

**APPENDIX D**  
**BIOLOGICAL RESOURCES ASSESSMENT**

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**BIOLOGICAL RESOURCES ASSESSMENT  
FOR THE  
±3-ACRE NORWOOD AVENUE TOWNHOMES STUDY AREA  
SACRAMENTO COUNTY, CALIFORNIA**



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# Biological Resources Assessment for the ±3-Acre Norwood Avenue Townhomes Study Area

## INTRODUCTION

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### Project Location

Salix Consulting, Inc. (Salix) has prepared a Biological Resources Assessment for the ±3-acre Norwood Avenue Townhomes study area located at 4790 Norwood Avenue at the intersection of Norwood Avenue and Main Avenue, in unincorporated Sacramento County, California. The approximate coordinates for the center of the property are 38°39'14.77" N and 121° 27'23.10" W. It is situated within the Del Paso Land Grant, Civil Colonies, which was not part of the Township/Range system. It is located in the Rio Linda 7.5-minute USGS topographic quadrangle (Figure 1).

### Project Setting

The site is situated in the Sacramento Valley at an elevation of approximately 40 feet. The study area is bounded on the north and west by residential subdivisions, and on the east and south by residential development. The study area is undeveloped and is regularly disked (Figure 2).

### Objectives of Biological Resources Assessment

- Identify and describe the biological communities present in the study area;
- Evaluate and identify if any sensitive habitats or special-status plant and animal species exist or could exist on the site;
- Conduct an analysis to determine if aquatic resources are present; and
- Provide conclusions and recommendations.

## METHODS

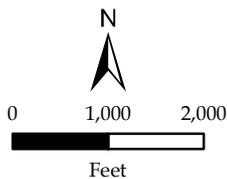
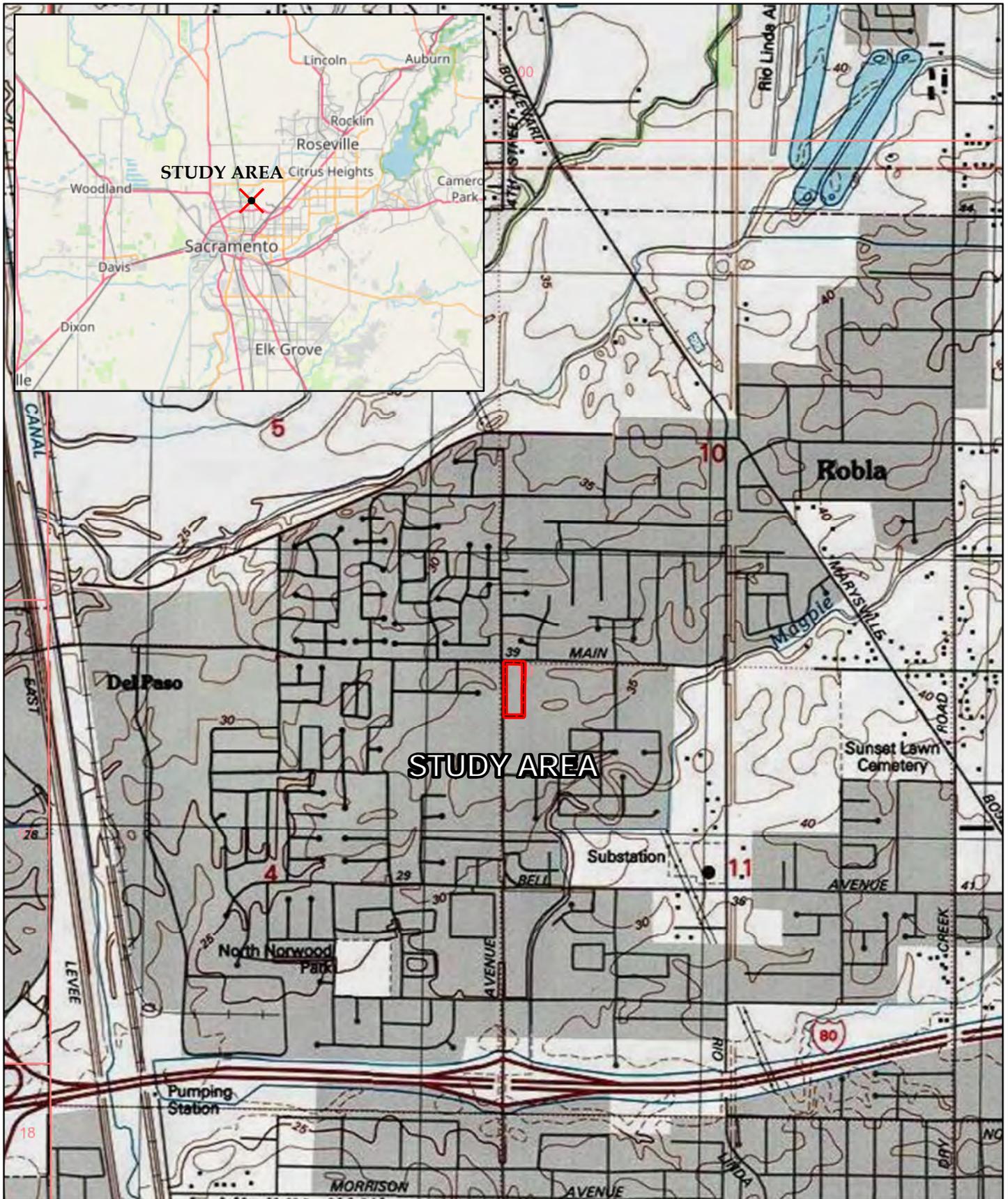
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### Background Review

For this analysis, Salix biologists reviewed aerial photographs, USGS maps, and the proposed tentative parcel map received from the project representatives.

### Special-Status Species Reports

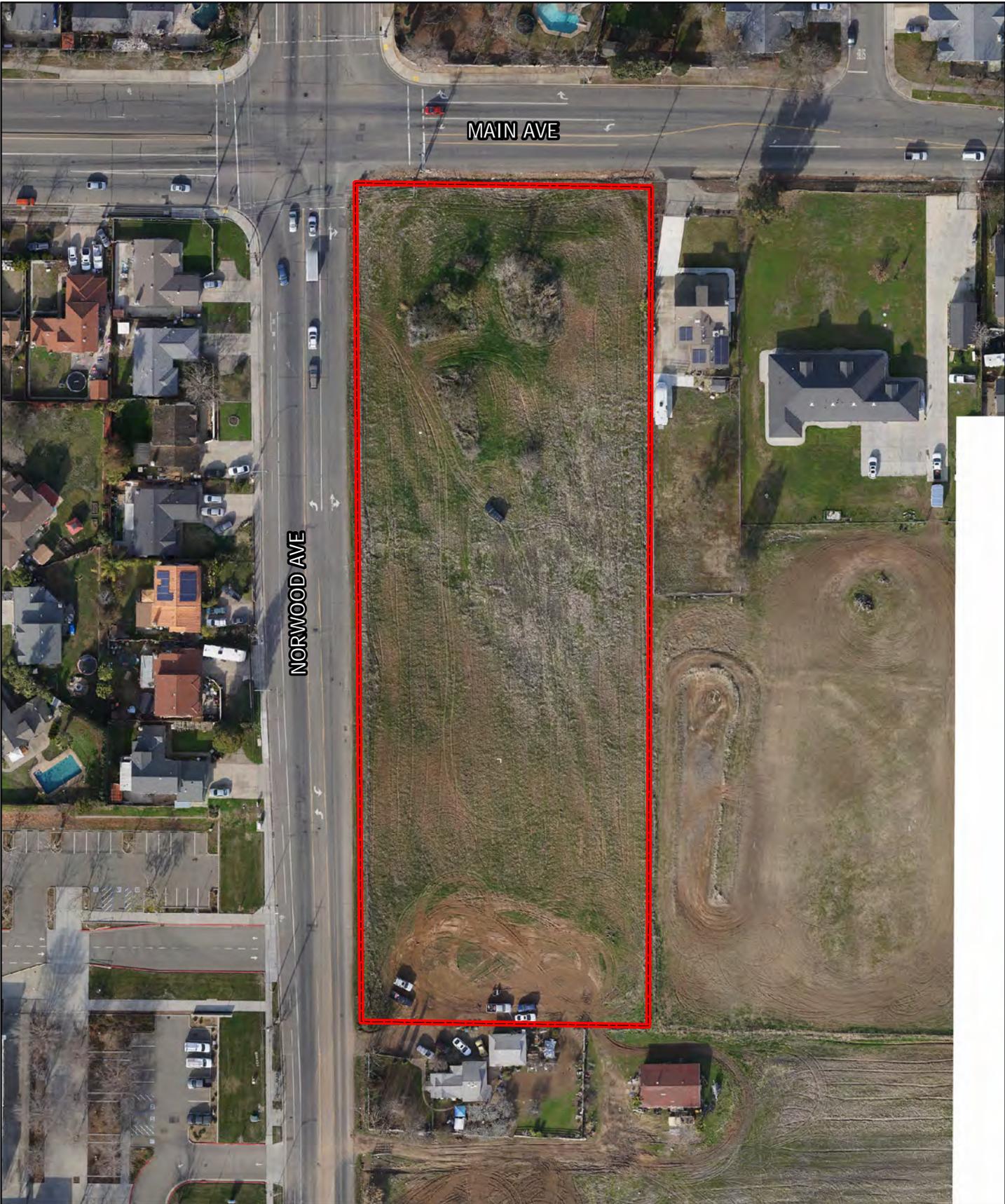
To assist with the determination of which special-status species could occur within or near the study area Salix biologists queried the California Natural Diversity Data Base (CDFW 2021), the California Native Plant Society Inventory (CNPS 2021), and the USFWS Information for Planning and Consultation (USFWS IPaC 2021) database for reported occurrences of special-status fish, wildlife, and plant species in the region surrounding the study area. The seven-quadrangle search area included the Rio Linda, Pleasant Grove, Roseville, Taylor Monument, Citrus Heights, Sacramento East, and Sacramento West USGS quadrangles. In addition, Salix biologists reviewed the



Source Maps: USGS Topographic Map  
Rio Lindal Quad 1:24,000  
Del Paso Land Grant T9N R5E

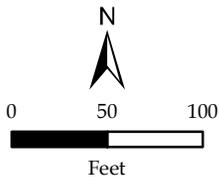
**Figure 1**  
**SITE AND VICINITY MAP**

Norwood Avenue Townhomes  
Sacramento County, CA



MAIN AVE

NORWOOD AVE



Study Area  
(±3.13 acres)

Imagery: Baker Williams Engineering

Figure 2

**AERIAL MAP**

Norwood Avenue Townhomes  
Sacramento County, CA

California Department of Fish and Wildlife list of Species of Special Concern for the project vicinity.

For the purposes of this report, special-status species are those that fall into one or more of the following categories:

- Listed as endangered or threatened under the federal Endangered Species Act (or candidate species, or formally proposed for listing);
- Listed as endangered or threatened under the California Endangered Species Act (or proposed for listing);
- Designated as rare, protected, or fully protected pursuant to California Fish and Game Code;
- Designated a Species of Special Concern by the California Department of Fish and Wildlife, or
- Designated as Ranks 1, 2, or 3 on lists maintained by the California Native Plant Society.

### **Field Assessments**

Salix Principal Biologist Jeff Glazner first observed the study area on December 4, 2020 and then conducted a field assessment on April 22, 2021, and on May 1, 2021, to characterize existing conditions, assess the potential for sensitive plant and wildlife resources to occur, and to determine if potential aquatic resources were present onsite, and if so, the likelihood of any feature on the site being under state or federal jurisdiction.

The site was assessed for the potential to support special-status species. Plants and animals observed were documented, and ground photos were taken. The site was also flown with an unmanned aerial vehicle (UAV) on May 1, 2021, to obtain an aerial basemap of the site as well as oblique photos of the property, which are used in this document.

Plants observed are listed in Appendix A. Plant names are according to the *Jepson Flora Project (Jepson eFlora)*. Animals observed are described in the *Wildlife Occurrence and Use* section below. Standard manuals were used as needed to identify wildlife species observed.

## SURVEY AND LITERATURE SEARCH RESULTS

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### Soils

One soil unit has been mapped within the study area– San Joaquin fine sandy loam, 0 to 3 percent slopes (NRCS 2021) (Figure 3):

#### *San Joaquin fine sandy loam, 0 to 3 percent slopes*

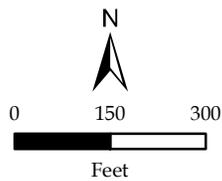
The **San Joaquin component** makes up 85 percent of the map unit. Slopes are 0 to 3 percent. This component is on valleys, low terraces. The parent material consists of alluvium derived from granite. Depth to a root restrictive layer, duripan, is 35 to 60 inches. The natural drainage class is moderately well drained. Water movement in the most restrictive layer is very low. Available water to a depth of 60 inches (or restricted depth) is low. Shrink-swell potential is low. This soil is not flooded or ponded. There is no zone of water saturation within a depth of 72 inches. Organic matter content in the surface horizon is about 1 percent. Nonirrigated land capability classification is 3s. Irrigated land capability classification is 3s. This soil does not meet hydric criteria.

### Hydrology

The site occurs in the Lower Steelhead Creek HUC12 watershed (180201110303) part of the greater Lower American HUC8 watershed (18020111). 57 (1/3 mile south of the project site) through a series of roadside culverts and underground drainage systems. Magpie Creek flows south for less than a half-mile before entering a series of ditches along Interstate 80. These ditches flow a mile westerly before entering Steelhead Creek. Steelhead Creek flows 5 miles south until entering the Lower American River near Discovery Park and the Sacramento River.

## Soil Components

 211 - San Joaquin fine sandy loam, 0 to 3 percent slopes



Study Area  
(±3.13 acres)

Imagery: Baker Williams Engineering

**Figure 3**

## SOIL COMPONENTS

*Norwood Avenue Townhomes*  
Sacramento County, CA

## Landcover Types

The study area is a ruderal annual grassland that is regularly disked, as summarized in Table 1 below and illustrated in Figure 4. Aerial and ground photos of the property are presented in Figures 5a through 5c.

<b>Biological Community</b>	<b>Approximate Acreage</b>
Ruderal Annual Grassland	3.1
<b>Total</b>	<b>3.1</b>

### *Ruderal Annual Grassland*

The entire study area, except for the area around the woody vegetation in the northern area, is regularly disked and maintained. Species growing on the site are almost entirely weedy and annual. A grove of trees and shrubs occurs in the northern area and includes cottonwood (*Populus fremontii*), valley oak (*Quercus lobata*), northern California black walnut (*Juglans hindsii*), plum (*Prunus cerasifera*), fruitless mulberry (*Morus alba*), fig (*Ficus carica*), and a dense clump of giant reed (*Arundo donax*). The footprint of these species is relatively small, and they are included in the ruderal habitat

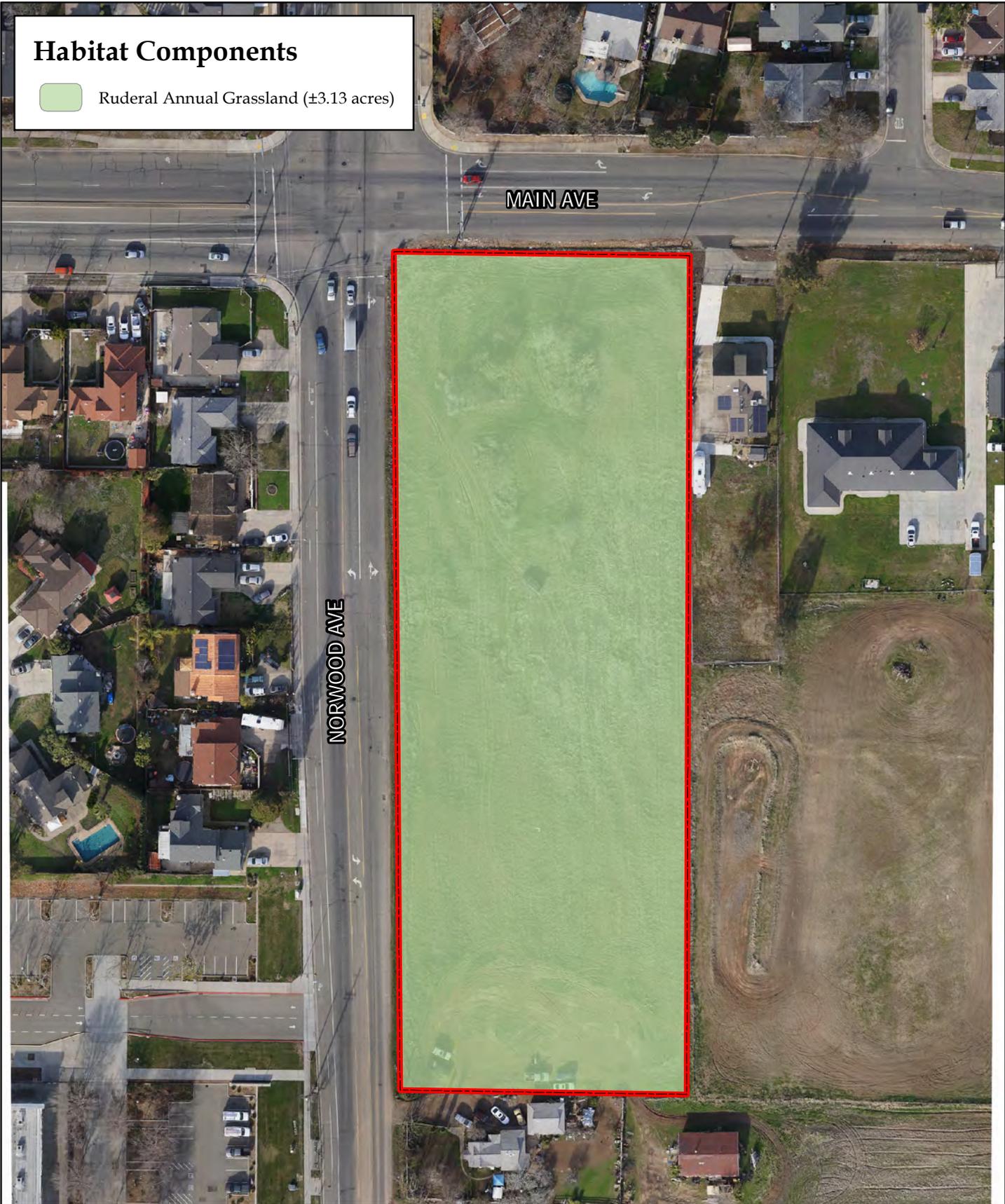
The most common species on the site during the site evaluations were wild oat (*Avena fatua*) and riggut grass (*Bromus diandrus*). Other common species observed were Italian rye grass (*Festuca perennis*), broad leaf filaree (*Erodium botrys*), vetch (*Vicia villosa*), yellow star thistle (*Centaurea solstitialis*), rose clover (*Trifolium hirtum*), soft chess (*Bromus hordeaceus*), foxtail barley (*Hordeum murinum*), Bermuda grass (*Cynodon dactylon*), and ruby sand-spurrey (*Spergularia rubra*).

### **Aquatic Resources**

The study area contains remnant depressions that show evidence of prolonged saturation. Four small basins have been identified that occur on distinctly different soils characterized as “dense clay” from visual observation. It is our presumption that this area of the site contains a clay inclusion that impedes percolation. The shallow basins behave as marginal wetlands as they support facultative grasses (Italian rye grass and Mediterranean barley) as well as an algal mat. A wetland delineation has been prepared under separate cover.

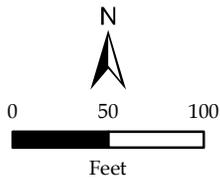
# Habitat Components

 Ruderal Annual Grassland (±3.13 acres)



MAIN AVE

NORWOOD AVE



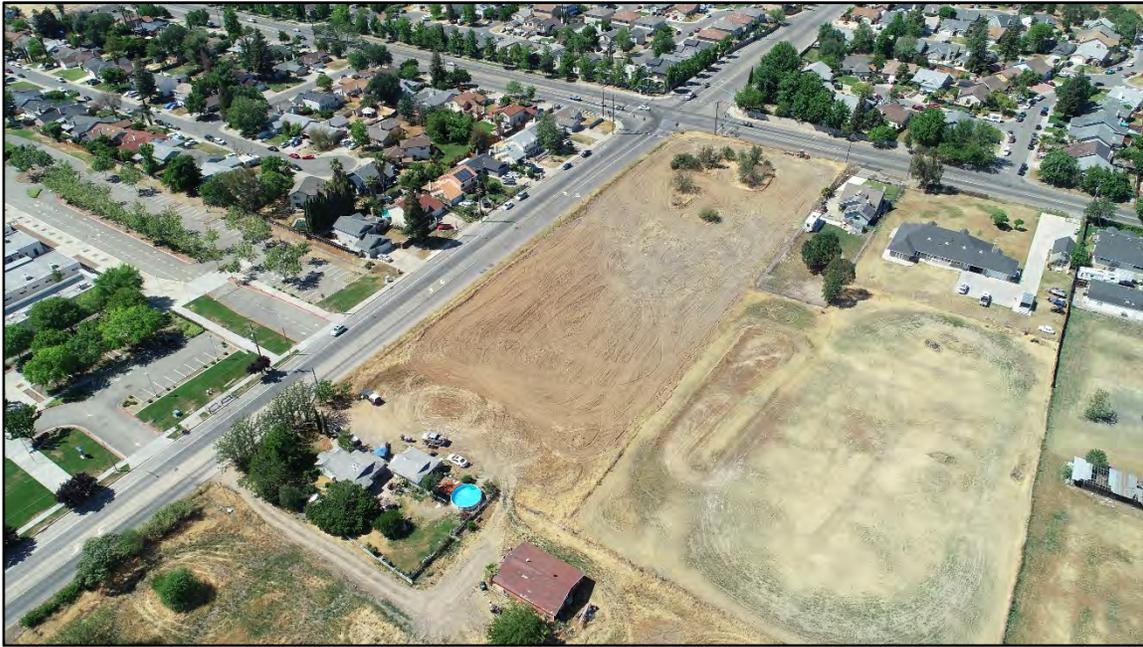
Study Area  
(±3.13 acres)

Imagery: Baker Williams Engineering

**Figure 4**

## HABITAT MAP

Norwood Townhomes  
Sacramento County, CA



Looking northwest over study area.

*Photo Date 5-1-21.*



Looking northeast across northern half of study and cluster of trees/shrubs.  
Norwood and Main intersection shown in upper left.

*Photo Date 5-1-21.*



## Figure 5a

### AERIAL SITE PHOTOS

*Norwood Avenue Townhomes*

Sacramento County, CA



Looking south along eastern fenceline.

*Photo Date 4-22-21.*



Looking toward area of trees and shrubs in northern area of site.

*Photo Date 4-22-21.*



**Figure 5b**

**SITE PHOTOS**  
*Norwood Avenue Townhomes*  
Sacramento County, CA



Looking southwest across study area.

*Photo Date 12-4-20.*



Looking southwest across study area.

*Photo Date 5-1-21.*



**Figure 5c**

**SITE PHOTOS**  
*Norwood Avenue Townhomes*  
Sacramento County, CA

## Wildlife Occurrence and Use

Common urban wildlife species utilize this property. Species observed include killdeer (*Charadrius vociferous*), rock dove (*Columba livia*), mourning dove (*Zenaida macroura*), western scrub-jay (*Aphelocoma californica*), European starling (*Sturnus vulgaris*), house finch (*Carpodacus mexicanus*), ground squirrel (*Otospermophilus beecheyi*), and black-tailed jackrabbit (*Lepus californicus*). Red-tailed hawk (*Buteo jamaicensis*), turkey vulture (*Cathartes aura*), and American crow (*Corvus brachyrhynchos*) were observed over the site. The sparse tree and shrub area provides limited habitat and shelter for wildlife in the urban setting. Large mammals such as coyote may pass through, but there are no denning opportunities. Most of the species that would utilize this area would be small mammals such as field mice and squirrels.

## Special-Status Species

To determine potentially-occurring special-status species, the standard databases from the USFWS, CDFW (the CNDDDB), and CNPS were queried and reviewed as described above. These searches provided a list of regionally-occurring special-status species and were used to determine which species have some potential to occur within or near the study area. Appendix B lists potentially-occurring special-status plants, and Appendix C lists potentially-occurring special-status animals compiled from the queries. The field survey and the best professional judgment of Salix biologists were used to further refine the tables in Appendices B and C. Additionally, plant species found on the CNPS List 4 are not considered further in the document. Figure 6a shows the approximate locations of reported occurrences of CNDDDB special-status plants within a five-mile radius of the study area, and Figure 6b shows the same information for special-status animals.

### *Plants*

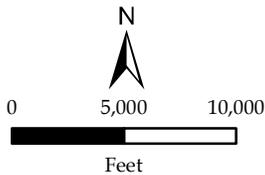
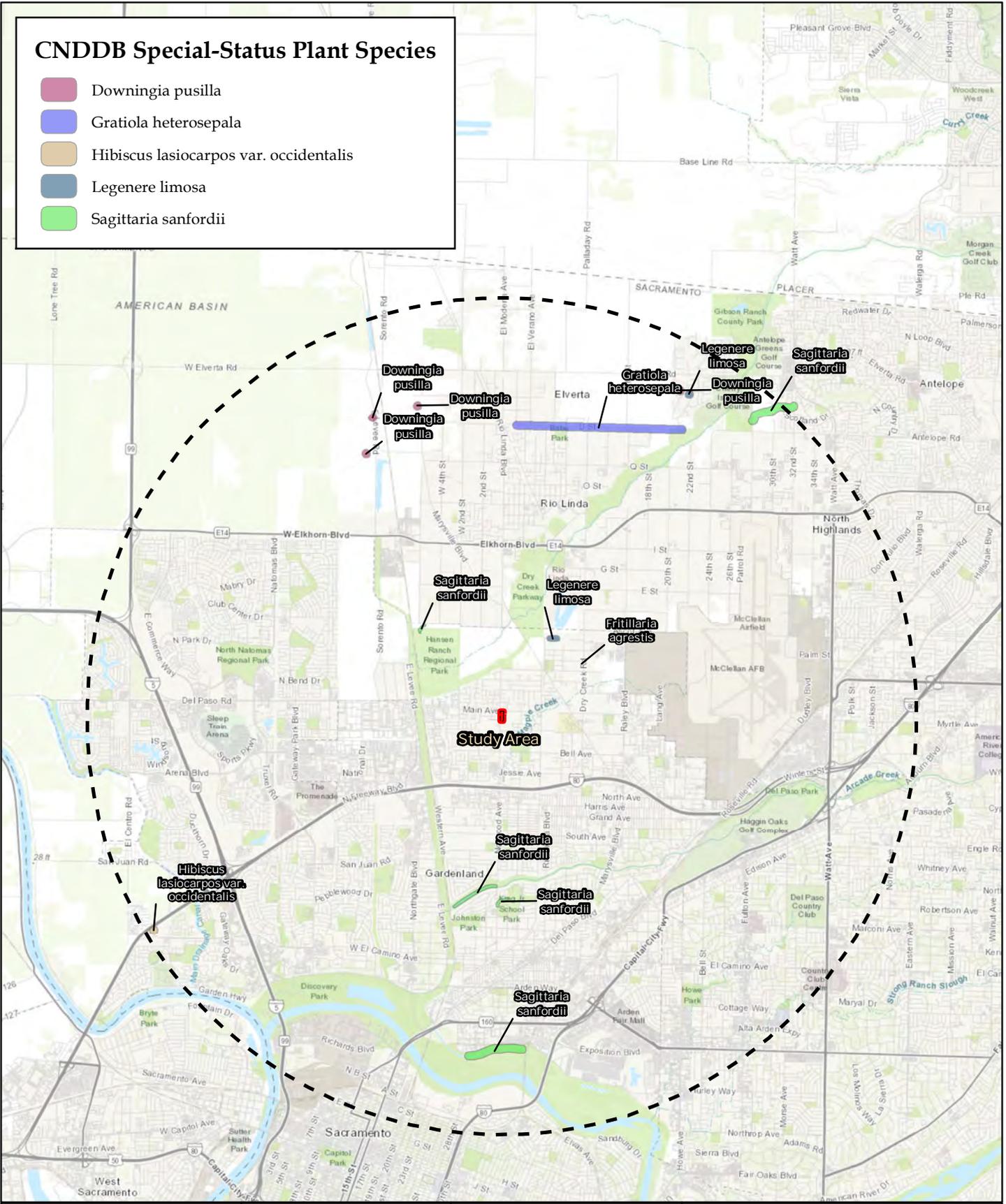
Of the 10 potentially-occurring special-status plant species identified in the CNDDDB query (Appendix B), five (5) were identified as occurring within or near a five-mile radius of the study area (Figure 6a), but none of these were determined to have any potential for occurring onsite due to the absence of suitable wet habitats (such as marshes or vernal pools) or suitable substrates (such as alkaline). These species are:

- Sanford's arrowhead (*Sagittaria sanfordii*)
- Legenere (*Legenere limosa*)
- Dwarf downingia (*Downingia pusilla*)
- Bogg's Lake hedge-hyssop (*Gratiola heterosepala*)
- Woolly rose-mallow (*Hibiscus lasiocarpus occidentalis*)

In summary, 10 special-status plants are known from the region surrounding the study area (Appendix B), and five of these plants are known from within a five-mile radius and are shown in Figure 6a. All of the plant species identified in Appendix B require habitats or substrates that do not occur within the study area. Therefore, all 10 were determined to have no potential for occurring onsite and were eliminated from further consideration.

# CNDDDB Special-Status Plant Species

- Downingia pusilla*
- Gratiola heterosepala*
- Hibiscus lasiocarpus* var. *occidentalis*
- Legenere limosa*
- Sagittaria sanfordii*



**Figure 6a**  
**CNDDDB OCCURRENCES MAP**  
*Norwood Avenue Townhomes*  
 Sacramento County, CA

# CNDDDB Special-Status Animal Species

- |  |   |  |
|--|---|--|
|  Sacramento splittail |  longfin smelt                       |  vernal pool fairy shrimp     |
|  Swainson's hawk      |  purple martin                       |  vernal pool tadpole shrimp   |
|  bank swallow         |  song sparrow ("Modesto" population) |  western pond turtle          |
|  burrowing owl        |  steelhead - Central Valley DPS      |  western yellow-billed cuckoo |
|  giant gartersnake    |  tricolored blackbird                |  white-tailed kite            |
|  least Bell's vireo   |  valley elderberry longhorn beetle   |  |

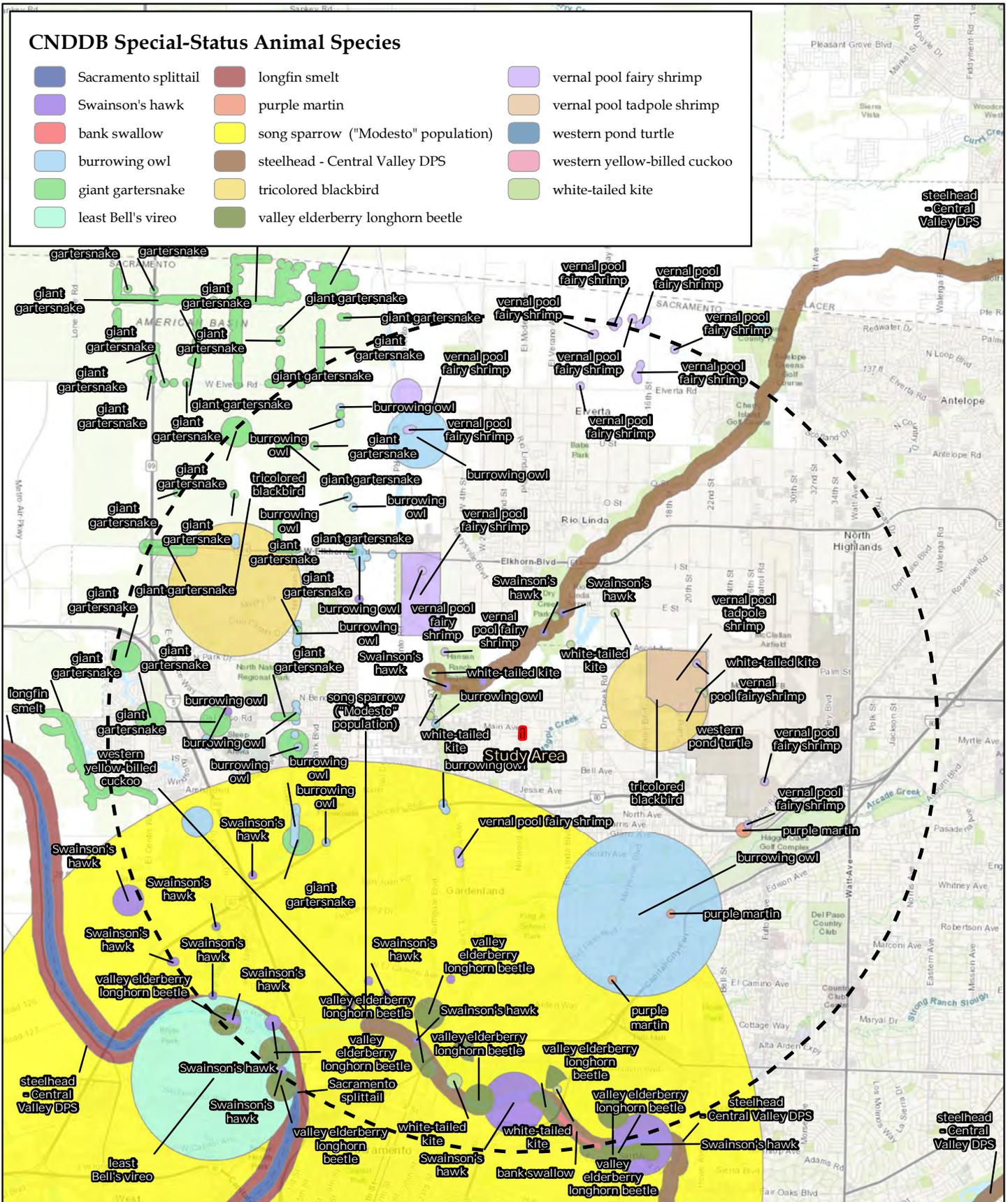
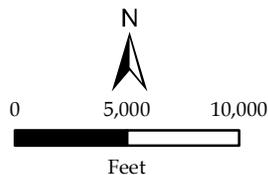


Figure 6b

CNDDDB OCCURRENCES MAP

Norwood Avenue Townhomes  
Sacramento County, CA



### *Animals*

Of the 27 animal species identified from the CNDDDB and USFWS queries (Appendix C), 17 were identified as occurring within or near the five-mile radius of the study area (Figure 6b). Of these, 16 species occurring within a 5-mile radius were determined to have no potential for occurring onsite due to the absence of suitable aquatic and/or nesting habitat or host plant. Three species appeared in the IPaC (USFWS) query results, but not in the CNDDDB query results and not on Figure 6b, including:

- California tiger salamander,
- California red-legged frog, and
- Delta smelt.

None of these species has any potential to occur within the study area due to the absence of suitable habitat.

The 23 animal species from the CNDDDB query with no likelihood to occur include:

- Vernal pool fairy shrimp (*Branchinecta lynchi*)
- Vernal pool tadpole shrimp (*Lepidurus packardii*)
- Valley elderberry longhorn beetle (VELB) (*Desmocerus californicus dimorphus*)
- Steelhead, Central Valley ESU (*Oncorhynchus mykiss irideus*)
- Chinook salmon - Central Valley spring-run ESU (*Oncorhynchus tshawytscha*)
- Chinook salmon - Sacramento winter run ESU (*Oncorhynchus tshawytscha*)
- Longfin smelt (*Spirinichus thaleichthys*)
- Sacramento splittail (*Pogonichthys macrolepidotus*)
- Sacramento perch (*Archoplites interruptus*)
- Western spadefoot (*Spea hammondi*)
- Western pond turtle (*Actinemys marmorata*)
- Giant garter snake (*Thamnophis gigas*)
- White-tailed kite (*Elanus leucurus*)
- Swainson's hawk (*Buteo swainsoni*)
- California black rail (*Laterallus jamaicensis coturniculus*)
- Western yellow-billed cuckoo (*Coccyzus americanus occidentalis*)
- Least Bell's vireo (*Vireo bellii pusillus*)
- Purple martin (*Progne subis*)
- Bank swallow (*Riparia riparia*)
- Grasshopper sparrow (*Ammodramus savannarum*)
- Song sparrow (Modesto population) (*Melospiza melodia*)

- Tricolored blackbird (*Agelaius tricolor*)
- American badger (*Taxidea taxus*)

The study area lacks perennial aquatic habitats such as streams and ponds that would support California red-legged frog, western spadefoot, California tiger salamander, western pond turtle, giant garter snake, steelhead, Chinook salmon, or any other fish species. In addition, the study area is located outside the range of the Delta smelt.

The study area does not contain any areas that would qualify as suitable habitat for vernal pool crustaceans (vernal pools or seasonal wetlands). In addition, no critical habitat for vernal pool crustaceans is mapped within or near the study area.

Valley elderberry longhorn beetle (*Desmocerus californicus dimorphus*) is a federal-threatened species that occurs in association with live elderberry shrubs. Valley elderberry longhorn beetle has no potential for occurring within the study area due to the absence of suitable habitat (elderberry shrubs).

As noted in Appendix C, no suitable nesting habitat occurs within the study area to support white-tailed kite, Swainson’s hawk, California black rail, western yellow-billed cuckoo, least Bell’s vireo, purple martin, bank swallow, grasshopper sparrow, song sparrow (Modesto population), or tricolored blackbird.

Of the 17 animal species identified by CNDDDB as occurring within or near a five-mile radius of the study area (Figure 6b), one bird- burrowing owl – was determined to have some potential, although unlikely, for occurring onsite due to the presence of marginal nesting habitats (see Table 2 below). It is discussed further following the table.

No other special-status animal species were determined to have any potential to occur within the study area.

<b>Table 2.</b>			
<b>Special-Status Animals Determined to Have ANY POTENTIAL to Occur Within the 4790 Norwood Avenue Study Area</b>			
<b>Species</b>	<b>Status*</b>		<b>Habitat</b>
	<b>Federal</b>	<b>State</b>	
<b>Potential for Occurrence Within Study Area**</b>			
<b>Birds</b>			
<b>Burrowing owl</b> <i>Athene cuniculara</i>		CSC	Found in annual grasslands. Nests in burrows dug by small mammals, primarily ground squirrels.
			Unlikely. Study area regularly disked. No burrows observed during field survey.

\*Status Codes:  
**State**  
 CSC California Species of Concern

\*\*Definitions for the Potential to Occur:  
**Unlikely:** Some habitat may occur, but disturbance or other activity may restrict or eliminate the possibility of the species occurring. Habitat may be very marginal, or the study area maybe outside the range of the species.

**Burrowing Owl** (*Athene cunicularia*) is designated as a state species of concern. The burrowing owl occurs throughout most of western United States and northern Mexico. In California, burrowing owls occur in open habitats throughout most of the state. They are found in open, dry grasslands, agricultural and range lands, and desert habitats. In the Central Valley, they are associated with remaining grassland habitats, pasturelands, and edges of agricultural fields. They also occur in vacant lots within urbanizing areas. Historically nesting in colonies, due to limited nesting habitat availability, many of the more recent occurrences are individual nesting pairs or several loosely associated nesting pairs. The species typically occupies the burrows created by California ground squirrels (*Spermophilus beecheyi*). They also occupy artificial habitats, such as those created by rock piles and occasionally in open pipes and small culverts. They forage for small rodents and insects in grassland and agricultural habitats with low vegetative cover.

No burrowing owls or active burrows of the species were detected within the Study Area during the field survey. CNDDDB (2021) reports the nearest occurrence of burrowing owls as one mile west of the study area, on the west bank of the Natomas East main drainage canal, just north of Del Paso Road, Sacramento on July 25, 2003. The burrow site was located next to a rusty manhole cover, 50-60 feet north of Del Paso Road. Eight individuals (adults and juveniles) were observed.

An evaluation of potential burrowing owl habitat in the study area during the field survey indicated that due to the regular disking that occurs on the site, there is relatively little ground squirrel activity on site. Thus, it is unlikely that burrowing owls would occur.

## RECOMMENDATIONS

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### **Potential Aquatic Resources**

The study area contains features that may qualify as aquatic resources but would likely not be regulated by the U.S. Army Corps of Engineers (Navigable Waters Protection Rule). However, these features would be under jurisdiction of the state Regional Water Quality Control Board.

An Aquatic Resources Delineation has been prepared under separate cover and should be submitted to the U.S. Army Corps of Engineers with a request for an Approved Jurisdictional Determination. If the Corps determines the resources are jurisdictional and would be impacted by the proposed project, a Section 404 Clean Water Act permit will be required from the Corps of Engineers and a Section 401 Water Quality Certification will be required from the Regional Water Quality Control Board. If the Corps does not take jurisdiction, only a permit from the Regional Board would be required.

### **Streams, Pond, and Riparian Habitat**

No streams, ponds or riparian habitat are present on the site. There are no habitats on the property that would fall under the jurisdiction of the California Department of Fish and Wildlife (CDFW).

### **Tree Conservation**

A Tree Pruning or Tree Removal Permit is required by the County to prune or remove any public tree and certain private trees. Privately owned trees also require a tree permit in accordance with Zoning Code Regulations and the County's Tree Preservation and Protection Ordinance. The applicant should consult with the County to determine what, if any, provisions of the Tree Ordinance are applicable.

### **Special-Status Plants**

The study area contains no suitable habitats for special-status plant species that may occur in the region, and none were detected during the field survey. No further studies are recommended.

### **Special-Status Wildlife**

#### *Burrowing Owl*

It is unlikely that burrowing owl would occur on the site due to the regular disking that takes place. However, a pre-construction burrowing-owl survey should be conducted no more than 30 days prior to ground-disturbing activity to definitively determine presence/absence of the species within and directly adjacent to proposed work areas. Pre-construction surveys should be conducted according to the California Burrowing Owl Consortium's 1993 *Burrowing Owl Survey Protocol and Mitigation Guidelines*. If active burrows are found during the pre-construction

surveys, CDFW should be contacted to determine avoidance measures and mitigation responsibilities.

### *Nesting Raptors and Migratory Birds*

The site contains a few small trees that are not likely to support nesting raptors. However, they could support other birds protected by the Migratory Bird Treaty Act. Take of any active raptor nest is prohibited under California Fish and Game Code sections 3503, 3503.5, and 3513. If tree removal or other ground disturbance takes place during the breeding/nesting season (February 1 through August 31), disturbance of nesting activities could occur. To avoid impacts to nesting birds, disturbance should occur outside of the typical nesting season. If disturbance occurs at any time during the nesting season, a pre-construction survey should be conducted by a qualified biologist within two weeks prior to initiation of proposed development activities. If active nests are found during the pre-construction survey, buffer zones will be established around any identified nests, and the nests will be monitored by a qualified biologist until the offspring have fledged. If the nesting bird is a bird of prey, consultation with the County and CDFW may be warranted.

## REFERENCES

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- California Department of Fish and Wildlife, California Wildlife Habitat Relationships System. 2021. <https://wildlife.ca.gov/Data/CWHR/Wildlife-Habitats>.
- California Department of Fish and Wildlife, Wildlife and Habitat Data Analysis Branch. 2021. Natural Diversity Data Base Report (CNDDDB). Sacramento, California.
- California Department of Fish and Wildlife, Conservation. 2021. Threatened and Endangered Species Protected Under CESA. Found online: <https://wildlife.ca.gov/Conservation/CESA>.
- California Native Plant Society. 2021. Inventory of Rare and Endangered Plants. An online database maintained by the Native Plant Society.
- Fix, David and Andy Bezener. 2000. Birds of Northern California. Lone Pine Publishing. Renton, Washington.
- Jameson, E.W., Jr. and H.J. Peeters. 2004. Mammals of California. University of California Press. Berkeley, California.
- Jepson Herbarium. Jepson Flora Project (eds.). 2021. Jepson eFlora, <https://ucjeps.berkeley.edu/eflora/>. Accessed May 2021.
- Sibley, D.A. 2003. The Sibley Field Guide to Birds of Western North America. Alfred A. Knopf. New York.
- U.S. Department of Agriculture, NRCS. Web Soil Survey for Sacramento County Online. <http://websoilsurvey.nrcs.usda.gov>. Accessed May 2021.
- U.S. Fish and Wildlife Service. 2021. IPaC Trust Resources Report generated for the Norwood Avenue study area, Sacramento County.
- Zeiner, D.C., W.F. Laudenslayer, Jr., K.E. Mayer, and M. White. 1988. California's Wildlife, Volume I. Amphibians and Reptiles. State of California, the Resources Agency, Department of Fish and Game, Sacramento, California.
- Zeiner, D.C., W.F. Laudenslayer, Jr., K.E. Mayer, and M. White. 1990a. California's Wildlife, Volume II: Birds. State of California, the Resources Agency, Department of Fish and Game, Sacramento, California.
- Zeiner, D.C., W.F. Laudenslayer, Jr., K.E. Mayer, and M. White. 1990b. California's Wildlife, Volume III: Mammals. State of California, the Resources Agency, Department of Fish and Game, Sacramento, California.

**Appendix A.**  
**Plant Species Observed within the 4790 Norwood Avenue Study Area**

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## Appendix A

### Norwood Townhomes Plants Observed - 12/4/20, 4/22 and 5/1/21

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#### Angiosperms - Dicots

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##### Asteraceae (Compositae) - Sunflower Family

<i>Achyrachaena mollis</i>	Blow-wives
* <i>Carduus pycnocephalus</i>	Italian thistle
* <i>Centaurea solstitialis</i>	Yellow starthistle
<i>Centromadia fitchii</i>	Fitch's spikeweed
* <i>Cichorium intybus</i>	Chicory
* <i>Dittrichia graveolens</i>	Stinkwort
<i>Erigeron canadensis</i>	Canadian horseweed
* <i>Helminthotheca echioides</i>	Bristly ox-tongue
<i>Holocarpha virgata subsp. virgata</i>	Virgate tarweed
* <i>Hypochaeris glabra</i>	Smooth cat's-ear
* <i>Lactuca serriola</i>	Prickly lettuce
* <i>Leontodon saxatilis</i>	Long-beaked hawkbit
* <i>Matricaria discoidea</i>	Pineapple-weed
* <i>Sonchus oleraceus</i>	Common sow-thistle

##### Boraginaceae - Borage Family

<i>Amsinckia menziesii</i>	Rancher's fireweed
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##### Brassicaceae (Cruciferae) - Mustard Family

* <i>Brassica nigra</i>	Black mustard
* <i>Hirschfeldia incana</i>	Short-podded mustard
* <i>Raphanus sativus</i>	Wild radish
* <i>Sinapis alba</i>	White mustard

##### Caryophyllaceae - Pink Family

* <i>Spergularia rubra</i>	Ruby sand-spurrey
* <i>Stellaria media</i>	Common chickweed

##### Chenopodiaceae - Goosefoot Family

* <i>Chenopodium album</i>	White pigweed
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##### Convolvulaceae - Morning-Glory Family

* <i>Convolvulus arvensis</i>	Bindweed
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##### Euphorbiaceae - Spurge Family

<i>Croton setiger</i>	Turkey mullein
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##### Fabaceae (Leguminosae) - Legume Family

<i>Acmispon americanus</i>	Spanish lotus
<i>Lupinus bicolor</i>	Miniature lupine
* <i>Medicago polymorpha</i>	California burclover
* <i>Trifolium hirtum</i>	Rose clover
* <i>Vicia sativa</i>	Common vetch
* <i>Vicia villosa</i>	Winter vetch

##### Fagaceae - Oak Family

<i>Quercus lobata</i>	Valley oak
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\* Indicates a non-native species

**Geraniaceae - Geranium Family***\*Erodium botrys*

Broad-leaf filaree

*\*Erodium cicutarium*

Red-stem filaree

*\*Geranium molle*

Dove's-foot geranium

**Juglandaceae - Walnut Family***Juglans hindsii*

Northern California black walnut

**Martyniaceae - Unicorn-Plant Family***\*Proboscidea louisianica subsp. louisianica*

Common unicorn plant

**Moraceae - Mulberry Family***\*Ficus carica*

Common fig

*\*Morus alba*

White mulberry

**Oleaceae - Olive Family***\*Olea europaea*

Olive

**Onagraceae - Evening Primrose Family***Epilobium brachycarpum*

Summer cottonweed

**Plantaginaceae - Plantain Family***\*Plantago lanceolata*

English plantain

**Polygonaceae - Buckwheat Family***\*Polygonum aviculare*

Common knotweed

*\*Rumex crispus*

Curly dock

**Rosaceae - Rose Family***\*Prunus cerasifera*

Cherry plum

**Salicaceae - Willow Family***Populus fremontii*

Fremont cottonwood

**Angiosperms - Monocots**

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**Poaceae (Gramineae) - Grass Family***\*Aira caryophylla*

Silver European hairgrass

*\*Arundo donax*

Giant reed

*\*Avena fatua*

Wild oat

*\*Bromus diandrus*

Ripgut grass

*\*Bromus hordeaceus*

Soft chess

*\*Bromus madritensis*

Foxtail brome

*\*Cynodon dactylon*

Bermudagrass

*\*Elymus caput-medusae*

Medusahead

*\*Festuca myuros*

Rattail sixweeks grass

*\*Festuca perennis*

Italian ryegrass

*\*Hordeum marinum subsp. gussoneanum*

Mediterranean barley

*\*Hordeum murinum*

Wall barley

*\*Poa annua*

Annual bluegrass

*\*Sorghum halepense*

Johnsongrass

**Themidaceae - Brodiaea Family***Triteleia hyacinthina*

White triteleia

**Appendix B.**  
**Potentially-Occurring Special-Status Plants in the Region of the 4790 Norwood  
Avenue Study Area**

**Appendix B**  
**Norwood Avenue - Potentially-occurring Special-status Plants**

Family Taxon Common Name	Status*	Flowering Period	Habitat	Probability on Project Site
<b>Alismataceae</b>				
<i>Sagittaria sanfordii</i> Sanford's arrowhead	Fed: - State: - CNPS: Rank 1B.2	May-October	Marshes, shallow freshwater.	None. No suitable wet habitat present.
<b>Asteraceae (Compositae)</b>				
<i>Balsamorhiza macrolepis</i> Big-scale balsam-root	Fed: - State: - CNPS: Rank 1B.2	March-June	Cismontane woodland; valley and foothill grassland; [sometimes serpentinite].	None. No suitable habitat present. Site regularly disked.
<i>Symphyotrichum lentum</i> Suisun Marsh aster	Fed: - State: - CNPS: Rank 1B.2	August-November	Marshes and swamps (brackish and fresh water)	None. No suitable wet habitat present.
<b>Campanulaceae</b>				
<i>Downingia pusilla</i> Dwarf downingia	Fed: - State: - CNPS: Rank 2B.2	March-May	Vernal pools and seasonal wetlands.	None. No suitable habitat present. No vernal pools or seasonal wetlands.
<i>Legenere limosa</i> Legenere	Fed: - State: - CNPS: Rank 1B.1	April-June	Vernal pools and seasonal wetlands.	None. No suitable habitat present. No vernal pools or seasonal wetlands.
<b>Fabaceae (Leguminosae)</b>				
<i>Astragalus tener ferrisiae</i> Ferris' milkvetch	Fed: - State: - CNPS: Rank 1B.1	April-May	Meadows (vernally mesic); valley and foothill grassland (subalkaline flats).	None. No suitable wet habitat present.

**Appendix B**  
**Norwood Avenue - Potentially-occurring Special-status Plants**

Family	Taxon	Common Name	Status*	Flowering Period	Habitat	Probability on Project Site
<b>Juncaceae</b>						
	<i>Juncus leiospermus leiospermus</i>		Fed: - State: - CNPS: Rank 1B.1	March-May	Vernal pools and wetland swales.	None. No suitable habitat present. No vernal pools or seasonal wetlands.
	Red Bluff dwarf rush					
<b>Malvaceae</b>						
	<i>Hibiscus lasiocarpus occidentalis</i>		Fed: - State: - CNPS: Rank 1B.2	June-September	Marshes and swamps (freshwater).	None. No suitable wet habitat present.
	Woolly rose-mallow					
<b>Orobanchaceae</b>						
	<i>Chloropyron molle hispidum</i>		Fed: - State: - CNPS: Rank 1B.1	June-September	Meadows; playas; [alkaline]. 1-155m.	None. No suitable wet habitat present. No alkaline soil.
	Hispid salty bird's-beak					
<b>Plantaginaceae</b>						
	<i>Gratiola heterosepala</i>		Fed: - State: CE CNPS: Rank 1B.2	April-August	Vernal pools.	None. No suitable habitat present. No vernal pools or seasonal wetlands.
	Bogg's Lake hedge-hyssop					

## Appendix B

### Norwood Avenue - Potentially-occurring Special-status Plants

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Family	Taxon	Status*	Flowering Period	Habitat	Probability on Project Site
Common Name					

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#### \*Status

##### Federal:

FE - Federal Endangered  
FT - Federal Threatened  
FPE - Federal Proposed Endangered  
FPT - Federal Proposed Threatened  
FC - Federal Candidate  
FSS - Forest Service Sensitive  
FSW - Forest Service Watchlist

##### State:

CE - California Endangered  
CT - California Threatened  
CR - California Rare  
CSC - California Species of  
Special Concern

##### CNPS (California Native Plant Society - List.RED Code):

Rank 1A - Extinct  
Rank 1B - Plants rare, threatened, or endangered in California and elsewhere  
Rank 2A- Plants extinct in California, but more common elsewhere  
Rank 2B - Plants rare, threatened, or endangered in California, more common elsewhere  
Rank 3 - Plants about which more information is needed, a review list  
Rank 4 - Plants of limited distribution, a watch list  
RED Code  
1 - Seriously endangered (>80% of occurrences threatened)  
2 - Fairly endangered (20 to 80% of occurrences threatened)  
3 - Not very endangered (<20% of occurrences threatened)

**Appendix C.**  
**Potentially-Occurring Special-Status Animals in the Region of the 4790 Norwood  
Avenue Study Area**

**Appendix C**  
**Norwood Avenue - Potentially-occurring Special-status Animals**

	Status*	Habitat	Probability on Project Site
<b>Invertebrates</b>			
Vernal pool fairy shrimp <i>Branchinecta lynchi</i>	Fed: FT State: - Other: -	Vernal pools and other temporary bodies of water in southern and Central Valley of California. Most common in smaller grass or mud bottomed swales or basalt flow depression pools in unplowed grasslands.	None. No suitable habitat (vernal pools or similar) present.
Vernal pool tadpole shrimp <i>Lepidurus packardii</i>	Fed: FE State: - Other: -	Found in vernal pools in the Central Valley of California and in the San Francisco Bay area. Inhabits vernal pools with clear to highly turbid water.	None. No suitable habitat (vernal pools or similar) present.
<b>Insects</b>			
Valley elderberry longhorn beetle <i>Desmocerus californicus dimorphus</i>	Fed: FT State: - Other: *	Requires host plant, elderberry ( <i>Sambucus nigra</i> ) for its life cycle. Shrubs must have live stem diameters at ground level of 1.0 inch or greater. Occurs in Great Valley and lower foothills.	None. No suitable habitat (host plant) present within study area.
<b>Fish</b>			
Steelhead, Central Valley ESU <i>Oncorhynchus mykiss irideus</i>	Fed: FT State: - Other: -	Occurs below man-made impassable barriers in the Sacramento and San Joaquin rivers and tributaries. Adults migrate from ocean to natal freshwater streams to spawn. Yuba River has essentially the only remaining wild steelhead fishery in Central Valley.	None. No suitable aquatic habitat (streams) present within study area.
Chinook salmon - Central Valley spring-run ESU <i>Oncorhynchus tshawytscha</i>	Fed: FT State: CT Other: *	Occurs in water bodies with cool, fast-flowing water and gravel suitable for spawning. Found primarily in 4 tributaries of the Sacramento River: Butte Creek, Big Chico Creek, Deer Creek, and Mill Creek.	None. No suitable aquatic habitat (streams) present within study area.
Chinook salmon - Sacramento winter run ESU <i>Oncorhynchus tshawytscha</i>	Fed: FE State: CE Other: -	One of 4 runs that spawns in upper Sacramento River and Battle Creek. They return to the upper Sacramento River in the winter but delay spawning until the spring and summer.	None. No suitable aquatic habitat (streams) present within study area.
Delta smelt <i>Hypomesus transpacificus</i>	Fed: FT State: CT Other: -	Endemic to the Sacramento-San Joaquin Delta in coastal and brackish waters. Occurs seasonally in Suisun and San Pablo bays. Spawning usually occurs in dead-end sloughs and shallow channels.	None. No suitable aquatic habitat (streams) present within study area. Study area outside range of species.

## Appendix C

### Norwood Avenue - Potentially-occurring Special-status Animals

	Status*	Habitat	Probability on Project Site
Longfin smelt <i>Spirinichus thaleichthys</i>	Fed: FC State: CT Other:	Endemic to the lower reaches of the Sacramento-San Joaquin River system. Inhabits open waters in the Delta and Suisun Bay. After spawning, larvae are carried downstream to brackish nursery areas.	None. No suitable aquatic habitat (streams) present within study area.
Sacramento splittail <i>Pogonichthys macrolepidotus</i>	Fed: - State: CSC Other:	Found in: (1) the Delta, (2) Suisun Bay, (3) Suisun Marsh, (4) Napa River, (5) Petaluma River, and (6) other parts of the Sacramento-San Joaquin Estuary. Requires flooded vegetation for spawning and rearing.	None. No suitable aquatic habitat (streams) present within study area.
Sacramento perch <i>Archoplites interruptus</i>	Fed: - State: CSC Other:	Historically found in slow-moving rivers, sloughs, and ponds in the Central Valley.	None. No suitable aquatic habitat (streams) present within study area.

#### Amphibians

California tiger salamander <i>Ambystoma californiense</i>	Fed: FT State: CT Other: -	Occurs in annual grassland habitat (<1500 feet) and occasionally in grassy understory of valley-foothill hardwood habitats where lowland aquatic sites are available for breeding. Breeds primarily in vernal pools.	None. No suitable aquatic habitat present within study area.
Western spadefoot <i>Spea hammondi</i>	Fed: - State: CSC Other: -	Found primarily in grassland habitats, but may occur in valley and foothill woodlands. Requires vernal pools, seasonal wetlands, or stock ponds for breeding and egg laying. Prefers more turbid pools for predator avoidance.	None. No suitable aquatic habitat present within study area.
California red-legged frog <i>Rana draytonii</i>	Fed: FT State: CSC Other: -	Occurs in lowlands and foothills in deeper pools and slow-moving streams, usually with emergent wetland vegetation. Requires 11-20 weeks of permanent water for larval development.	None. No suitable aquatic habitat present within study area.

#### Reptiles

Western pond turtle <i>Actinemys marmorata</i>	Fed: - State: CSC Other: -	Inhabits ponds, marshes, rivers, streams, and irrigation ditches with aquatic vegetation. Needs suitable basking sites and upland habitat for egg laying.	None. No suitable aquatic habitat present within study area.
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**Appendix C**  
**Norwood Avenue - Potentially-occurring Special-status Animals**

	Status*	Habitat	Probability on Project Site
Giant garter snake <i>Thamnophis gigas</i>	Fed: FT State: CT Other: -	Primarily associated with marshes and sloughs, less with slow-moving creeks, and absent from larger rivers. Nocturnal retreats include mammal burrows and crevices. During the day, basks on emergent vegetation such as cattails and tules.	None. No suitable aquatic habitat present within study area.
<b>Birds</b>			
White-tailed kite <i>Elanus leucurus</i>	Fed: - State: CFP Other: -	Found in lower foothills and valley margins with scattered oaks and along river bottomlands or marshes adjacent to oak woodlands. Nests in trees with dense tops.	None. No suitable nesting habitat present within study area.
Swainson's hawk <i>Buteo swainsoni</i>	Fed: - State: CT Other: *	Breeds in open areas with scattered trees; prefers riparian and sparse oak woodland habitats. Requires nearby grasslands, grain fields, or alfalfa for foraging. Rare breeding species in Central Valley.	None. No suitable nesting habitat present within study area.
California black rail <i>Laterallus jamaicensis coturniculus</i>	Fed: - State: CT Other: CFP	Inhabits salt, fresh, and brackish water marshes with little daily and/or annual water fluctuations. In freshwater habitats, preference is for dense bulrush and cattails. Several scattered populations documented from Butte Co. to southern Nevada Co.	None. No suitable nesting habitat present within study area.
Western yellow-billed cuckoo <i>Coccyzus americanus occidentalis</i>	Fed: FT State: CE Other: -	Inhabits riparian forests along the broad, lower floodplains of larger rivers. Nests in thickets of willows and cottonwoods with an understory of blackberry, nettle, or wild grape.	None. No suitable nesting habitat present within study area. No riparian habitat present.
Burrowing owl <i>Athene cunicularia</i>	Fed: - State: CSC Other: *	Found in annual grasslands. Nests in burrows dug by small mammals, primarily ground squirrels.	Unlikely. Site regularly disked. No burrows observed during field survey.
Least Bell's vireo <i>Vireo bellii pusillus</i>	Fed: FE State: CE Other:	Rare, local summer resident below 2000 ft in low, dense foothill riparian habitat. Inhabits low, dense growth along water. Typically associated with willows, cottonwoods, and blackberry thickets.	None. No suitable nesting habitat present within study area. No riparian habitat present.
Purple martin <i>Progne subis</i>	Fed: - State: CSC Other: *	Breeds in riparian woodland, oak woodland, open coniferous forests. Secondary cavity nester. Requires nest sites close to open foraging areas of water or land.	None. No suitable nesting habitat present within study area.

## Appendix C

### Norwood Avenue - Potentially-occurring Special-status Animals

	Status*	Habitat	Probability on Project Site
Bank swallow <i>Riparia riparia</i>	Fed: - State: CT Other: *	Colonial nester near riparian and other lowland habitats. Requires vertical banks or cliffs with fine-textured, sandy soils near streams, rivers, and lakes.	None. No suitable nesting habitat present within study area.
Grasshopper sparrow <i>Ammodramus savannarum</i>	Fed: - State: CSC Other: -	Breeds in grasslands and savannahs in rolling hills and lower mountain hillsides up to 5000 feet elevation.	None. No suitable nesting habitat present within study area.
Song Sparrow - Modesto population <i>Melospiza melodia</i>	Fed: State: CSC Other: -	Occurs in expansive freshwater wetlands and early stage riparian thickets of Sacramento Valley. Prefers emergent freshwater marshes dominated by tules, cattails, and willow thickets.	None. No suitable nesting habitat present within study area. No water or riparian habitat.
Tricolored blackbird <i>Agelaius tricolor</i>	Fed: - State: CT Other: CSC	Colonial nester in dense cattails, tules, brambles or other dense vegetation. Requires open water, dense vegetation, and open grassy areas for foraging.	None. No suitable nesting habitat present within study area.

### Mammals

American badger <i>Taxidea taxus</i>	Fed: - State: CSC Other: -	Occurs in dry, open soils in herbaceous, shrub, and forest habitats. Needs friable, uncultivated soil. Preys on rodents.	None. No suitable habitat present within study area. Site regularly disked.
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<b>*Status</b>	Federal:	State:	Other:
	FE - Federal Endangered FT - Federal Threatened FPE - Federal Proposed Endangered FPT - Federal Proposed Threatened FC - Federal Candidate FPD - Federal Proposed for Delisting	CE - California Endangered CT - California Threatened CR - California Rare CC - California Candidate CFP - California Fully Protected CSC - California Species of Special Concern	Some species have protection under the other designations, such as the California Department of Forestry Sensitive Species, Bureau of Land Management Sensitive Species, U.S.D.A. Forest Service Sensitive Species, and the Migratory Bird Treaty Act. Raptors and their nests are protected by provisions of the California Fish and Game Code. Certain areas, such as wintering areas of the monarch butterfly, may be protected by policies of the California Department of Fish and Game. WL - CDFG Watch List