees rather than individual trees that are the location of the roost.

- c. Removal of vegetation within monarch ESHAs shall be prohibited, except for minor pruning of trees or removal of dead trees and debris that are a threat to public safety.

- d. Public accessways are considered resource-dependent uses and may be located within a monarch ESHA or its buffer; however, such accessways shall be sited to avoid or minimize impacts to aggregation sites.

- e. Interpretative signage is allowed within a monarch ESHA or its buffer, but shall be designated to be visually unobstructed.

- f. Butterfly research, including tree disturbance or other invasive methods, may be
allowed subject to City approval of a permit.

**CE 4.5 Buffers Adjacent to Monarch Butterfly ESHAs. [GP/CP]** A buffer of a sufficient size to ensure the biological integrity and preservation of the monarch butterfly habitat, including aggregation sites and the surrounding grove of trees, shall be required. Buffers shall not be less than 100 feet around existing and historic roost sites as measured from the outer extent of the tree canopy. The buffer area shall serve as transitional habitat within native vegetation and shall provide physical barriers to human intrusion. The buffer may be reduced to 50 feet in circumstances where the trees contribute to the habitat but are not considered likely to function as an aggregation site, such as along narrow windrows. Grading and other activities that could alter the surface hydrology that sustains the groves of trees are prohibited within or adjacent to the buffer area.

**CE 4.6 Standards Applicable to New Development Adjacent to Monarch ESHAs. [GP/CP]** The following standards shall apply to consideration of proposals for new development adjacent to monarch ESHAs or ESHA buffers.

- **a.** A site-specific biological study, prepared by an expert approved by the City who is qualified by virtue of education and experience in the study of monarch butterflies, shall be required to be submitted by the project proponent.

- **b.** The study shall include preparation of a Monarch Butterfly Habitat Protection Plan, which at a minimum shall include: 1) the mapped location of the cluster of trees where monarchs are known, or have been known, to roost; 2) an estimate of the size of the population within the colony; 3) the mapped extent of the entire habitat area; and 4) the boundaries of the buffer zone around the habitat area.

- **c.** A temporary fence shall be installed along the outer boundary of the buffer zone prior to and during any grading and construction activities on the site.

- **d.** If an active roost or aggregation is present on the project site, any construction grading, or other development within 200 feet of an active roost, shall be prohibited between October 1 and March 1.

**Policy CE 8: Protection of Special-Status Species [GP/CP]**

Objective: To preserve and protect habitats for threatened, endangered, or other special-status species of plants and animals in order to maintain biodiversity.

**CE 8.1 ESHA Designation. [GP/CP]** Requisite habitats for individual occurrences of special-status plants and animals, including candidates for listing under the state and federal endangered species acts, California species of special concern, California Native Plant Society Rank 1B plants, and other species protected under provisions of the California Fish and Game Code shall be preserved and protected, and their occurrences, including habitat requirements, shall be designated as ESHAs. These habitats include, but are not limited to, the following:
a. Special-status plant species such as Santa Barbara honeysuckle (*Lonicera subspicata var. subspicata*), southern tarplant (*Centromadia parryi ssp. australis*), and black-flowered figwort (*Scrophularia atrata*).

b. Habitat capable of supporting special-status invertebrate species, such as the globose dune beetle (*Coelus globosus*), and roosting habitat for the monarch butterfly.

c. Aquatic habitat capable of supporting special-status fish species such as the steelhead trout (*Oncorhynchus mykiss*) and tidewater goby (*Eucyclogobius newberryi*).

d. Habitat capable of supporting special-status amphibians and reptiles such as the red-legged frog (*Rana aurora draytonii*) and western pond turtle (*Clemmys marmorata pallida*).

e. Nesting and roosting areas for various species of raptors such as Cooper's hawks (*Accipiter cooperi*), red-tailed hawks (*Buteo jamaicensis*), white-tailed kites (*Elanus leucurus*), and turkey vultures (*Cathartes aura*).

f. Nesting habitat for other special-status bird species such as western snowy plover, southwestern flycatcher (*Empidonax traillii extimus*), loggerhead shrike (*Lanius ludovicianus*), yellow warbler (*Dendroica petechia*), and tricolored blackbird (*Agelaius tricolor*).

g. Nesting and foraging habitat for special-status mammals such as pallid bat (*Antrozous pallidus*), western red bat (*Lasiurus blossevillii*), Yuma myotis (*Myotis yumanensis*), and American badger (*Taxidea taxus*).

**CE 8.2 Protection of Habitat Areas.** [GP/CP] All development shall be located, designed, constructed, and managed to avoid spawning, nesting, rearing, roosting, foraging, and other elements of the required habitats.

**CE 8.3 Site-Specific Biological Study** [GP/CP] Any areas not designated on Figure 4-1 that meet the ESHA criteria for the resources specified in CE 8.1 shall be accorded the same protections as if the area were shown on the figure. Proposals for development on sites where ESHAs are shown on the Figure, or where there is probable cause to believe that an ESHA may exist, shall be required to provide the City with a site-specific biological study that includes the following information:

a. A base map that delineates topographic lines, parcel boundaries, and adjacent roads.

b. A vegetation map that 1) identifies trees or other sites that are existing or historical nests for the species of concern, and 2) delineates other elements of the habitat such as roosting sites and foraging areas.

c. A detailed map that shows the conclusions regarding the boundary, precise location and
extent, or current status of the ESHA based on substantial evidence provided in the biological studies.

d. A written report that summarizes the survey methods, data, observation, findings, and recommendations.

CE 8.4 Buffer Areas for Raptor Species. [GP/CP] Development shall be designated to provide a 100-foot buffer around active and historic nest sites for protected species of raptors when feasible. In existing developed areas, the width of the buffer may be reduced to correspond to the actual width of the buffer for adjacent development. If the biological study described in CE 8.3 determines that an active raptor nest site exists on the subject property, whenever feasible no vegetation clearing, grading, construction, or other development activity shall be allowed within a 300-foot radius of the nest site during the nesting and fledging season.

CE 10.7 New development shall protect the absorption, purifying, and retentive functions of natural systems that exist on the site.

COASTAL ACT POLICIES

Applicable standards of review for a coastal development permit are contained within Coastal Act, sections 30107.5, 30231 and 30240 (California Coastal Act, 1976).

The Coastal Act definitions and policies set forth below are adopted as policies of the Goleta General Plan for those areas of Goleta within the California Coastal Zone.

30107.5 “Environmentally sensitive area” means any area in which plant or animal life or their habitats are either rare or especially valuable because of their special nature or role in an ecosystem and which could be easily disturbed or degraded by human activities and developments.

30231 The biological productivity and the quality of coastal waters, creeks, wetlands, estuaries, and lakes appropriate to maintain optimum populations of marine organisms and for the protection of human health shall be maintained and, where feasible, restored through, among other means, minimizing adverse effects of wastewater discharges and entrainment, controlling runoff, preventing depletion of groundwater supplies and substantial interference with surface water flow, encouraging riparian habitats, and minimizing alteration of natural creeks.

30240 (a) Environmentally sensitive habitat areas shall be protected against any significant disruption of habitat values, and only uses dependent on those resources shall be allowed within those areas.

(b) Development in areas adjacent to environmentally sensitive habitat areas and parks and recreation areas shall be situated and designed to prevent impacts which would significantly degrade those areas, and shall be compatible with the continuance of those habitat and recreation areas.
5.0 Impacts and Mitigations

5.1 Thresholds of Significance

The significance of potential, project-related impacts to biological resources is based on the following considerations and impact thresholds. An impact that results in long-term loss or degradation of sensitive habitat, or that adversely affects the population of a special-status species, will generally be considered significant. Sensitive habitats and special-status species are those that are demonstrably rare, threatened, or endangered, are protected by statute or regulation, or have recognized commercial, recreational, or scientific importance.

The significance of project-related impacts to biological resources is based Appendix G of the State CEQA Guidelines for its criteria. Impacts are classified as significant or less than significant, depending on the size, type, and timing of the impact and the biological resources involved. Disturbance of habitats and/or species is considered significant if it affects significant biological resources in the following ways:

- Conflicts with adopted environmental plans and goals of the community where it is located;
- Substantially affects a rare or endangered species of animal, plant, or the habitat of a species;
- Interferes substantially with the movement of any resident or migratory fish or wildlife species;
- Substantially diminishes habitat for fish, wildlife, or plants;
- Substantially reduces or eliminates species diversity or abundance;
- Substantially reduces or eliminates quantity or quality of nesting areas;
- Substantially limits reproductive capacity through loss of individuals or habitat;
- Substantially fragments, eliminates, or otherwise disrupts foraging areas and/or access to food sources;
- Substantially limits or fragments the geographic range or dispersal routes of species;
- Substantially interferes with natural processes, such as fire or flooding, upon which the habitat depends.

Project-related impacts to biological resources may be considered less than significant if there is little or no importance to a given habitat or if disturbance would not create a significant impact to habitats or species.

Significant impacts are further classified as follows:

- Significant adverse impacts that cannot be feasibly mitigated or avoided. If the project is approved, decision-makers are required to adopt a statement of overriding consideration, pursuant to CEQA Section 15093, explaining why project benefits outweigh the disturbance caused by these significant environmental impact or impacts.

- Significant adverse impacts that can be feasibly mitigated or avoided. If the project is approved, decision-makers are required to make findings pursuant to CEQA Section 15091, that impacts have been mitigated to the maximum extent feasible by
implementing the recommended mitigations.

- Adverse impacts that are less than significant. These impacts do not require that findings be made.
- Beneficial impacts.

5.2 Impacts and Mitigation Measures

**Impact Bio-1: Degradation of Riparian Buffer.**

The southernmost edge of the proposed 20-foot wide private emergency road would be situated 6 feet from the top of bank. A three-foot high retaining wall would be constructed on the north side of the road, backfilled and topped with a 2:1 compacted soil slope reaching 10 feet to the northern property line. The slope would be seeded with a non-irrigated, commercially purchased native seed mix.

Installation of the emergency fire road along Devereux Creek would reduce the width of the buffer from 36 feet wide to 6 feet wide (See Fig 3). Currently, with the exception of a three to four-foot wide pedestrian path, the vegetated buffer fills the entire space between the top of bank (represented by the top of the concrete bank) to development (a wall along the northern property line separating the City-owned property and the single-family homes). The vegetated buffer provides a permeable surface and a measure of runoff filtration before the creek bank. Installation of the access road would remove 55% of the width of the permeable surface.

A clearance zone for fuel management is required along all roads. Typically this is 10 feet on either side. The initial 6-foot zone left along the top of bank would require consistent management, removing oaks and willows that tend to establish within that ribbon of remaining sunlight. Existing trees, which already extend outside the bank and into the 6-foot buffer, would likely be removed or trimmed to fuel management requirements.

The stated goals of the General Plan are to proceed in restoring degraded riparian zones whenever possible. (Policy CE 2.5 Maintenance of Creeks as Natural Drainage Systems and CE 2.6 Restoration of Degraded Creeks states that degraded riparian buffers shall be restored wherever conditions and opportunities exist.)

The proposed road would remove all potential for future restoration along this corridor. A 36-foot wide current buffer, if restored, could be infused with multiple functions, adding to the health of the creek. A narrow tree zone flanking the top of bank could be thickly planted with native trees and tall shrubs, providing shade to the bed, cooling for the stream flow, increasing productivity and increasing habitat quality for aquatic species. The next strip would contain various species of native shrubs and sub-shrubs, planted for habitat enhancement. The path could be situated north of this shrub zone. The third zone normally installed in buffer construction is a grassland, typically wider than the tree or the shrub zones. The purpose of the grassland is to intercept sediment and pollutants when these materials enter, as runoff, a creek.

There is potential for improved habitat along this ESHA. Installation of the access road would not
only immediately reduce the value of the site, but it would eliminate any potential for restoration of this corridor in the future.

The project would degrade important buffer habitat by reducing permeable surface in the current creek buffer by 55%, cause riparian vegetation along the initial 6 feet to be managed or removed for fuel modification now and in the future, and by removing all potential for future restoration in this reach. These situations represent an adverse, significant and unmitigable impact.

Although the impacts cannot be fully mitigated to insignificant levels, two measures would help alleviate potential damage associated with road installation.

- Mitigation Measure 1a: Develop a monitoring plan for revegetation of the seeded slopes, which included expected annual cover goals (Performance Criteria). Identify seed mix species and include some small shrubs if possible. Consider irrigation and light straw mulching. See sample monitoring plan below.

Sample Maintenance Plan: Maintenance of the seeded slope shall consist of weeding, checking the irrigation line for leaks and breaks (if irrigated), and checking for erosion, rilling or sediment build-up after a storm. Performance criteria (a stated percent cover based on a predicted cover for the specific seed mix) shall be set for each year, measured, and reported in an Annual Monitoring Report. If the final minimum cover is not met after 3 years, the monitoring program shall be extended for another two years.

Weeds must be removed (pulled out by the roots) before seed is set, preferably when plants are very young. Weeding can begin after the native seedlings are at least 5 inches tall or can withstand the soil disturbance and foot traffic. Weeding shall occur every month thereafter.

When young, the same treatments are used for annual and perennial weeds. It is possible that, if abundant, the process of removing weeds will damage young native seedlings. The roots of weeds extend much faster than native species into neighboring soil. If this occurs, it is better to wait until the natives are older and able to withstand proximate ground disturbance.

Weeds shall be removed before seed is set. If mature seeds are present, weedy plants shall be bagged and removed from the site. Maintenance personnel must be trained to identify native and weed seedlings. Maintaining a consistent crew will help this process.

Mitigation Measure 1b: Do not remove oak seedlings, saplings or trees, or willow (Salix lasiolepis) during fuel management along first 6 feet outside of Devereux Creek.

- Residual Impact-1. Even if vegetation along the 6-foot strip is not managed and the seeded area atop the backfilled retaining wall attains a predetermined cover after 3 to 5 years, degradation of the existing buffer, including removing 20 feet (55%) of the permeable surface, removing the ability for future restoration on any part of the buffer and reducing the functions from the current conditions, represents an adverse, significant and unmitigable impact.
**Impact Bio-2: Insufficient Riparian Vegetation Setback/Buffer Width.**

The City of Goleta has established a streamside protection area (SPA) in the General Plan (2006) for creeks identified on the City’s Figure 4-1: Special Status Species, Environmentally Sensitive Habitat Areas. The project site along Devereux Creek is identified on this map. The City calls for a 100-foot setback from the top of bank for all identified streams. The City may allow portions of a SPA upland buffer to be less than 100 feet wide, but not less than 25 feet wide, based on a site-specific assessment. If (1) there is no feasible alternative siting for development that will avoid the SPA upland buffer; and (2) the project’s impacts will not have significant adverse effects on streamside vegetation or the biotic quality of the stream.

This report identifies a number of significant adverse effects on the quality of the stream. However, even if a reduced buffer was granted, the proposed project would not meet the lowest allowable buffer width of 25 feet.

- **Impact-2:** The project’s resulting buffer (6-foot managed grassy strip along a 20-foot-wide new emergency road adjacent to a 10-foot-wide backfilled 3-foot tall retaining wall) is, under the City’s policy CE 2.2, not sufficient to meet the standard for an SPA. **This represents an adverse, significant and unmitigable impact.**

**Impact Bio-3: Loss of Riparian Trees and Significant Trimming of Riparian Trees along Devereux Creek.**

Vegetation from the creek and near the bank extends over a portion of the proposed southern edge Access Road. Installation of the Emergency Access Road would result in the removal of five mature (over 6 inches at 4.5 feet above ground level) native riparian trees, including: 4 arroyo willows growing north (outside) of the concrete slope defining Devereux Creek, and one western sycamore situated within the proposed constructed slope, north of the proposed Access Road. **Loss of four arroyo willow and one mature western sycamore is considered adverse and significant.**

In addition, branches and large limbs extending beyond the 6-foot setback from the top of the concrete slope and into the southern edge of the proposed Access Road would be removed. An estimate of this disturbance is, in linear feet: Arroyo willow: 72 linear feet; Shamel ash (non-native): 10 linear feet; Coast live oak: 15 linear feet. Loss of branches, which will not harm individual trees, is considered adverse but less than significant.

- **Mitigation Measure 3:** Replace one sycamore with 5 sycamore saplings within the 6-foot setback. Material must be from local stock. Provide a small fence for each sapling for protection. Irrigate for at least three years, and then reduce slowly over two years. A minimum of 3 trees must survive without irrigation for at least one year, after 5 years.

Replace the arroyo willow at a 3:1 ratio (plant 12 cuttings for the 4 lost). Take cuttings from the site and plant the same day in a sunny location. Willow apparently does well outside of the creek basin and this location should be used. Deep watering will help get the roots down to water. A minimum of 7 *Salix lasiolepis* must be thriving after 5 years, without irrigation for at least one year.
An annual letter report to the City from a third party monitor would report of the progress. Implementation of this restoration/mitigation measure would reduce this impact to an adverse but less than significant level.

**Impact Bio-4: Conflict with Other City and State Coastal Commission Policies.**

The project conflicts with a number of City Policies (underlines added):

- **CE 1.8 ESHA Buffers.** [GP/CP] Development adjacent to an ESHA shall minimize impacts to habitat values or sensitive species to the maximum extent feasible. Native vegetation shall be provided in buffer areas to serve as transitional habitat. All buffers shall be of a sufficient size to ensure the biological integrity and preservation of the ESHA they are designed to protect.

- **Policy CE 1.6 (and CE 2.3)** Protection of ESHAs of the Goleta General Plan (see Section 3.3, this report) enumerates exactly what uses are allowed in riparian buffers and states that ESHAs shall be protected against significant disruption of habitat values. Allowable uses are: public trails and accessways, public road crossings, utility lines restoration, education research public works. The proposed project, a private emergency access road, does not fall within any of these uses.

- **CE 2.5 Maintenance of Creeks as Natural Drainage Systems.** [GP/CP] Creek banks, creek channels, and associated riparian areas shall be maintained or restored to their natural condition wherever such conditions or opportunities exist.

The project conflicts with the **California Coastal Act, 1976**

- **30240 (a)** Environmentally sensitive habitat areas shall be protected against any significant disruption of habitat values, and only uses dependent on those resources shall be allowed within those areas.

  - (b) Development in areas adjacent to environmentally sensitive habitat areas and parks and recreation areas shall be situated and designed to prevent impacts which would significantly degrade those areas, and shall be compatible with the continuance of those habitat and recreation areas.

  - ✤ Impact 4. Conflicts with the City of Goleta General Plan and the Coastal Act result in adverse, significant and unmitigable impacts.

**Impact Bio-5: Insufficient Monarch Butterfly Foraging (ESHA) Setback**

The proposed fire access road is outside of the required minimum 100-foot setback from the closest
historic roost and therefore the project would not result in any direct adverse impact to the overwintering monarch roost habitat. However, the Eucalyptus woodlands along Devereux Creek, including the trees along the entire reach of the proposed project, are considered part of the monarch butterfly ESHA, and these are – See Figure 3. (Policy CE.4.5)

There are at least three known monarch overwinter roosts in the woodlands close to the project site. Butterflies roosting nearby are expected to forage in the eucalyptus woodlands that border the fire access road corridor. Monarchs may be destroyed if construction occurred during the winter months when monarchs are roosting on Ellwood Mesa.

Construction adjacent to the Monarch ESHA during the roosting period would result in a significant, adverse and mitigable impact.

**Mitigation Measure 5:** Avoid impacts from construction by scheduling work on the fire access road to occur after March 1 but before October 1 when monarchs are not at their overwinter roosts. Implementation of this avoidance measure would reduce this impact to an adverse but less than significant level.

**Impact Bio-6: Nesting Habitat for Raptors**

Several sensitive species of raptors are known to frequent woodland habitats on the Ellwood Mesa for roosting and open grasslands for foraging. These include white-tailed kites (nesting, roosting and foraging year-round), turkey vulture (roosting and foraging year-round), sharp-shinned hawk (roosting and foraging in winter), and Cooper's hawk (nesting, roosting and foraging year-round). (See Figure 3.) Woodlands on Ellwood Mesa are also used for roosting and nesting by several other common raptors including red-tailed and red-shouldered hawks, American kestrel, and great-horned owl. Cooper's and sharp-shinned hawks and great-horned owls are expected to roost and forage in woodlands found adjacent to the project site while the other raptors known to occur on the Ellwood Mesa are expected to forage in the open grasslands away from the proposed development. The raptor breeding season is March 1 - July 31.

Several different setbacks have been recommended for active raptor nest sites located in the vicinity of a construction site. The City of Goleta (**CE 8.4 Buffer for Raptor Species**) recommends that developments shall be designed to provide a 100-foot buffer around active and historical nest sites for protected species of raptors when feasible, and a 300-foot construction buffer (including vegetation clearing, grading, construction, or other development activity) around nests. The California Department of Fish and Wildlife requires that construction must set back 500 feet from active raptor nests (**DFG Code Section 3503.5**). Construction of the fire access road has the potential of adversely affecting nesting raptors, given that raptors are known to occasionally use large eucalyptus trees along Devereux Creek in the project area for nesting. Several of the raptor nests found to date in the project area are within 500 feet of the fire access road corridor. If construction of the fire access road were to occur during the raptor breeding season (March 1 - July 31), and if that led to abandonment of nesting sites adjacent to the proposed development, then this would constitute a significant, adverse but mitigable impact.
**Mitigation Measure-6.**

*a.* Plan construction to occur outside of the raptor nesting season (March 1-July 31).

*b.* If construction must begin within the breeding season, implementation of the following avoidance measures would reduce this significant impact to a less than significant levels:

- Have a City of Goleta-qualified biologist conduct a preconstruction raptor roost/nest survey to identify if any trees within 500 feet of the construction site are being used by white-tailed kites for roosting or nesting.
- If any kites are found to be using trees within 500 feet of the project site, then conduct the construction only after young have left the nest. Construction could occur from August 1 until March 1 in order to avoid kite nesting.

Implementation of the proceeding avoidance measures would reduce this significant impact to a less than significant levels.

**Impact Bio-7: Potential Overflow of Road Base onto Buffer or Debris into Creek**

During emergency access road construction, materials used for road construction and other debris may overflow past the intended road footprint, be dumped into the creek bed or washed in during rains. Road base leaving the 20-foot footprint within the creek buffer would constitute a significant, adverse but mitigable impact.

*Mitigation Measure-7.* The southern road boundary shall be identified and marked along the entire length of the project until the property line between the City and RGMHP. Silt fencing or some similar barrier shall be installed several inches behind this location and kept tightly in place during road installation. No materials shall be stored or dumped within the 6-foot buffer or within the creek. Implementation of these measures would reduce this significant impact to less than significant levels.
6.0 REFERENCES


California Department of Fish and Game. 2015. California Natural Diversity DataBase Rare 5. Goleta and Dos Pueblo Squad search of sensitive Plants, Animals and Natural Communities. Available at the CDFG web site: https://map.dfg.ca.gov/rarefind/


City of Goleta. 2006. Goleta General Plan/Coastal Land Use Plan. September, Planning and Environmental Services Department, Goleta, CA.


Santa Barbara Museum of Natural History. 2015. Sensitive Wildlife Sighting and Specimen Database.


1. View of proposed 20-foot wide emergency access road corridor, looking east. Devereux Creek to the right.

2. View of proposed emergency access road corridor looking west from the hammerhead turn-around.

3. Cement bank of Devereux Creek. Bed overrun with sour grass (Oxalis pes-caprae); shamel ash (Fraxinus uhdei) canopy.

4. Low flow channel located 30 feet from bank. Ponded water still present in limited areas in March, 2015.
APPENDIX B: TREE IMPACTS AND PROTECTION PLAN

This tree protection plan concerns the construction of an emergency access road at the southern extent of the Rancho Goleta Mobile Home Park. Eight landscape trees are established in the area where the proposed emergency access road would connect to the existing hammerhead turnaround. Four of these trees would be removed as a result of road construction and others could be damaged and ultimately killed if care isn’t taken to protect root zones (See Figure 2). A cluster of blue gum, situated a distance from planned construction, may also be damaged if materials or vehicles are stored underneath the canopy of these trees; compacting soils, limiting air circulation and decreasing the roots’ ability to adsorb water.

<table>
<thead>
<tr>
<th>Tree No.</th>
<th>Species</th>
<th>Removed as part of project</th>
<th>Condition</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Yucca sp.</td>
<td>Protect</td>
<td>Good</td>
</tr>
<tr>
<td>2</td>
<td>Yucca sp.</td>
<td>Protect</td>
<td>Good</td>
</tr>
<tr>
<td>3</td>
<td>Yucca sp.</td>
<td>Protect</td>
<td>Good</td>
</tr>
<tr>
<td>4</td>
<td>Ficus sp.</td>
<td>Protect</td>
<td>Good</td>
</tr>
<tr>
<td>5</td>
<td>Shamel ash (Fraxinus uhdei)</td>
<td>Remove</td>
<td>Good</td>
</tr>
<tr>
<td>6</td>
<td>Shamel ash (Fraxinus uhdei)</td>
<td>Remove</td>
<td>Good</td>
</tr>
<tr>
<td>7</td>
<td>Ornamental sapling</td>
<td>Remove</td>
<td>Good</td>
</tr>
<tr>
<td>8</td>
<td>Shamel ash (Fraxinus uhdei)</td>
<td>Remove</td>
<td>Good</td>
</tr>
<tr>
<td>9-12</td>
<td>Blue gum (Eucalyptus globulus)</td>
<td>Protect</td>
<td>Good</td>
</tr>
<tr>
<td>13</td>
<td>Canary Island Palm</td>
<td>Protect</td>
<td>Good</td>
</tr>
<tr>
<td>14</td>
<td>Arroyo Willow</td>
<td>Remove</td>
<td>Good</td>
</tr>
<tr>
<td>15</td>
<td>Western Sycamore</td>
<td>Remove</td>
<td>Good</td>
</tr>
<tr>
<td>16-18</td>
<td>Arroyo Willow</td>
<td>Remove</td>
<td>Good</td>
</tr>
</tbody>
</table>
TREE PROTECTION MEASURES

1. A pre-construction meeting should be held with contractors, prior to commencement of work, to discuss tree protection measures.

2. All tree protection measures shall be shown on the final grading/construction or landscape plans and adhered to during construction.

3. All trees to be retained shall be protected with fencing, designated on the site plan, to establish tree protection zones (TPZ). Fences must be maintained throughout the duration of the project.

4. Existing native trees within the 6-foot buffer (coast live oak sapling and small arroyo willow) shall be fenced outside their driplines in the same manner as the ornamentals.

5. No operation of equipment, storage of materials and dumping is allowed within the TPZs.

6. Any excavation that is not within the TPZ but still within the CRZ should be done by hand.

7. Roots larger than ½ inches should be cleanly cut. In areas where the grade around the protected tree will be lowered, some root cutting may be unavoidable. Cuts should be clean and made at right angles to the roots. When practical, cut roots back to a branching lateral root.

8. The City Inspector should monitor the fencing during regular project inspections.

9. At the end of construction, a City-approved arborist will inspect the remaining trees and may make further recommendations for treatment.

10. Each tree removed during construction shall be replaced with four 15-gallon replacements, for a total of 16 replacement trees. Five to eight of the expected replacement trees shall be planted in the area of the hammerhead. The remainder shall be planted within the Mobile Home Park. Because of its invasive tendencies within the creek, Shamel ash shall not be used in the replacement planting.
NATIVE TREES REMOVED ALONG DEVEREUX CREEK AND ACCESS ROAD*

Five native trees would be removed during construction of the access road where it runs parallel to Devereux Creek. These trees are all greater than 6 inches, measured at 4.5 inches above ground level (= DBH).

<table>
<thead>
<tr>
<th>Tree No.</th>
<th>Species</th>
<th>DBH</th>
</tr>
</thead>
<tbody>
<tr>
<td>12</td>
<td>Western Sycamore (Platanus racemosa)</td>
<td>14&quot;</td>
</tr>
<tr>
<td>13</td>
<td>Arroyo Willow (Salix lasiolepis)</td>
<td>10&quot;</td>
</tr>
<tr>
<td>14</td>
<td>Arroyo Willow (Salix lasiolepis)</td>
<td>7&quot;+8&quot;+8&quot;</td>
</tr>
<tr>
<td>15</td>
<td>Arroyo Willow (Salix lasiolepis)</td>
<td>6&quot;</td>
</tr>
<tr>
<td>16</td>
<td>Arroyo Willow (Salix lasiolepis)</td>
<td>6&quot;</td>
</tr>
</tbody>
</table>

* See mitigation plan in main body of report.

LOSS OF SIDE BRANCHES AND LIMBS

Installation of the Emergency Access Road would necessitate cutting back overhanging riparian growth located outside of the concrete-defined bed of Devereux Creek. Branches and larger limbs from native (coast live oak, arroyo willow) and non-native (Shamel ash) riparian trees currently extend more than ten feet beyond the concrete slope. The proposed road will have a 6-foot setback from the top of bank. Vegetation would be maintained close to this point. Vegetation removal will not injure the health of individual trees and this loss is not considered significant.

The following values represent the expected loss of riparian plant material along Devereux Creek in linear feet due to trimming for road installation:

<table>
<thead>
<tr>
<th>Species</th>
<th>Linear Feet</th>
</tr>
</thead>
<tbody>
<tr>
<td>Arroyo Willow (Salix lasiolepis)</td>
<td>72</td>
</tr>
<tr>
<td>Coast Live Oak (Quercus agrifolia)</td>
<td>15</td>
</tr>
<tr>
<td>Shamel Ash (Fraxinus uhdei)</td>
<td>10</td>
</tr>
</tbody>
</table>
APPENDIX C: "WATERS OF THE U.S." AND WETLAND DELINEATION

1.0 Delineation Methods ........................................................................................................... 1
  1.1 Vegetation .......................................................................................................................... 2
  1.2 Soils .................................................................................................................................. 3
  1.3 Hydrology .......................................................................................................................... 4
2.0 Determining Wetland Boundary ............................................................................................ 4
3.0 Results of the Waters/Wetlands Delineation ...................................................................... 5
  3.1 "Waters" ............................................................................................................................. 6
  3.2 Wetlands ............................................................................................................................. 7

A routine delineation was conducted along Devereux Creek within the project site to determine the boundary of "Waters of the U.S." in anticipation of applying for a Coastal Development Permit with the California Coastal Commission (CCC). "Waters" refers to the portion of a perennial, intermediate, or ephemeral creek and any adjacent wetlands that are regulated under the Clean Water Act of 1972. The Army Corps of Engineers (ACOE) is the regulating government agency.

The actual location or boundary of "Waters of the U.S." and adjacent wetlands within any stream is determined by following the methods laid out in the ACOE Delineation Manual (1987), the Regional Supplement [for California it is the Arid West Region (Environmental Laboratory, 2006)], the Field Guide to the Identification of the OHWM in the Arid West Region of the Western U.S. (Environmental Laboratory, Cold Regions Research and Environmental Laboratory, 2008) and the Field Indicators of Hydric Soils in the United States, (NRCS, 2010).

"Waters of the U.S.", in general, refers to navigable streams, non-navigable tributaries of a navigable stream, and ponds connected to either a stream or tributary. Typically, the ordinary high water mark (OHWM) determines the upper limit of "Waters" within the channel. The recent Supplement to the Delineation Manual suggests that in the arid west, the OHWM should be identical to the active floodplain. (Cold Regions Research and Environmental Laboratory, 2008.)\(^6\)

Wetlands are included under the term "Waters" if they are adjacent to any of the above features.\(^7\)

To determine if wetlands are present, and to determine where the upland/wetland boundary lies, the formal methodology outlined in the delineation manual is used.

---

\(^6\) Wetlands also exist separately from other "Waters," for example in vernal pools and seeps or springs. These features are also wetlands in a hydrological, geological and biological sense, but not covered under the Clean Water Act, implemented by the ACOE. Isolated wetlands are covered under the Coastal Act.

This may change. A ruling passed by the EPA Administration and the ACOE on May 27, 2015, states that isolated wetlands up to 4,000 feet away from "Waters" may be regulated under the Clean Water Act if a significant nexus (or significant effect on the chemical, physical, and biological integrity of the navigable water) can be identified. This ruling would change the current status of isolated wetlands, which have not been regulated under the Clean Water Act since 2001, unless they were adjacent to a tributary or other jurisdictional feature, or if there was a visible connection to navigable waters of the United States or their tributary systems. This ruling would not be in effect until 60 days after it is published in the Federal Register.
1.0 DELINEATION METHODS

Initially, any area under investigation is examined for changes in vegetation patterns. The site is divided into sections, or plots, based on vegetation differences. Often only one plot is necessary because vegetation is homogeneous. Representative observation points and pit locations are chosen that best depict the vegetation components within each plot. At each point, a data form is filled out. Information collected for the forms includes a list of the dominant plant species and their wetland indicator status; results of a soil pit test showing the presence or absence of field indicators of hydric soil; and evidence of wetland hydrology.

1.1 VEGETATION

Dominance Test.

All species are first listed, with their absolute percent cover, from each strata (tree, shrub, sapling and herb). Those that, when tallied, account for more than 50% cover are “dominant.” Any other species that accounts for at least 20% cover is also added to this list (50/20 rules). After the species are added to the list of dominants, each species is weighted equally.

The National List of Plant Species That Occur in Wetlands (R.W Lichvar et al, 2014) is then consulted to determine the rank of each dominant species. This list includes most, but not all, species that occur in and around wetlands, and assigns each to a category that indicates the estimated probability of the species being found in a wetland. Each dominant species found at the test plot is assigned a category.

These indicator categories are:

- Obligate Wetland (OBL) - Almost always occurring in wetlands (estimated probability >99%).
- Facultative Wetlands (FACW) - Usually occurring in wetlands (estimated probability 67%-99%).
- Facultative (FAC) - Equally likely to occur in non-wetlands (estimated probability 34%-66%). The former FAC modifiers of (+) or (-), indicating a wetter or drier affinity, were eliminated in the Regional Supplement (Environmental Laboratory, 2006).
- Facultative Upland (FACU) - Usually occurring in non-wetlands (estimated probability 67%-99%), but occasionally found in wetlands (estimated probability 1%-33%).
- Obligate Upland (UPL) - Almost always occurring in uplands in the California region (estimated probability >99%).

Hydrophytic vegetation is indicated when the Absolute Percent Cover\(^8\) of more than 50% of

---

\(^8\) Absolute Percent Cover. The percentage of the ground surface that is covered by aerial portions (leaves and stems) of a plant species when viewed from above. Due to overlapping plant canopies, the sum of the absolute cover values may exceed 100 percent.
the dominant species across all strata are rated as OBL, FACW or FAC in the National list of plant species that occur in wetlands; California region (R.W Lichvar et al, 2014).

Prevalence Index

The Regional Supplement offers a second means of determining dominant vegetation to be used only if the sample plot fails the Dominance test, but indicators of hydric soils and hydrology are present. To use this test, at least 80% of the total vegetation (summed from all strata) must be identified species. The Prevalence Index is a weighted-average indicator status of all plant species in the sampling plot, where each indicator is given a numeric code (OBL = 1, FACW = 2, FAC = 3, FACU = 4 and UPL = 5). Weighing is by percent cover, or abundance. To conduct the test, all species in each strata are identified by indicator category and Absolute Cover is estimated (cover may be more than 100%).

Species are organized into groups depending on their wetland rating and the following formula is applied:

\[
PL = A(OBL) + 2A(FACW) + 3A(FAC) + 4A(UPL)
\]

Where \( PL \) = Prevalence Index

\( A(OBL) \) = Summed % cover values of obligate plant species.

\( A(FACW) \) = Summed % cover values of facultative wetland plant species.

\( A(FAC) \) = Summed % cover values of facultative plant species.

\( A(FACU) \) = Summed % cover values of facultative upland plant species.

\( A(UPL) \) = Summed % cover values of upland plant species.

The Prevalence Index ranges between 1 and 5.

A positive test for hydrophytic vegetation is met when the Prevalence Index is 3.0 or lower. This test is only used when hydric soil and wetland hydrology are present and the plot failed the Dominance Test.

1.2 SOILS

Hydric soils (soils that develop under saturated conditions at least part of the year) exhibit unique characteristics that can be identified in the field. Soil pits are dug at each observation point to a depth of approximately 20 inches or deep enough to determine hydric indicators. The field indicators used to determine hydric soils are typically based on soil color, including the presence of gleying, mottling and/or an organic pan. Soil color is measured by comparing a wetted soil sample to the standard color chips in the 1988 version of the Munsell Soil Color Charts. A matrix chroma of less than or equal to 2 indicates hydric soil if mottling is present. A matrix chroma of 1 or less is required if mottling is not present.
The Interim Regional Supplement to the 1987 Corps of Engineers Wetland Delineation Manual: Arid West (Environmental Laboratory, 2006) provides additional assistance in recognizing hydric soils, adding many more subtleties than the general guidelines previously used. It is part of a nationwide effort to address regional wetland characteristics to improve accuracy and efficiency (Environmental Laboratory, 2006). The Regional Supplement provides clarification regarding many additional indicators for hydric soils, including redox depletions, depressions and concentrations. A determination of hydric soil is made when at least one primary or two secondary field indicators are noted.

1.3 HYDROLOGY

Positive indications of wetland hydrology include inundation and/or soil saturation for 7-14 consecutive days during the growing season. The soil pits, dug to determine the presence of hydric soils, are also used to determine saturation levels if the soil is not inundated. Other indicators of wetland hydrology include evidence of water flow, such as drift lines, sediment deposits or watermarks. It can be easily argued that the growing season for the Santa Barbara area continues year round. However, some wetlands, especially in the western portions of the United States, are seasonal and do not exhibit wetland hydrology year-round. The Regional Supplement includes a list of primary and secondary indicators of hydrology. Secondary indicators include the FAC neutral test, crayfish burrows and others situations. Positive wetland hydrology is indicated when a primary indicator or at least two secondary indicators are noted.

2.0 DETERMINING WETLAND BOUNDARY

The wetland/upland boundary is the interface between wetland and non-wetland polygons or plots. The boundary is determined by field observance and additional soil pits as required, and can be based on a change in vegetation, topography, soil characteristics or other surface features available to the delineator.

a. Dates field work conducted. Visits on March 25 and 28 were made to accurately map the locations of the observation pits.


c. Delineation Details

- All plants were identified to species.
- Paired sample points used where needed.
- Boundaries delineated based on vegetation and soils.
- No change in standard methods.
- Number of sampling sites used.

• The project (ROAD) is entirely in the Coastal Zone.

REGARDING THE USE OF THE “ONE-PARAMETER” WETLAND DEFINITION FOUND IN SECTION 13577 OF THE COMMISSION’S REGULATIONS.

When appropriate (for example with a dominance of OBL plants), determining a wetland by observing one parameter may result in an accurate determination of whether a site is in a wetland or not. The ACOE Delineation Manual and all Supplements were developed based on an investigation of all parameters. A single “positive” indication of plants, soils or hydrology, as described in the ACOE Manual, does not equate to “this is a wetland.” The “positive indication” for vegetation means that most plants at the observation point are sometimes found in wetlands and sometimes they are not. A “positive indication” of vegetation means the site may be a wetland and one should look at other indicators (soil and hydrology) to determine if it is.

In only limited situations can one identify a wetland by simply looking at vegetation, as most plants are adaptable across large variations of soil moisture. To use the ACOE Delineation Manual as a wetland identifier (versus using it as a delineator or boundary locator) requires that all information be investigated. Disregarding the rules developed in the Manual will, as many times as not, end in erroneous results.

A paragraph-long general description of “wetlands” in the Cowardin Wetland Classification Manual (1979) is often cited as the basis of the legitimacy of the one-parameter method. However, its misuse for wetland delineations or wetland identifiers is discussed several times in the revised Cowardin Wetland Classification Manual. (Federal Geographic Data Committee. 2013.) The revised report states unequivocally that Cowardin et al. (Cowardin, L.M., W. Carter, F.C. Golet and E.T. LaRoe. 1979) intended that all available information should be used in making a wetland identification.

“If plants and soil are present at a site, then both a predominance of hydrophytes and a predominance of undrained hydric soil, as well as wetland hydrology, should be required for positive wetland identification.” [Federal Geographic Data Committee (revised Cowardin report), 2013].

3.0 RESULTS

3.1 “Waters”

“Waters of the U.S.”, in general, refers to navigable streams, non-navigable tributaries to a navigable stream, and ponds connected or adjacent to either a navigable stream or tributary. Typically, the ordinary high water mark (OHWM) determines the upper limit of "Waters" within the channel, although a body within a constructed channel will be defined by the conduit rather than the normal reach of the feature.

Within the study reach, the “floodplain” of Devereux Creek is confined by a cement slope on the northern bank and possibly a cement bed, the latter not identified in the field but possibly covered.
with a deep layer of sediment. A defined low flow channel is evident within the study reach, sometimes narrow (5 feet wide with open water) and other times broad and shallow (15 to 20 feet wide with emergent perennials). Braids (alternate courses) are evident throughout. Also seen within the entire basin outside of the low flow drainages were water-stained leaves and flat-textured or slick surface soil, suggesting past standing water.

The recent *Supplement to the Delineation Manual* suggests that in the arid west, the OHWM should be identical to the active floodplain. (Cold Regions Research and Environmental Laboratory, 2008.)

The location of “Waters of the U.S.”

The cement slope is the northern limit of “Waters of the U.S.”

The low flow channel shows a bed and bank. However, placing the OHWM at or near the bank of the channel would be underestimating this creek. The entire width of the floodplain appears flooded this year (stained leaves, flat or slick-textured soil surface).

The southern edge of the creek basin, which was about 75 feet across from the study reach and not part of this report, showed a minor but distinct scour mark about the same elevation as a change of species (from *Fraxinus* to *Eucalyptus*). This change in vegetation, and scour, represents the true OHWM. It lies higher than the low flow channel. The southern, cement slope would then delineate the limit of “Waters” along the side of proposed development.

The OHWM and limit of “Waters” is placed halfway up the cement slope from the current ground level inside the basin.

3.2 “Wetlands”

A formal Delineation of Wetlands was conducted to determine if wetlands were located within or adjacent to the Devereux Creek floodplain. Only one paired observation points were investigated, as these represented conditions along the length of the study reach. Figure 3 identifies the location of the Observation Points 1A and 1B. Methods followed those outlined above. Data Sheets (including original field sheets) are attached.

OP 1a was located outside of the “floodplain” at the very top of the slope above the concrete conduit, while OP 2b was placed inside the floodplain. Canopy species present in both areas were similar: Arroyo willow and Shamel ash. The ash is an invasive, exotic, fast growing tree that is not found on the National List of Wetland Plants. It is well established in many southern California creeks, taking up residence and usurping arroyo willow. Rather than assign it a “not listed”

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10 A short cement slope confines the creek on the northern bank. Flows are sinuous and do not conform to the straight angle of the constructed cement slope. At times the low flow runs against the slope, at times it is more than 30 feet away. The original location, or at least the original boundaries of the creek, appear altered (pushed to the south), possibly during development of the tracts to the north.
indicator status, which would eschew it, it was given the same status as the willow, FACW, which is allowed under the Manual guidelines.

Surprisingly, soils were also similar at both OPs. Both sites displayed a mid-range matrix (10YR 3/2 or 3/3) with at least 5% each dark (10YR 2/2 or 3/2) and redox markings (10YR 4/4). Also present were dark-lined cavities and channels, but these are thought to correlate to decomposing woody stems.

No hydrologic signs are present at OP 1a. Hydric soils are though to be relic, possibly from a time before the concrete slope confined the creek to the south. Having positive vegetation, questionable soils and negative hydrology indications, OP 1a is determined to be upland, or non-wetland.

Positive hydrological indications are present for OP 1b, which is located in the floodplain. Water-stained leaves, a primary indicator, were noted. This OP is positive for all three parameters and is therefore a wetland.

Extrapolating from this information, there are no adjacent wetlands outside of the Devereux Creek floodplain. The upper slopes, although vegetated with trees often found in wetlands (arroyo willow), do not exhibit enough characteristics to assign the area this designation. The numerous coast live oak saplings growing along the upper slope of the creek, side by side with the willow, is further evidence that this area is not a wetland, as the oak does not establish outside of an upland environment.
WETLAND DETERMINATION DATA FORM – Arid West Region

Project Site: Rancho Goleta Mobile Home Park
Applicant/Owner: City/County: Goleta/Santa Barbara
Investigator(s): R. Tierney
Landform (hillslope, terrace, etc.): very low of bank
Section, Township, Range: __
Local relief (concave, convex, none): __
Subregion (LRR): Mediterranean
State: CA
Soil Map Unit Name: CqE2 Conception fine sandy loam
Slope (%): __
Datum: __
Wetland Hydrology Present? Yes ☐ No ☐
Hydrophytic Vegetation Present? Yes ☐ No ☐
Hydric Soil Present? Yes ☐ No ☐
Are climatic/hydrologic conditions on the site typical for this time of year? Yes ☐ No ☐ *(If no, explain in Remarks.)*
Are Vegetation, Soil, or Hydrology significantly disturbed? Yes ☐ No ☐ *(If needed, explain any answers in Remarks.)*
Are Vegetation, Soil, or Hydrology naturally problematic? Yes ☐ No ☐ *(If needed, explain any answers in Remarks.)*

Remarks: OP 1A is just above the floodplain, or basin of Devereux Creek, on the very top of bank, above the concrete constructed slope that now contains the channel. Soils are relic. Many coast live oaks grow in a similar position as OP 1A

### VEGETATION – Use scientific names of plants.

#### Tree Stratum (Plot size: 10x10)

1. __________
2. Salix lasiolepis 40 ☑ ye ☑ FAcW
3. __________
4. __________

50% = 20% = __________

Total Cover: __________

#### Sapling/Shrub Stratum (Plot size: __________)

1. Fraxinus uhrl 20 ☑ ye ☑ FAcW
2. __________
3. __________
4. __________
5. __________

50% = 20% = __________

Total Cover: __________

#### Herb Stratum (Plot size: __________)

1. Piptatherum miliaceum 70 ☑ ye ☑ FACU
2. __________
3. __________
4. __________
5. __________

50% = 20% = __________

Total Cover: __________

#### Woody Vine Stratum (Plot size: __________)

1. __________
2. __________

50% = 20% = __________

Total Cover: __________

% Bare Ground in Herb Stratum __________ % Cover of Biotic Crust __________

### SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes ☐ No ☐
Hydric Soil Present? Yes ☐ No ☐
Wetland Hydrology Present? Yes ☐ No ☐
Is the Sampled Area within a Wetland? Yes ☐ No ☐

### Hydrophytic Vegetation Indicators:

- Dominance Test Worksheet:
  - Number of Dominant Species That Are OBL, FACW, or FAC: __)
  - Total Number of Dominant Species Across All Strata: __)
  - Percent of Dominant Species That Are OBL, FACW, or FAC: __)

- Prevalence Index Worksheet:
  - Total % Cover of:
    - OBL species: __ x 1 = __
    - FACW species: __ x 2 = __
    - FAC species: __ x 3 = __
    - FACU species: __ x 4 = __
    - UPL species: __ x 5 = __
  - Column Totals: __ (A) __ (B)

Prevalence Index = B/A = __

- Hydrophytic Vegetation Indicators:
  - Dominance Test is > 50%
  - Prevalence Index is ≤ 5.0
  - Morphological Adaptations (Provide supporting data in Remarks or on a separate sheet)
  - Problematic Hydrophytic Vegetation (Explain)

1. Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Remarks: Fraxinus not found in List of Wetland Plants, but it is known in areas to take over creeks in same locations as arroyo willow.
Project Site: Rancho Goleta MHP

SOIL

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

<table>
<thead>
<tr>
<th>Depth</th>
<th>Color (moist)</th>
<th>%</th>
<th>Color (moist)</th>
<th>%</th>
<th>Type</th>
<th>Loc</th>
<th>Texture</th>
<th>Remarks</th>
</tr>
</thead>
<tbody>
<tr>
<td>0-5</td>
<td>10YR 3/3</td>
<td>100</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5-18</td>
<td>10YR 3/2</td>
<td>45</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>10YR 2/2</td>
<td>5</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>slick greasy all over</td>
</tr>
<tr>
<td></td>
<td>10YR 4/4</td>
<td>50</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Type: C= Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)
- Histic Histosol (A1)
- Histic Epipedon (A2)
- Black Histic (A3)
- Hydrogen Sulfide (A4)
- Stratified Layers (A5)
- 1 cm Muck (A9)
- Depleted Below Dark Surface (A11)
- Thick Dark Surface (A12)
- Sandy Mucky Mineral (S1)
- Sandy Gleyed Matrix (S4)

Indicators for Problematic Hydric Soils:
- 1 cm Muck (A9) (LRR C)
- 2 cm Muck (A10) (LRR B)
- Reduced Vertic (F18)
- Red Parent Material (TF2)
- Other (Explain in Remarks)

Restrictive Layer (if present):
- Type:
- Depth (Inches): ______

Hydric Soils Present? Yes ☑ No ☐
Remarks: Relic hydric soil conditions. No water anywhere near here. Could not reach up this high as coast live oaks (saplings under 6" DBH) grow here in large numbers.

HYDROLOGY

Wetland Hydrology Indicators:
- Surface Water (A1)
- High Water Table (A2)
- Saturation (A3)
- Water Marks (B1) (Nonriverine)
- Sediment Deposits (B2) (Nonriverine)
- Drift Deposits (B3) (Nonriverine)
- Surface Soil Cracks (B6)
- Inundation Visible on Aerial Imagery (B7)
- Water-Stained Leaves (B9)
- Salt Crust (B11)
- Biotic Crust (B12)
- Aquatic Invertebrates (B13)
- Hydrogen Sulfide Odor (C1)
- Oxidized Rhizospheres along Living Roots (C3)
- Presence of Reduced Iron (C4)
- Recent iron Reduction in Tilled Soils (C5)
- Thin Muck Surface (C7)
- Other (Explain in Remarks)

Secondary Indicators (2 or more required):
- Water Marks (B1) (Riverine)
- Sediment Deposits (B2) (Riverine)
- Drift Deposits (B3) (Riverine)
- Drainage Patterns (B10)
- Dry-Season Water Table (C2)
- Grayfish Burrows (C6)
- Saturation Visible on Aerial Imagery (C9)
- Shallow Aquitard (D3)
- FAC-Neutral Test (D5)

Field Observations:
- Surface Water Present? Yes ☑ No ☐ Depth (inches): ______
- Water Table Present? Yes ☑ No ☐ Depth (inches): ______
- Saturation Present? Yes ☑ No ☐ Depth (inches): ______

Wetland Hydrology Present? Yes ☑ No ☐

Remarks: US Army Corps of Engineers
**WETLAND DETERMINATION DATA FORM – Arid West Region**

- **Project Site:** Rancho Goleta Mobile Home Park
- **Applicant/Owner:**
- **Investigator(s):** R. Tierney
- **Landform (hillslope, terrace, etc.):** inside basin - floodplain
- **Subregion (LRR):** Mediterranean
- **Lat:** N34 25 24
- **Long:** W 119 53 21
- **Soil Map Unit Name:** CgE2 Conception fine sandy loam 15-30%
- **Datum:**

### SUMMARY OF FINDINGS

- **Hydric Soil Present?**
- **Vegetation Present?**
- **Wetland Hydrology Present?**
  - **Remarks:** OP 1B is within the floodplain, or basin of Devereux Creek. Not near current low flow channel, but within the greater floodplain, which as a whole, shows signs of water ponding, flow, and similar vegetation.

#### VEGETATION – Use scientific names of plants.

<table>
<thead>
<tr>
<th>Tree Stratum (Plot size: 10x8)</th>
<th>Absolue % Cover</th>
<th>Dominant Species?</th>
<th>Indicator Status</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Fraxinus uhrei</td>
<td>50%</td>
<td>Yes</td>
<td>FACW</td>
</tr>
<tr>
<td>2. Salix lasiolepis</td>
<td>40%</td>
<td>Yes</td>
<td>FACW</td>
</tr>
<tr>
<td>3.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>50% = 5, 20% = 40% =</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total Cover</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Sapling/Shrub Stratum (Plot size:____)</th>
<th>Absolue % Cover</th>
<th>Dominant Species?</th>
<th>Indicator Status</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Fraxinus uhrei</td>
<td>5%</td>
<td>Yes</td>
<td>FACW</td>
</tr>
<tr>
<td>2.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>50% = 1, 20% = 5% =</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total Cover</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Herb Stratum (Plot size:____)</th>
<th>Absolue % Cover</th>
<th>Dominant Species?</th>
<th>Indicator Status</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>50%</td>
<td>Yes</td>
<td>NL (OBL)</td>
</tr>
<tr>
<td>2.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>6.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>7.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>8.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>50% = 1, 20% = 10% =</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total Cover</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Woody Vine Stratum (Plot size:____)</th>
<th>Absolue % Cover</th>
<th>Dominant Species?</th>
<th>Indicator Status</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Hedera helix</td>
<td>20%</td>
<td>Yes</td>
<td>NL (OPL)</td>
</tr>
<tr>
<td>2.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>6.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>7.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>8.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>50% = 1, 20% = 5% =</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total Cover</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

| % Bare Ground in Herb Stratum | 75% |

### Dominance Test Worksheet:

- **Number of Dominant Species:**
- **Number of Species Across All Strata:**
- **Percent of Dominant Species That Are OBL, FACW, or FAC:**

### Prevalence Index worksheet:

- **Total % Cover of:**
- **OBL species:**
- **FACW species:**
- **FAC species:**
- **FACU species:**
- **UPL species:**

### Hydrophytic Vegetation Indicators:

- **Remarks:** Fraxinus not found in List of Wetland Plants, but it is known in areas to take over creeks in same locations as arroyo willow. Not counting it would have pushed this site into a “non wetland vegetation” when it is clearly wet.
**Project Site:** Rancho Goleta MHP

### SOIL

**Profile Description:** (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

<table>
<thead>
<tr>
<th>Depth (inches)</th>
<th>Color (moist)</th>
<th>%</th>
<th>Color (Moist)</th>
<th>%</th>
<th>Type</th>
<th>Loc</th>
<th>Texture</th>
<th>Remarks</th>
</tr>
</thead>
<tbody>
<tr>
<td>0-18</td>
<td>10YR 4/4</td>
<td>15</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>sandy</td>
<td></td>
</tr>
<tr>
<td></td>
<td>3/3</td>
<td>70</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>3/2</td>
<td>15</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>organic</td>
<td></td>
</tr>
</tbody>
</table>

*Type: C= Concentration, D= Depletion, RM= Reduced Matrix, CS= Covered or Coated Sand Grains.*

**Hydric Soil Indicators:** (Applicable to all LRRs, unless otherwise noted.)

<table>
<thead>
<tr>
<th>Indicator</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Histosol (A1)</td>
<td>Sandy Redox (S5)</td>
</tr>
<tr>
<td>Histic Epipedon (A2)</td>
<td>Stripped Matrix (S6)</td>
</tr>
<tr>
<td>Black Histic (A3)</td>
<td>Loamy Mucky Mineral (F1)</td>
</tr>
<tr>
<td>Hydrogen Sulfide (A4)</td>
<td>Loamy Gleyed Matrix (F2)</td>
</tr>
<tr>
<td>Stratified Layers (A5)</td>
<td>Stripped Matrix (S6)</td>
</tr>
<tr>
<td>1 cm Muck (A8)</td>
<td>Redox Dark Surface (F6)</td>
</tr>
<tr>
<td>Depleted Below Dark Surface (A11)</td>
<td>Depleted Dark Surface (F7)</td>
</tr>
<tr>
<td>Thick Dark Surface (A12)</td>
<td>Redox Depressions (F8)</td>
</tr>
<tr>
<td>Sandy Mucky Mineral (S1)</td>
<td>Vernal Pools (F9)</td>
</tr>
<tr>
<td>Sandy Gleyed Matrix (S4)</td>
<td></td>
</tr>
</tbody>
</table>

**Indicators for Problematic Hydric Soils:**

<table>
<thead>
<tr>
<th>Indicator</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 cm Muck (A9)</td>
<td>Reduced Vertic (F18)</td>
</tr>
<tr>
<td>2 cm Muck (A10)</td>
<td>Red Parent Material (TF2)</td>
</tr>
</tbody>
</table>

*Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

**Restrictive Layer (if present):**

<table>
<thead>
<tr>
<th>Type</th>
<th>Depth (inches)</th>
<th>Hydric Soils Present?</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Yes ✗</td>
</tr>
</tbody>
</table>

**Remarks:** Redox concentrations directly below surface

### HYDROLOGY

**Wetland Hydrology Indicators:**

**Primary Indicators (minimum of one required; check all that apply):**

<table>
<thead>
<tr>
<th>Indicator</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Surface Water (A1)</td>
<td>Salt Crust (B11)</td>
</tr>
<tr>
<td>High Water Table (A2)</td>
<td>Biotic Crust (B12)</td>
</tr>
<tr>
<td>Saturation (A3)</td>
<td>Aquatic Invertebrates (B13)</td>
</tr>
<tr>
<td>Water Marks (B1)</td>
<td>Oxygen Sulfide Odor (C1)</td>
</tr>
<tr>
<td>Sediment Deposits (B2)</td>
<td>Oxidized Rhizospheres along Living Roots (C3)</td>
</tr>
<tr>
<td>Drift Deposits (B3)</td>
<td>Presence of Reduced Iron (C4)</td>
</tr>
<tr>
<td>Surface Soil Cracks (B6)</td>
<td>Recent Iron Reduction in Tilled Soils (C6)</td>
</tr>
<tr>
<td>Inundation Visible on Aerial Imagery (B7)</td>
<td>Thin Muck Surface (C7)</td>
</tr>
<tr>
<td>Water-Stained Leaves (B9)</td>
<td>Other (Explain in Remarks)</td>
</tr>
</tbody>
</table>

**Secondary Indicators (2 or more required):**

<table>
<thead>
<tr>
<th>Indicator</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Water Marks (B1)</td>
<td>(Riverine)</td>
</tr>
<tr>
<td>Sediment Deposits (B2)</td>
<td>(Riverine)</td>
</tr>
<tr>
<td>Drift Deposits (B3)</td>
<td>(Riverine)</td>
</tr>
<tr>
<td>Drainage Patterns (B10)</td>
<td></td>
</tr>
<tr>
<td>Dry-Season Water Table (C2)</td>
<td></td>
</tr>
<tr>
<td>Crayfish Burrows (C6)</td>
<td></td>
</tr>
<tr>
<td>Saturation Visible on Aerial Imagery (C9)</td>
<td></td>
</tr>
<tr>
<td>Shallow Aquitard (D3)</td>
<td></td>
</tr>
<tr>
<td>FAC-Neutral Test (D5)</td>
<td></td>
</tr>
</tbody>
</table>

**Field Observations:**

| Surface Water Present? | Yes ✗ No ☐ Depth (inches): 12 |
| Water Table Present? | Yes ✗ No ☐ Depth (inches): 12 |
| Saturation Present? (includes capillary fringe) | Yes ✗ No ☐ Depth (inches): 12 |

**Wetland Hydrology Present?** Yes ✗ No ☐

**Remarks:**

US Army Corps of Engineers

**Arid West – Version 2.0**