

# Updated Baseline Biological Resources Report: Southeast Industrial Annexation Area



**AECOM**

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Updated Baseline Biological Resources Report  
Southeast Industrial Annexation Area



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## ACRONYMS AND ABBREVIATIONS

|         |  |
|---------|--|
| BRA     | biological resource assessment               |
| BSA     | biological study area                        |
| CDFW    | California Department of Fish and Wildlife's |
| CESA    | California Endangered Species Act            |
| CNDDB   | California Natural Diversity Database        |
| CNPS    | California Native Plant Society's            |
| CRPR    | California Rare Plant Rank                   |
| ECOS    | Environmental Conservation Online System     |
| EIR     | Environmental Impact Report                  |
| GIS     | geographic information system                |
| GPS     | global positioning system                    |
| IPaC    | Information for Planning and Conservation    |
| LAFCo   | Local Agency Formation Commission            |
| Project | Southeast Industrial Annexation Project      |
| SOI     | Sphere of Influence                          |
| SR 99   | State Route 99                               |
| UPRR    | Union Pacific Railroad                       |
| USFWS   | U.S. Fish and Wildlife Service               |
| USGS    | U.S. Geological Survey                       |
| VELB    | valley elderberry longhorn beetle            |

# 1 BACKGROUND AND INTRODUCTION

The Multi-Sport Complex and Southeast Industrial Annexation Area Project (Project) site is now part of the City of Elk Grove's Sphere of Influence (SOI), as described in the draft *Elk Grove Sphere of Influence Amendment and Multi-Sport Park Complex Environmental Impact Report (SCH# 2015102067)* (henceforth: the EIR) (City of Elk Grove 2018). Land ownership within the Project site consists of one City of Elk Grove-owned parcel surrounded by several privately held parcels operated by the Cypress Abbey Company, Mahon Family Partnership, Mosher Trust, and Leonard Kendrick & Son, Inc. Several rural residences, driveways, and livestock yards are present in the Project site.

A biological resource assessment (BRA) in support of the Project Environmental Impact Report (EIR) was conducted in November 2017 (Hunting Environmental 2017). The results of this BRA determined that there is suitable habitat within and adjacent to the Project site for one species of special-status plant (Sanford's arrowhead [*Sagittaria sanfordii*]) and several species of special-status wildlife, including valley elderberry longhorn beetle (*Desmocerus californicus dimorphus*); tricolored blackbird (*Agelaius tricolor*); loggerhead shrike (*Lanius ludovicianus*); American badger (*Taxidea taxus*); burrowing owl (*Athene cunicularia*); Swainson's hawk (*Buteo swainsoni*); other raptors; and neotropical migrant birds (City of Elk Grove 2018; Hunting Environmental 2017).

In accordance with EIR Mitigation Measures 3.5-1 and 3.5-2a, the City of Elk Grove contracted with AECOM for services to conduct pre-construction surveys for valley elderberry longhorn beetle (VELB) and Sanford's arrowhead. The City also requested AECOM to update record searches and baseline habitat conditions for Swainson's hawk, burrowing owl, tricolored blackbird, loggerhead shrike, and American badger. Although preconstruction surveys for nesting birds cannot be completed until the nesting season before construction, AECOM conducted a reconnaissance-level biological survey to update the description of biological resource conditions for special-status wildlife species, including the bird species listed above. This report presents the findings of the reconnaissance survey and preconstruction surveys for VELB and Sanford's arrowhead in the Project site, as well as updated database record searches for the special-status wildlife species.

## 2 PROJECT SETTING

The approximately 571-acre Project site encompasses several parcels utilized for agricultural land use (i.e., irrigated pasture and hay fields) under private and City ownership. The site is situated in unincorporated Sacramento County within the Sacramento County Urban Services Boundary, southwest of the existing City of Elk Grove, and is bounded to the north by Grant Line Road, to the west by the Union Pacific Railroad (UPRR) tracks and State Route 99 (SR 99), and to the east by Mosher Road. Surrounding land uses include irrigated pasture, grazed annual grassland, industrial facilities, major roadways, and suburban neighborhoods.

The EIR describes four habitat types present within site boundaries: urban/disturbed land, croplands, irrigated pasture, and aquatic features (agricultural ditches and ponds).

## 3 METHODS

Before fieldwork, AECOM conducted background research and a literature review to obtain pertinent information regarding known occurrences of special-status plant and wildlife species in the Project vicinity. This background research included a review of available environmental documentation, recent and historic aerial photographs, and the following sources:

- ▶ The California Department of Fish and Wildlife’s (CDFW) California Natural Diversity Database (CNDDB) (CDFW 2020) for the Elk Grove U.S. Geological Survey (USGS) 7.5-minute quadrangle and nine surrounding quadrangles (USGS 2018a-i);
- ▶ The U.S. Fish and Wildlife Service (USFWS) Environmental Conservation Online System (ECOS) – Information for Planning and Conservation (IPaC) (USFWS 2020); and
- ▶ The California Native Plant Society’s (CNPS) Inventory of Rare and Endangered Plants (CNPS 2020) for the Elk Grove USGS 7.5-minute quadrangle and nine surrounding quadrangles (USGS 2018a-i).

AECOM botanist Jasmine Wurlitzer and wildlife biologist Vanessa Tucker surveyed all parcels within the Project site by foot except for the Mosher Trust parcel (i.e., the biological study area) on September 28 and October 1, 2020 to coincide with the blooming and fruiting period of Sanford’s arrowhead. No access was granted to enter the Mosher Trust parcel. Weather conditions were sunny and hot with high temperatures near 100° Fahrenheit and northwest winds of 9 miles per hour. All plants encountered during the survey were identified to species if possible. The biologists searched trees and shrubs for suitable raptor and passerine nesting sites and for evidence of recent nesting activity. Surveys for burrowing owl and American badger habitat were focused on an assessment of potential burrow or denning habitat.

## 4 RESULTS

### 4.1 HABITAT TYPES

Habitat types in the biological study area (BSA) as evaluated in September and October 2020 are the same as those reported in the EIR and BRA for the Project, and include irrigated pasture, croplands, urban/disturbed land, and aquatic features (agricultural ditches and ponds), described below. Representative photos are included in Appendix A.

#### 4.1.1 IRRIGATED PASTURE

Most of the BSA consists of irrigated pasture that is grazed by cattle (i.e., the Cypress Abbey and Kendrick parcels). Pasture vegetation is a mix of perennial grasses and legumes that normally provide 100 percent canopy cover. The height of the pasture vegetation varies from a few inches to 2 or more feet. Dominant species are reed fescue (*Festuca arundinacea*), Bermuda grass (*Cynodon dactylon*), and white clover (*Trifolium repens*).

In order to maintain green pasture and support cattle herds year-round, irrigated pastures receive supplemental irrigation through a network of pumps, ditches, and retention/detention ponds. Ground-nesting birds may nest in pastures if adequate residual vegetation is present at the beginning of the nesting season. This habitat type can



also provide foraging opportunities for many avian species, including tricolored blackbird, Swainson's hawk, and various passerines.

Within the BSA, irrigated pastures are often bounded by dense, linear thickets of Himalayan blackberry (*Rubus armeniacus*) growing where irrigation runoff collects along ditches and fence lines. These thickets are virtually impenetrable by larger animals and range from 6 to 10 feet in height, serving as excellent nesting and cover habitat for migratory birds and providing suitable nesting substrate for tricolored blackbird.

#### **4.1.2 URBAN/DISTURBED**

Urban/disturbed habitats are those that have been heavily modified by humans. Because of the high degree of disturbance in these areas, they generally are devoid of vegetation and/or have low habitat value for wildlife; however, migratory birds may find limited nesting and foraging opportunities in trees, shrubs, and structures scattered throughout urban areas. Urban/disturbed areas are present throughout the BSA and include gravel driveways, residences, residential landscapes, outbuildings, corrals, livestock pens, horse stables, equipment storage yards, and networks of agricultural access roads and fence lines. Other developed areas adjacent to the BSA include paved roadways and the UPRR tracks.

Urban/disturbed areas tend to be sparsely vegetated with patches of weedy ruderal vegetation. In the BSA, the ruderal vegetation community is dominated by nonnative species characteristic of disturbed places, including wild oat grasses (*Avena* spp.), ripgut brome (*Bromus diandrus*), yellow star thistle (*Centaureum solstitialis*), and prickly lettuce (*Lactuca serriola*). Common landscape trees planted around residential and other buildings include valley oak (*Quercus lobata*), redwood (*Sequoia sempervirens*), eucalyptus (*Eucalyptus* spp.), various pines (*Pinus* spp.), and ornamentals.

#### **4.1.3 CROP LANDS**

Cropland, in the form of hay and alfalfa fields, is present in the central (i.e., City-owned parcel) and southeastern (i.e., Mahon Ranch) portions of the BSA. Hay and alfalfa are annual crops that are harvested by machine once or twice per year. This landcover can provide foraging opportunities for many avian species, including tricolored blackbird, Swainson's hawk, white-tailed kites (*Elanus leucurus*), and various passerines.

#### **4.1.4 AQUATIC FEATURES**

The only types of aquatic features present in the BSA are ponds and ditches, both of which are man-made and associated with agricultural irrigation practices. Two agricultural ponds are present in the BSA, one in the City-owned parcel and one in the center of the BSA in a parcel owned by Kendrick and Son, Inc. Agricultural pond features are characterized by man-made depressions that hold ponded water year-round, often as the result of ground water pumping and/or recirculation of surface runoff. These features are deep and consist mostly of open water. Banks are vegetated by cattail (*Typha* sp.), floating water primrose (*Ludwigia peploides*), and tall flatsedge (*Cyperus eragrostis*). The upper banks of the pond in the City-owned parcel is also surrounded by small black willow (*Salix gooddingii*) trees, and the pond in the Kendrick parcel is surrounded by dense Himalayan blackberry thickets.

Agriculture ditches are present throughout the BSA, typically along the edges of hay fields and pastures, and vary greatly in depth and dominant vegetation. Most ditches are shallow (i.e., 2- to 6- inch) depressions characterized

by upland and pasture vegetation and function to convey surface runoff and occasional excess flows. Other ditches, particularly those bounding the east, west, and north sides of the Cypress Abbey parcels, are deeper (i.e., 1 to 2 feet) and appear to convey irrigation water year-round as part of a system of groundwater pumping and recirculation. Vegetation in these ditches is different from the surrounding uplands; dominant species are herbs and grasses associated with wet soils, including fringed willowherb (*Epilobium ciliatum*), tall flatsege, dallis grass (*Paspalum dilatatum*), and Pacific bentgrass (*Agrostis avenacea*).

The western border of the Cypress Abbey parcels follows a ditch that is bounded by dense growth of Himalayan blackberry and sandbar willow (*Salix exigua*). Occasional small valley oak (*Quercus lobata*) and interior live oak (*Q. wislizeni*) trees are intermixed with willows. A small patch of emergent marsh habitat dominated by cattails is present in the northwestern corner of this ditch.

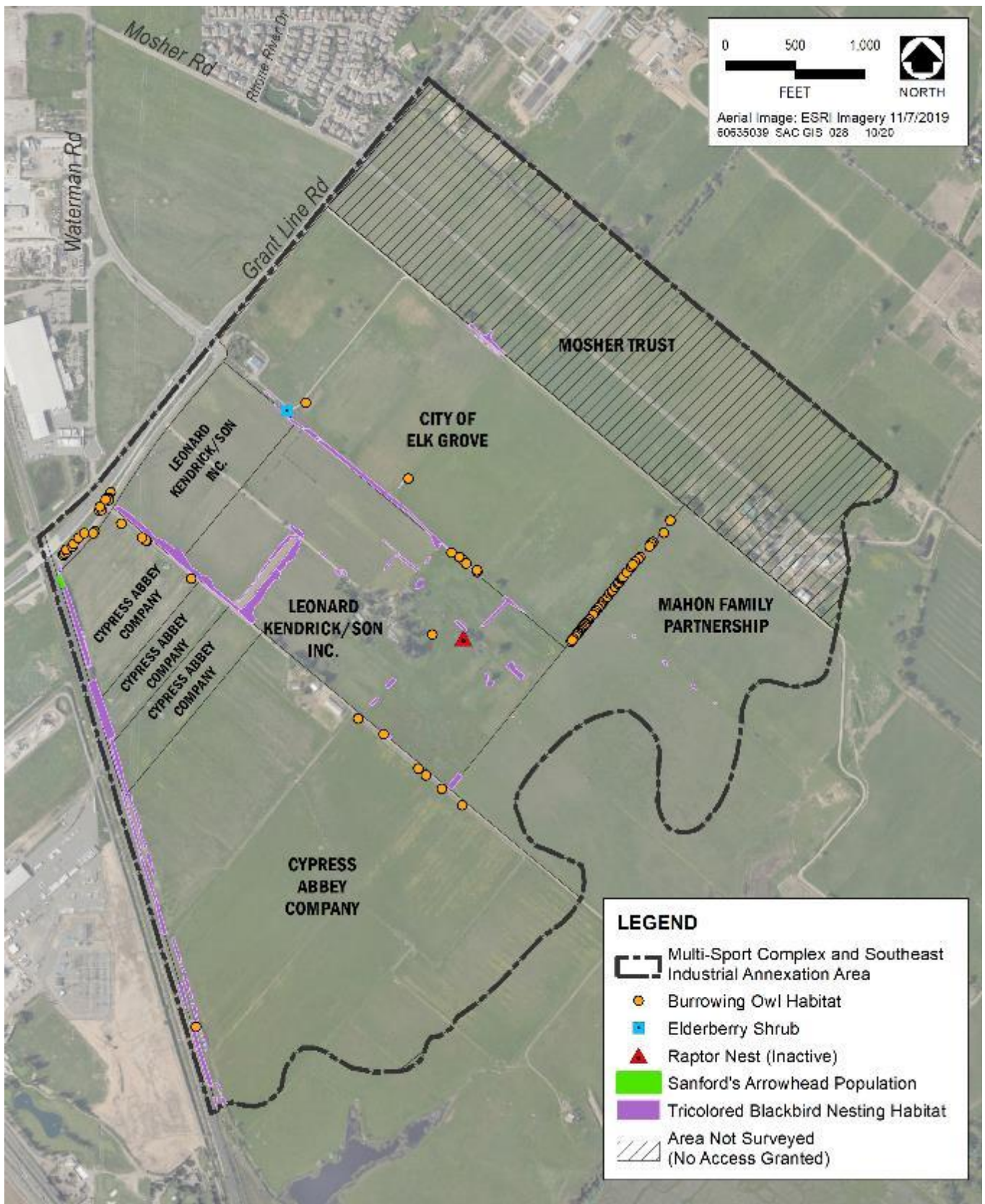
## 4.2 SPECIAL STATUS SPECIES

Two special-status species, including one plant and one bird species, were observed on or adjacent to the BSA during the field surveys, both occurring near the western extent of the BSA in or adjacent to the Cypress Abbey parcels. A small population (0.006 acre) of Sanford's arrowhead, a California Rare Plant Rank (CRPR) List 1B.2 plant, was observed adjacent to an access road in emergent marsh habitat in the northwest corner. A pair of white-tailed kites, a CDFW Fully Protected species, was observed roosting in trees and foraging over pastures immediately to the south of the Project boundary. The location of the Sanford's arrowhead population is depicted on Exhibit 1.

In addition, suitable nesting habitat for tricolored blackbird, a California state listed threatened species, was confirmed to be present on site in the form of extensive blackberry thickets that surround most pastures and hay fields (Exhibit 1). Numerous burrow complexes, mostly consisting of active California ground squirrel (*Otospermophilus beecheyi*) populations, were mapped along access roads throughout the BSA and could provide nesting or wintering habitat for burrowing owl, a CDFW Species of Special Concern (Exhibit 1). In addition, an inactive, large stick nest was found in a valley oak tree near the central portion of the BSA (Exhibit 1). A pair of adult red-tailed hawks (*Buteo jamaicensis*) and a subadult red-tailed hawk were seen soaring and roosting around this nest site during the survey and may have nested there earlier this year. All raptors and their active nests, including common species, are protected under Section 3503.5 of the California Fish and Game Code. Special-status species and associated habitats in the Project site are discussed in more detail in the sections below.

Table 1 provides updated database search results for the one species of special-status plant and six wildlife species considered to have potential to occur in the BSA and identified by the City of Elk Grove as requiring updated baseline information. The following criteria were applied to assess the potential for species occurrence at the Project site as a result of the 2020 biological reconnaissance survey:

- ▶ **Present:** Species known to occur onsite, based on occurrence records, and/or was observed on-site during the field survey(s).
- ▶ **Could Occur:** Species is known to occur on or near the site (based on occurrence records within three miles, and/or based on professional expertise specific to the site or species) and suitable habitat is present on-site.
- ▶ **Not Likely to Occur:** Species is not known to occur in the vicinity of the site and habitat on-site is only marginally suitable.



Source: AECOM 2020

**Exhibit 1. Biological Survey Results Map**

| Table 1. Updated Potential for Occurrence for Selected Special-Status Species, as Requested by the City of Elk Grove - Southeast Industrial Annexation Project |  |                                |       |  |   |   |
|--|--|--------------------------------|-------|--|---|---|
| Common Name  | Scientific Name                          | Regulatory Status <sup>1</sup> |       |  | Habitat Requirements  | Potential for Occurrence on the Project Site  |
|  |  | Federal                        | State | CRPR <sup>2</sup> or CDFW <sup>3</sup> |   |   |
| <b>Plants</b>  |  |                                |       |  |   |   |
| Sanford's arrowhead  | <i>Sagittaria sanfordii</i>              | -                              | -     | 1B.2                                   | In standing and slow-moving freshwater ponds, marshes, swamps, and ditches. Elevation Blooms from May to October.   | <b>Present;</b> species observed during botanical survey conducted by AECOM in September 2020.  |
| <b>Invertebrates</b>   |  |                                |       |  |   |   |
| Valley elderberry longhorn beetle  | <i>Desmocerus californicus dimorphus</i> | FT                             | -     | -                                      | Dependent upon host plant, elderberry ( <i>Sambucus</i> ), which generally grows in riparian woodlands and upland habitats in the Central Valley.   | <b>Could occur;</b> suitable habitat (one elderberry shrub) is present (Exhibit 1). However, no individuals or sign of the species (i.e., exit holes) were observed during the biological survey conducted in 2020.   |
| <b>Birds</b>   |  |                                |       |  |   |   |
| Tricolored blackbird   | <i>Agelaius tricolor</i>                 | -                              | ST    | SSC                                    | Breeds in freshwater wetlands, with tall dense vegetation including tule, cattail, blackberry and rose. Forages in grasslands and croplands. Leaves northeastern California in fall and winter, presumably migrating south. Flocks become nomadic in fall seeking food. | <b>Could occur;</b> suitable nesting habitat (emergent marsh and blackberry thickets) and suitable foraging grassland habitat present. No tricolored blackbirds were observed during the 2020 biological survey.  |
| Western Burrowing Owl  | <i>Athene cunicularia</i>                | -                              | -     | SSC                                    | Open, flat expanses with short, sparse vegetation and few shrubs. Requires underground burrows or cavities for nesting and roosting.  | <b>Could occur;</b> suitable habitat is present (open areas with burrows). No burrowing owls or sign (e.g., pellets, whitewash) were observed during the 2020 biological survey. Landowner reports that this species was historically present but has not been observed in or near the site in over 20 years (Mahon, pers. comm. 2020). |

**Table 1. Updated Potential for Occurrence for Selected Special-Status Species, as Requested by the City of Elk Grove - Southeast Industrial Annexation Project**

| Common Name       | Scientific Name            | Regulatory Status <sup>1</sup> |       |  | Habitat Requirements  | Potential for Occurrence on the Project Site  |
|-------------------|----------------------------|--------------------------------|-------|--|---|---|
|                   |                            | Federal                        | State | CRPR <sup>2</sup> or CDFW <sup>3</sup> |   |   |
| Loggerhead Shrike | <i>Lanius ludovicianus</i> | -                              | -     | SSC                                    | Frequents open habitats with sparse shrubs and trees, other suitable perches (e.g., posts, fences, utility lines), bare ground, and low or sparse herbaceous cover. Often found in open cropland. Nests in densely foliated shrubs or trees.  | <b>Could occur;</b> suitable nesting and foraging habitat present throughout. No loggerhead shrikes were observed in or near the Project site during the 2020 biological survey. Landowner reports this species has foraged near home sites to the south of the BSA in recent years (Mahon, pers. comm. 2020).  |
| Swainson's Hawk   | <i>Buteo swainsoni</i>     | -                              | ST    | -                                      | Uncommon breeding resident and migrant in the Central Valley, Klamath Basin, Northeastern Plateau, Lassen County, and Mojave Desert. Nests in riparian areas, juniper-sage flats, and oak savannah in the Central Valley. Forages in adjacent grasslands, agricultural fields and pastures. Migrating individuals move south through the southern and central interior of California in September and October, and north March through May. | <b>Could occur;</b> suitable foraging and nesting habitat are present. No Swainson's hawks were observed in or near the Project site during the 2020 biological survey, which was conducted in late September after most individuals would have already presumably migrated south. Landowner reports that this species forages in and adjacent to the BSA throughout the spring and summer seasons annually, particularly during hay harvest in mid-summer (Mahon, pers. comm. 2020). |

**Table 1. Updated Potential for Occurrence for Selected Special-Status Species, as Requested by the City of Elk Grove - Southeast Industrial Annexation Project**

| Common Name     | Scientific Name      | Regulatory Status <sup>1</sup> |       |  | Habitat Requirements   | Potential for Occurrence on the Project Site  |
|-----------------|----------------------|--------------------------------|-------|--|--|---|
|                 |                      | Federal                        | State | CRPR <sup>2</sup> or CDFW <sup>3</sup> |  |   |
| <b>Mammals</b>  |                      |                                |       |  |  |   |
| American badger | <i>Taxidea taxus</i> | -                              | -     | SSC                                    | Herbaceous, shrub, and open stages of most habitats with dry, friable soil. Associated with treeless regions, prairies, park lands and cold desert areas. Range includes most of California, except the North Coast. | <b>Not likely to occur;</b> marginally suitable habitat (dry, friable soils) limited to highly disturbed access roads, corrals, stables, and buildings; the rest of the BSA is irrigated or used for hay crops and is not suitable for the species. No large burrows/dens or other sign of the species was observed in or near the BSA during the 2020 biological survey. |

<sup>1</sup> Status Definitions:

Federally Listed Species:  
FE = federal endangered  
FT = federal threatened

California State Listed Species:  
SE = California state endangered  
ST = California state threatened

<sup>2</sup> California Department of Fish and Wildlife (CDFW) Status:  
SSC = Species of Special Concern  
FP = Fully Protected  
WL= Watch List

<sup>3</sup> California Rare Plant Rank (CRPR):  
1B = plants rare, threatened, or endangered in California and elsewhere

Ranks at each level also include a threat rank and are determined as follows:

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

Source: CDFW 2020, CNPS 2020, USFWS 2020

## 4.2.1 SPECIAL-STATUS PLANT SPECIES

A floristic survey was carried out over the entire BSA to identify every plant taxon that occurs in the Project area to the taxonomic level necessary to determine rarity and listing status. A comprehensive plant species list of all taxa observed is included in Appendix B. Based on the pre-field investigation and previous biological analysis of the Project, Sanford's arrowhead is the only special-status plant species with potential to occur in the BSA (City of Elk Grove 2018; Hunting Environmental 2017). There are two records of this species within three miles, recorded in emergent marsh and creek habitats (CDFW 2020). The nearest record is about 1 mile north of the Project site, in a channelized ditch on the east side of the UPRR tracks (CDFW 2020).

### SANFORD'S ARROWHEAD

Sanford's arrowhead is a perennial rhizomatous emergent herb in the Alismataceae family. It has a CNPS rare plant rank of 1B.2, meaning that it is rare, threatened, or endangered in California and elsewhere. This species has no federal or state listing. Sanford's arrowhead blooms between May and October. It is typically found in shallow freshwater marshes and swamps, as well as ditches and channelized creeks in urban and agricultural areas.

A small population of Sanford's arrowhead covering about 0.006 acre was detected in a manmade ditch in the northwest corner of the Project site, adjacent to an access road that bounds the east side of the UPRR tracks and immediately south of the Cosumnes River Boulevard overpass (Exhibit 1). Plants were identified in the field as Sanford's arrowhead by an AECOM botanist based on their fruiting and vegetative structures, which are diagnostic and differentiate this species from other similar species in the Alismataceae family (Baldwin, et al. 2012).

The specific geographic location (boundary) of this population was mapped in the field using the Esri<sup>1</sup> Collector™ mapping application on a mobile phone paired with a sub-meter Trimble global positioning system (GPS) receiver. The population occurs along the banks of the northern portion of a ditch that parallels the west boundary of the Project site. For most of its length, this ditch is narrow (i.e., less than 6 feet wide), shallow, and choked with extremely dense growth of Himalayan blackberry. However, where the Sanford's arrowhead plants are growing, the ditch widens to approximately 25 feet, deepens to about 2 feet, and the shrub layer gives way to emergent marsh habitat dominated by cattails (*Typha* sp.). The banks of the ditch in this area are densely vegetated by sandbar willow and Himalayan blackberry. At the time of the survey, 50 individual emergent Sanford's arrowhead plants were counted growing as scattered individuals amongst the cattails at low density. Additional Sanford's arrowhead may be present in submergent form but were not visible due to murky water conditions at the time of the survey. The ditch at this location appears to receive runoff from adjacent irrigated pastures year-round, with relatively stable water depth (i.e., no scour lines or wrack lines evident on banks). Of the 50 Sanford's arrowhead counted during the survey, 25 percent (about 12 plants) were in fruit and the rest were vegetative. These survey results, including the mapped population extent and detailed location and habitat information, were submitted to the CNDDDB on 13 October 2020 via the Online CNDDDB Field Survey Form (Appendix C).

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<sup>1</sup> Esri (Environmental Systems Research Institute) is an international supplier of geographic information system (GIS) software, web GIS and geodatabase management applications.

## 4.2.2 SPECIAL-STATUS WILDLIFE SPECIES

Based on field observations and updated literature review specific to the special-status species listed in Table 1, wildlife species with potential to occur on the Project site are the same as those evaluated previously (City of Elk Grove 2018; Hunting Environmental 2017), except for American badger, which was determined to be unlikely to occur in the Project site due to a lack suitable habitat (i.e., large, open, dry areas) and no nearby records. Therefore, American badger is not discussed further. The other five species of wildlife with potential to occur are discussed below.

### VALLEY ELDERBERRY LONGHORN BEETLE

The VELB is an insect endemic to the Central Valley of California that inhabits riparian and associated upland habitats where elderberry (*Sambucus* spp.), its obligate host plant, grows. Specifically, its range includes the upper Sacramento Valley to the central San Joaquin Valley (USFWS 2017). Blue elderberry shrubs in the Central Valley with basal stem diameters larger than 1 inch are considered by the USFWS as potential VELB habitat. The only identifiable exterior evidence of elderberry use by VELB is the exit hole created by the larvae (USFWS 2017).

One elderberry shrub with three stems measuring approximately 1 inch in diameter and no exit holes was observed in the City-owned parcel during previous biological surveys (Hunting Environmental 2017). The entire BSA as described in Section 3.0, above, was searched for elderberry shrubs resulting in documentation of a single shrub in the northwestern portion of the City-owned parcel, growing in non-riparian, ruderal vegetation between a gravel access road and dry ditch (Exhibit 1). This elderberry shrub appears to be the same shrub as that recorded by Hunting Environment in 2017. It is about 8 feet tall and wide, and now has 4 stems measuring greater than 1 inch in diameter, and no stems that are more than 3 inches in diameter. The entire shrub was inspected for evidence of VELB, and no exit holes were found. Surrounding vegetation is disturbed and dominated by Himalayan blackberry. No other elderberry shrubs were found in this area or anywhere else in the BSA.

According to the USFWS 2017 *Framework for Assessing Impacts to the Valley Elderberry Longhorn Beetle*, if the Project site is non-riparian and contains elderberry shrubs, exit hole surveys are used to evaluate the site for potential VELB occupancy. Since there were no exit holes in the elderberry shrub either during the 2017 or 2020 surveys, the Project area must be evaluated based on whether there is a riparian area, elderberry shrubs, or known VELB records within 800 meters (2,526 feet). Isolated, non-riparian elderberry clumps are less likely to be occupied or become colonized by VELB and those beyond 800 meters (2,526 feet) from the nearest elderberry clump become increasingly less likely to be occupied (USFWS 2017). The nearest riparian area is the Deer Creek riparian corridor, approximately 1,800 meters (5,900 feet) to the south. There are no records of VELB within three miles of the BSA; the nearest record of the taxon is from exit holes documented in 1984 in riparian habitat along the Cosumnes River, near Wilton, approximately 4 miles to the east (CDFW 2020).

A review of the USGS historical topographic map collection (USGS 2020) shows on the Lodi 1894 and Elk Grove 1909 maps that the Deer Creek channel and riparian corridor have been located south of the site for at least the past 126 years. According to the landowner, the site has been under agricultural cultivation or livestock production since the mid-1800s (Mahon, pers. comm., 2020). In the context of the historical riparian system and land use, the shrub in the northern portion of the City-owned parcel is not likely to have been part of a continuous



riparian vegetative community for at least 100 or more years, if ever. Therefore, it is not likely that the shrub is occupied by VELB.

### **TRICOLORED BLACKBIRD**

The tricolored blackbird is listed as threatened under the California Endangered Species Act (CESA) and is a CDFW Species of Special Concern; it has no federal status. Tricolored blackbirds require protected nesting substrate, such as flooded, spiny, or thorny vegetation. In the Central Valley, they prefer to nest in emergent wetlands with dense bulrush or cattails, but will also nest in dense thickets of blackberry, willow, or tall herbs. This species forages in pastures and other agricultural lands, including stored grains associated with dairies, as well as in shrublands and annual grasslands.

There are six records of tricolored blackbird within 3 miles of the BSA, three of which are recorded as nesting colonies in blackberry thickets (CDFW 2020). Dense blackberry vegetation exists along ditches throughout the BSA, adding up to about 7.5 acres of blackberry thickets that could support nesting colonies of tricolored blackbirds. The agricultural lands in the BSA provide suitable foraging habitat for tricolored blackbirds. This species may occur in the BSA during the nesting season due to the presence of suitable habitat and previous occurrences in the vicinity.

### **LOGGERHEAD SHRIKE**

The loggerhead shrike is a CDFW Species of Special Concern; it has no federal status. This species is present all year throughout most of California. It requires short grasses or bare ground for hunting, as well as shrubs or trees for perches and nests. Loggerhead shrikes also use sharp branches, thorns, or barbed wire to impale and store their prey.

There are no nearby records of loggerhead shrike (CDFW 2020); however, the pasture and cropland interspersed with numerous trees, shrubs, fences, and posts in the BSA provide suitable foraging and nesting habitat, and the landowner reports having seen this species foraging in trees near the BSA in recent years (Mahon, pers. comm., 2020). No loggerhead shrikes were observed during the 2020 survey, but the species may nest within the BSA.

### **SWAINSON'S HAWK**

Swainson's hawks are listed as threatened under the CESA; the species has no federal listing. Swainson's hawks are typically complete migrants in that they breed in North America and winter in South America, arriving at their breeding grounds in early to mid-April and begin their southern migration in early September. Most of the breeding Swainson's hawk in California occur in two disjunct populations—the Great Basin and the Central Valley.

There are 29 records of Swainson's hawks within 3 miles of the BSA (CDFW 2020). The pasture and cropland habitats that dominate the BSA provides suitable foraging habitat for this species, and large trees (e.g., valley oak and eucalyptus) scattered throughout provide potential nesting habitat. There is one large stick nest in the center of the BSA that may be utilized by Swainson's hawk for nesting.

## WESTERN BURROWING OWL

The burrowing owl is a CDFW Species of Special Concern; it has no federal status. Burrowing owls prefer nesting in mammal burrows in open areas of dry, open rolling hills, grasslands, fallow fields, sparsely vegetated desert scrub with gullies, washes, arroyos, and along the edges of human-disturbed lands. This species can also be found inhabiting golf courses, airports, cemeteries, vacant lots, and road embankments with friable soils for nesting.

There are five records of burrowing owl within 3 miles of the BSA, three of which are of nesting and two wintering, all from burrows associated with row-crop agricultural areas in or adjacent to the Cosumnes River Preserve (CDFW 2020). Ground squirrel burrows are present throughout the BSA along access roads (Exhibit 1). Suitable foraging habitat is present in hay fields and other areas with low-growing vegetation. This species may occur in the BSA either to winter or nest due to the presence of potential suitable habitat and nearby records in similar habitats.

## 5 CONCLUSIONS

A special-status plant survey was conducted in accordance with the first part of Mitigation Measure 3.5-1 of the EIR (Conduct Special Status Plant Surveys), carried out over two days in the Project area in late September and early October of 2020. A small population of Sanford's arrowhead, a CRPR List 1B.2 plant, was documented during the survey in emergent marsh habitat in a ditch adjacent to the northwest corner of the BSA (Exhibit 1; Appendices A, B, C). In accordance with the second part of Mitigation Measure 3.5-1 of the EIR (Implement Compensatory Mitigation for Special-status Plants [Local Agency Formation Commission (LAFCo) and the City of Elk Grove]), if the proposed Project cannot avoid this population, the City of Elk Grove will require that a mitigation and monitoring plan be developed to compensate for the loss of special-status plant species, to be submitted to CDFW for review and comment. Mitigation measures may include preserving and enhancing the existing on-site population, creation of off-site populations on Project mitigation sites through seed collection or transplantation, and/or preserving occupied habitat off-site in sufficient quantities to offset loss of occupied habitat or individuals.

A VELB survey was conducted in accordance with Mitigation Measure 3.5-2a of the EIR (Conduct VELB Surveys), resulting in detection of one small elderberry shrub in the north-central portion of the Project site in non-riparian habitat (Exhibit 1). No VELB or their sign (i.e., exit holes) were found as a result of the survey. Although this elderberry shrub is unlikely to be occupied by VELB, a federally-threatened taxon, the USFWS 2017 *Framework for Assessing Impacts to the Valley Elderberry Longhorn Beetle* recommends that if elderberry shrubs are present on a project site, even if it is found to contain no exit holes and is well outside of riparian habitat, that project proponents implement appropriate VELB avoidance and minimization measures described in Mitigation Measure 3.5-2b: Establish a Construction Buffer and Initiate Consultation with USFWS (LAFCo and the City of Elk Grove).

Suitable habitat is present on or adjacent to the Project site for four species of special-status birds (i.e., tricolored blackbird, loggerhead shrike, Swainson's hawk, and burrowing owl), all of which may nest, roost, and/or forage

within the Project site. Implementation of the following mitigation measures included in the EIR will avoid potential impacts on special-status birds:

**Mitigation Measure 3.5-3a: Avoid Direct Loss of Swainson’s Hawk and Other Raptors (LAFCo and the City of Elk Grove)**

**Mitigation Measure 3.5-3b: Avoid Loss of Burrowing Owl (LAFCo and the City of Elk Grove)**

**Mitigation Measure 3.5-3c: Implement the City of Elk Grove Swainson’s Hawk Foraging Habitat Mitigation Program (City of Elk Grove)**

**Mitigation Measure 3.5-4: Avoid Direct Loss of Loggerhead Shrike and Protected Bird Nests (LAFCo and the City of Elk Grove)**

**Mitigation Measure 3.5-5: Avoid Impacts on Tricolored Blackbird Colonies (City of Elk Grove)**

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- \_\_\_\_\_. 2018e. Florin Quadrangle map.
- \_\_\_\_\_. 2018f. Sloughhouse Quadrangle map.
- \_\_\_\_\_. 2018g. Bruceville Quadrangle map.
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# **APPENDIX A**

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Photos



**Representative Photos of the Biological Study Area (BSA) in September/October 2020**

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Ditch habitat along bordering irrigated pasture bounding north side of Cypress Abbey Parcel, facing southwest. 28 September 2020.



Emergent marsh habitat in ditch, northwest corner of BSA. 28 September 2020.

**Representative Photos of the Biological Study Area (BSA) in September/October 2020**

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Sanford's arrowhead (*Sagittaria sanfordii*) growing among cattails (*Typha* sp.) in emergent marsh habitat in ditch, northwest corner of the BSA, facing east. 28 September 2020.



Thistles and Himalayan blackberry (*Rubus armeniacus*) bordering irrigated pasture of the Cypress Abbey Parcels, facing southeast. 28 September 2020.



**Representative Photos of the Biological Study Area (BSA) in September/October 2020**



Ground squirrel (*Otospermophilus beecheyi*) burrow complex along fill slopes of Cosumnes River Boulevard overpass, north of BSA, facing north. 28 September 2020.



Irrigated pasture with sandbar willow (*Salix exigua*) and Himalayan blackberry thicket along west boundary of Cypress Abbey parcels, facing west. 28 September 2020.

**Representative Photos of the Biological Study Area (BSA) in September/October 2020**

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Irrigated pasture with cows in background, Cypress Abbey parcel, facing south. 28 September 2020.



Deep retention pond, Kendrick Parcel, facing west. 28 September 2020.

**Representative Photos of the Biological Study Area (BSA) in September/October 2020**

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Large valley oak tree with stick nest in upper canopy (not visible in photo), Kendrick Parcel, facing east. 28 September 2020.



Eucalyptus trees surrounding home site, Kendrick Parcel, facing west. 28 September 2020.

**Representative Photos of the Biological Study Area (BSA) in September/October 2020**

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Irrigated pasture and oak trees, Kendrick Parcel, facing south. 28 September 2020.



Harvested hay fields, City of Elk Grove parcel, facing north. 28 September 2020.

**Representative Photos of the Biological Study Area (BSA) in September/October 2020**

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Himalayan blackberry thicket, City of Elk Grove Parcel, facing northwest. 28 September 2020.



Dry ditch and Himalayan blackberry thicket, City of Elk Grove Parcel, facing southwest. 28 September 2020.

**Representative Photos of the Biological Study Area (BSA) in September/October 2020**

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Shallow, dry ditch, City of Elk Grove Parcel, facing northeast. 28 September 2020.



Irrigated pasture, Kendrick Parcel, facing northwest. 28 September 2020.

**Representative Photos of the Biological Study Area (BSA) in September/October 2020**

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Harvested hay field, Mahon Parcel, facing east. 28 September 2020.



Ground squirrel burrows along access road, Mahon Parcel, facing northwest. 28 September 2020.

**Representative Photos of the Biological Study Area (BSA) in September/October 2020**

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Detention pond, City of Elk Grove Parcel, facing east. 28 September 2020.



Ditch bounding irrigated pasture, Cypress Abbey Parcel, facing south. 01 October 2020.



**Representative Photos of the Biological Study Area (BSA) in September/October 2020**

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Sandbar willow thickets between irrigated pastures to the east and railroad tracks to the west, Cypress Abbey Parcel, facing south. 01 October 2020.



Himalayan blackberry thicket along shallow ditch bordering west side of irrigated pastures, Cypress Abbey Parcel, facing southeast. 01 October 2020.

**Representative Photos of the Biological Study Area (BSA) in September/October 2020**

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Ditch between irrigated pastures and access road, Cypress Abbey Parcel, facing north. 01 October 2020.



Dry ditch between irrigated pastures, Cypress Abbey Parcel, facing northeast. 01 October 2020.

## **APPENDIX B**

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Plant Species List



| Plant Species Observed in the Biological Study Area in September/October 2020 |                       |
|---|-----------------------|
| Scientific Name   | Common Name           |
| <i>Agrostis avenacea</i> *  | Pacific bentgrass     |
| <i>Amaranthus palmeri</i>   | Palmer's amaranth     |
| <i>Asclepias fascicularis</i>   | narrow-leaf milkweed  |
| <i>Avena</i> sp.*   | wild oats             |
| <i>Bromus diandrus</i> *  | ripgut brome          |
| <i>Bromus hordeaceus</i> *  | soft chess brome      |
| <i>Carduus pycnocephalus</i> *  | Italian thistle       |
| <i>Centaurea solstitialis</i> *   | yellow starthistle    |
| <i>Cichorium intybus</i> *  | chicory               |
| <i>Convolvulus arvensis</i> *   | field bindweed        |
| <i>Cynodon dactylon</i> *   | Bermuda grass         |
| <i>Cyperus eragrostis</i>   | tall flatsedge        |
| <i>Dactylis glomerata</i> *   | orchardgrass          |
| <i>Dittrichia graveolens</i> *  | stinkwort             |
| <i>Echinochloa crus-galli</i> *   | Japanese millet       |
| <i>Elymus caput-medusae</i> *   | medusahead grass      |
| <i>Epilobium ciliatum</i> var. <i>ciliatum</i>                                | willowherb            |
| <i>Erigeron bonariensis</i> *   | flax-leaved horseweed |
| <i>Eschscholzia californica</i>   | California poppy      |
| <i>Eucalyptus</i> sp.*  | eucalyptus            |
| <i>Festuca arundinacea</i> *  | reed fescue           |
| <i>Festuca perennis</i> *   | Italian ryegrass      |
| <i>Geranium dissectum</i> *   | wild geranium         |
| <i>Helminthotheca echioides</i> *   | bristly ox-tongue     |
| <i>Hirschfeldia incana</i> *  | field mustard         |
| <i>Holocarpha virgata</i>   | narrow tarplant       |
| <i>Hordeum marinum</i> ssp. <i>gussoneanum</i> *                              | Mediterranean barley  |
| <i>Hypochaeris glabra</i> *   | smooth cat's ear      |
| <i>Lactuca serriola</i> *   | prickly lettuce       |
| <i>Ludwigia peploides</i> *   | marsh purslane        |
| <i>Medicago sativa</i> *  | alfalfa               |
| <i>Morus alba</i> *   | mulberry              |
| <i>Muhlenbergia rigens</i>  | deergrass             |
| <i>Paspalum dilatatum</i> *   | Dallis grass          |
| <i>Persicaria hydropiper</i> *  | common smartweed      |
| <i>Phalaris aquatica</i> *  | Harding grass         |
| <i>Pinus</i> sp.*   | pine                  |
| <i>Pistacia atlantica</i> *   | Mt. Atlas mastic tree |

| Plant Species Observed in the Biological Study Area in September/October 2020                                       |                       |
|---|-----------------------|
| Scientific Name   | Common Name           |
| <i>Plantago lanceolata</i> *  | English plantain      |
| <i>Populus fremontii</i> ssp. <i>fremontii</i>  | Fremont cottonwood    |
| <i>Pyracantha angustifolia</i> *  | slender firethorn     |
| <i>Quercus lobate</i>   | valley oak            |
| <i>Quercus wislizeni</i>  | interior live oak     |
| <i>Rosa rubiginosa</i> *  | sweet briar rose      |
| <i>Rubus armeniacus</i> *   | Himalayan blackberry  |
| <i>Rumex crispus</i> *  | curly dock            |
| <i>Rumex pulcher</i> *  | fiddledock            |
| <i>Sagittaria sanfordii</i>   | Sanford's arrowhead   |
| <i>Salix exigua</i>   | narrow-leaved willow  |
| <i>Salix gooddingii</i>   | black willow          |
| <i>Torilis arvensis</i> *   | tall sock-destroyer   |
| <i>Trifolium repens</i> *   | white clover          |
| <i>Trifolium hirtum</i> *   | rose clover           |
| <i>Typha domingensis</i>  | narrow-leaved cattail |
| <i>Typha latifolia</i>  | broad-leaved cattail  |
| <i>Xanthium spinosum</i> *  | spiny cocklebur       |
| <i>Xanthium strumarium</i>  | rough cocklebur       |
| * Species denoted with an asterisk are not native to California.  |                       |
| Notes: Nomenclature follows The Jepson Manual: Vascular Plants of California, second edition (Baldwin, et al. 2012) |                       |

# **APPENDIX C**

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CNDDDB Field Survey Form





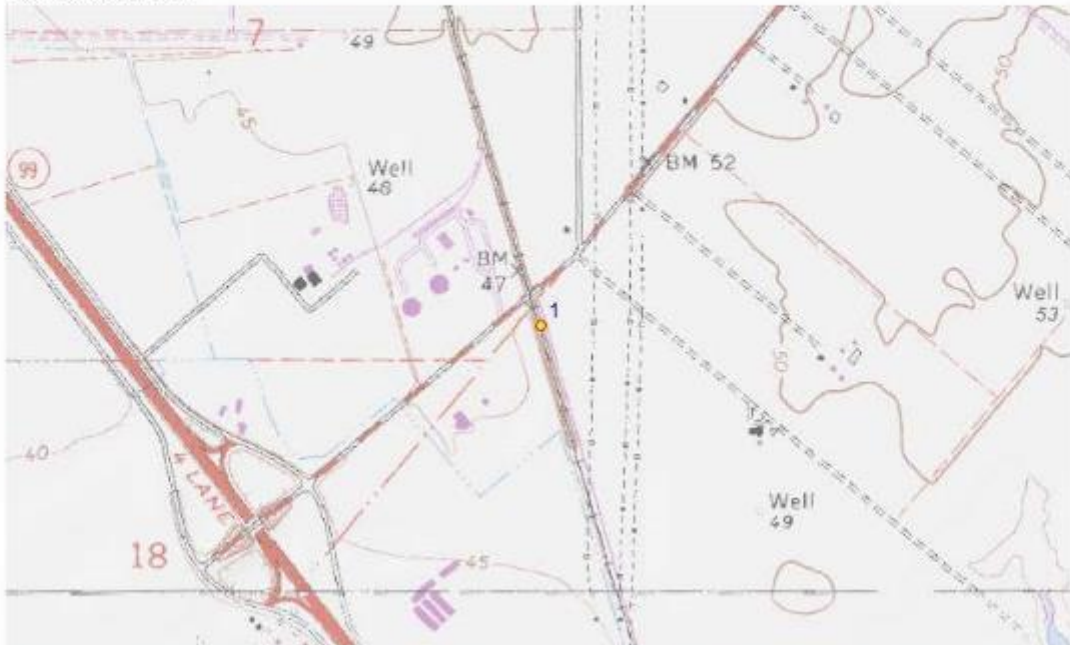


**Visible disturbances:** Mowing, herbicide spraying

**Threats:** Herbicide

**General comments:**

**MAP INFORMATION**



| ID | County             | 24K Quadrangle  | Elev. (ft) | Latitude NAD83 | Longitude NAD83 | UTME NAD83 | UTMN NAD83 | UTM Zone |
|----|--------------------|-----------------|------------|----------------|-----------------|------------|------------|----------|
|    | Sacramento         | Elk Grove       | 52         | 38.38080       | -121.35394      | 643774     | 4249350    | 10       |
| 1  | Public Land Survey | Feature Comment |            |                |                 |            |            |          |
|    | M T06N R06E 7      |                 |            |                |                 |            |            |          |

**The mapped feature is accurate within:** 10 m

**Source of mapped feature:** ESRI Collector mapping application

**Mapping notes:** Mapped feature is a perennially-inundated ditch that runs parallel to an access road on the east side of the railroad tracks.

**Location/directions comments:** At dead end of frontage access road approximately 0.4 mile southwest of junction of Waterman Road and Grant Line Road.

**Attachment(s):** 20201010\_Sanforde\_Arrowhead\_CNDDDB.zip; IMG\_2142.JPG

## **APPENDIX D**

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Wildlife Species List



| <b>Wildlife Species Observed in the Biological Study Area in September/October 2020</b> |                            |
|---|----------------------------|
| <b>Scientific Name</b>  | <b>Common Name</b>         |
| <b>Reptiles</b>   |                            |
| <i>Sceloporus occidentalis</i>  | Western Fence Lizard       |
| <b>Birds</b>  |                            |
| <i>Branta canadensis</i>  | Canada Goose               |
| <i>Charadrius vociferus</i>   | Killdeer                   |
| <i>Sayornis nigricans</i>   | Black Phoebe               |
| <i>Antigone canadensis</i>  | Sandhill Crane             |
| <i>Melospiza crissalis</i>  | California Towhee          |
| <i>Sayornis saya</i>  | Say's Phoebe               |
| <i>Troglodytes aedon</i>  | House Wren                 |
| <i>Mimus polyglottos</i>  | Northern Mockingbird       |
| <i>Zonotrichia leucophrys</i>   | White-Crowned Sparrow      |
| <i>Zenaidura macroura</i>   | Mourning Dove              |
| <i>Streptopelia decaocto</i>  | Eurasian Collared Dove     |
| <i>Falco sparverius</i>   | American Kestrel           |
| <i>Sturnella neglecta</i>   | Western Meadowlark         |
| <i>Buteo jamaicensis</i>  | Red-Tailed Hawk            |
| <i>Callipepla californica</i>   | California Quail           |
| <i>Aphelocoma californica</i>   | California Scrub Jay       |
| <i>Melanerpes formicivorus</i>  | Acorn Woodpecker           |
| <i>Cathartes aura</i>   | Turkey Vulture             |
| <i>Meleagris gallopavo</i>  | Wild Turkey                |
| <i>Sturnus vulgaris</i>   | European Starling          |
| <i>Agelaius phoeniceus</i>  | Red-Winged Blackbird       |
| <i>Setophaga coronata</i>   | Yellow-rumped Warbler      |
| <i>Molothrus ater</i>   | Brown-headed Cowbird       |
| <i>Leiothlypis celata</i>   | Orange-crowned Warbler     |
| <i>Elanus leucurus</i>  | White-tailed Kite          |
| <b>Mammals</b>  |                            |
| <i>Lontra canadensis</i>  | North American River Otter |
| <i>Mephitis</i>   | Striped Skunk              |
| <i>Procyon lotor</i>  | Raccoon                    |
| <i>Canis latrans</i>  | Coyote                     |
| <i>Lepus californicus</i>   | Black-Tailed Jackrabbit    |
| <i>Sylvilagus bachmani</i>  | Brush Rabbit               |
| <i>Otospermophilus beecheyi</i>   | California Ground Squirrel |
| <i>Microtus californicus</i>  | California Vole            |