4.9.1 ENVIRONMENTAL ISSUES

This biological resources analysis evaluates potential biological resource impacts associated with the proposed Stock Ranch Project, and includes a discussion of the mitigation measures necessary to reduce these impacts to a less-than-significant level. Information contained in this report is based on a review of documents pertaining to the natural resources of the project area; examination of aerial photography, biological resources, and vegetation maps; and field investigations. This section is based on a biological assessment prepared by Foothill Associates.

4.9.2 METHODOLOGY

Available information pertaining to the natural resources of the project area was reviewed. These documents include: *City of Citrus Heights Stock Ranch City Council Study Session* (September 29, 1999); *Delineation Report for the Stock Ranch Site*, Gibson and Skordal (May 2000); the California Natural Diversity Data Base (CNDDB: Citrus Heights quadrangle, January, 2000); the *California Native Plant Society (CNPS) Inventory of Rare and Endangered Vascular Plants of California* (Skinner and Pavlik, 1994); a list of special-status plant and wildlife species from the U.S. Fish and Wildlife Service for the Citrus Heights quadrangle; and the *Jepson Manual: Higher Plants of California* (Hickman, 1993).

Foothill Associates' biologists conducted a site assessment on June 17, 2000. Field reconnaissance included general plant and wildlife surveys in addition to a habitat assessment within the project site boundary. Special attention was given to those areas of the project site with the potential to support special-status species and sensitive habitats. Recent aerial photography was also examined to identify biological resources and map vegetation types.

This biological analysis is based on a review of documents pertaining to the natural resources of the project area; examination of aerial photography, biological resources, and vegetation maps; and field investigations. The evaluation of whether or not an impact on biological resources would be substantial considers both the resource itself and how that resource fits into a regional or local context. Substantial impacts would be those that would diminish, or result in the loss of, an important biological resource, or those that would obviously conflict with local, state, or federal resource conservation plans, goals, or regulations. Impacts are sometimes locally important but not significant according to CEQA. The reason for this is that although the impacts would result in an adverse alteration of existing conditions, they would not substantially diminish, or result in the permanent loss of, an important resource on a population-wide or region-wide basis.

For purposes of this impact analysis, it was assumed that existing vegetation within development areas (designated as commercial office, residential, and park land uses) would be removed during project construction. It was assumed that there might be both temporary and permanent impacts associated with the remaining land uses including recreation and open space. These potential impacts include installation of detention basins, trail and park amenities, parking of construction equipment, soil impaction, equipment access to construction areas, and changes in hard surface area and hydrology along with development related impacts such as intrusion by domestic animals. **Figure 4.9-3** (see page 19) reflects both temporary and permanent impacts.

4.9.3 SIGNIFICANCE CRITERIA

The project would have a significant effect on the biological resources if it would:

1) Interfere substantially with the movement of any resident or migratory fish or wildlife species;

2) Substantially diminish habitat for fish, wildlife or plants;

3) Substantially affect a rare, threatened, or endangered species of animal or plant or the habitat of the species; or

4) Result in a loss of habitat or natural resources considered locally important as identified in the Citrus Heights Draft General Plan.

CEQA Guidelines Section 15380 further provides that a plant or animal species may be treated as "rare or endangered" even if not on one of the official lists if, for example, it is likely to become endangered in the foreseeable future.

4.9.4 EXISTING SETTING

REGIONAL SETTING

The Stock Ranch project site is located within the boundaries of the City of Citrus Heights, Sacramento County (refer to **Figure 3-1**). Natural vegetation types predominant in this portion of Sacramento County include annual grassland, riparian woodland, oak woodland, and various wetland communities including creek habitats, vernal pools, and perennial and seasonal wetlands.

PROJECT SETTING

The proposed project site consists of approximately 129 acres of vacant land within the City of Citrus Heights. The site is located in northeast Sacramento County, approximately two miles south of the Placer County line. The project site is surrounded by urban development (residential and commercial). The site is currently accessible to the public via numerous dirt roads that traverse the site. These roads appear to be used primarily for off-road vehicle activities.

Plant Communities/Habitat Types

The plant communities occurring within the proposed Stock Ranch project area are discussed below. Common wildlife and plant species observed, or expected to occur, in these areas and special-status species and sensitive plant habitats expected, or known to occur, in these areas are also addressed below. **Figure 4.9-1** illustrates the vegetation communities located in the project area. Vegetation types occurring within the project area include agriculture (orchard); annual grassland; riparian woodland; oak woodland; perennial and intermittent drainage; and vernal pool as shown in **Table 4.9-1**. A list of wildlife and plant species observed or known to occur within the project area is presented in **Appendix F**.

Table 4.9-1
Acreage of Community/Habitat Types in the Project Area

Habitat Type	Acreage Present
Agriculture (Orchard)	14.1
Annual Grassland	61.4
Riparian Woodland	22.6
Oak Woodland	18.6
Perennial and Intermittent Drainage	1.55
Seasonal Wetland	0.5
Vernal Pool	0.61
Total	119.7[1]

Agriculture (Orchard)

A portion of the southern end of the project site contains an almond orchard. This orchard is not currently being used for commercial production and many of the trees are in poor health. In addition to almond trees, a number of small oaks have begun to regenerate. The understory of the orchard consists of annual grassland habitat.

[1] Acreage does not total to 129 acres due to the measurement techniques used by Foothill Associates. All habitat areas within the study area are accounted for.

Figure 4.9-1 Vegetation Communities and Sensitive Habitats

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Annual Grassland

The northern portion of the site consists primarily of annual grassland habitat. Additionally, annual grassland occurs in the understory of the oak woodlands on the site. This habitat is dominated primarily by non-native grasses and forbs including Italian ryegrass (*Lolium multiflorum*), ripgut brome (*Bromus diandrus*), soft chess brome (*Bromus hordeaceus*), and wild oat (*Avena* sp.). Additional plant species observed in this area include black mustard (*Brassica nigra*), spring vetch (*Vicia sativa*), smooth cat's-ear (*Hypochaeris glabra*), geranium (*Geranium dissectum*), and filaree (*Erodium botrys*).

Annual grasslands support foraging habitat and shelter for numerous species of wildlife. Bird species expected to forage and/or nest in this habitat include American crow (*Corvus brachyrhynchos*), lark sparrow (*Chondestes grammacus*), northern harrier (*Circus cyaneus*), rock dove (*Columba livia*), turkey vulture (*Cathartes aura*), and western meadowlark (*Sturnella neglecta*). Additional wildlife species observed or expected to occur in this habitat include black-tailed jackrabbit (*Lepus californicus*), California ground squirrel (*Spermophilus beecheyi*), coyote (*Canis latrans*), deer mouse (*Peromyscus maniculatus*), striped skunk (*Mephitis mephitis*), and gopher snake (*Pituophis melanoleucus*).

Oak Woodland

Oak woodland is the predominant vegetation type throughout much of the southern portion of the site. Mature oak woodland composed primarily of valley oak (*Quercus lobata*), interior live oak, and blue oak (*Quercus douglasii*) characterizes this habitat. The woodlands on site vary from moderately dense to sparse, savannah-like woodland. The understory is composed primarily of annual grassland.

Oak woodland supports foraging and breeding habitat for numerous species of common and specialized wildlife species. Wildlife species observed in this habitat include acorn woodpecker (*Melanerpes formicivorous*), scrub jay (*Aphelocoma coerulescens*), turkey vulture, and western bluebird (*Sialia mexicana*). Additional species expected to occur within oak woodland include American crow, northern flicker (*Colaptes auratus*), Nuttall's woodpecker (*Picoides nuttallii*), red-shouldered hawk (*Buteo lineatus*), ring-necked pheasant (*Phasianus colchicus*), spotted towhee (*Pipilo erythropthalmus*), and western gray squirrel (*Sciurus griseus*).

Riparian Woodland

Riparian woodland supports a diversity of plant species that have adapted to the wet soil conditions found alongside streams. Within the project area this habitat is found adjacent to Arcade and San Juan creeks and the northern intermittent drainages. Well-represented in the Arcade and San Juan creek riparian corridor are valley oak, arroyo willow (*Salix lasiolepis*), narrow-leaved willow (*Salix exigua*), California walnut (*Juglans hindsii*), and Fremont's cottonwood (*Populus fremontii*). Because valley oaks are less water-tolerant than willows and cottonwoods, valley oaks generally maintain a slightly higher topographic position than other species in this vegetation type. Dominant understory herbaceous species in the mixed riparian woodland consist of Himalayan blackberry (*Rubus discolor*), dallis grass (*Paspalum* spp.), and Johnsongrass (*Sorghum halepense)*.

Riparian woodlands provide substantial foraging, breeding, and cover habitat for a wide variety of resident and migratory wildlife species. Additionally, riparian woodlands provide a sheltered corridor for wildlife movement. Species observed or expected to occur in this habitat include raccoon, Pacific chorus frog (*Pseudacris regilla*), striped skunk, Anna's hummingbird (*Calypte anna*), belted kingfisher (*Ceryle alcyon*), lesser goldfinch (*Carduelis psaltria*), scrub jay, song sparrow (*Melospiza melodia*), and spotted towhee.

Perennial and Intermittent Drainage

Arcade Creek and portions of San Juan Creek flow through the site. Arcade Creek flows east-west through the center of the site and supports a mature riparian woodland corridor (see riparian woodland description above). A portion of San Juan Creek flows across the south-west corner of the site. Several tributary drainages flow into these creeks as shown on **Figure 4.9-1**. These are intermittent drainages, generally carrying significant flow only in winter months. Riparian vegetation occurs along the drainages on the northern portion of the site. The south intermittent drainage widens out into a marshy area, dominated by herbaceous hydrophytic vegetation rather than woody trees.

Wildlife species associated with these habitats are discussed under "riparian woodland" above.

Vernal Pool

Vernal pools form in topographic depressions with impermeable subsurface materials. Vernal pools occur in the northern portion of the project site on relatively level areas in association with annual grassland. These areas are dominated by common vernal pool species that include rabbitsfoot grass (*Polypogon monspeliensis*), spikerush (*Eleocharis macrostachya*), and stipitate popcornflower (*Plagiobothrys stipitatus* var. *micranthus*).

SPECIAL-STATUS SPECIES

Regulation of Special-Status Species

Federal Endangered Species Act/California Endangered Species Act

The United States Congress passed the Federal Endangered Species Act (FESA) in 1973 to protect those species that are endangered or threatened with extinction. The State of California enacted a similar law, the California Endangered Species Act (CESA) in 1984.

The state and federal Endangered Species Acts are intended to operate in conjunction with the California Environmental Quality Act (CEQA) and the National Environmental Policy Act (NEPA) to help protect the ecosystems upon which endangered and threatened species depend. The United States Fish and Wildlife Service (USFWS) is responsible for implementation of the FESA, while the California Department of Fish and Game (CDFG) implements the CESA. During project review, each agency is given the opportunity to comment on the potential of the project to affect listed plants and animals.

Other Statutes, Codes, and Policies Affording Limited Species Protection

In addition to formal listing under FESA and CESA, plant and wildlife species receive additional consideration during the CEQA process. Species that may be considered for review are included on a list of "Species of Special Concern," developed by the CDFG. It tracks species in California whose numbers, reproductive success, or habitat may be threatened.

The California Native Plant Society (CNPS) maintains a list of plant species native to California that have low numbers, limited distribution, or are otherwise threatened with extinction. This information is published in the Inventory of Rare and Endangered Vascular Plants of California. Potential impacts to populations of CNPS-listed plants receive consideration under CEQA review. The following identifies the definitions of the CNPS listings:

- **List 1A:** Plants Believed Extinct.
- **List 1B:** Plants Rare, Threatened, or Endangered in California and elsewhere.
- **List 2:** Plants Rare, Threatened, or Endangered in California, but more numerous elsewhere.
- **List 3:** Plants About Which We Need More Information - A Review List.
- **List 4:** Plants of Limited Distribution - A Watch List.

Raptors (birds of prey), migratory birds, and other avian species are protected by a number of state and federal laws. The federal Migratory Bird Treaty Act (MBTA) prohibits the killing, possessing, or trading of migratory birds except in accordance with regulations prescribed by the Secretary of Interior. Section 3503.5 of the California Fish and Game Code states that it is "unlawful to take, possess, or destroy any birds in the order Falconiformes or Strigiformes or to take, possess, or destroy the nest or eggs of any such bird except as otherwise provided by this code or any regulation adopted pursuant thereto."

Listed and Special-Status Plants and Animals

Table 4.9-2 identifies the species listed in the USFWS species list for the Citrus Heights 7.5-minute USGS quadrangle, all of which have once occurred in the City of Citrus Heights vicinity. Species listed as having no potential for occurrence are species either a) not expected to occur within the project area based on the known range of the species or b) not expected to occur due to lack of suitable habitat within the project area. Additionally, species listed in the California Natural Diversity Database (CNDDB) as occurring within five miles of the alignment are included in **Table 4.9-2** as shown on **Figure 4.9-2**. Species that potentially occur within the project area are listed in **Table 4.9-3** and are further addressed in the following pages.

Table 4.9-2
Listed and Special Status Species Potentially Occurring within the Project area or in the Project Area Vicinity

Scientific Name	Common Name	Regulatory Status	Potential for Occurrence
Plants			
BISBEE PEAK RUSH-ROSE	*Helianthemum suffrutescens*	--;--;3	No
BOGGS LAKE HEDGE-HYSSOP	*Gratiola heterosepala*	--;--; 1B	Yes
DELTA MUDWORT	*Limosella subulata*	--;--; 2	No
DELTA TULE-PEA	*Lathyrus jepsonii var jepsonii*	SC;--; 1B	No
DWARF DOWNINGIA	*Downingia pusilla*	--;--;2	Yes
LEGENERE	*Legenere limosa*	SC;--; 1B	Yes
MASON'S LILAEOPSIS	*Lilaeopsis masonii*	SC;R; 1B	No
PINCUSHION NAVARRETIA	*Navarretia myersii ssp. myersii*	--;--; 1B	Yes
ROSE-MALLOW	*Hibiscus lasiocarpus*	--;--; 2	No
SACRAMENTO ORCUTT GRASS	*Orcuttia viscida*	FE;CE;1B	Yes
SANFORD'S ARROWHEAD	*Sagittaria sanfordii*	SC;--;1B	Yes
SLENDER ORCUTT GRASS	*Orcuttia tenuis*	T; E; 1B	Yes
STINKBELLS	*Friillaria agrestis*	--;--;--[2]	See footnote 1
VALLEY SPEARSCALE	*Atriplex joaquiniana*	SC;--;1B	No
Wildlife			
Invertebrates			
CALIFORNIA LINDERIELLA	*Linderiella occidentalis*	--;--;--[3]	See footnote 2
VALLEY ELDERBERRY LONGHORN BEETLE	*Desmocerus californicus dimorphus*	FT;--;--	Yes
VERNAL POOL FAIRY SHRIMP	*Branchinecta lynchi*	FT;--;--	Yes
VERNAL POOL TADPOLE SHRIMP	*Lepidurus packardi*	FE;--;--	Yes
Amphibians/Reptiles			
CALIFORNIA HORNED LIZARD	*Phrynosoma coronatum frontale*	SC; CSC (Protected);--	Yes
CALIFORNIA TIGER SALAMANDER	*Amystoma californiense*	C; --; --	No
GIANT GARTER SNAKE	*Thamnophis gigas*	FT;CT (Protected);--	No
NORTHWESTERN POND TURTLE	*Clemmys marmorata marmorata*	SC; CSC (Protected);--	Yes
WESTERN SPADEFOOT TOAD	*Scaphiopus hammondii*	SC; CSC (Protected);--	Yes
Fish			
CENTRAL VALLEY FALL/LATE FALL-RUN CHINOOK SALMON	*Oncorhynchus tshawytscha*	C; CSC;--	Yes
CENTRAL VALLEY SPRING-RUN CHINOOK SALMON	*Oncorhynchus tshawytscha*	FT; CT;--	Yes

[2] This species has recently been removed from the CNPS watch list.

[3] This species is no longer listed, but is included here due to a record for the species on the CNDDB database.

Table 4.9-2
Listed and Special Status Species Potentially Occurring within the Project area or in the Project Area Vicinity

Scientific Name	Common Name	Regulatory Status	Potential for Occurrence
CENTRAL VALLEY STEELHEAD	*Oncorhynchus mykiss*	FT;--;--	Yes
DELTA SMELT	*Hypomesus transpacificus*	T; CT; --	No
SACRAMENTO SPLITTAIL	*Pogonichthys macrolepidotus*	FT; CSC;--	No
WINTER-RUN CHINOOK SALMON	*Oncorhynchus tshawytscha*	FE; CE;--	Yes
Birds			
AMERICAN PEREGRINE FALCON	*Falco peregrinus anatum*	D; CE;--	No
BALD EAGLE	*Haliaeetus leucocephalus*	FT; CE;--	No
BANK SWALLOW	*Riparia riparia*	--;CT;--	No
COOPER'S HAWK	*Accipiter cooperi*	CSC;--;--	Yes
FERRUGINOUS HAWK	*Buteo regalis*	SC;CSC;--	No
GREAT BLUE HERON	*Ardea herodias*	--;(Sensitive);--	Yes
GREAT EGRET	*Casmerodius albus*	--;(Sensitive);--	Yes
SWAINSON'S HAWK	*Buteo swainsoni*	--;CT;--	Yes
TRICOLORED BLACKBIRD	*Agelaius tricolor*	SC; CSC;--	No
WESTERN BURROWING OWL	*Athene cunicularia hypugea*	SC;CSC;--	Yes
WHITE-FACED IBIS	*Plegadis chihi*	SC;CSC;--	No
WHITE-TAILED KITE	*Elanus caeruleus*	--;(Fully Protected);--	Yes
Mammals			
PACIFIC WESTERN BIG-EARED BAT	*Corynorhinus townsendii townsendii*	SC; CSC;--	Yes
LONG-EARED MYOTIS BAT	*Myotis evotis*	SC;--;--	Yes
FRINGED MYOTIS BAT	*Myotis thysanodes*	SC;--;--	Yes
YUMA MYOTIS BAT	*Myotis yumanensis*	SC; CSC;--	Yes
LONG-LEGGED MYOTIS BAT	*Myotis volans*	SC;--;--	Yes
SAN JOAQUIN POCKET MOUSE	*Perognathus inornatus*	SC;--;--	No
SPOTTED BAT	*Euderma maculatum*	SC; CSC;--	Yes
GREATER WESTERN MASTIFF BAT	*Eumops perotis californicus*	SC; CSC;--	Yes
SMALL-FOOTED MYOTIS BAT	*Myotis ciliolabrum*	SC;--;--	Yes

FE = federal endangered FT = federal threatened SC = federal species of concern D = delisted
PX = critical habitat C = candidate PT = proposed threatened
CE = state endangered CT = state threatened CR = state rare
CSC = California species of special concern C = candidate for listing
1B = CNPS list plants rare, threatened, or endangered in California or elsewhere
2 = CNPS list plants rare, threatened, or endangered in California, but more numerous elsewhere
3 = CNPS list plants about which CNPS needs more information
4 = CNPS list plants of limited distribution -- a watch list
Source: Foothill Associates

Figure 4.9-2: CNDDB

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Listed and special-status species that are known to occur, or may potentially occur on the project site are listed in **Table 4.9-3**. The species discussed below were considered for this analysis based on field surveys and review of the CNDDB database, USFWS species lists for the Sacramento County vicinity, and CNPS literature.

Table 4.9-3
Listed and Special Status Species Potentially Occurring within the Project Area or in the Site Vicinity

Species	Federal	State	CNPS [1]	Habitat	Potential for Occurrence
Plants					
BOGGS LAKE HEDGE-HYSSOP *GRATIOLA HETEROSEPALA*	--	E	1B	Vernal Pools	Species could occur within vernal pools on the northern portion of the site
DWARF DOWNINGIA *DOWNINGIA PUSILLA*	--	--	2	Vernal Pools	Species could occur within vernal pools on the northern portion of the site
LEGENERE *LEGENERE LIMOSA*	SC	--	1B	Vernal Pools	Species could occur within vernal pools on the northern portion of the site
PINCUSHION NAVARRETIA *NAVARRETIA MYERSII SSP. MYERSII*	--	--	1B	Vernal Pools	Species could occur within vernal pools on the northern portion of the site
SACRAMENTO ORCUTT GRASS *ORCUTTIA VISCIDA*	E	E	1B	Vernal Pools	Species could occur within vernal pools on the northern portion of the site
SANFORD'S ARROWHEAD *SAGITTARIA SANFORDII*	SC	--	1B	Marshes and swamps (in shallow fresh water conditions)	Species could occur in Arcade and San Juan creeks or in the intermittent drainages on the site.
SLENDER ORCUTT GRASS *ORCUTTIA TENUIS*	T	E	1B	Vernal Pools	Species could occur within vernal pools on the northern portion of the site
Wildlife					
Invertebrates					
VERNAL POOL FAIRY SHRIMP *BRANCHINECTA LYNCHI*	FT	--	--	Vernal pools	There are several vernal pools on the site. These pools are considered potential habitat for this species.
VERNAL POOL TADPOLE SHRIMP *LEPIDURUS PACKARDI*	FE	--	--	Vernal pools	There are several vernal pools on the site. These pools are considered potential habitat for this species.
VALLEY ELDERBERRY LONGHORN BEETLE *Desmocerus californicus dimorphus*	T	--	--	Elderberry shrubs	Several large areas with elderberry shrubs were found on the southern side of Arcade Creek. Additional shrubs may be present in similar habitats on the project site.
Amphibians/Reptiles					
WESTERN SPADEFOOT TOAD *Scaphiopus hammondii*	SC	CSC	--	Require shallow temporary pools with adjacent grassland habitat	Potential habitat exists in the vernal pools and adjacent grassland within the project area.
NORTHWESTERN POND TURTLE *Clemmys marmorata marmorata*	SC	CSC Protected (Full species)	--	Associated with permanent ponds or streams	Habitat exists in the intermittent drainages in the project area.

Table 4.9-3
Listed and Special Status Species Potentially Occurring within the Project Area or in the Site Vicinity

Species	Federal	State	CNPS [1]	Habitat	Potential for Occurrence
Fish					
ANADROMOUS FISH SPECIES: CENTRAL VALLEY SPRING-RUN CHINOOK SALMON, CENTRAL VALLEY STEELHEAD, AND WINTER-RUN CHINOOK SALMON	See Table 1	See Table 1	--	Rivers and streams, delta estuaries	Potential habitat for these species exists in Arcade and San Juan creeks.
Mammals					
BATS (INCLUDING PACIFIC WESTERN BIG-EARED BAT, YUMA MYOTIS, LONG-LEGGED MYOTIS, SPOTTED BAT, GREATER WESTERN MASTIFF BAT, AND SMALL-FOOTED MYOTIS)	SC	Some CSC	--	Can roost in wide variety of habitats (i.e. woodland, riparian, scrub), in abandoned buildings, bridges.	Potential habitat for these species exists in the oak woodlands and riparian habitat on the site.
Birds					
SWAINSON'S HAWK *Buteo swainsonii*	--	T	--	Nests in isolated trees or riparian woodlands adjacent to suitable foraging habitat (agricultural fields, grasslands etc.)	Nesting habitat for this species occurs along Arcade Creek; however, the project site is located within a highly urbanized area and does not provide ideal habitat for this species.
WESTERN BURROWING OWL *Athene cunicularia hypugea*	SC	CSC	--	Open grassland habitat; often nests in abandoned ground squirrel burrows within grasslands	Although not observed on the project site, species could occur in the grassland habitat within the project area.
Species	**Federal**	**State**	**CNPS [1]**	**Habitat**	**Potential for Occurrence**
EGRETS AND HERONS	MBTA	§3503.5 DFG Code * for rookeries (Sensitive)	--	Marshlands and ponds	Potential foraging habitat exists in the wetland habitats on the site. No rookeries were observed.
RAPTORS (BIRDS OF PREY: HAWKS, OWLS, ETC.- INCLUDING WHITE-TAILED KITE, COOPER'S HAWK) AND OTHER MIGRATORY RESIDENT BIRDS	MBTA	§3503.5 DFG Code	--	Raptors: Large trees and riparian woodlands for nesting Resident Migratory Birds: non-native grasslands, riparian and oak woodlands, landscaped trees.	Potential foraging and nesting habitat occur within the oak woodland, riparian woodland, and grassland habitats on the site.

E = Endangered T = Threatened CSC = California Species of Special Concern MBTA = federal Migratory Bird Treaty Act
* = CDFG "Special Animal" D = Delisted species SC = federal concern species

CNPS Categories:

1B = Plants rare, threatened, or endangered in California and elsewhere 2=Rare/Endangered in California; more common elsewhere

[1] CNPS is a private non-profit organization that works closely with CDFG throughout the state. CNPS-developed information serves as an important source of data for consideration by CDFG and USFWS in recommendations for listing state or federal threatened and endangered plant species.
Source: Foothill Associates

Listed and Special-Status Plants

The CNDDB lists 4 special-status plant species as occurring within 5 miles of the project site. Based on literature review, soils analysis and species range information, suitable habitat for all of these species occurs on site. These species are pincushion navarretia, Sacramento orcutt grass, Sanford's arrowhead, and stinkbells. Because stinkbells is no longer listed by CNPS, it is not discussed further in this document. Additionally, habitat for dwarf downingia, Boggs Lake hedge-hyssop, legenere, and slender orcutt grass is present within the project area. These species are further discussed below and are listed in **Table 4.9-3**.

Boggs Lake Hedge-Hyssop (*Gratiola heterosepala*)

Boggs Lake hedge-hyssop is a state-listed endangered species. This annual herb generally occurs within vernal pool habitats (Skinner and Pavlik, 1994). The blooming period for this species is April-May. There are no records for this species within five miles of the project site (CNDDB search, January 2000); however, potential habitat occurs on site within vernal pool habitats on the northern portion of the project site.

Dwarf Downingia (*Downingia pusilla*)

Dwarf downingia is a CNPS list two species. This species is an annual herb that occurs in mesic grassland and vernal pool habitats. The blooming period for this species is March-May. There are no records for this species within five miles of the project site (CNDDB search, January 2000). Potential habitat for this species occurs within the vernal pool habitats on the site.

Legenere (*Legenere limosa*)

Legenere is a federal species of concern and a CNPS list 1B species. This annual herb generally occurs within vernal pool habitats (Skinner and Pavlik, 1994). The blooming period for this species is May-June. There are no records for this species within five miles of the project site (CNDDB search, January 2000). Potential habitat for this species occurs within the vernal pool habitats on the site.

Pincushion Navarretia (*Navarretia myesii* ssp. *myersii*)

Pincushion navarretia is a CNPS List 1B species. This species is an annual herb that occurs in vernal pool habitats (Skinner and Pavlik, 1994). It is known from six occurrences in Amador, Lake, Merced and Sacramento counties. The blooming period for this species is May. A record for pincushion navarretia occurs approximately five miles from the project site (CNDDB search, January 2000) and although this species was not observed on the project area during field reconnaissance potential habitat exists in vernal pools on the site.

Sacramento Orcutt Grass (*Orcuttia viscida*)

Sacramento orcutt grass is a federal- and state-listed endangered species. It is known from approximately seven occurrences in southern Sacramento County. This species is an annual grass generally found in large vernal pools (Skinner and Pavlik, 1994). The blooming period for this species is May-June. Two occurrences of this species occur approximately 5 miles south-east

of the project site (CNDDB search, January 2000). It is unlikely that this species occurs on the project site due to the location of the site within the county and small size of vernal pools on the site.

Sanford's Arrowhead (*Sagittaria sanfordii*)

Sanford's arrowhead is a federal species of concern and has a 1B CNPS rank. This species requires shallow, fresh-water conditions and commonly occurs in marshes and swamps. The blooming period for this species is May-August. Sanford's arrowhead occurs within five miles of the project area (CNDDB search, January 2000) and although this species was not observed on the project area during field reconnaissance potential habitat exists in Arcade Creek and within the intermittent drainages in the project area.

Slender Orcutt Grass (*Orcuttia tenuis*)

Slender orcutt grass is a federal- and state-listed endangered species. This grass species generally occurs within large vernal pools (Skinner and Pavlik, 1994). The blooming period for this species is May-June. There are no records for this species within five miles of the project site (CNDDB search, January 2000); however, potential habitat exists within vernal pool habitats on the site. It is unlikely that this species occurs on the project site due to the location of the site within the county and small size of vernal pools on the site.

Listed and Special-Status Animals

Based on a records search of the CNDDB and the USFWS species list for the Citrus Heights quadrangle suitable habitat for the following wildlife species occurs within the project area: several anadromous fish species, northwestern pond turtle (*Clemmys marmorata marmorata*), valley elderberry longhorn beetle (*Desmocerus californicus dimorphus*), western spadefoot toad (*Scaphiopus hammondii*), western burrowing owl (*Athene cunicularia hypugea*), Swainson's hawk (*Buteo swainsoni*), and several vernal pool invertebrate species. Additionally, several bat species and multiple migratory birds, including egrets, herons, and raptors are known from the project area.

Anadromous Fish

Several special-status fish species are known to occur, or could occur in the project vicinity (in Arcade and San Juan Creeks) including Central Valley spring-run chinook salmon (*Oncorhynchus tshawytscha*), Central Valley steelhead (*Oncorhynchus mykiss*), and Winter-run chinook salmon (*Oncorhynchus tshawytscha*). There are no records for these species in the CNDDB database. Arcade and San Juan Creeks should be considered potential habitat.

Northwestern Pond Turtle

The northwestern pond turtle is a California Species of Special Concern and is also a species of concern to the USFWS. This species is typically found along quiet streams and ponds, and feeds on aquatic plants, fish, and invertebrates (Zeiner *et al.*, 1988). Although not observed, this species could occur in slower reaches of Arcade Creek within the project area.

Valley Elderberry Longhorn Beetle

Valley elderberry longhorn beetle is a federally listed threatened species. This species is commonly found near riparian habitats within the Central Valley; however, its range spans the Sierra foothills, and may reach elevations of 3,000 feet. This species is dependent on elderberry shrubs for the larval stage of its life cycle. For this reason, elderberry shrubs are considered habitat for this species (USFWS, 1999). A large area with multiple elderberry shrubs is located in the center of the site on the southern side of Arcade Creek. No exit holes were observed on shrubs that were examined. Additional elderberry shrubs may occur within the Arcade Creek corridor and within oak woodland and riparian habitats on-site Valley elderberry longhorn beetle could use these shrubs as habitat.

Vernal Pool Invertebrates

Vernal pool fairy shrimp (*Branchinecta lynchi*) are known from many locations in southern and northwestern Sacramento County. Vernal pool tadpole shrimp (*Lepidurus packardi*) are known from central and southern Sacramento County (CNDDB, 2000). Both species require several weeks of continuous inundation to complete their life cycle. There are no records for any of these species in the CNDDB database within five miles of the project site; however, there is a record for California linderiella (*Linderiella occidentalis*), which indicates that the vernal pools on-site occasionally inundate for a long enough period to provide habitat for vernal pool fairy shrimp. Vernal pools on the project site should therefore be considered potential habitat for these species.

Western Spadefoot Toad

Western spadefoot toad is a federal and California species of concern that occurs in grassland habitats near seasonal water sources, such as vernal pools or seasonal wetlands (Zeiner *et al.*, 1988). Habitat for this species is in rapid decline and as a result, this species is of special concern to the CDFG and the USFWS. This species was not observed within the project area during field reconnaissance. However, this species could occur onsite within the vernal pools and associated annual grassland habitats.

Western Burrowing Owl

Western burrowing owl is a species of concern to the USFWS and CDFG. Burrowing owls inhabit open grasslands of the Central Valley. Typically, they nest in small colonies in abandoned ground squirrel burrows (CDFG, 1990). No records of this species are listed with the CNDDB within 5 miles of the alignment and no burrows or evidence (pellets, white wash, feathers etc.) of this species was observed during field reconnaissance. However, suitable grassland habitat for this species is present in the northern portion of the site.

Swainson's Hawk

Swainson's hawk is state listed as threatened. This species migrates into California in the spring to establish breeding territories for the summer and typically migrates out of California by the end of September. Swainson's hawks require isolated trees or riparian woodlands for nesting and nests are typically built within close proximity to suitable foraging habitat (agricultural fields,

grasslands etc.). The Central Valley provides optimal nesting habitat for this species due to the abundance of agricultural fields and riparian woodlands, which this species utilizes for foraging and nesting, respectively. There are no nesting records for this species within 10 miles of the project area. Because the project site is located within an urbanized area, the site does not provide optimal habitat for this species. It is unlikely that Swainson's hawks would nest or use the site as foraging habitat. However, this species is further addressed below under the discussion regarding potential impacts to raptor species.

Bats

Bats including Pacific western big-eared bat, yuma myotis, long-legged myotis, spotted bat, greater western mastiff bat, and small-footed myotis, are known to occur within Sacramento County. These species are of concern to the CDFG due to recent population declines. Habitat for bat species consists of foraging habitat, night roosting cover, maternity roost sites, and winter hibernacula. In general, the CDFG is most concerned about the loss of maternity roosting sites. These bat species may forage within riparian and oak woodland habitats on the project site. Additionally, large oaks on the project site could support day and night roosts.

Egrets and Herons

The rookeries of these species are protected under the federal Migratory Bird Treaty Act. Egrets and herons inhabit marshlands and ponds and often feed in flooded agricultural fields throughout the Central Valley. These species were not observed during field surveys; however, suitable foraging habitat exists in Arcade Creek and other wetlands on the site. No rookeries were observed during field reconnaissance.

Raptors

Raptor nests are protected under the Migratory Bird Treaty Act (MBTA) and Section 3503.5 of the California Fish and Game Code. Although no raptor nests were observed during the site reconnaissance, riparian woodland, oak woodland, and annual grassland habitats in the project area support potential nesting habitat for numerous raptor species.

Other Migratory Birds

Migratory birds forage and nest in multiple habitats such as oak woodlands, grasslands, riparian woodlands, and coniferous forests. The nests of all migratory birds are protected under the MBTA, which makes it illegal to destroy any active migratory bird nest. Numerous migratory bird species have the potential to nest within the project area.

Sensitive Habitats

Sensitive habitats include those that are of special concern to resource agencies or those that are protected under CEQA, Section 1600 of the California Fish and Game Code, or Section 404 of the Clean Water Act. Additionally, sensitive habitats are protected under the specific policies outlined in the Citrus Heights Draft General Plan. Sensitive habitats within the project area include waters of the U.S., which include the potential seasonal and riverine seasonal wetlands and intermittent drainages; and oak and riparian woodland habitats (refer to **Figure 4.9-1**).

Waters of the United States

The U.S. Army Corps of Engineers (Corps) regulates discharge of dredged or fill material into waters of the United States under Section 404 of the Clean Water Act (CWA). "Discharges of fill material" is defined as the addition of fill material into waters of the U.S., including, but not limited to the following: placement of fill that is necessary for the construction of any structure, or impoundment requiring rock, sand, dirt, or other material for its construction; site-development fills for recreational, industrial, commercial, residential, and other uses; causeways or road fills; fill for intake and outfall pipes and subaqueous utility lines [33 C.F.R. §328.2(f)]. In addition, Section 401 of the CWA (33 U.S.C. 1341) requires any applicant for a federal license or permit to conduct any activity that may result in a discharge of a pollutant into waters of the United States to obtain a certification that the discharge will comply with the applicable effluent limitations and water quality standards.

Waters of the U.S. include a range of wet environments such as lakes, rivers, streams (including intermittent streams), mudflats, sandflats, wetlands, sloughs, and wet meadows. Boundaries between jurisdictional waters and uplands are determined in a variety of ways depending on which type of waters is present. Methods for delineating wetlands and non-tidal waters are described below.

Wetlands are defined as "those areas that are inundated or saturated by surface or groundwater at a frequency and duration sufficient to support and under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions" [33 C.F.R. §328.3(b)]. Presently, to be a wetland, a site must exhibit three wetland criteria: hydrophytic vegetation, hydric soils, and wetland hydrology existing under the "normal circumstances" for the site.

The lateral extent of non-tidal waters is determined by delineating the ordinary high water mark (OHWM) [33 C.F.R. §328.4(c)(1)]. The OHWM is defined by the Corps as "that line on shore established by the fluctuations of water and indicated by physical character of the soil, destruction of terrestrial vegetation, the presence of litter and debris, or other appropriate means that consider the characteristics of the surrounding areas" [33 C.F.R. §328.3(e)].

Potential jurisdictional waters of the U.S. within the project area total approximately 1.85 acres. Jurisdictional waters in the project area include intermittent drainages (0.71 acres), twelve vernal pools (0.61 acres), seasonal wetland (0.53 acres), and Arcade and San Juan Creeks[4]. These areas have been formally delineated by Gibson and Skordal (May 2000), although not verified by the Corps.

Fish and Game Code Section 1600 *et seq.*

The CDFG has jurisdiction under Section 1600 *et seq.* of the California Fish and Game Code over fish and wildlife resources of the state. Under Section 1603, a private party must notify the CDFG if a proposed project will "substantially divert or obstruct the natural flow or substantially change

[4] These acreage calculations are based on digitizing the Gibson and Skordal wetland delineation map. Acreage totals for Arcade and San Juan Creeks are not included acreage calculations in this document because they were shown on the delineation map, but not formally delineated.

the bed, channel, or bank of any river, stream, or lake designated by the department, or use any material from the streambeds…except when the department has been notified pursuant to Section 1601." If an existing fish or wildlife resource may be substantially adversely affected by the activity, the CDFG may propose reasonable measures that will allow protection of those resources. If these measures are agreeable to the party, they may enter into an agreement with the CDFG identifying the approved activities and associated mitigation measures.

Riparian and Oak Woodland

The riparian and mixed oak woodlands within the project area support a high diversity of wildlife species and are considered sensitive natural communities. These habitats are not afforded special protection under state or federal law. However, because of their continued decline throughout California, the loss of these habitats is a concern to the CDFG and CNPS. Additionally, oak woodlands and landmark oaks are afforded special protection in the Citrus Heights Draft General Plan and the Citrus Heights Tree Ordinance.

Citrus Heights Draft General Plan

Goal 35: Preserve, protect and enhance natural habitat areas, including creek and riparian corridors, oak woodlands, and wetlands

Policies:

35.1 Preserve continuous riparian corridors and adjacent habitat along the City's creeks and waterways.

35.2 Achieve and maintain a balance between conservation, development and utilization of open space.

Actions:

A. Prepare and adopt Community Design Guidelines to include standards to protect habitat areas from encroachment of lighting, exotic landscaping, noise, and toxic substances.

B. Revise grading guidelines to minimize removal of significant vegetation.

C. Amend the Zoning Ordinance to update landscape provisions to incorporate native trees and landscaping and protect sensitive areas.

D. Ensure that maintenance activities along the City's creeks and waterways are carried out in compliance with Memoranda of Understanding with the California Department of Fish and Game.

35.3 Provide for "no net loss" of sensitive habitats such as aquatic and riparian areas.

Action:

A. Update development standards to limit construction activity and development in buffer zones adjacent to drainages.

Goal 36: Protect special status species and other important species that are sensitive to human activities

Policies:

36.1 Identify and protect significant natural resource areas critical to protecting and sustaining wildlife populations.

36.2 Maintain habitat corridors to connect conservation areas such as parks and open space, protect biodiversity, accommodate wildlife movement, and sustain ecosystems.

Goal 37: Preserve, protect and increase plantings of trees within the City

Policies:

37.1 Incorporate existing trees into development projects. Avoid adverse effects on health and longevity of native oaks or other significant trees through appropriate design measures and construction practices. When tree preservation is not possible, require appropriate tree replacement.

Action:

A. Review and strengthen the City's Tree Preservation Ordinance.

37.2 Raise community consciousness about the value and importance of trees, including native oaks.

Actions:

A. Participate in Arbor Day programs and promote planting of trees on a Citywide basis.

B. Involve community groups, such as schools and youth, in tree planting programs.

Policy:

38.3 Consider potential impacts to natural habitat areas when establishing links between developed areas. Identify alternative sites for linkages where sensitive habitat areas have the potential to be adversely impacted**.**

Table 4.9-4
Project Consistency with the Draft General Plan Biological Resources Objectives and Policies

General Plan Goals and Policies	Consistency with General Plan	Analysis
Goal 35	Yes	The proposed site design preserves approximately 25 acres of oak and riparian woodlands and maintains open space buffers around wetland and riparian corridors. However, the project will fill 0.3 acres of intermittent drainage and directly remove up to 5.2 acres of riparian vegetation south and north of Arcade Creek and 12.5 acres south of Arcade Creek. Additional riparian vegetation may be removed within open space areas due to construction of pedestrian bridges, trails, and other amenities. Impacts to oak woodlands are mitigated through MM 4.9.3.
Policy 35.1	Yes	The proposed site design preserves approximately 25 acres of oak and riparian woodlands and maintains open space buffers around wetland and riparian corridors. However, the project will fill 0.3 acres of intermittent drainage and directly remove up to 5.2 acres of riparian vegetation. Additional riparian vegetation may be removed within open space areas due to construction of pedestrian bridges, trails, and other amenities. Impacts to oak woodlands are mitigated through MM 4.9.3.
Policy 35.3	Yes	There will be direct losses of 5.2 acres of riparian woodland and 1.0 acres aquatic resources such as intermittent drainage, vernal pools, and seasonal wetland. Incorporation of MM 4.9.3 and 4.9.12 will bring the project into consistency with General Plan policy.
Goal 36	Yes	See discussion below regarding policies 36.1 and 36.2
Policy 36.1	Yes	A biological assessment and wetland delineation have been conducted for the project site. Several potentially significant impacts have been identified including potential loss of wetland habitat and affects to special-status species. Incorporation of MM 4.9.3, 4.9.4, 4.9.5, 4.9.6, 4.9.7, 4.9.8, 4.9.9, 4.9.10, 4.9.11, and 4.9.12 are required to protect these resources and bring the project into consistency with General Plan policy.
Policy 36.2	Yes	Project design incorporates 32 acres of open space and park space. These open space areas help maintain continuity of the site to off-site areas with wildlife habitat and preserve some of the existing biodiversity that is present on the site.
Goal 37	Yes	See discussion below regarding policies 37.1 and 37.2
Policy 37.1	Yes	Current project design incorporates 25 acres of open space. However, individual native oaks within oak woodland and some riparian habitats on the site are not protected. Incorporation of MM 4.9.3 and 4.9.12. are required to bring this project into consistency with the General Plan

4.9.5 PROJECT IMPACTS AND MITIGATION MEASURES

Common Plant Communities

Impact 4.9.1 Development of the project, as proposed, would result in the removal of approximately 45 acres of annual grassland habitat and may result in permanent and temporary impacts in up to 16 acres of annual grassland habitat.

Because non-native grassland is regionally widespread and the wildlife utilizing these areas are widespread, this impact would be considered **less than significant** and no mitigation would be required.

Habitat for Common Resident and Migratory Wildlife

Impact 4.9.2 The proposed project would remove habitat for common resident and migratory wildlife through development of urban uses[5].

The Stock Ranch site is surrounded by urban development. The site is currently accessible to the public via numerous dirt roads that run throughout the site. These roads appear to be used for four-wheel vehicles. Domestic animals (primarily cats) from adjacent development have full access to the site.

However, the common wildlife species occurring on the site are able to live within and in the vicinity of urban developments and would still be able to move freely through approximately 25 acres of open space area that will be incorporated into the project design. Because a relatively contiguous corridor of open space is proposed through Arcade Creek corridor, wildlife movement would not be restricted along the riparian corridors. Additionally, these common wildlife species are abundant in the region and they receive no protection from federal, state, or local resource agencies. Consequently, this impact is considered **less than significant** and no mitigation is required.

Oak and Riparian Woodlands

Impact 4.9.3 Development of the proposed project could result in the removal and disturbance of native oak trees, oak woodland, and riparian woodland. These would be potentially significant impacts. *Note: This impact can be mitigated to an acceptable level. See discussion below.*

Native oaks, oak woodland, and riparian woodland are considered significant resources by local resource agencies. Although they are not protected by federal or statewide regulations, they are recognized as a significant resource in Sacramento County and are protected in the Citrus Heights Draft General Plan and the Citrus Heights Tree Ordinance. Although current project design includes 32 acres of open space and recreation area that preserve approximately 25

[5] Resident species are species that are likely to live year-round on the project site or in its vicinity. Migratory wildlife are species that occur only seasonally on the site.

acres of riparian and oak woodlands, a significant number of oak trees, oak woodland, and riparian habitat will still be lost due to current project design (**Figure 4.9-3**). Indirect and direct impacts to native oaks that could occur due to project implementation include removal of oaks, pruning and/or cutting of root and canopy, soil impaction, changes in permeable soil surface, and increased run-off and other hydrology changes. These impacts are considered **potentially significant** and are subject to mitigation.

Mitigation Measures

Implementation of the following mitigation measures would reduce potential impacts to oak and riparian woodlands to **less-than-significant** levels:

MM 4.9.3a

1) An arborist survey shall be conducted by a certified arborist to inventory the number and locations of oak trees with a diameter at breast height (dbh) of 6 inches or greater on the site within the area to be developed including commercial office, residential and park land uses. Additionally, this survey should include trees within open space and recreational land uses that may be affected by project elements including, but not restricted to, trail elements, park amenities, roads, and detention basins.

2) The findings of the arborist survey shall be mapped onto the tentative map or development plan and wherever possible, direct loss of oak trees shall be avoided.

3) A tree preservation and replacement plan shall be prepared and approved by the City prior to issuance of a grading permit. This plan shall include appropriate measures to educate new homeowners within the development area regarding the value and importance of native trees in their community.

   An oak tree mitigation and monitoring plan shall be incorporated into the preservation plan. While part of the purpose of the oak tree mitigation plan shall be to mitigate for loss of individual oak trees, off-setting and replacing the loss of contiguous oak woodland shall be the main focus. Therefore, although some of the loss of oaks can be mitigated by inch for inch planting of native oak species in appropriate areas, a significant portion of the mitigation should be the preservation and creation of contiguous stands of oak woodland wherever possible. Tree species planted shall be restricted to species currently existing on the site (blue oak, interior live oak, or valley oak). Individual trees shall be planted randomly to create stands similar to those currently existing on the site. Detailed monitoring shall be included to ensure that an 80 percent survival rate is achieved over a five-year period. During monitoring, the following information will be evaluated: average tree height, percent canopy cover, and percent survival.

Figure 4.9-3 Impacts to Sensitive Habitats

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The restoration plan will include a description of irrigation methods that will be used to ensure that newly planted trees survive the first several years of growth. During the revegetation process, tree survival will be maximized by using gopher cages, deer screens, regular maintenance, and replanting as needed.

4) To minimize impacts to oak trees not intended for removal, the following shall be implemented:

A map shall be prepared identifying all oak woodland and riparian woodland canopy to be preserved.

Trees that are not proposed for removal that are within 200 feet of grading activities shall be protectively fenced five feet beyond the dripline and root zone of each oak tree (as determined by an arborist). This fence, which is meant to prevent activities that result in soil compaction beneath the canopies or over the root zone, shall be maintained until all construction activities are completed.

Grade changes shall be minimized to the extent feasible within or adjacent to the dripline of existing trees.

Landscape buffers adjacent to open space areas shall be consistent with the predominant plant community, and fit the natural vegetation native to the area. Exotic or introduced plant species not consistent with the plant community in which proposed development is located shall be prohibited.

An open space management plan shall be prepared that details measures to appropriately preserve and maintain oak woodland and riparian woodland as a functioning biological community within this urban setting in perpetuity.

Responsibility to Implement:	Applicant
Responsibility to Monitor:	City of Citrus Heights Planning Department
Timing:	Prior to the issuance of grading permits

Special-Status Plant Species

Impact 4.9-4 Development of the proposed project could result in loss of special-status plant species. This would be a potentially significant impact. *Note: This impact can be mitigated to an acceptable level. See discussion below.*

Potential habitat for seven special-status plant species occurs within the project area. Construction of the proposed project would remove approximately 0.61 acres of vernal pool, 0.08 acres of seasonal wetland habitat, and 0.3 acres of intermittent creek habitat. These areas are potential habitat for special-status plant species. State- and federal-listed species are protected under the FESA and CESA. Additionally, listed species and CNPS listed species are of concern to local resource agencies (CNPS, City of Citrus Heights) and impacts to these species are considered potentially significant and subject to mitigation.

Mitigation Measures

Implementation of the following mitigation measure would reduce potential impacts to special status plant species to **less-than-significant** levels

MM 4.9.4a

1) Prior to issuance of a grading permit a focused survey for special-status plants shall be conducted throughout the development area by a qualified biologist to determine the presence/absence of these species within the project area. The surveys shall be conducted during the appropriate time of the year for best identification for these species as follows:

- Boggs Lake hedge-hyssop (*Gratiola heterosepala*): April-May
- Dwarf Downingia (*Downingia pusilla*): March-May
- Legenere (*Legenere limosa*): May- June
- Pincushion Navarretia (*Navarretia myesii* ssp. m*yersii*): May
- Sacramento Orcutt Grass (*Orcuttia viscida*): May- June
- Sanford's Arrowhead (*Sagittaria sanfordii*): May-August
- Slender Orcutt Grass (*Orcuttia tenuis*): May- June

2) If these species are not present within the project area then no further mitigation is required. However, if any of these species are identified within the project area, consultation with CDFG and USFWS shall be required to construct a conservation plan for the species present. The conservation plan shall evaluate the suitability of transplanting individual plants to another location on-site, to established off-site preserves, purchase of mitigation credits at an approved off-site mitigation bank or project redesign.

Responsibility to Implement:	Applicant
Responsibility to Monitor:	CDFG, USFWS, City of Citrus Heights Planning Department
Timing:	Prior to the issuance of grading permits

Raptors and Migratory Birds

Impact 4.9.5 Development of the proposed project could result in disturbance to nesting raptors and other migratory birds. This would be a potentially significant impact. *Note: This impact can be mitigated to an acceptable level. See discussion below.*

The orchard, oak woodland, and riparian woodland habitats on the project site support potential habitat for nesting migratory birds, including raptors. The destruction of active migratory bird nests, including raptors, is a violation of the Migratory Bird Treaty Act (MBTA) and disruption or destruction of an active raptor nest is also a violation of DFG Code 3503.5. As proposed, the project will remove approximately 31.5 acres of potential nesting habitat for raptors. This impact is considered **potentially significant** and is subject to mitigation.

Mitigation Measures

Implementation of the following mitigation measure would reduce the impact to special-status raptor species to a **less than significant** level.

MM 4.9.5a If construction is proposed during the breeding season (February-August), a focused survey for migratory bird nests shall be conducted within 30 days prior to the beginning of construction activities by a qualified biologist in order to identify active nests on the site. If active nests are found, no construction activities shall take place within 500 feet of the nest until the young have fledged. Trees containing nests that must be removed as a result of project implementation shall be removed during the non-breeding season (September to January). If no active nests are found during the focused survey, no further mitigation will be required.

Responsibility to Implement:	Applicant
Responsibility to Monitor:	CDFG, USFWS, City of Citrus Heights Planning Department
Timing:	Prior to issuance of grading permits

Anadromous Fish Species

Impact 4.9.6 Development of the proposed project could result in the impacts to special-status fish species. This would be a potentially significant impact. *Note: This impact can be mitigated to an acceptable level. See discussion below.*

Several special-status fish species are known to occur or could occur in Arcade Creek and San Juan Creeks including Central Valley spring-run chinook salmon (*Oncorhynchus tshawytscha*), Central Valley steelhead (*Oncorhynchus mykiss*), and Winter-run chinook salmon (*Oncorhynchus tshawytscha*). Warm water flushing into the aquatic ecosystem can have a significant affect on fish species due to the rapid fluctuations in water temperature and overall increased temperature of the aquatic system. Increased stormwater discharge could cause significant affects to special-status fish species due to these warm water flushes. Although the proposed project design includes retention of much of the corridor in open space, potential impacts to fish species from the proposal include changes in aquatic temperature gradient. Loss of riparian habitat adjacent to the stream due to construction of a pedestrian bridge, recreational trails and other amenities may also affect these species. These impacts are **considered potentially significant** and are subject to mitigation.

Mitigation Measures

Implementation of the following mitigation measure would reduce potential impacts to anadromous fish species to **less-than-significant** levels:

MM4.9.6a

1) Following final project design, a fisheries assessment shall be prepared to determine which species are present in the project area and whether any

complete barriers to fish passage in the system are present upstream of the project site. This assessment shall include a more detailed evaluation of potential project impacts including potential thermal impacts of the increased stormwater flow on special-status fish species and impacts due to loss of riparian habitat.

2) Consultation with USFWS, NMFS, and CDFG shall be required to determine appropriate measures to avoid impacts to special-status fish species. Measures may include restrictions on loss of shaded riparian preserved habitat and restrictions on timing of stormwater releases into the stream.

Responsibility to Implement:	Applicant
Responsibility to Monitor:	NMFS, CDFG, USFWS, City of Citrus Heights Planning Department
Timing:	Prior to issuance of grading permits

Northwestern Pond Turtle

Impact 4.9.7 Development of the proposed project could result in removal of habitat for northwestern pond turtle. This would be a less than significant impact.

Northwestern pond turtle may occur in slower reaches and backwater areas of Arcade and San Juan creeks within the project area. The proposed project design includes buffers along all creek corridors; however, some intrusion into these areas may occur due to trail construction and pedestrian bridge construction. However, pond turtles are extremely wary of human activity and are likely to leave the area when construction is initiated. Because pond turtles are unlikely to be directly affected by construction, this impact is considered **less than significant**.

Western Spadefoot Toad

Impact 4.9.8 Development of the proposed project could result in removal of habitat for western spadefoot toad. This would be a potentially significant impact. *Note: This impact can be mitigated to an acceptable level. See discussion below.*

Approximately 0.61 acres of western spadefoot toad breeding habitat (vernal pool) and 41 acres of refuge habitat (oak and riparian woodland) is present within the project area. If this species is present within the project area, construction activities may result in the direct take of this species and removal of existing habitat will eliminate this species from the site. Because this species is of concern to state, federal, and local resource agencies, this impact is considered **potentially significant** and is subject to mitigation.

Mitigation Measure

Implementation of the following mitigation measure would reduce potential impacts to the Western Spadefoot Toad to **less-than-significant** levels:

MM 4.9.8a

1) Focused surveys shall be conducted, per USFWS and CDFG guidelines, by a qualified biologist in areas of potential species habitat. Surveys for spadefoot toad shall be conducted in accordance with USFWS guidelines and should be conducted during the months of May through November.

2) If western spadefoot toad is not found on the site, no further mitigation is required. If this species is positively identified during the focused survey, then a detailed mitigation plan shall be prepared, in consultation with the USFWS and CDFG, that includes measures to avoid or minimize adverse effects of development on these species and their associated habitat. The mitigation plan shall incorporate a monitoring plan for these species during the period of construction. Potential mitigation measures include working in the breeding habitat outside of the breeding season, replacement and/or restoration of disturbed habitat, and monitoring of the construction site to ensure that no spadefoot are present in the work area. Because current project design eliminates most of the vernal pool habitat on the site, redesign of the project or moving the existing population may be necessary as part of the consultation requirements.

Responsibility to Implement:	Applicant
Responsibility to Monitor:	CDFG, USFWS, City of Citrus Heights Planning Department
Timing:	Prior to issuance of grading permits

Special-Status Bat Species

Impact 4.9.9 Development of the proposed project would result in removal of potential bat roosting habitat. This would be a potentially significant impact. *Note: This impact can be mitigated to an acceptable level. See discussion below.*

Special-status bat species, including Pacific western big-eared bat, yuma myotis, long-legged myotis, spotted bat, greater western mastiff bat, and small-footed myotis, could occur within the project area. Bats roost in a wide variety of habitats including buildings, mines, under bridges, rock crevices, caves, under tree bark, and in snags. Several species of bats have been identified as species of concern by the CDFG. Potential habitat for roosting bats in the project area includes trees or snags within the oak and riparian woodlands within the project area. Project development will affect approximately 17 acres of suitable bat habitat including riparian and oak woodland. While no bats were observed in these habitats during field reconnaissance these species may utilize these areas for day and/or night roosts. Consequently, these impacts would be considered **potentially significant** and are subject to mitigation.

Mitigation Measure

Implementation of the following mitigation measure would reduce potential impacts to special status bat species to **less-than-significant** levels:

MM 4.9.9a

1) Prior to the issuance of grading permits, a survey should be conducted to determine whether or not bats are utilizing the oak and riparian woodland on the project site.

2) No further mitigation is required if there are no bat species utilizing the project area as roosting habitat. However, if these species are determined to exist within the project area, consultation with CDFG shall be required to determine suitable measures to avoid disturbance of roosting bats. Occupied trees shall not be removed while bats are occupying the tree.

Responsibility to Implement:	Applicant
Responsibility to Monitor:	CDFG, City of Citrus Heights Planning Department
Timing:	Prior to issuance of grading permits

Vernal Pool Invertebrates

Impact 4.9.10 Development of the proposed project could result in the loss of potential habitat for vernal pool fairy shrimp (*Branchinecta lynchi*) and vernal pool tadpole shrimp (*Lepidurus packardi*). This would be a potentially significant impact. *Note: This impact can be mitigated to an acceptable level. See discussion below.*

Approximately 0.61 acres of vernal pool invertebrate habitat (vernal pool) is present within the project area. If this species is present within the project area, construction activities may result in the direct take of this species and removal of existing habitat will eliminate this species from the site. Because these species are of concern to state, federal, and local resource agencies, this impact is considered **potentially significant** and is subject to mitigation.

Mitigation Measure

Implementation of the following mitigation measure would reduce potential impacts to special status vernal pool invertebrates to **less-than-significant** levels:

MM 4.9.10a For any fill of vernal pool habitat on the site, Section 7 consultation with the USFWS will be required to determine whether the project is likely to affect either of these species. As part of the consultation, USFWS may request surveys of the site to help determine whether or not these species are present. If it is determined that the project is likely to adversely affect this species, a conservation plan shall be prepared that includes measures to avoid or mitigate adverse effects of development on these species. These measures may include preservation of some or all vernal pools on the site, construction of new vernal pool habitat, purchase of off-site mitigation credits, or project redesign.

Responsibility to Implement:	Applicant
Responsibility to Monitor:	USFWS, Corps, City of Citrus Heights Planning Department

Timing: Prior to the issuance of grading permits

Valley Elderberry Longhorn Beetle

Impact 4.9.11 Development of the proposed project could result in the loss of potential valley elderberry longhorn beetle habitat. This would be a potentially significant impact. *Note: This impact can be mitigated to an acceptable level. See discussion below.*

Several large areas with elderberry shrubs were identified during the site survey. Additional shrubs may be present within riparian and oak woodlands on the site. These shrubs are potential habitat for valley elderberry longhorn beetle. Because this beetle is protected under the Federal Endangered Species Act (FESA) and regulated by the USFWS, removal of any elderberry shrubs would be considered a **potentially significant** impact.

Mitigation Measure

Implementation of the following mitigation measure would reduce potential impacts to Valley Elderberry Longhorn Beetle to **less-than-significant** levels:

MM 4.9.11a

1) A comprehensive elderberry survey shall be conducted that identifies the location and size (including number of stems over one inch at ground level) elderberry shrubs within developed areas including commercial, residential, and park land uses. Within the open space areas, elderberry shrubs shall be surveyed that are within 100 feet of proposed roads, trails, pedestrian bridges, detention basins or other construction that may cause the removal or indirect impacts to an elderberry shrub.

2) Consultation with USFWS is required for removal of any elderberry shrub. Ideally, the project should avoid removal or indirect impacts to elderberry shrubs. Typically, the USFWS requires a 20-foot setback from the outer dripline edge of each shrub; or

   If these shrubs cannot be avoided, then a mitigation plan, which must include one or more of the following, shall be implemented:

   a) Obtain credits at an approved mitigation bank; or
   b) Implement an onsite mitigation and monitoring plan that includes transplantation of the shrub and planting of elderberry seedlings.

   Responsibility to Implement: Applicant
   Responsibility to Monitoring: USFWS, City of Citrus Heights Planning Department
   Timing: Prior to the issuance of grading permits

Jurisdictional Waters of the U.S.

Impact 4.9.12 Development of the project area would result in fill of jurisdictional waters of the U.S. This would be a significant impact. *Note: This impact can be mitigated to an acceptable level. See discussion below.*

The project area supports approximately 1.85 acres of potential jurisdictional waters of the U.S, which includes vernal pool, perennial, and intermittent drainage. Jurisdictional waters are regulated under Sections 401 and 404 of the Clean Water Act and under Section 1600 *et seq.* of the California Fish and Game Code. Additionally, these areas are protected in the City of Citrus Heights Draft General Plan. Consequently, impacts to jurisdictional waters of the U.S. are considered a **potentially significant** impact and are subject to mitigation.

Mitigation Measure

Implementation of the following mitigation measure would reduce potential impacts to Jurisdictional Waters of the U.S. to **less-than-significant** levels:

MM 4.9.12a

1) A delineation of the project site has been conducted by Gibson and Skordal (May 2000). This delineation shall be submitted to the Corps for verification and the appropriate Section 404 permit shall be acquired for any affected jurisdictional waters. Section 401 Water Quality certification or waiver also is required.

2) Any wetlands that would be lost or disturbed shall be replaced or rehabilitated on a "no-net-loss" basis in accordance with the Corps' mitigation guidelines. Habitat restoration, rehabilitation, and/or replacement shall be at a location and by methods agreeable to the Corps. To ensure success of the creation or restoration of wetlands, post-construction monitoring shall be conducted by a qualified restoration scientist annually for at least five years. An annual report will be submitted to the CDFG, Corps, and USFWS. Success shall be evaluated to have been achieved if 80 percent or greater vegetative cover by wetland and facultative wetland plant species has been achieved.

3) Prior to issuance of a grading permit, a Streambed Alteration Agreement shall be obtained from CDFG, pursuant to Section 1600 of the California Fish and Game Code, for each stream crossing and any other activities affecting the bed, bank, or associated riparian vegetation of the stream. If required, the project applicant shall coordinate with CDFG in developing appropriate mitigation, and shall abide by the conditions of any executed permits.

Responsibility to Implement:	Applicant
Responsibility to Monitor:	Corps, CDFG, USFWS, City of Citrus Heights Planning Department
Timing:	Prior to the issuance of grading permits

4.9.6 CUMULATIVE IMPACTS

Impact 4.9.13 The project would contribute cumulatively to the ongoing loss of local, state, and federal biological resources in the region. However, with incorporation of mitigation measures, this project is consistent with and implements the City of Citrus Heights Draft General Plan. The Draft General Plan EIR has found that impacts to biological resources are considered to be less than cumulatively significant due to the low percentage of undeveloped land within the City.

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