

## 4.4 BIOLOGICAL RESOURCES

### 4.4.1 INTRODUCTION

The Biological Resources chapter of the EIR evaluates the biological resources known to occur or potentially occur within the project site/Biological Resources Preservation Alternative (BRPA) site and surrounding environs. The chapter describes the potential impacts associated with development of the Proposed Project and BRPA to biological resources and identifies measures to eliminate or substantially reduce impacts to a less-than-significant level. Existing plant communities, wetlands, wildlife habitats, and potential for special-status species and communities are discussed for the project region. The information contained in the analysis is primarily based on a Biological Resources Assessment (BRA) (see Appendix D of this EIR) prepared by Madrone Ecological Consulting (Madrone).<sup>1</sup> Further information was sourced from the City of Davis General Plan<sup>2</sup> and associated General Plan EIR,<sup>3</sup> and the Yolo Habitat Conservation Plan/Natural Community Conservation Plan (HCP/NCCP).<sup>4</sup>

### 4.4.2 EXISTING ENVIRONMENTAL SETTING

The following sections describe the regional biological setting in which the project site/BRPA site is located, the biological setting of the site, and the special-status species known to occur within the site and surrounding environs.

#### **Regional Setting**

The project site/BRPA site consists of approximately 497.6 acres located north of East Covell Boulevard, east of F Street, and west of Pole Line Road in a currently unincorporated portion of Yolo County, California. The City of Davis experiences a Mediterranean-type climate with cool, wet winters, and hot, dry summers. Temperatures in the project region fluctuate from average highs in July of 93 degrees Fahrenheit, with average lows in December of 39 degrees Fahrenheit.<sup>5</sup> Nearly all precipitation occurs between October and April in the form of rainfall, with February typically the wettest month, averaging 4.1 inches.

The City of Davis is located within the Central Valley region of California, within southeastern Yolo County. The Central Valley is a north-south oriented valley that extends approximately 430 miles from southern Tehama County to south-central Kern County in southern California. Elevations in the Central Valley range from approximately zero to 400 feet above mean sea level (amsl). In general, the borders of the Central Valley are areas where alluvial soils grade into bedrock features. Biological communities in the Central Valley once supported vast areas of grassland, marshes, and riparian woodland. The landscape is currently dominated by woodland biological

<sup>1</sup> Madrone Ecological Consulting. *Biological Resources Assessment, Village Farms Davis, Yolo County, California*. December 13, 2024.

<sup>2</sup> City of Davis. *City of Davis General Plan*. Adopted May 2001, Amended January 2007.

<sup>3</sup> City of Davis. *Final Program EIR for the City of Davis General Plan Update and Final Project EIR for Establishment of a New Junior High School*. Certified May 2001.

<sup>4</sup> Yolo Habitat Conservancy. *Yolo Habitat Conservation Plan/Natural Community Conservation Plan*. April 2018.

<sup>5</sup> Weather Spark. *Climate and Average Weather Year Round in Davis*. Available at: <https://weatherspark.com/y/1120/Average-Weather-in-Davis-California-United-States-Year-Round>. Accessed March 2024.



communities, typically referred to as the foothills, with land uses that are predominantly agricultural.

### **Project Setting**

The approximately 515.9-acre study area evaluated in the BRA consists of the 497.6-acre project site/BRPA site, as well as two areas proposed for pedestrian/bicycle crossings and other off-site infrastructure, referred to as the Western and Eastern Program Study Areas (see Figure 4.4-1). The study area is very flat, almost entirely at an elevation of approximately 36 to 44 feet amsl, and largely comprised of active agricultural fields with interspersed farm roads. The drainage course Channel A, along with its associated non-native riparian corridor, cuts from east to west across the study area. All on-site agricultural fields are planted annually. For the 2024 growing season, the fields were planted with wheat, tomatoes, and corn.

One of the on-site fields south of Channel A contains a large alkali playa/alkali wetland complex. The foregoing field is not farmed, but vegetation in the field is periodically disked. Based on residual plant material found on dirt clods and California Natural Diversity Database (CNDDB) unprocessed data, the BRA mapped the field as Alkali Prairie land cover, as designated by the Yolo HCP/NCCP (discussed further below under the Yolo HCP/NCCP Land Cover Types heading). An additional strip running along much of the northeast boundary of the study area (adjacent to Davis Paintball) has also been mapped as Alkali Prairie land cover.

A portion of Channel A on the western side of the project site/BRPA site is wider than the east-to-west section of the channel and supports freshwater emergent marsh vegetation. Various areas around most of the edges of the study area are occupied by dense non-native forbs and have been mapped as Urban Ruderal land cover. The farm roads within the study area are well maintained and have been mapped as Semiagricultural land cover, as has a mostly demolished rural residence in the southern portion of the study area. A portion of the Western Program Study Area was recently restored with native grasses, constructed wetlands, and planted native shrubs and is mapped as California Annual Grassland Alliance land cover.

### **Yolo HCP/NCCP Land Cover Types**

Madrone identified the following Yolo HCP/NCCP land covers within the study area: Alkali Prairie, Barren-Anthropogenic, California Annual Grassland Alliance, Freshwater Emergent Wetland, Grain and Hay Crops, Semiagricultural, Truck Crops, Urban, Urban Ruderal, Valley Foothill Riparian, and Vegetated Corridor, as shown in Figure 4.4-2 and summarized in Table 4.4-1. All portions of the study area have been assigned Yolo HCP/NCCP land cover types based on the Yolo HCP/NCCP definitions of land cover types, as well as Madrone's prior experience. The land cover types and acreages may be refined at the time of Yolo HCP/NCCP participation, a process which includes Yolo Habitat Conservancy verification of an applicant's land cover mapping. The study area's land cover types are discussed further below.

#### **Alkali Prairie**

Alkali Prairie land cover occurs around the large alkali playa south of Channel A and in an undisturbed strip along the northeast boundary of the study area. The community is dominated by salt grass (*Distichlis spicata*), but also supports a number of other halophytes, including Parry's rough tarplant (*Centromadia parryi* ssp. *rudis*) (a California Rare Plant Rank [CRPR] List 4 species), common tarweed (*Centromadia pungens* ssp. *pungens*) alkali heath (*Frankenia salina*), alkali weed (*Cressa truxillensis*), and alkali mallow (*Malvella leprosa*).



**Figure 4.4-1  
Biological Study Area**

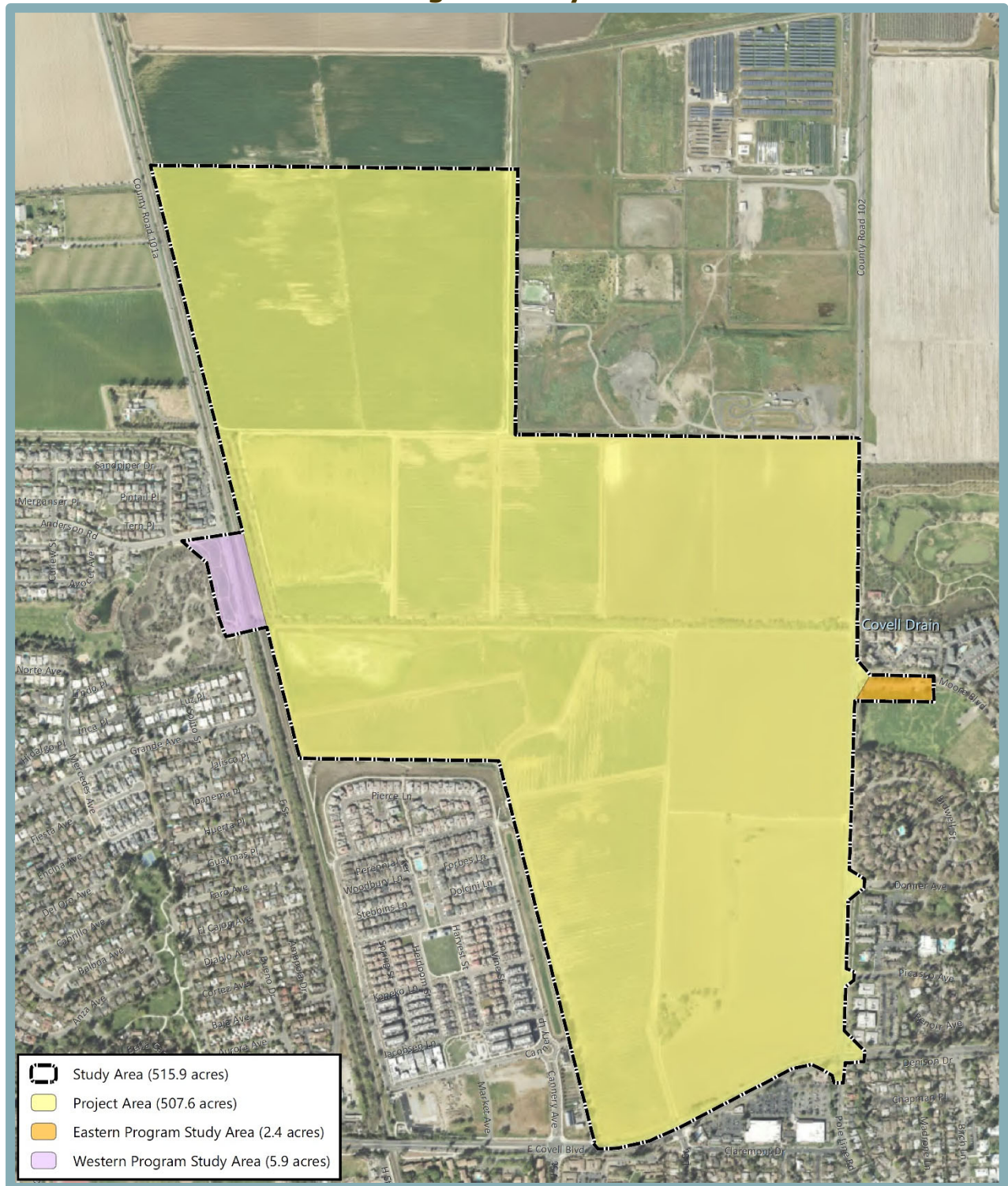
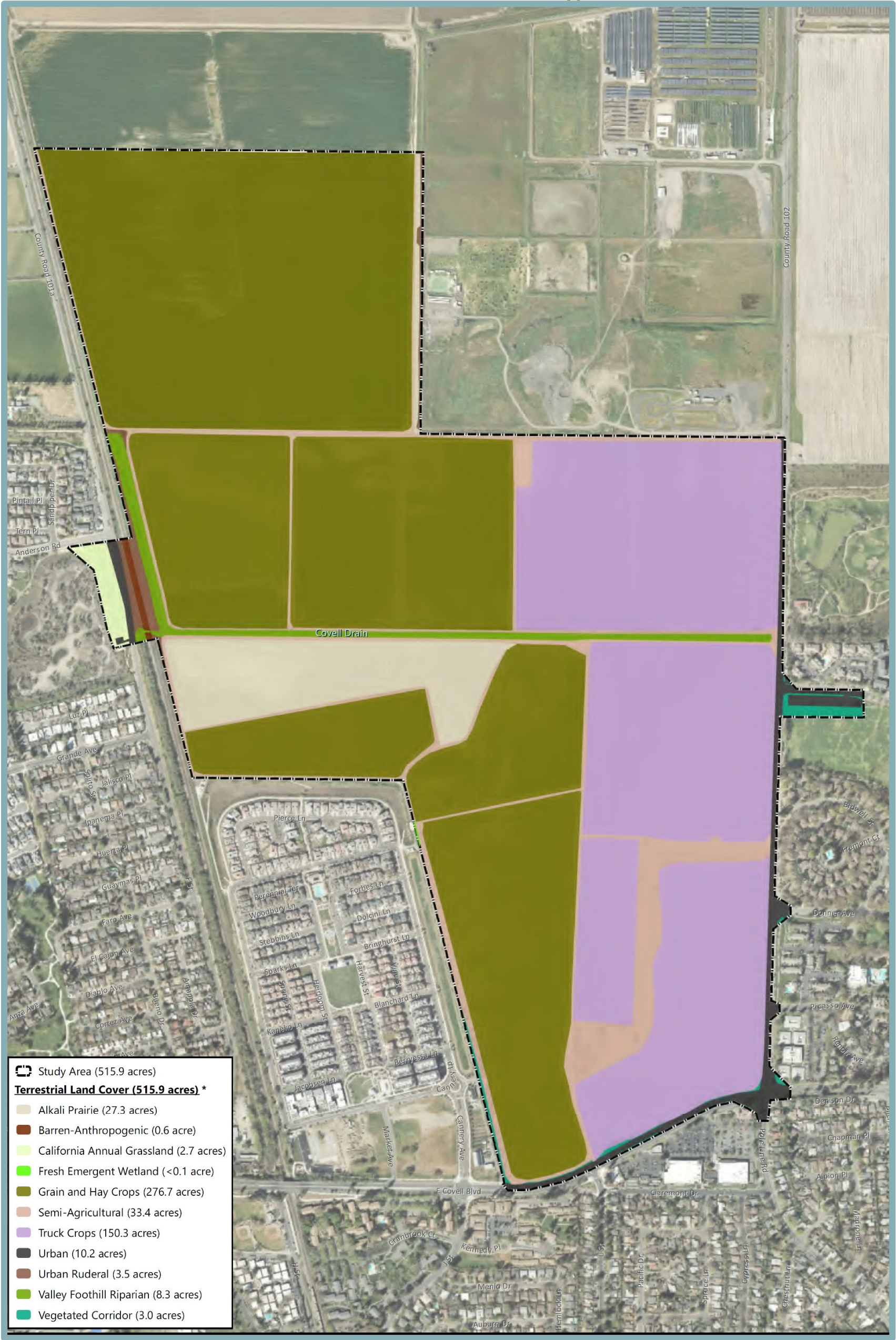




Figure 4.4-2  
Yolo HCP/NCCP Land Cover Types



\* Small summation errors may occur due to rounding.





**Table 4.4-1  
Yolo HCP/NCCP Land Cover Types Within the Study Area**

| Land Cover Type                      | Acres <sup>1</sup>         |                       |                     |
|--------------------------------------|----------------------------|-----------------------|---------------------|
|                                      | Project Site/<br>BRPA Site | Program<br>Study Area | Study Area<br>Total |
| Alkali Prairie                       | 27.3                       | 0.0                   | 27.3                |
| Barren-Anthropogenic                 | 0.0                        | 0.6                   | 0.6                 |
| California Annual Grassland Alliance | 0.0                        | 2.7                   | 2.7                 |
| Fresh Emergent Wetland               | <0.1                       | 0.0                   | <0.1                |
| Grain and Hay Crops                  | 276.7                      | 0.0                   | 276.7               |
| Semiagricultural                     | 33.4                       | 0.0                   | 33.4                |
| Truck Crops                          | 150.3                      | 0.0                   | 150.3               |
| Urban                                | 7.9                        | 2.3                   | 10.2                |
| Urban Ruderal                        | 2.2                        | 1.3                   | 3.5                 |
| Valley Foothill Riparian             | 8.1                        | 0.2                   | 8.3                 |
| Vegetated Corridor                   | 3.0                        | 0.0                   | 3.0                 |
| <b>Total</b>                         | <b>507.6</b>               | <b>8.3</b>            | <b>515.9</b>        |

<sup>1</sup> Small summation errors may occur due to rounding.

Source: Madrone Ecological Consulting, 2024.

The community also supports several generalist non-native species, such as broad-leaved pepper weed (*Lepidium latifolium*), stinkwort (*Dittrichia graveolens*), Mediterranean barley (*Hordeum marinum*), and Mediterranean beard grass (*Polypogon maritimus*).

#### Barren-Anthropogenic

The Union Pacific Railroad (UPRR) alignment is classified as Barren-Anthropogenic land cover. The area consists of an unvegetated rock railbed prism topped by railroad tracks.

#### California Annual Grassland Alliance

An area west of F Street within a portion of the Western Program Study Area has recently been restored with native bunch grasses; small, constructed wetlands; large patches of milkweeds (*Asclepias* species); and a variety of native shrubs and sub-shrubs. The area was mapped as California Annual Grassland Alliance land cover as the best approximation of its current habitat value.

#### Fresh Emergent Wetland

A small freshwater marsh has become established along the western edge of the study area adjacent to the existing Cannery Subdivision. The marsh feature supports a variety of perennial hydrophytes, including cattail (*Typha* species), tall nutsedge (*Cyperus eragrostis*), smartweed (*Persicaria* species), and Mediterranean beard grass.

#### Grain and Hay Crops

The western agricultural fields were planted with wheat for the 2024 growing season, and as such, are classified as Grain and Hay Crops land cover. When not growing the crop, the fields remain fallow.

#### Semiagricultural

The margins of the agricultural fields, farm roads, and the remnants of the on-site rural residence are classified as Semiagricultural land cover. Such areas consist of vegetated areas along the



margins of the agricultural fields, along with ditches and dirt paths in association with the agricultural fields. Both native and non-native trees occur in association with the rural residence remnants.

### Truck Crops

The eastern agricultural fields were planted with tomatoes and corn in 2024, and as such, are classified as Truck Crops land cover. When not growing the crop, the fields remain fallow.

### Urban

Roadways and parking lots adjacent to the project site/BRPA site, as well as a pump facility in the Western Program Study Area are classified as Urban land cover. Such areas are dominated by pavement and buildings. Planted and manicured ornamental vegetation exist within the Urban land cover areas, but where aggregations of vegetation occur, the area was mapped as Vegetated Corridor land cover.

### Urban Ruderal

Strips along the western and eastern edges of the study area are classified as Urban Ruderal land cover. Such areas all support dense, high-rank stands of non-native forbs, including milk thistle (*Silybum marianum*), broad-leaved pepperweed, black mustard (*Brassica nigra*), wild radish (*Raphanus sativus*), and stinkwort.

### Valley Foothill Riparian

A strip of woody vegetation occurs along either side of the Channel A. While this land cover is almost entirely comprised of non-native trees, and, therefore, could be classified as a Vegetated Corridor, the community is riparian in nature, and therefore has been classified as Valley Foothill Riparian land cover for purposes of CEQA review. The community is heavily dominated by wingnut (*Pterocarya* species) and Arizona ash (*Fraxinus velutina*), but also supports cigar tree (*Catalpa bignonioides*), Siberian elm (*Ulmus pumila*), Chinese elm (*Ulmus parvifolia*), Chinese tallow (*Triadica sebifera*), Bradford pear (*Pyrus calleryana*), and cork oak (*Quercus suber*). Occasional native trees also occur in the community including Valley oak (*Quercus lobata*), Northern California black walnut (*Juglans hindsii*), boxelder (*Acer negundo*), red willow (*Salix laevigata*) and black willow (*S. gooddingii*). Very little herbaceous vegetation is present in the understory of the community due to the relatively closed canopy.

### Vegetated Corridor

A strip of planted trees along East Covell Boulevard and along the southern-most western boundary of the project site/BRPA site are classified as Vegetated Corridor land cover. In addition, the Vegetated Corridor land cover mapped in the Eastern Program Study Area is comprised of a turf recreational field and trees around an associated parking area, which are surrounded by and associated with urban development, consisting of maintained non-native turf and landscaped ornamental trees and shrubs.

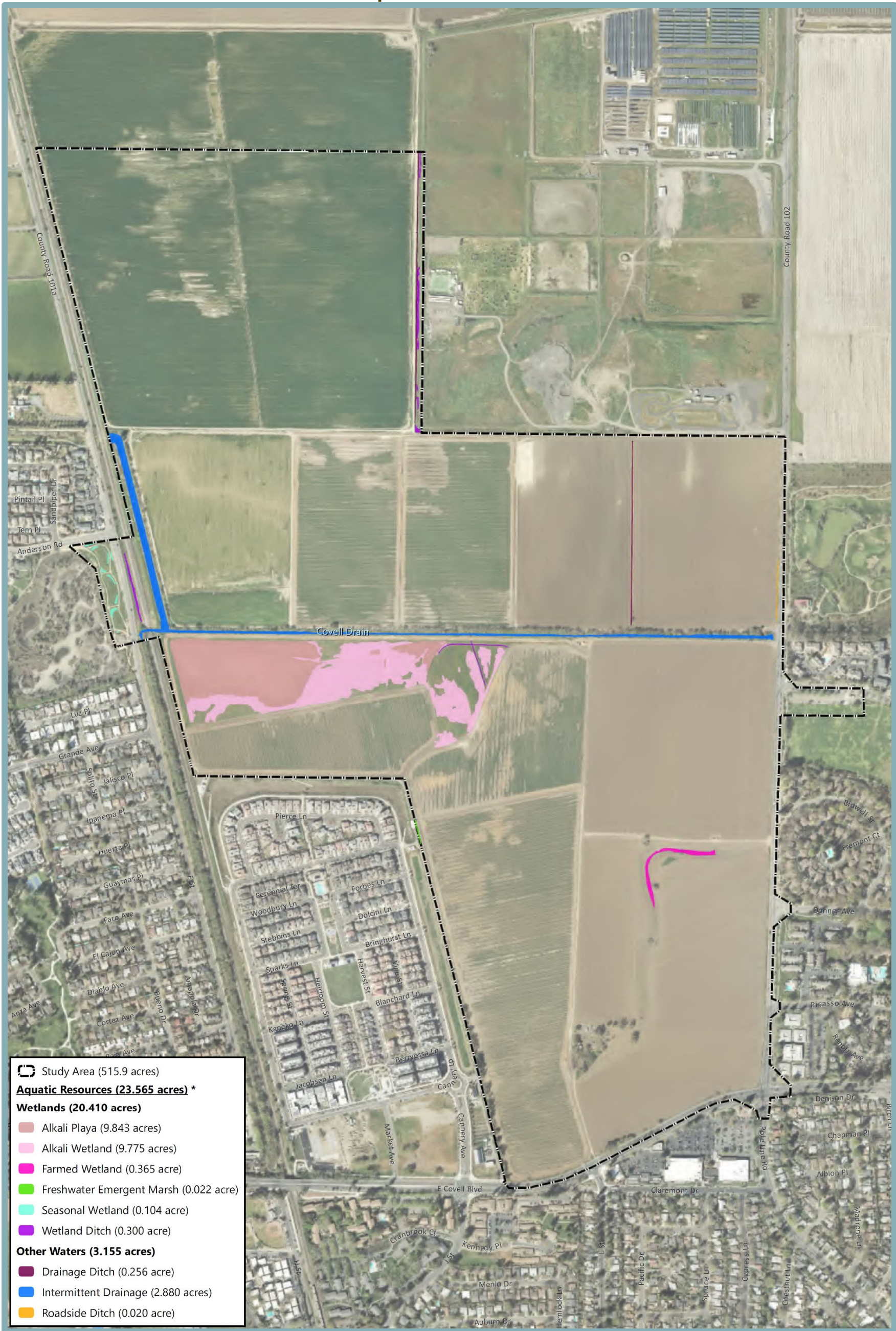
### **Aquatic Resources**

As shown in Figure 4.4-3, a total of approximately 23.565 acres of aquatic resources were mapped within the study area as part of an Aquatic Resources Delineation (ARD) conducted throughout the study area in accordance with U.S. Army Corp of Engineers (USACE) protocol (discussed further in the Method of Analysis section below). Table 4.4-2 summarizes the acreages of the aquatic resources within the study area, which are discussed further below.





Figure 4.4-3  
Aquatic Resources



\* Small summation errors may occur due to rounding.



**Table 4.4-2  
Aquatic Resources Mapped Within the Study Area**

| Aquatic Resource                  | Acres <sup>1</sup>         |                        |                     |
|-----------------------------------|----------------------------|------------------------|---------------------|
|                                   | Project Site/<br>BRPA Site | Program<br>Study Areas | Study Area<br>Total |
| <b>Wetlands</b>                   |                            |                        |                     |
| Alkali Playa                      | 9.846                      | --                     | 9.846               |
| Alkali Wetland                    | 9.775                      | --                     | 9.775               |
| Farmed Wetland                    | 0.365                      | --                     | 0.365               |
| Freshwater Emergent Marsh         | 0.022                      | --                     | 0.022               |
| Seasonal Wetland                  | --                         | 0.104                  | 0.104               |
| Wetland Ditch                     | 0.209                      | 0.091                  | 0.300               |
| <b>Other Waters</b>               |                            |                        |                     |
| Drainage Ditch                    | 0.256                      | --                     | 0.256               |
| Intermittent Drainage – Channel A | 2.827                      | 0.053                  | 2.880               |
| Roadside Ditch                    | 0.020                      | --                     | 0.020               |
| <b>Total</b>                      | <b>23.317</b>              | <b>0.248</b>           | <b>23.565</b>       |

<sup>1</sup> Small summation errors may occur due to rounding.

Source: Madrone Ecological Consulting, 2024.

### Alkali Playa and Alkali Wetland

A large alkali playa/alkali wetland complex is located within the Alkali Prairie land cover in the central-western portion of the study area. Areas mapped as alkali playa are the deeper areas that retained water for a longer period of time than surrounding wetland areas, and as a result, are largely unvegetated. The alkali wetlands are the surrounding wetlands and are densely vegetated with hydrophytes. The alkali playas support sparse alkali popcorn flower (*Plagiobothrys leptocladus*), alkali barley (*Hordeum depressum*), Parry's rough tarplant, common tarweed, and swamp grass (*Crypsis schoenoides*). The alkali wetlands are dominated by common tarweed, alkali barley, alkali popcorn flower, perennial ryegrass, bur clover (*Medicago polymorpha*), Boccone's sand spurry (*Spergularia bocconi*), and miniature lupine (*Lupinus bicolor*). Other species commonly observed in the alkali wetlands include slender popcorn flower (*Plagiobothrys stipitatus* ssp. *stipitatus*), blow wives (*Achyrachaena mollis*), alkali milk-vetch (*Astragalus tener* ssp. *tener*), dwarf sack clover (*Trifolium depauperatum* var. *depauperatum*), and toad rush (*Juncus bufonius*). The northern boundary of the alkali playa/alkali wetland complex is bound by a levee on the south side of Channel A.

The feature is readily visible on aerial photographs, but was disked and lacked vegetation in the summer of 2023. The following wetland species were observed on dirt clods within the playa area: swamp grass (*Crypsis schoenoides*), hyssop loosestrife (*Lythrum hyssopifolium*), selfing willowherb (*Epilobium cleistogamum*), and alkali popcorn flower. The northern boundary of the playa is bound by a levee to the south of Channel A. A low saddle within the playa allows flood water from the playa to drain into Channel A if water in the playa overflows. The playa is generally shallow and less than two feet in depth.

### Farmed Wetland

One farmed wetland is located within a long, low, sinuous area that was previously a natural drainage. The drainage in the area was rerouted to the north and into Channel A when the properties to the west were developed. Therefore, the remnant wetland does not currently function as a drainage. The feature is regularly disced by normal farming operations, and supports largely





weedy facultative wetland species, including prickly cocklebur (*Xanthium strumarium*), perennial ryegrass, curly dock (*Rumex crispus*), and alkali mallow.

### Freshwater Emergent Marsh

A freshwater emergent marsh is present on-site, along the southwestern edge of the study area. The marsh feature is wet far into the summer, and is dominated by obligate hydrophytes, including cattail (*Typha species*), tall nutsedge, Mediterranean beard grass, and smartweed (*Persicaria species*).

### Seasonal Wetland

Several small man-made seasonal wetlands are located to the west of F Street in a small open space area in the Western Program Study Area associated with the City's Open Space Program. The wetland features support a mix of perennial and annual hydrophytes planted as part of the habitat restoration. Species observed in the wetland features include common sedge (*Carex praegracilis*), Baltic rush (*Juncus balticus*), Mediterranean beard grass, Great Valley gumweed (*Grindelia camporum*), Bermuda grass (*Cynodon dactylon*), curly dock, hyssop loosestrife, and common sunflower (*Helianthus annuus*).

### Wetland Ditch

A ditch along the northern-most eastern perimeter of the study area serves to convey stormwater and irrigation flows, but is less regularly maintained. As such, the ditch has become well-vegetated with annual and perennial wetland plant species. Additionally, a few remnant ditches that support wetland vegetation are present in the field with the alkali playa/alkali wetland complex. Plant species commonly observed within the foregoing ditches include saltgrass, alkali barley, alkali heath, hyssop loosestrife, common tarplant, broad-leaved pepperweed, Mediterranean beard grass, and perennial ryegrass.

### Drainage Ditch

A drainage ditch is present north of Channel A and proceeds between two of the agricultural fields. The drainage ditch feature is actively used to drain the adjacent fields into Channel A and as such, is regularly maintained and almost entirely unvegetated.

### Channel A – Intermittent Drainage

Channel A is a historic seasonal drainage that flows generally from west to east into the Willow Slough Bypass to the north of the City, through the Yolo Bypass, and into the Sacramento River. Channel A historically flowed through the southeastern portion of the study area and a remnant, mostly upland channel is still present where the creek used to flow. Based on historic aerial photographs, between 1957 and 1968, Channel A was realigned to the north, presumably for flood protection and to serve agricultural needs, as Putah Creek was realigned south of the City of Davis for the same reasons. Channel A is currently engineered to be trapezoidal in nature, and the banks are bound by earthen levees that are higher in elevation than the surrounding farmland. The channel is approximately 20 to 30 feet in width and approximately 10 feet deep and contains an earthen and sandy substrate.

Water within Channel A enters the study area from the west and flows to the south for approximately 0.25-mile before turning east for 0.8-mile and exiting the study area. A small tributary (F Street Channel) enters Channel A along the western site boundary near the Julie Partansky Pond. The F Street Channel conveys runoff from the City and parallels F Street for



approximately 0.75-mile before flowing into Channel A. Julie Partansky Pond discharge pumps also connect at this confluence.

Hydrology within Channel A is driven by rain events and water appears to be present within the channel starting in late fall or early winter after several rain events. Water remains present, albeit very shallow, until late spring or early summer when the channel dries. In some years, depending on crop types, agricultural runoff from west of the City can generate larger amounts of water in Channel A during summer months.

Riparian vegetation along the banks of Channel A consists of dense strips of mostly non-native trees. The community is heavily dominated by wingnut and Arizona ash, but also supports golden rain tree, cigar tree, white mulberry, tree of heaven, Siberian elm, Chinese elm, Chinese tallow, Callery pear, and she-oak. Occasional native trees also occur in this community including Valley oak, Northern California black walnut, boxelder, Fremont's cottonwood (*Populus fremontii*), red willow and black willow. Very little herbaceous vegetation is present in the shaded understory of this community due to the dense closed canopy. The channel contains abundant woody debris and log jams.

The western portion of Channel A is wider and less shaded and, as a result, supports emergent wetland vegetation, including spotted lady's thumb (*Persicaria maculosa*), common knotweed (*Polygonum arenastrum*), curve pod yellow cress (*Rorippa curvisiliqua*), bearded sprangletop (*Leptochloa fascicularis*), tule (*Schoenoplectus acutus*), jungle rice (*Echinochloa colonum*), prickly cocklebur, canarygrass (*Phalaris canariensis*), and big saltbush (*Atriplex lentiformis*).

### Roadside Ditch

A roadside ditch was mapped along the western edge of Pole Line Road. The ditch feature conveys stormwater flows away from the road. The ditch is almost entirely unvegetated and is ephemeral in nature (flows only immediately following storm events).

### **Special-Status Species**

Special-status species are species that have been listed as threatened or endangered under the federal Endangered Species Act (FESA), California Endangered Species Act (CESA), or are of special concern to federal resource agencies, the State, or private conservation organizations. A species may be considered to have special status due to declining populations, vulnerability to habitat change, or restricted distributions. A general description of the criteria and laws pertaining to special-status classifications is described below. Special-status plant and wildlife species may meet one or more of the following criteria:

1. Listed as threatened or endangered, or proposed or candidates for listing by the U.S. Fish and Wildlife Service (USFWS) or National Marine Fisheries Service (NMFS);
2. Listed as threatened or endangered and candidates for listing by the California Department of Fish and Wildlife (CDFW);
3. Identified as Fully Protected species or Species of Special Concern by CDFW;
4. Identified as Medium or High priority species by the Western Bat Working Group (WBWG); and
5. Plant species considered to be rare, threatened, or endangered in California by the California Native Plant Society (CNPS) and CDFW (CRPR 1, 2, and 3):
  - a. CRPR 1A: Plants presumed extinct.
  - b. CRPR 1B: Plants rare, threatened, or endangered in California and elsewhere.





- c. CRPR 2A: Plants extirpated in California, but common elsewhere.
- d. CRPR 2B: Plants rare, threatened, or endangered in California, but more common elsewhere.
- e. CRPR 3: Plants about which the CNPS needs more information – a review list.
- f. Identified as a Covered Species in the Yolo HCP/NCCP.

### Listed and Special-Status Plant Species

According to the records of the CNDDDB maintained by the CDFW, 23 special-status plant species have the potential to occur within five miles of the study area (see Figure 4.4-4). Based on field observations and literature review (detailed further in this chapter in the Method of Analysis section), 18 of the 23 special-status plant species have potential to occur within the study area (see Figure 4.4-5 and Figure 4.4-6). As part of determining the potential for special-status plant and wildlife species to occur within the study area, the following set of criteria was used:

- Present: Species was recently observed on the project site/BRPA site during field surveys conducted as part of the BRA;
- High: The project site/BRPA site is within the known range of the species and suitable habitat exists. The species may also be documented on-site in CNDDDB records;
- Moderate: The project site/BRPA site is within the known range of the species and very limited suitable habitat exists;
- Low: The project site/BRPA site is within the known range of the species and marginally suitable habitat exists;
- Absent: The species was not observed during protocol-level surveys conducted on-site; or
- Habitat Not Present: The project site/BRPA site does not contain suitable habitat for the species, and/or the site is outside the known range of the species.

As shown below in Table 4.4-3, based on literature review (detailed further in this chapter in the Method of Analysis section), 18 of the 23 special-status plant species were determined to have potential to occur within the study area. Based on protocol-level surveys, the species that are considered to be *present* in the study area are alkali milk-vetch and San Joaquin spearscale. Figure 4.4-5 details where special-status species have been documented within or adjacent to the study area in the CNDDDB. The locations of special-status plant and wildlife species observed within or adjacent to the study area during protocol-level surveys are shown in Figure 4.4-6. The following discussions provide further details of the 18 special-status plant species with potential to occur within the study area.

#### *Ferris' Milk-Vetch*

Ferris' milk-vetch (*Astragalus tener* var. *ferrisiae*) is not federally or State-listed, but is classified as a CRPR List 1B.2 plant. The annual herb is found in subalkaline flats of valley and foothill grasslands and vernal mesic meadows and seeps. The plant occurs at elevations between five and 245 feet amsl and has a short blooming period from April to May.

The alkali playa and alkali wetlands within the study area represent suitable habitat for the species. Two records of Ferris' milk-vetch are within five miles of the study area (see Figure 4.4-4). The closest record (CNDDDB Occurrence #18) is located in the approximate area of the project site/BRPA site. The record was mapped by CNDDDB in the general vicinity of Davis. The exact location is unknown.



**Figure 4.4-4**  
**California Natural Diversity Database Occurrences of Special-Status Plant Species**

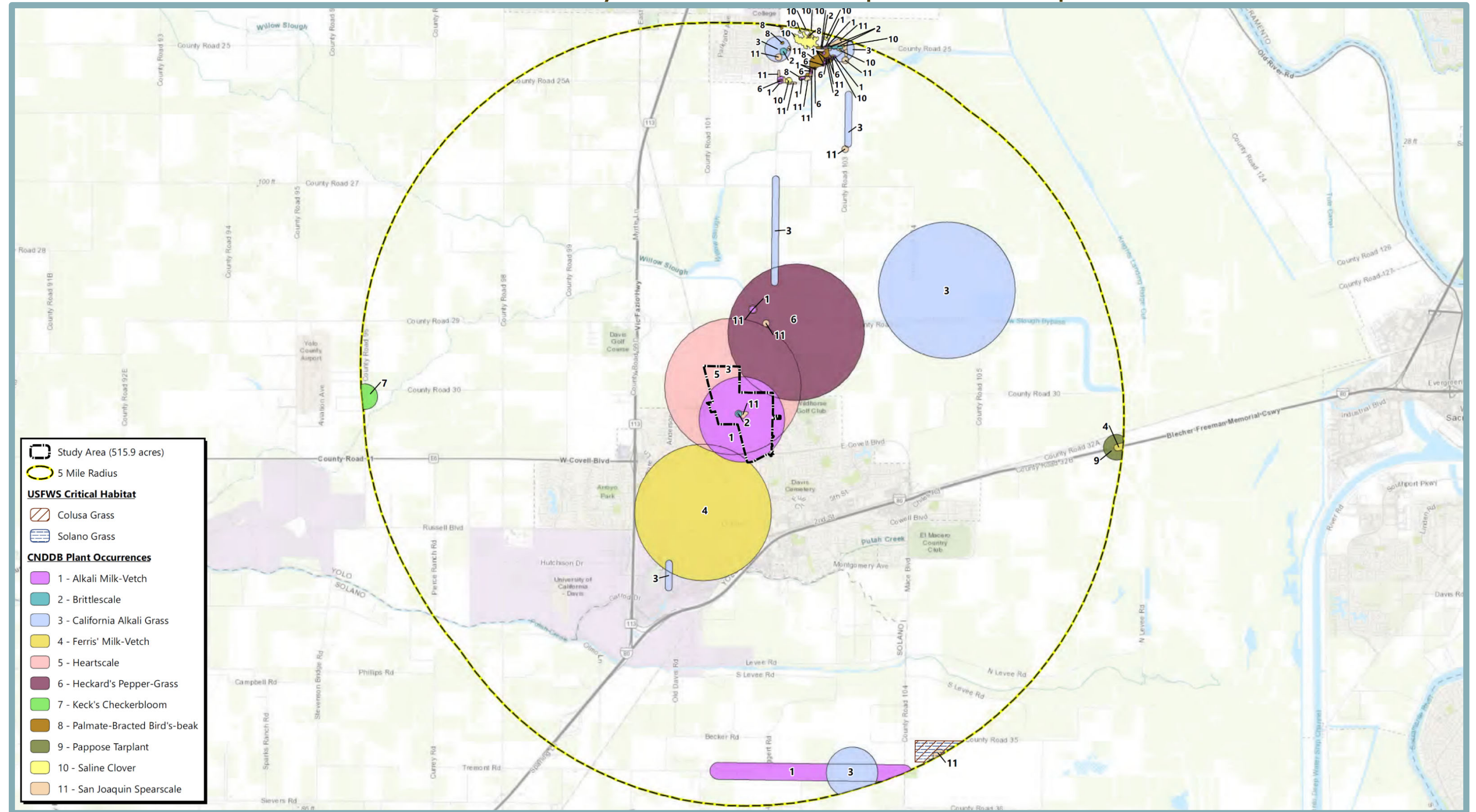
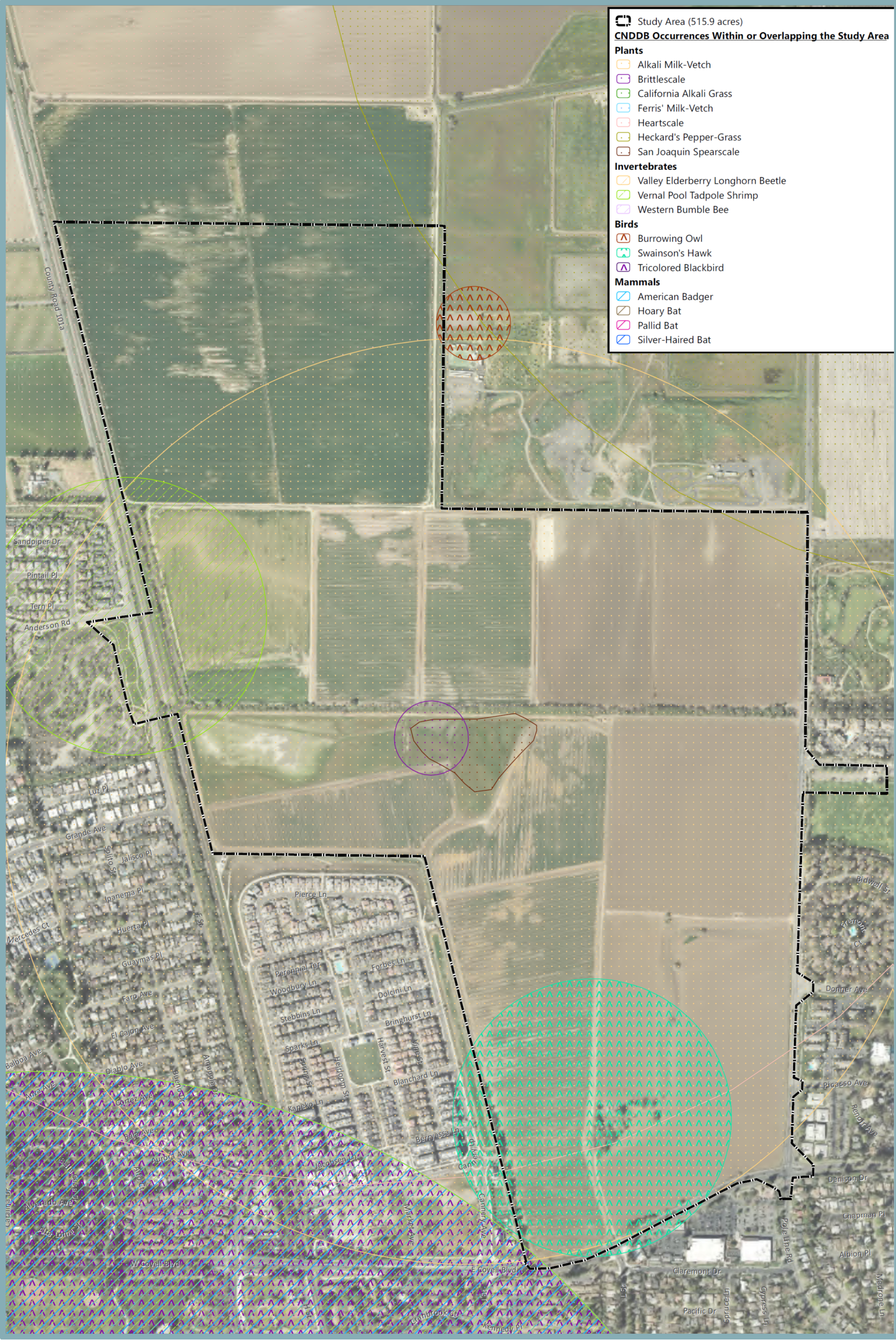




Figure 4.4-5  
California Natural Diversity Database Records Within or Overlapping the Study Area





**Figure 4.4-6**  
**Special-Status Species Within or Adjacent to Study Area Documented During Site Surveys**





**Table 4.4-3  
Special-Status Species with Potential to Occur Within the Study Area**

| Scientific Name<br>(Common Name)                                       | Yolo HCP/NCCP<br>Covered<br>Species? | Federal<br>Status | State<br>Status | Habitat Requirements                                                                                                      | Potential for Occurrence                                                                                                                                                                                                                                                                                                                                                                                    |
|------------------------------------------------------------------------|--------------------------------------|-------------------|-----------------|---------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Plants</b>                                                          |                                      |                   |                 |                                                                                                                           |                                                                                                                                                                                                                                                                                                                                                                                                             |
| <i>Astragalus tener</i> var.<br><i>ferrisiae</i><br>Ferris' milk-vetch | No                                   | --                | CRPR 1B.1       | Occurs in meadows and foothill and valley grasslands. Usually found in dry adobe soils (elevation five to 245 feet amsl). | <b>Absent.</b> Suitable habitat is present in the alkali playa and alkali wetlands within the study area. CNDDDB Occurrence #18 is near the study area. The record was documented in 1926, and the exact location is extremely vague. However, the habitat within the study area is suitable for the species. The species was not detected during the April 2024 protocol-level survey of the study area.   |
| <i>Astragalus tener</i> var.<br><i>tener</i><br>Alkali milk-vetch      | No                                   | --                | CRPR 1B.2       | Occurs in playas, valley and foothill grassland (adobe clay), and vernal pools (elevation five to 195 feet amsl).         | <b>Present.</b> Suitable habitat is present in the alkali playa and alkali wetlands within the study area. CNDDDB Occurrence #36 (most recently documented in 1951) is within the study area, and five unprocessed records from 2023 documented this species within the alkali playa area. Thousands of individuals of the species were documented by Madrone within the alkali wetlands in the study area. |

(Continues on next page)



**Table 4.4-3  
Special-Status Species with Potential to Occur Within the Study Area**

| Scientific Name<br>(Common Name)                                 | Yolo HCP/NCCP<br>Covered<br>Species? | Federal<br>Status | State<br>Status | Habitat Requirements                                                                                                              | Potential for Occurrence                                                                                                                                                                                                                                                                                                                                                                                                                                            |
|------------------------------------------------------------------|--------------------------------------|-------------------|-----------------|-----------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <i>Atriplex cordulata</i> var.<br><i>Cordulata</i><br>Heartscale | No                                   | --                | CRPR 1B.2       | Grows in grasslands with sandy alkaline or saline soils (elevation zero to 1,835 feet amsl).                                      | <b>Absent.</b> Suitable habitat is present in the Alkali Prairie land cover within the study area. CNDDDB Occurrence #4 is within the study area. The record was documented in 1952, the exact location is somewhat vague, and sandy soils do not occur within the study area. Therefore, the species has a moderate potential to occur within the study area. The species was not detected during the June and July 2024 protocol-level surveys of the study area. |
| <i>Atriplex depressa</i><br>Brittlescale                         | No                                   | --                | CRPR 1B. 2      | Prefers meadows or grasslands, chenopod scrub, vernal pools, in alkaline or saline clay soils (elevation 5 to 1,050 feet amsl).   | <b>Absent.</b> Suitable habitat is present in the Alkali Prairie land cover within the study area. The species has been documented within the study area as recently as 1996 (CNDDDB Occurrence #57), and as part of the Covell Village Project EIR. The species was not detected during the June and July 2024 protocol-level surveys of the study area.                                                                                                           |
| <i>Carex comosa</i><br>Bristly sedge                             | No                                   | --                | CRPR 2B.1       | Occurs in coastal prairie, margins of marshes and swamps, and valley and foothill grasslands (elevation zero to 2,050 feet amsl). | <b>Absent.</b> Suitable habitat for the species occurs within the freshwater emergent marsh and the western-most portion of Channel A, but the species was not detected during the August 2023 or June and July 2024 protocol-level surveys of the study area.                                                                                                                                                                                                      |

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**Table 4.4-3  
Special-Status Species with Potential to Occur Within the Study Area**

| Scientific Name<br>(Common Name)                                    | Yolo HCP/NCCP<br>Covered<br>Species? | Federal<br>Status | State<br>Status  | Habitat Requirements                                                                                                                                                                                                                                                                                  | Potential for Occurrence                                                                                                                                                                                                                                                                                                                      |
|---------------------------------------------------------------------|--------------------------------------|-------------------|------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <i>Centromadia parryi</i><br>ssp. <i>parryi</i><br>Pappose tarplant | No                                   | --                | CRPR 1B.2        | Found on alkaline soils in coastal prairie, meadows, seeps, coastal salt marshes, and valley/foothill grasslands (elevation zero to 1,380 feet amsl).                                                                                                                                                 | <b>Absent.</b> Suitable habitat for the species is present in the Alkali Prairie land cover within the study area. The species was not detected during the June and July 2024 protocol-level surveys of the study area.                                                                                                                       |
| <i>Chloropyron palmatum</i><br>Palmate-bracted bird's<br>beak       | Yes                                  | FE                | CE, CRPR<br>1B.1 | Found on alkaline soils in chenopod scrub and valley and foothill grasslands, primarily on side slopes adjacent to ditches and other waterways where the hydrology is appropriate (elevation 15 to 510 feet amsl). Most common host plant for the species is saltgrass ( <i>Distichlis spicata</i> ). | <b>Absent.</b> The species requires very specific habitat and minimal disturbance, and as such, the Alkali Prairie land cover within the study area represents marginally suitable habitat. The species was not detected during the June and July 2024 protocol-level surveys of the study area.                                              |
| <i>Eryngium jepsonii</i><br>Jepson's coyote-thistle                 | No                                   | --                | CRPR 1B.2        | Occurs in vernal pools and valley and foothill grasslands on clay soils (elevation 10 to 985 feet amsl).                                                                                                                                                                                              | <b>Absent.</b> Suitable habitat for the species is present in seasonal wetlands and the alkali playa/alkali wetlands on clay soils throughout the study area. The species was not detected during the June and July 2024 protocol-level surveys of the study area.                                                                            |
| <i>Extriplex joaquinana</i><br>San Joaquin<br>spearscale            | No                                   | --                | CRPR 1B.2        | Found in seasonal alkali wetlands or alkali sink scrub (elevation five to 2,740 feet amsl).                                                                                                                                                                                                           | <b>Present.</b> Suitable habitat is present in and surrounding the seasonal wetlands throughout the study area, especially around the alkali playa/alkali wetlands. The species has been documented within the study area (CNDDDB Occurrence #40). Thousands of individuals were documented by Madrone during the 2024 protocol-level survey. |

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**Table 4.4-3  
Special-Status Species with Potential to Occur Within the Study Area**

| Scientific Name<br>(Common Name)                                              | Yolo HCP/NCCP<br>Covered<br>Species? | Federal<br>Status | State<br>Status | Habitat Requirements                                                                                                                                                   | Potential for Occurrence                                                                                                                                                                                                                      |
|-------------------------------------------------------------------------------|--------------------------------------|-------------------|-----------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <i>Fritillaria pluriflora</i><br>Adobe-lily                                   | No                                   | --                | CRPR 1B.2       | Grows in chaparral, cismontane woodland, or foothill grasslands with clay or serpentine soils. (elevation 195 to 2,315 feet amsl).                                     | <b>No Habitat Present.</b> The study area is outside the elevational range of the species.                                                                                                                                                    |
| <i>Hibiscus lasiocarpus</i><br>var. <i>occidentalis</i><br>Woolly rose-mallow | No                                   | --                | CRPR 1B.2       | Occurs in freshwater wetlands/marshes, including edges. Often in riprap on sides of levees (elevation zero to 395 feet amsl).                                          | <b>Absent.</b> Suitable habitat for the species occurs within the western-most portion of Channel A. The species was not detected during the August 2023 or June and July 2024 protocol-level surveys of the study area.                      |
| <i>Lepidium latipes</i> var.<br><i>heckardii</i><br>Heckard's pepper-grass    | No                                   | --                | CRPR 1B.2       | Prefers alkaline flats within valley and foothill grasslands (elevation five to 655 feet amsl).                                                                        | <b>Absent.</b> Suitable habitat for the species is present in the alkali playa/alkali wetlands and other seasonal wetlands within the study area. The species was not detected during the April 2024 protocol-level survey of the study area. |
| <i>Lessingia hololeuca</i><br>Woolly-headed<br>lessingia                      | No                                   | --                | CRPR 3          | Broad-leaved upland forest, coastal scrub, lower montane coniferous forest, valley and foothill grasslands on serpentine clay soils (elevation 50 to 1,000 feet amsl). | <b>No Habitat Present.</b> Serpentine soils do not occur within the study area.                                                                                                                                                               |
| <i>Lilaeopsis masonii</i><br>Mason's lilaeopsis                               | No                                   | --                | Rare, CRPR 1B.1 | Prefers brackish or freshwater swamps, intertidal marshes, and riparian scrub (elevation zero to 35 feet amsl).                                                        | <b>No Habitat Present.</b> The study area is not tidally influenced.                                                                                                                                                                          |

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**Table 4.4-3  
Special-Status Species with Potential to Occur Within the Study Area**

| Scientific Name<br>(Common Name)                                           | Yolo HCP/NCCP<br>Covered<br>Species? | Federal<br>Status | State<br>Status | Habitat Requirements                                                                                                                                           | Potential for Occurrence                                                                                                                                                                                                                      |
|----------------------------------------------------------------------------|--------------------------------------|-------------------|-----------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <i>Myosurus minimus</i> spp.<br><i>apus</i><br>Little mouseltail           | No                                   | --                | CRPR 3.1        | Found in valley and foothill grasslands and alkaline vernal pools (elevation 65 to 2,100 feet amsl).                                                           | <b>Absent.</b> Suitable habitat for the species is present in the alkali playa/alkali wetlands and other seasonal wetlands within the study area. The species was not detected during the April 2024 protocol-level survey of the study area. |
| <i>Navarretia leucocephala</i> ssp.<br><i>bakeri</i><br>Baker's navarretia | No                                   | --                | CRPR 1B.1       | Favors vernal pools, cismontane woodland, lower montane coniferous forest, meadows and seeps, valley and foothill grasslands (elevation 15 to 5,710 feet amsl) | <b>Absent.</b> Suitable habitat for the species is present in the alkali playa/alkali wetlands and other seasonal wetlands within the study area. The species was not detected during the April 2024 protocol-level survey of the study area. |
| <i>Neostapfia colusana</i><br>Colusa grass                                 | No                                   | FT                | CE, CRPR 1B.1   | Large vernal pools with clay soils (elevation 16 to 656 feet amsl).                                                                                            | <b>Absent.</b> Suitable habitat is present within the alkali playa/alkali wetlands within the study area. The species was not detected during the June and July 2024 protocol-level surveys of the study area.                                |
| <i>Plagiobothrys hystriculus</i><br>Bearded popcornflower                  | No                                   | --                | CRPR 1B.1       | Often in mesic areas of valley and foothill grasslands and vernal pool margins (elevation zero to 900 feet amsl).                                              | <b>Absent.</b> Suitable habitat for the species is present in the alkali playa/alkali wetlands and other seasonal wetlands within the study area. The species was not detected during the April 2024 protocol-level survey of the study area. |

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**Table 4.4-3  
Special-Status Species with Potential to Occur Within the Study Area**

| Scientific Name<br>(Common Name)                      | Yolo HCP/NCCP<br>Covered<br>Species? | Federal<br>Status | State<br>Status | Habitat Requirements                                                                                                                                                                       | Potential for Occurrence                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
|-------------------------------------------------------|--------------------------------------|-------------------|-----------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <i>Puccinellia simplex</i><br>California alkali grass | No                                   | --                | CRPR 1B.2       | Alkaline, vernal mesic areas in sinks, flats and lake margins in chenopod scrub, meadows and seeps, valley and foothill grasslands, and vernal pools (elevation seven to 3,051 feet amsl). | <b>Absent.</b> Suitable habitat for the species is present in the Alkali Prairie land cover within the study area. CNDDDB Occurrence #52 is within the study area. The record was documented by several botanists between 1947 and 1963, the exact location is extremely vague, and the occurrence is considered "possibly extirpated." However, the habitat within the study area is suitable for the species. The species was not detected during the April 2024 protocol-level survey of the study area. |
| <i>Sidalcea keckii</i><br>Keck's checkerbloom         | No                                   | FE                | CRPR 1B.1       | Serpentine clay soils in cismontane woodland and valley and foothill grasslands (elevation 245 to 2,135 feet amsl).                                                                        | <b>No Habitat Present.</b> Serpentine soils do not occur within the study area, and the project site/BRPA site is outside of the elevational range of the species.                                                                                                                                                                                                                                                                                                                                          |
| <i>Symphotrichum lentum</i><br>Suisun Marsh aster     | No                                   | --                | CRPR 1B.2       | Occurs in fresh and salt-water marshes, often associated with blackberries, cattails, and bulrush (elevation zero to 10 feet amsl).                                                        | <b>No Habitat Present.</b> The study area is outside of the distributional range of the species.                                                                                                                                                                                                                                                                                                                                                                                                            |
| <i>Trifolium hydrophilum</i><br>Saline clover         | No                                   | --                | CRPR 1B.2       | Grows in marshes, swamps, and vernal pools with alkaline soils (elevation zero to 985 feet amsl).                                                                                          | <b>Absent.</b> Suitable habitat is present in the alkali playa/alkali wetlands and other seasonal wetlands within the study area. The species was not detected during the April 2024 protocol-level survey of the study area.                                                                                                                                                                                                                                                                               |

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**Table 4.4-3  
Special-Status Species with Potential to Occur Within the Study Area**

| Scientific Name<br>(Common Name)                 | Yolo HCP/NCCP<br>Covered<br>Species? | Federal<br>Status | State<br>Status  | Habitat Requirements                                                                                                                                                                                                                                                                                                                                                                                  | Potential for Occurrence                                                                                                                                                                                                                                                                     |
|--------------------------------------------------|--------------------------------------|-------------------|------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <i>Tuctoria mucronata</i><br>Crampton's tuctoria | No                                   | FE                | CE, CRPR<br>1B.1 | Vernal pools and mesic areas in valley and foothill grasslands (elevation 15 to 35 feet amsl).                                                                                                                                                                                                                                                                                                        | <b>Absent.</b> Suitable habitat is present in the alkali playa/alkali wetlands and other seasonal wetlands within the study area. The species was not detected during the June and July 2024 protocol-level surveys of the study area.                                                       |
| <b>Invertebrates</b>                             |                                      |                   |                  |                                                                                                                                                                                                                                                                                                                                                                                                       |                                                                                                                                                                                                                                                                                              |
| <i>Bombus crotchii</i><br>Crotch's bumble bee    | No                                   | --                | CC               | Occurs in open grasslands and scrub habitats, primarily in California including the Mediterranean region, Pacific Coast, Western Desert, Great Valley, and adjacent foothills through most of southwestern California. The species was historically common in the Central Valley of California, but now appears to be absent from most of the valley, especially in the center of the historic range. | <b>Moderate.</b> Much of the study area is disturbed and in active agriculture. However, the Alkali Prairie land cover and California Annual Grassland Alliance land cover may provide low-quality seasonal habitat.                                                                         |
| <i>Bombus occidentalis</i><br>Western bumble bee | No                                   | --                | CC               | Meadows and grasslands with blended floral resources are appropriate habitat. Historically known throughout the mountains and northern coast of California, and now largely confined to high-elevation sites and a small handful of records on the Northern California coast.                                                                                                                         | <b>No Habitat Present.</b> The study area is outside of the current range of the species. The species was documented somewhere near Davis in the 1950s and 1960s (CNDDDB Occurrence #176). However, recent data and range maps indicate that the study area is outside of the current range. |

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**Table 4.4-3  
Special-Status Species with Potential to Occur Within the Study Area**

| Scientific Name<br>(Common Name)                                                     | Yolo HCP/NCCP<br>Covered<br>Species? | Federal<br>Status | State<br>Status | Habitat Requirements                                                                                                                                                                         | Potential for Occurrence                                                                                                                                                                                                                                                   |
|--------------------------------------------------------------------------------------|--------------------------------------|-------------------|-----------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <i>Branchinecta<br/>conservatio</i><br>Conservancy fairy<br>shrimp                   | No                                   | FE                | --              | Occurs in very large, turbid vernal<br>pools.                                                                                                                                                | <b>Absent.</b> The alkali playas within the study<br>area have the potential to support the<br>species. Protocol wet- and dry-season<br>surveys conducted in 2023 through 2024<br>did not detect the species.                                                              |
| <i>Branchinecta lynchi</i><br>Vernal pool fairy shrimp                               | No                                   | FT                | --              | Occurs in vernal pools.                                                                                                                                                                      | <b>Absent.</b> The alkali playa, seasonal<br>wetlands, farmed wetland, and wetland<br>ditches within the study area have the<br>potential to support the species. Protocol<br>wet- and dry-season surveys conducted in<br>2023 through 2024 did not detect the<br>species. |
| <i>Danaus plexippus</i><br>Monarch butterfly                                         | No                                   | FPT               | --              | Migratory species that is most<br>prevalent in the Central Valley in<br>summer and early fall.<br>Dependent upon milkweed<br>( <i>Asclepias</i> species) plants as<br>exclusive larval host. | <b>High.</b> Several patches of milkweed plants<br>are present that could support the species.                                                                                                                                                                             |
| <i>Desmocerus<br/>californicus dimorphus</i><br>Valley elderberry<br>longhorn beetle | Yes                                  | FT                | --              | Dependent upon elderberry<br>( <i>Sambucus</i> species) plant as<br>primary host species.                                                                                                    | <b>High.</b> A total of 26 elderberry shrubs are<br>present within or adjacent to the study<br>area that could represent habitat for the<br>species. The species was documented in<br>the vicinity of the study area in 1934<br>(CNDDB Occurrence #256).                   |

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**Table 4.4-3  
Special-Status Species with Potential to Occur Within the Study Area**

| Scientific Name<br>(Common Name)                                                                     | Yolo HCP/NCCP<br>Covered<br>Species? | Federal<br>Status | State<br>Status | Habitat Requirements                                                                                                                                                                                                                                | Potential for Occurrence                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
|------------------------------------------------------------------------------------------------------|--------------------------------------|-------------------|-----------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <i>Lepidurus packardii</i><br>Vernal pool tadpole<br>shrimp                                          | No                                   | FE                | --              | Occurs in vernal pools.                                                                                                                                                                                                                             | <b>Present.</b> Suitable habitat for the species is present in the alkali playas, wetland ditches, and seasonal wetlands within the study area. Two overlapping records (CNDDDB Occurrence #217 and #222) occur in a portion of the study area. The occurrences include collections in 1941, 1942, 1952, and 1979, and all of the collections were from features west of CR 101A, which is west of the project site/BRPA site, but cuts through a portion of the Western Program Study Area. The species was documented in the on-site features within the study area: two alkali playas, and one wetland ditch (see Figure 4.4-6). |
| <b>Fish</b>                                                                                          |                                      |                   |                 |                                                                                                                                                                                                                                                     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| <i>Acipenser medirostris</i><br>Green sturgeon –<br>Southern Distinct<br>Population Segment<br>(DPS) | No                                   | FC                | CT              | Prefers moderately saline water and may be found in major bays and estuaries from San Francisco Bay northward. Inhabits bay waters throughout the summer, moving into the lower reaches of the rivers that flow into the bays in the fall to spawn. | <b>No Habitat Present.</b> The study area is outside of the geographic range of the species and suitable aquatic habitat is not present.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |

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**Table 4.4-3  
Special-Status Species with Potential to Occur Within the Study Area**

| Scientific Name<br>(Common Name)                              | Yolo HCP/NCCP<br>Covered<br>Species? | Federal<br>Status | State<br>Status | Habitat Requirements                                                                                                                                                                      | Potential for Occurrence                                                                                                                                                                                                                                                                                                                                                                                       |
|---------------------------------------------------------------|--------------------------------------|-------------------|-----------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Amphibians</b>                                             |                                      |                   |                 |                                                                                                                                                                                           |                                                                                                                                                                                                                                                                                                                                                                                                                |
| <i>Ambystoma californiense</i><br>California tiger salamander | Yes                                  | FT                | CT              | Breeds in ponds or other deeply ponded wetlands and uses gopher holes and ground squirrel ( <i>Otospermophilus beecheyi</i> ) burrows in adjacent grasslands for upland refugia/foraging. | <b>No Habitat Present.</b> The study area does not contain and is not adjacent to large grassland habitat that is necessary for the species to persist. The intensive agricultural practices such as plowing, disking, and irrigation of the fields preclude the species from being present.                                                                                                                   |
| <i>Spea hammondi</i><br>Western spadefoot                     | No                                   | FPT               | CSC             | Breeds in vernal pools, seasonal wetlands and associated swales. Forages and hibernates in adjacent grasslands.                                                                           | <b>Low.</b> Low-quality habitat is present in the alkali playa, seasonal wetlands, and wetland ditches within the study area. Due to ongoing intensive agricultural activities, a low potential exists for the species to occur within the study area. The larvae of the species were not detected during the 2023 through 2024 biweekly wet season surveys of all suitable aquatic habitat in the study area. |
| <i>Actinemys marmorata</i><br>Northwestern pond turtle        | Yes                                  | FPT               | CSC             | Occurs in ponds, rivers, streams, wetlands, and irrigation ditches with associated marsh habitat.                                                                                         | <b>Low.</b> Channel A within the study area is shallow, ephemeral, and contains very little open water. Suitable nesting habitat occurs in the Western Program Study Area. The species could use the channel to disperse from pond habitats at the North Davis Farms and Julie Partansky Pond downstream through the study area toward the Willow Slough Bypass.                                               |

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**Table 4.4-3  
Special-Status Species with Potential to Occur Within the Study Area**

| Scientific Name<br>(Common Name)                 | Yolo HCP/NCCP<br>Covered<br>Species? | Federal<br>Status | State<br>Status | Habitat Requirements                                                                                                                                                 | Potential for Occurrence                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
|--------------------------------------------------|--------------------------------------|-------------------|-----------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <i>Thamnophis gigas</i><br>Giant garter snake    | Yes                                  | FT                | CT              | Occurs in rivers, canals, irrigation ditches, rice fields, and other aquatic habitats with slow-moving water and heavy emergent vegetation.                          | <b>No Habitat Present.</b> Channel A and the uplands within the study area do not represent suitable habitat for the species. The lack of perennial or semi-perennial water needed to support a prey base, the lack of suitable basking habitat due to the dense riparian canopy, and the highly disturbed and farmed nature of the uplands surrounding Channel A make the study area unsuitable. Additionally, the lack of adjacent wetlands or rice farming to the Channel A also contributes to the unsuitability of the study area. Please see the giant garter snake habitat assessment for additional information on this species (Attachment J of the BRA, which is included as Appendix D to this EIR). |
| <b>Birds</b>                                     |                                      |                   |                 |                                                                                                                                                                      |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| <i>Agelaius tricolor</i><br>Tricolored blackbird | Yes                                  | --                | CE, CSC         | Colonial nester in cattails ( <i>Typha</i> species), bulrush ( <i>Schoenoplectus</i> species), or blackberry ( <i>Rubus</i> species) associated with marsh habitats. | <b>Low.</b> A very small freshwater emergent marsh and isolated patches of cattail, bulrush, and blackberry within Channel A are present on-site; however, the areas are generally too small to support colonial nesting habitat. The agricultural fields throughout the study area represent potential foraging habitat. The species was not observed during any of the surveys in 2023 and 2024, including the protocol-level Swainson's hawk and burrowing owl surveys.                                                                                                                                                                                                                                      |

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**Table 4.4-3  
Special-Status Species with Potential to Occur Within the Study Area**

| Scientific Name<br>(Common Name)                               | Yolo HCP/NCCP<br>Covered<br>Species? | Federal<br>Status | State<br>Status | Habitat Requirements                                                                                                                             | Potential for Occurrence                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
|----------------------------------------------------------------|--------------------------------------|-------------------|-----------------|--------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <i>Athene cunicularia</i><br>Burrowing owl                     | Yes                                  | --                | CC, CSC         | Nests in abandoned ground squirrel burrows associated with open grassland habitats.                                                              | <b>High.</b> Extensive complexes of ground squirrel burrows occur throughout the study area, particularly along the western edge of the project site/BRPA site and along Channel A. The burrows represent suitable habitat. However, burrowing owls were not observed during protocol-level breeding- and non-breeding-season surveys of the study area conducted in 2023 and 2024. However, the species is highly mobile and could move into the study area at any time.                                                                                                                                                                                                                        |
| <i>Buteo swainsoni</i><br>Swainson's hawk                      | Yes                                  | --                | CT              | Nests in large trees, preferably in riparian areas. Forages in fields, cropland, irrigated pasture, and grassland near large riparian corridors. | <b>Present.</b> Large trees throughout the study area represent suitable nesting habitat, and the agricultural fields on-site represent suitable foraging habitat. The Alkali Prairie, Grain and Hay Crops, and Semi-Agricultural land covers on-site represent suitable foraging habitat. The species was previously observed nesting within the southern portion of the study area in 1982 through 1991 (CNDDB Occurrence #450). During the 2024 protocol-level surveys for the species, one active nest was observed on-site along Channel A, and a second nest was observed just to the north of the study area (see Figure 4.4-6). The species regularly forages throughout the study area. |
| <i>Charadrius alexandrinus nivosus</i><br>Western snowy plover | No                                   | FT                | CSC             | Occurs in barren to sparsely vegetated open areas near water.                                                                                    | <b>No Habitat Present.</b> Outside of the known range of the species and suitable habitat is not present.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |

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**Table 4.4-3  
Special-Status Species with Potential to Occur Within the Study Area**

| Scientific Name<br>(Common Name)                                        | Yolo HCP/NCCP<br>Covered<br>Species? | Federal<br>Status | State<br>Status | Habitat Requirements                                                                                                                                                                                                          | Potential for Occurrence                                                                                                                                                                                                                                                                                 |
|-------------------------------------------------------------------------|--------------------------------------|-------------------|-----------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <i>Circus hudsonius</i><br>Northern harrier                             | No                                   | --                | CSC             | Nests in emergent wetland/marsh, open grasslands, or savannah habitats. Forages in open areas such as marshes, agricultural fields, and grasslands.                                                                           | <b>Present.</b> Suitable nesting habitat occurs immediately adjacent to the study area in the City's former wastewater treatment plant (WWTP) site and in the Western Program Study Area. The species was observed foraging on-site during several surveys in 2023 and 2024.                             |
| <i>Coccyzus americanus occidentalis</i><br>Western yellow-billed cuckoo | Yes                                  | FT                | CE              | Inhabits extensive deciduous riparian thickets or forests with dense, low-level or understory foliage, adjacent to slow-moving waterways, backwaters, or seeps.                                                               | <b>No Habitat Present.</b> Appropriate extensive riparian woodland habitat does not occur on-site.                                                                                                                                                                                                       |
| <i>Elanus leucurus</i><br>White-tailed kite                             | Yes                                  | --                | CFP             | Open grasslands, fields, and meadows are used for foraging. Isolated trees in close proximity to foraging habitat are used for perching and nesting.                                                                          | <b>Present.</b> Trees throughout the study area represent suitable nesting habitat, and the Alkali Prairie, Grain and Hay Crops, and Semi-Agricultural land covers on-site represent suitable foraging habitat. The species was observed foraging within the study area during surveys in 2023 and 2024. |
| <i>Riparia riparia</i><br>Bank swallow                                  | Yes                                  | --                | CT              | Colonial nester preferring vertical cliffs and banks with fine-textured/sandy soils associated with riparian zones along streams, rivers, and lakes.                                                                          | <b>No Habitat Present.</b> Vertical cliffs and fine-textured/sandy soils are not present on-site.                                                                                                                                                                                                        |
| <i>Vireo bellii pusillus</i><br>Least Bell's vireo                      | Yes                                  | FE                | CE              | Strongly associated with riparian corridors. Generally restricted to southern California along lowland willow-dominated riparian areas. In the Sacramento Valley, the species occurs as a vagrant during the breeding season. | <b>No Habitat Present.</b> The study area does not support riparian habitats with the dense shrubby willow thickets the species requires.                                                                                                                                                                |

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**Table 4.4-3  
Special-Status Species with Potential to Occur Within the Study Area**

| Scientific Name<br>(Common Name)                      | Yolo HCP/NCCP<br>Covered<br>Species? | Federal<br>Status | State<br>Status | Habitat Requirements                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | Potential for Occurrence                                                                                                                                   |
|-------------------------------------------------------|--------------------------------------|-------------------|-----------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Mammals</b>                                        |                                      |                   |                 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                                                                                                                                                            |
| <i>Antrozous pallidus</i><br>Pallid bat               | No                                   | --                | CSC,<br>WBWG H  | Day and night roosts include crevices in rocky outcrops and cliffs, caves, mines, trees (e.g., basal hollows of coast redwoods [ <i>Sequoia sempervirens</i> ] and giant sequoia [ <i>Sequoiadendron giganteum</i> ], bole cavities of oaks [ <i>Quercus</i> species], exfoliating Ponderosa pine [ <i>Pinus ponderosa</i> ] and Valley oak bark, deciduous trees in riparian areas, and fruit trees in orchards), and various human structures such as bridges (especially wooden and concrete girder designs), barns, porches, bat boxes, and human-occupied, as well as vacant, buildings. | <b>High.</b> Suitable roosting habitat is present in tree hollows and under exfoliating bark on trees scattered throughout the study area.                 |
| <i>Lasionycteris noctivagans</i><br>Silver-haired bat | No                                   | --                | WBWG M          | Roosts in abandoned woodpecker holes, under bark, and occasionally in rock crevices. The species forages in open wooded areas near water features.                                                                                                                                                                                                                                                                                                                                                                                                                                            | <b>High.</b> Suitable roosting habitat for the species is present in tree hollows and under exfoliating bark on trees scattered throughout the study area. |
| <i>Lasiurus cinereus</i><br>Hoary bat                 | No                                   | --                | WBWG M          | Roosts primarily in foliage of both coniferous and deciduous trees at the edges of clearings.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | <b>High.</b> Trees scattered throughout the study area are suitable roosting habitat for this species.                                                     |

(Continues on next page)



**Table 4.4-3  
Special-Status Species with Potential to Occur Within the Study Area**

| Scientific Name<br>(Common Name)                                                                                                                                                                                                                                                                                                                                                                                                                                                        | Yolo HCP/NCCP<br>Covered<br>Species? | Federal<br>Status | State<br>Status | Habitat Requirements                                           | Potential for Occurrence                                                                                                                                                                                                                                                           |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------|-------------------|-----------------|----------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <i>Taxidea taxus</i><br>American badger                                                                                                                                                                                                                                                                                                                                                                                                                                                 | No                                   | --                | CSC             | The species prefers dry open fields, grasslands, and pastures. | <b>Low.</b> The small area of grassland within the study area is surrounded by development and has regular pedestrian traffic and is not suitable habitat for American badger. American badger may use Channel A as a migratory corridor, dispersing to and from suitable habitat. |
| CC: CDFW Candidate for Listing<br>CE: CDFW Endangered<br>CFP: CDFW Fully Protected<br>CRPR: California Rare Plant Rank<br>CR: California Rare<br>CT: CDFW Threatened<br>FC: Federal Candidate for Listing<br>FPT: Federally Proposed Threatened<br>FD: Federally Delisted<br>CSC: CDFW Species of Special Concern<br>FT: Federally Threatened<br>WBWG M: Western Bat Working Group Medium Threat Rank<br>WBWG H: Western Bat Working Group High Threat Rank<br>FE: Federally Endangered |                                      |                   |                 |                                                                |                                                                                                                                                                                                                                                                                    |
| <b>Source: Madrone Ecological Consulting, 2024.</b>                                                                                                                                                                                                                                                                                                                                                                                                                                     |                                      |                   |                 |                                                                |                                                                                                                                                                                                                                                                                    |





The species was not detected during the April 2024 protocol-level survey of the study area when the species would have been identifiable. Thus, Ferris' milk-vetch is considered *absent* from the study area.

### *Alkali Milk-Vetch*

Alkali milk-vetch (*Astragalus tener* var. *tener*) is not federally or State-listed, but is classified as a CRPR List 1B.2 plant. The annual herb is found in adobe clay in valley and foothill grasslands, vernal pools, and playas. The plant occurs at elevations between five and 195 feet amsl and blooms from March to June.

The alkali playa and alkali wetlands within the study area represent suitable habitat for the species. Four occurrences of alkali milk-vetch have been recorded within five miles of the study area (see Figure 4.4-4). The closest record (CNDDDB Occurrence #36) overlaps the study area, and five additional unprocessed CNDDDB records from 2023 within the alkali playa are within the study area. Thousands of individuals of the species were documented by Madrone within the alkali wetlands within the study area (see Figure 4.4-6) during targeted surveys in 2024. The plants were observed both in relatively typical habitat (interspersed with hydrophytic species typical of the alkali wetland), as well as in some mesic upland areas. Plants were widely scattered in some areas, particularly to the west, and were denser in eastern areas. A total of approximately 19,300 alkali milk vetch plants were documented within 3.17 acres of occupied habitat. The population estimate is based on a combination of direct counts for relatively small populations, and extrapolated population estimates for the very large populations.<sup>6</sup> Thus, alkali milk-vetch is *present* in the study area.

### *Heartscale*

Heartscale (*Atriplex cordulata* var. *cordulata*) is not federally or State-listed but is classified as a CRPR List 1B.2 plant. The species is an herbaceous annual that sometimes occurs in alkaline soils within chenopod scrub, sandy valley and foothill grasslands, and meadows and seeps. Heartscale blooms from April through October and is known to occur at elevations ranging from approximately sea level to 1,835 feet amsl.

The Alkali Prairie land cover within the study area represents suitable habitat for heartscale. One record of heartscale occurs within five miles of the study area (see Figure 4.4-4). The record (CNDDDB Occurrence #4) overlaps the study area, and is based on a 1952 collection. The species was not detected during the June and July 2024 protocol-level surveys of the study area when the species would have been identifiable. Thus, heartscale is considered *absent* from the study area.

### *Brittlescale*

Brittlescale (*Atriplex depressa*) is not federally or State-listed but is classified as a CRPR List 1B.2 plant. The species is an herbaceous annual that occurs in valley and foothill grasslands, meadows and seeps, chenopod scrub, playas, and vernal pools with alkaline and clay soils. Brittlescale blooms from April through October and is known to occur at elevations ranging from approximately five to 1,050 feet amsl.

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<sup>6</sup> See page 36 of the BRA (Appendix D of this EIR) for an explanation of extrapolated population estimates of alkali milk-vetch.



The Alkali Prairie land cover within the study area represents suitable habitat for brittlescale. Three records of brittlescale occur within five miles of the study area (see Figure 4.4-4). The closest record (CNDDDB Occurrence #57) is on-site, within the alkali playa. The occurrence was last documented in 1996, as 70 plants were identified within the on-site alkali playa. The species was not detected during the June and July 2024 protocol-level surveys of the study area when the species would have been identifiable. Thus, brittlescale is considered *absent* from the study area.

### *Bristly Sedge*

Bristly sedge (*Carex comosa*) is not a federally or State-listed species but is classified as a CRPR List 1B.2 plant. Bristly sedge is found in marshes and swamps in valley and foothill grasslands and coastal prairies. The species is a rhizomatous perennial, and blooms from March through September at elevations from sea level to 2,050 feet amsl.

The freshwater emergent marsh and the western portion of Channel A within the study area provide suitable habitat for the species. Documented occurrences of the species in the CNDDDB do not occur within five miles of the study area. The species was not detected during the August 2023 or June and July 2024 protocol-level surveys of the study area when the species would have been identifiable. Thus, bristly sedge is considered *absent* from the study area.

### *Pappose Tarplant*

Pappose tarplant (*Centromadia parryi* ssp. *parryi*) is not federally or State-listed, but is classified as a CRPR List 1B.2 species. The annual herb is primarily associated with mesic, often alkaline areas in chaparral, coastal prairie, and valley and foothill grasslands, as well as meadows and seeps and coastal salt marshes. Pappose tarplant occurs at elevations between sea level and 1,380 feet amsl, and blooms from May through November.

The Alkali Prairie land cover throughout the study area represents suitable habitat for the species. One record of pappose tarplant occurs within five miles of the study area (see Figure 4.4-4). The record (CNDDDB Occurrence #37) is located approximately 4.7 miles east of the project site/BRPA site along Interstate 80 (I-80), between Chiles Road and Levee Road, on the west edge of the Yolo Bypass Wildlife Area. The occurrence was last observed in 2011. The species was not detected during the June and July 2024 protocol-level surveys of the study area when the species would have been identifiable. Thus, pappose tarplant is considered *absent* from the study area.

### *Palmate-Bracted Bird's Beak*

Palmate-bracted bird's beak (*Chloropyron palmatum*) is listed as a federally and State endangered species and is classified as a CRPR List 1B.1 plant. The species is also a Yolo HCP/NCCP Covered Species. The hemi-parasitic annual herb is found in chenopod scrub and valley and foothill grasslands with alkaline soils. The species occurs at elevations between 15 and 510 feet amsl and blooms from May through October.

The Alkali Prairie land cover within the study area represents suitable habitat for the species. Two records of palmate-bracted bird's beak occur within five miles of the study area (see Figure 4.4-4). The closest record (CNDDDB Occurrence #1) is located approximately 4.1 miles north of the project site/BRPA site near the junction of CRs 103 and 25, between Woodland and Davis. The population is located on City of Woodland property and has been monitored regularly since the 1980s, with 517 plants observed in 2021. The species was not detected during the June and July



2024 protocol-level surveys of the study area when the species would have been identifiable. Thus, palmate-bracted bird's beak is considered *absent* from the study area.

### *Jepson's Coyote Thistle*

Jepson's coyote thistle (*Eryngium jepsonii*) is not a federally or State-listed species but is classified as a CRPR List 1B.2 plant. The species is a perennial herb that is found in vernal pools and valley and foothill grasslands on clay soils and occurs at elevations from 10 to 985 feet amsl and blooms from April through August.

The alkali playa, alkali wetlands, and seasonal wetlands within the study area provide suitable habitat for the species. Documented occurrences of the species do not occur within five miles of the study area. The species was not detected during the June and July 2024 protocol-level surveys of the study area when the species would have been identifiable. Thus, Jepson's coyote thistle is considered *absent* from the study area.

### *San Joaquin Spearscale*

San Joaquin spearscale (*Extriplex joaquinana*) is not federally or State-listed, but is classified as a CRPR List 1B.2 plant. The annual herb is found on alkaline soils in meadows, seeps, and playas, in chenopod scrub and valley and foothill grasslands. San Joaquin spearscale is found between approximately five feet and 2,740 feet amsl and blooms from April through October.

The Alkali Prairie land cover represents suitable habitat for the species. Six occurrences of San Joaquin spearscale have been recorded within five miles of the study area (see Figure 4.4-4). The closest record (CNDDDB Occurrence #40) is located within the study area. Thousands of individuals of the species were documented by Madrone within the alkali wetlands and surrounding Alkali Prairie land cover within the study area (see Figure 4.4-6) during targeted surveys in 2024. The plants were widely scattered in some areas, and quite dense in others. A total of approximately 20,900 San Joaquin spearscale plants were documented within 3.78 acres of occupied habitat. The population estimate is based on a combination of direct counts for relatively small populations, and extrapolated population estimates for the very large populations.<sup>7</sup> Thus, San Joaquin spearscale is *present* in the study area.

### *Woolly Rose-Mallow*

Woolly rose-mallow (*Hibiscus lasiocarpus* var. *occidentalis*) is not federally or State-listed, but is classified as a CRPR List 1B.2 plant. The perennial rhizomatous herb typically occurs in shallow freshwater marshes and swamp habitats and is strongly associated with the Sacramento-San Joaquin River Delta watershed. Woolly rose-mallow often occurs in riprap on sides of levees. The species is found at elevations from sea level to approximately 395 feet amsl and blooms from June to September.

The western portion of Channel A that contains emergent vegetation represents marginal habitat for the species. Documented occurrences of the species in the CNDDDB do not occur within five miles of the study area. The species was not detected during the August 2023 or June and July 2024 protocol-level surveys of the study area when the species would have been identifiable. Thus, woolly rose-mallow is considered *absent* from the study area.

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<sup>7</sup> See page 39 of the BRA (Appendix D of this EIR) for an explanation of extrapolated population estimates of San Joaquin spearscale.





### Heckard's Pepper-Grass

Heckard's pepper-grass (*Lepidium latipes* var. *heckardii*) is not federally or State-listed but is classified as a CRPR List 1B.2 plant. The herbaceous annual is found in valley and foothill grasslands with alkaline flats. Heckard's pepper-grass blooms from March through May and is known to occur at elevations ranging from approximately five to 655 feet amsl.

The alkali playa, alkali wetlands, and seasonal wetlands within the study area represent suitable habitat for Heckard's pepper-grass. Three occurrences of Heckard's pepper-grass have been recorded within five miles of the study area (see Figure 4.4-4). The closest record (CNDDDB Occurrence #2) overlaps a small portion of the study area (see Figure 4.4-5). The herbarium label is the only source of information for this occurrence from 1957 and the exact location is unknown. The species was not detected during the April 2024 protocol-level survey of the study area when the species would have been identifiable. Thus, Heckard's pepper-grass is considered *absent* from the study area.

### Little Mousetail

Little mousetail (*Myosurus minimus* ssp. *apus*) is not a federally or State-listed species, but is classified as a CRPR List 3.1 plant. The annual herb favors valley and foothill grassland and alkaline vernal pool. Little mousetail is found between 65 and 2,100 feet amsl and blooms from March to June.

The alkali playa, alkali wetlands, and seasonal wetlands within the study area provide suitable habitat for the species. Records of the species within five miles of the study area do not occur within the CNDDDB. The species was not detected during the April 2024 protocol-level survey of the study area when the species would have been identifiable. Both *Myosurus minimus* and *Myosurus sessilis* were observed within the alkali wetlands within the study area, and CNPS staff were consulted to determine taxonomy for *Myosurus minimus* ssp. *apus*, as the species is not recognized in the Jepson eFlora. *Myosurus* plants that fit the characteristics of *Myosurus minimus* ssp. *apus* were not found within the study area. Thus, little mousetail is considered *absent* from the study area.

### Baker's Navarretia

Baker's navarretia (*Navarretia leucocephala* ssp. *bakeri*) is not federally or State-listed but is classified as a CRPR List 1B.1 plant. The herbaceous annual is associated with mesic soils and is found in cismontane woodland, lower montane coniferous forest, meadows and seeps, valley and foothill grassland, and vernal pools. Baker's navarretia occurs at elevations ranging from approximately 15 to 5,710 feet amsl and blooms from April through July.

The alkali playa, alkali wetlands, and seasonal wetlands within the study area represent suitable habitat for Baker's navarretia. Records of the species do not occur within five miles of the study area. The species was not detected during the April 2024 protocol-level survey of the study area when the species would have been identifiable. Thus, Baker's navarretia is considered *absent* from the study area.

### Colusa Grass

Colusa grass (*Neostapfia colusana*) is listed as threatened under the FESA, endangered under the CESA, and is classified as a CRPR List 1B.1 plant. The species is an annual herb that occurs in large vernal pools with clay soils at elevations between 16 feet and 656 feet. In the vicinity of the study area, the species has been documented growing in vernal pools on Bear Creek,



Corning, Greenfield, Keyes, Landlow, Lewis, Meikle, Pentz, Peters, Raynor, Redding, and Whitney soil series. Colusa grass blooms from May through August.

The alkali playa and alkali wetlands within the study area provide suitable habitat for the species. Records of the species do not occur within five miles of the study area within the CNDDDB. The species was not detected during the June and July 2024 protocol-level surveys of the study area when the species would have been identifiable. Thus, Colusa grass is considered *absent* from the study area.

### *Bearded Popcornflower*

Bearded popcornflower (*Plagiobothrys hystriculus*) is not a federally or State-listed species but is classified as a CRPR List 1B.1 plant. The herbaceous annual is often found along margins of vernal pools, as well as mesic valley and foothill grasslands. Bearded popcornflower occurs at elevations ranging from sea level to 900 feet amsl and blooms from April through May.

The alkali playa, alkali wetlands, and seasonal wetlands within the study area provide suitable habitat for the species. Records of the species do not occur within five miles of the study area within the CNDDDB. The species was not detected during the April 2024 protocol-level survey of the study area when the species would have been identifiable. Thus, bearded popcornflower is considered *absent* from the study area.

### *California Alkali Grass*

California alkali grass (*Puccinellia simplex*) is not listed under the FESA or CESA, but is classified as a CRPR List 1B.2 plant. The annual herb favors chenopod scrub, meadows and seeps, valley and foothill grasslands, and mesic vernal pools. California alkali grass is found in elevations ranging from about 5 to 3,050 feet amsl and blooms from March to May.

The Alkali Prairie land cover within the study area represents suitable habitat for the species. Eight occurrences of California alkali grass have been recorded within five miles of the study area (see Figure 4.4-4). The closest record (CNDDDB Occurrence #52) overlaps the study area (see Figure 4.4-5). The occurrence is from 1952 through 1961, but the CNDDDB considers the population potentially extirpated. The species was not detected during the April 2024 protocol-level survey of the study area when the species would have been identifiable. Thus, California alkali grass is considered *absent* from the study area.

### *Saline Clover*

Saline clover (*Trifolium hydrophilum*) is not federally or State-listed, but is classified as a CRPR List 1B.2 plant. The herbaceous annual favors marshes, swamps, vernal pools, as well as mesic alkaline areas in valley and foothill grassland habitat. Saline clover is found from sea level to approximately 985 feet amsl and blooms from April through June.

The alkali playa, alkali wetlands, and seasonal wetlands within the study area represent suitable habitat for the species. Four records of saline clover occur within five miles of the study area (see Figure 4.4-4). The closest record (CNDDDB Occurrence #43) is located approximately four miles northwest of the project site/BRPA site at Woodland Regional Park, about 0.5-mile southeast of intersection of CRs 102 and 25. The species was not detected during the April 2024 protocol-level survey of the study area when the species would have been identifiable. Thus, saline clover is considered *absent* from the study area.



### *Crampton's Tuctoria*

Crampton's tuctoria (also known as Solano grass; *Tuctoria mucronata*) is listed as a federally and California endangered species and is classified as a CRPR List 1B.1 plant. The annual herb favors mesic valley and foothill grasslands and is associated with vernal pools. Solano grass occurs at elevations ranging from approximately 15 to 35 feet amsl and blooms from April through August.

The alkali playa and alkali wetlands within the study area represent suitable habitat for the species. Documented records of the species do not occur within five miles of the study area. The species was not detected during the August 2023 or June and July 2024 protocol-level surveys of the study area when the species would have been identifiable. Thus, Crampton's tuctoria is considered *absent* from the study area.

### Listed and Special-Status Wildlife Species

According to the records search conducted as part of the BRA, 25 special-status wildlife species have the potential to occur on-site or within five miles of the study area (see Figure 4.4-7). Based on literature review (detailed further in this chapter under the Method of Analysis subsection), 17 of the 25 special-status wildlife species were determined to have potential to occur within the study area. Species that are considered to be *present* include vernal pool tadpole shrimp, Swainson's hawk, northern harrier, and white-tailed kite.

The following discussions provide further details of the 17 special-status wildlife species with the potential to occur within the study area.

### *Crotch's Bumble Bee*

Crotch's bumble bee (*Bombus crotchii*) is a candidate species for listing under CESA. Crotch's bumble bee has a limited distribution in southwestern North America. The species occurs primarily in California, including the Mediterranean region, Pacific Coast, West Desert, Great Valley, and adjacent foothills through most of southwestern California, as well as in Mexico (Baja California and Baja California Sur), and has been documented in southwest Nevada, near the California border.

The species was historically common in the Central Valley, but now appears to be absent from most of the valley, especially in the center of the historic range. In California, Crotch's bumble bee inhabits open grasslands and scrub habitats.

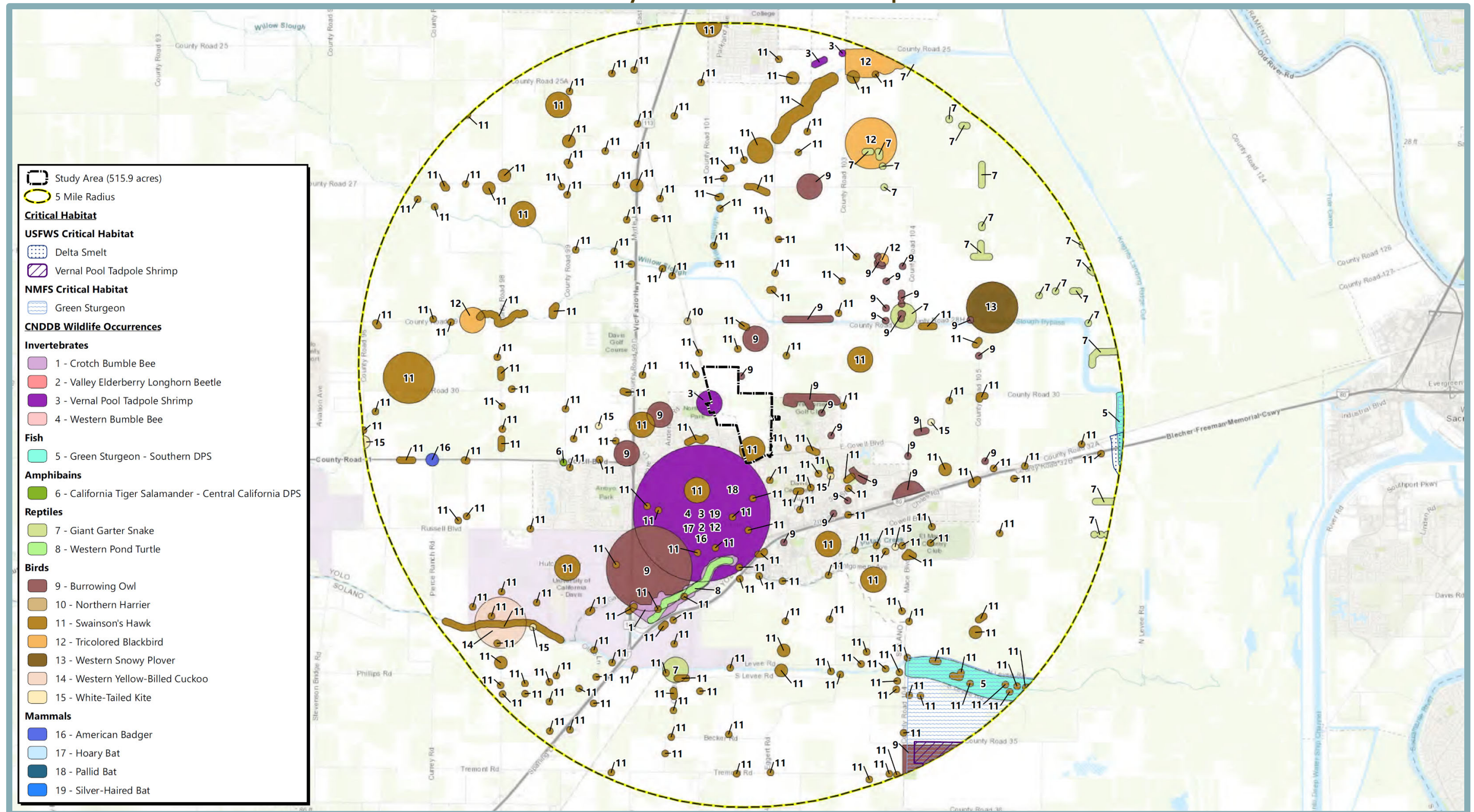
All bumble bees have three basic requirements: suitable nesting sites for the colonies, availability of nectar and pollen from floral resources throughout the duration of the entirety of the colony period (spring, summer, and fall), and suitable overwintering sites for the queens. Nests are often located underground in abandoned holes made by ground squirrels, mice, and rats or occasionally abandoned bird nests. Some species nest on the surface of the ground (in tufts of grass) or in empty cavities. Bumble bees that nest aboveground may require undisturbed areas with nesting resources such as grass and hay to protect nests. Furthermore, areas with woody cover, or other sheltered areas provide bumble bees sites to build their nests (e.g., downed wood, rock walls, brush piles, etc.).

Bumble bees depend on the availability of habitats with a rich supply of floral resources that bloom continuously during the entirety of the colony's life. The queen collects nectar and pollen from flowers to support the production of her eggs, which are fertilized by sperm she has stored from mating the previous fall.





**Figure 4.4-7**  
**California Natural Diversity Database Occurrences of Special-Status Wildlife**



As generalist foragers, bumble bees do not depend on any one flower type, but generally prefer flowers that are purple, blue, or yellow; bumble bees are essentially blind to the color red. The plant families most commonly associated with Crotch's bumble bee observations in California include Apocynaceae, Asteraceae, Boraginaceae, Fabaceae, and Lamiaceae. Very little is known about hibernacula, or overwintering sites used by most bumble bees. Generally, bumble bees overwinter in soft, disturbed soil, under leaf litter or other debris, in abandoned holes made by fossorial mammals or occasionally in abandoned bird nests. Some species nest on the surface of the ground (in grassy tussocks) or in empty cavities (hollow logs, dead trees, under rocks, etc.). Queens most likely overwinter in small cavities just below or on the ground surface.

The California Annual Grassland Alliance and Alkali Prairie land covers within the study area represent suitable habitat for Crotch's bumble bee. One documented record of the species occurs within 1.3 miles of the study area (CNDDDB Occurrence #11). Collections from Davis and Putah Creek were attributed to the occurrence location from 1949 through 1998. Thus, the potential for Crotch's bumble bee to occur in the study area is *moderate*.

It should be noted that as a candidate for listing, Crotch's bumble bee is temporarily afforded the same protections as a State-listed endangered or threatened species. After CDFW's status report on Crotch's bumble bee is complete, the California Fish and Game Commission must decide at a public meeting whether the petitioned action (listing of the species) is warranted. If the California Fish and Game Commission finds that the petitioned action is not warranted, the process would end and the species would be removed from the list of candidate species. If the California Fish and Game Commission finds that the petitioned action is warranted, the species would be added to the list of threatened or endangered species under CESA.

### *Conservancy Fairy Shrimp*

The conservancy fairy shrimp (*Branchinecta conservatio*) is listed as endangered pursuant to the FESA. The species is endemic to California and found in vernal pools in grasslands in the northern two thirds of the Central Valley. The historic distribution of conservancy fairy shrimp is not known, but likely occurred throughout a large portion of the Central Valley and Southern Coastal regions of California. Until recently, the species has only been known from a few disjunct populations in California. In April of 2007, the USFWS reported that a single conservancy fairy shrimp was documented in one vernal pool within the Mariner Conservation Bank in Placer County.

Conservancy fairy shrimp is the largest of the endemic Central Valley fairy shrimp and can reach lengths of slightly over one inch. The species has a relatively long maturation (36 days) and reproductive (46 days) period, and is typically found with other large branchiopod species with long maturation and reproductive periods, such as vernal pool tadpole shrimp (*Lepidurus packardii*) and California fairy shrimp (*Lindneriella occidentalis*). The species sometimes co-occurs with endemic vernal pool grasses such as Colusa grass and Orcutt grasses (*Orcuttia* spp.), which likewise tend to inhabit deep wetlands with long inundation periods. Similar to the endemic vernal pool grasses, conservancy fairy shrimp occur in wetlands that are primarily unvegetated in the deepest portion of the pool. Conservancy fairy shrimp has been documented in vernal pools and vernal lakes ranging from 0.076-acre in size to 88.03 acres.

The alkali playa within the study area has potential to support conservancy fairy shrimp. The species has not been documented in the CNDDDB within five miles of the study area, but the species has been documented approximately nine miles southeast of the study area. Protocol-level wet- and dry-season surveys for the species were conducted in all suitable habitat within the





study area. The surveys were negative. Thus, conservancy fairy shrimp is considered *absent* from the study area.

### *Vernal Pool Fairy Shrimp*

The vernal pool fairy shrimp (*Branchinecta lynchi*) is listed as threatened, pursuant to the FESA. Historically, the range of vernal pool fairy shrimp extended throughout the Central Valley. Vernal pool fairy shrimp populations have been found in several locations throughout California, with habitat extending from Stillwater Plain in Shasta County, through the Central Valley, to Pixley in Tulare County, and along the Central Coast range from northern Solano County to Pinnacles National Monument in San Benito County. Additional populations occur in San Luis Obispo, Santa Barbara, and Riverside counties. The historic and current ranges of vernal pool fairy shrimp are very similar in extent; however, the remaining populations are more fragmented and isolated than during historical times. The life cycle of vernal pool fairy shrimp is adapted to seasonally inundated features such as vernal pools, seasonal wetlands, and seasonal wetland swales. Fairy shrimp embryos survive the dry season in cyst form. Cysts “hatch” soon after pools become inundated during the wet season. Fairy shrimp complete their life cycle quickly and feed on small particles of detritus, algae, and bacteria.

The alkali playa, seasonal wetlands, farmed wetland, and wetland ditches within the study area represent suitable habitat for the species. The species has not been documented in the CNDDB within five miles of the study area. Protocol-level wet- and dry-season surveys for the species were conducted in all suitable habitat within the study area. The surveys were negative. Thus, vernal pool fairy shrimp is considered *absent* from the study area.

### *Vernal Pool Tadpole Shrimp*

The vernal pool tadpole shrimp (*Lepidurus packardii*) is listed as endangered, pursuant to the FESA. The historic range of the vernal pool tadpole shrimp likely extended throughout the Central Valley and has been documented from east of Redding in Shasta County, south to Fresno County, and to the San Francisco Bay Wildlife Refuge in Alameda County. The historic and current ranges of vernal pool tadpole shrimp are very similar in extent; however, the remaining populations are more fragmented and isolated than during historical times.

The species is associated with low-alkalinity seasonal pools in grasslands throughout the northern and eastern portions of the Central Valley. Suitable vernal pools and seasonal swales are generally underlain by hardpan or sandstone. Vernal pool tadpole shrimp are adapted to seasonally inundated features such as vernal pools, seasonal wetlands, and seasonal wetland swales. Tadpole shrimp embryos survive the dry season in cyst form. Cysts “hatch” soon after pools become inundated during the wet season. Sexually mature adults may persist three to four weeks after habitat inundation.

The largest threats to vernal pool tadpole shrimp are loss of habitat through urbanization. Other threats include encroachment of nonnative annual grasses, agricultural conversion, and parasitism by flukes of an undetermined species. Some populations are also threatened by pesticide drift from adjacent farmlands.

The alkali playas, seasonal wetlands, and wetland ditches within the study area provide suitable habitat for the species. Three occurrences are documented within five miles of the study area, and the closest occurrence (CNDDB Occurrence #222) overlaps the study area (see Figure 4.4-6 and Figure 4.4-7). The occurrence was documented just west of CR 101A/F Street in 1979.





Protocol-level wet- and dry-season surveys for the species were conducted in all suitable habitat within the study area, and vernal pool tadpole shrimp were documented in three features, including two alkali playas, and one wetland ditch basin (see Figure 4.4-6). Thus, vernal pool tadpole shrimp are *present* in the study area.

### *Monarch Butterfly*

Monarch butterfly (*Danus plexippus*) is proposed for federal listing as threatened. The species can occur in fields, roadside areas, open areas, wet areas, or urban gardens and requires flowering plants as a food source and healthy and abundant milkweed (generally *Asclepius* sp.) for laying eggs on as larval host plants. The monarch life cycle varies by geographic location, and in many regions where monarchs are present, monarchs breed year-round.

While the species was not observed on-site during the field surveys, several substantial patches of narrowleaf milkweed (*Asclepius fascicularis*), a larval host plant for monarch butterfly, were documented within the study area. The largest population of narrowleaf milkweed is located along the western edge of the study area, south of Channel A. Additionally, flowering plants within the study area may provide nectar for foraging adults. A query of the Western Monarch Milkweed Database yielded occurrences that were recorded in 2020 of monarch adults approximately 0.3-mile east of the study area and monarch breeding approximately 3.2 miles southeast of the site. Thus, the potential for monarch butterfly to occur in the study area is *high*.

### *Valley Elderberry Longhorn Beetle*

The valley elderberry longhorn beetle (VELB) (*Desmocerus californicus dimorphus*) is federally threatened and is a Yolo HCP/NCCP Covered Species. The species is a medium-sized, red and dark green insect and is approximately 0.5- to 0.8-inch long. Females are larger than males and resemble males, except that the first pair of wings do not fully cover the abdomen when viewed from above. Males have longer, thicker antennae than females, as well as red-orange wing covers with four spots.

The VELB is completely dependent on its host plant, elderberry (*Sambucus* spp.), which occurs in riparian and other woodland communities in California's Central Valley and the associated foothills. Female beetles lay their eggs in crevices on the stems or on the leaves of living elderberry plants. When the eggs hatch, larvae bore into the stems. The larval stages last for one to two years. The fifth instar larvae create emergence holes in the stems and then plug the holes and remain in the stems through pupation. Adults emerge through the emergence holes from late March through June. The short-lived adult beetles forage on leaves and flowers of elderberry shrubs.

The historic range of the VELB is limited to moist Valley oak woodlands along margins of rivers and streams in the lower Sacramento and lower San Joaquin valleys. At the time of listing, the VELB was known from less than 10 localities in Merced, Sacramento, and Yolo counties. The current distribution is patchy throughout California's Central Valley and associated foothills. VELB most commonly occur in areas within, or near, some type of riparian corridor containing elderberries, as well as other woody plant species, such as willow, cottonwood, wild grape (*Vitis californica*), and box elder. Population densities of the VELB are probably naturally low, and the VELB, based on spatial distribution of occupied shrubs, has been suggested to have limited dispersal capabilities. Low density and limited dispersal capability may cause the VELB to be vulnerable to the adverse effects of the isolation of small subpopulations, due to habitat fragmentation.



One known occurrence of VELB from 1934 overlaps a small portion of the study area. The occurrence (CNDDDB Occurrence #256) has been mapped as a “best guess,” based on the vague location description of “Davis”. The exact location of the historic observation is unknown. A total of 26 elderberry shrubs have been identified within or adjacent to the study area (see Figure 4.4-6) that represent potential habitat for VELB, with 21 of the shrubs described as small shrubs planted just outside the western boundary of the study area. Thus, the potential for VELB to occur in the study area is *high*.

### *Western Spadefoot*

The western spadefoot (*Spea hammondi*) is proposed for federal listing as threatened and is a CDFW Species of Special Concern. The amphibian is a nocturnal animal that forages in grassland, open chaparral, and pine-oak woodlands for a variety of invertebrates, such as insects and worms. Western spadefoot breeds from January through May in a variety of temporary wetlands, including creeks, pools in intermittent drainages, vernal pools, and seasonal wetlands, and other fish-free water features. The tadpoles develop over three to 11 weeks and must complete their metamorphosis before the temporary pools dry. Post-metamorphic juveniles feed and then immediately seek underground refugia. Following metamorphosis, adults are largely terrestrial in nature and will burrow into sandy or gravelly soils using the “spades” on their hind feet. The majority of an adult’s life is spent in underground burrows. Western spadefoots are known to breed in relatively deep man-made features, such as ponded areas adjacent to railroad tracks, and in intermittent drainage plunge pools or similar pools that hold water through late spring.

The alkali playas, seasonal wetlands, and wetland ditches within the study area provide suitable breeding habitat for western spadefoot. However, the uplands surrounding the features are heavily disturbed by ongoing farming practices, which greatly reduces the potential for western spadefoot to be present within the study area. The species has not been documented in the CNDDDB within five miles of the study area. The larvae of the species were not detected during the biweekly wet season surveys of all suitable aquatic habitat conducted between 2023 and 2024 within the survey area. Thus, the potential for western spadefoot to occur in the study area is *low*.

### *Northwestern Pond Turtle*

The northwestern pond turtle (*Actinemys marmorata*) is proposed for federal listing as threatened and is a CDFW Species of Special Concern and a Yolo HCP/NCCP Covered Species. Northwestern pond turtle’s favored habitats include streams, large rivers, and canals with slow-moving water, aquatic vegetation, and open basking sites. Although the turtles must live near water, the species can tolerate drought by burrowing into the muddy beds of dried drainages. The species feeds mainly on invertebrates, such as insects and worms, but will also consume small fish, frogs, mammals, and some plants. Northwestern pond turtle predators include raccoons, coyotes, raptors, weasels, large fish, and bullfrogs. The species breeds from mid to late spring in adjacent open grasslands or sandy banks.

Channel A within the study area is shallow, ephemeral, and contains very little open water that northwestern pond turtle prefer. The species may use Channel A to disperse from pond habitats at the North Davis Farms and Julie Partansky Pond downstream through the study area toward the Willow Slough Bypass. Channel A is dry for most of the year and does not serve as suitable habitat when not inundated. The adjacent uplands are heavily disturbed farmland that are unsuitable for northwestern pond turtle. The nearest occurrence of northwestern pond turtle was in 2001, approximately 2.1 miles southwest of the study area along the old Putah Creek channel



in the University of California, Davis (UC Davis) Arboretum (see Figure 4.4-7) (CNDDDB Occurrence #362), and the species was observed at the location by Madrone in 2023. Northwestern pond turtles were not observed within the study area during the field surveys. Thus, the potential for northwestern pond turtle to occur in the study area is *low*.

### *Tricolored Blackbird*

Tricolored blackbird (*Agelaius tricolor*) is State-listed as threatened, a CDFW Species of Special Concern, and a Yolo County HCP/NCCP Covered Species. Historically, colonies were established in freshwater marshes dominated by cattails (*Typha* spp.) and bulrushes (*Scirpus* or *Schoenoplectus* spp.). More recently, the species has used non-native mustards (*Brassica* spp.), blackberries (*Rubus* spp.), thistles (*Cirsium* spp.), and mallows (*Malva* spp.) as nesting substrate. Since the 1980s, the largest colonies have been observed in the San Joaquin Valley in cultivated fields of triticale, which is a hybrid of wheat and rye often grown as livestock fodder. The current trend of nesting in active agricultural fields has further imperiled the species as nestlings typically are not fledged by the time the triticale is harvested.

A very small freshwater emergent marsh and isolated patches of cattail, bulrush, and blackberry in Channel A are present on-site; however, such areas are too small to support colonial nesting habitat. Therefore, suitable nesting habitat is not present within the study area. However, the agricultural fields on-site represent potential foraging habitat for the species. Five documented occurrences of the species are within five miles of the study area (see Figure 4.4-5). The nearest occurrence (CNDDDB Occurrence #488) overlaps the study area and has been mapped as a “best guess,” based on the vague location description of “Davis.” The occurrence is from 1932, and the exact location is unknown. The nearest distinct occurrence (CNDDDB Occurrence #489) is located approximately 2.4 miles northeast of the project site/BRPA site, and dates to 2011. Tricolored blackbird was not observed within the study area by Madrone during any surveys conducted in 2023 and 2024, including the protocol-level Swainson’s hawk and burrowing owl surveys. Thus, the potential for tricolored blackbird to occur in the study area is *low*.

### *Burrowing Owl*

Burrowing owl (*Athene cunicularia*) is not federally listed, but is a candidate for listing under CESA. The species is also designated as a CDFW Species of Special Concern and is a Yolo HCP/NCCP Covered Species. Burrowing owls typically inhabit dry open rolling hills, grasslands, desert floors, and open bare ground with gullies and arroyos. The species typically uses burrows created by fossorial mammals, most notably the California ground squirrel, but may also use man-made structures, such as culverts; cement, asphalt, or wood debris piles; or openings beneath cement or asphalt pavement. The species’ breeding season extends from February 1 through August 31.

Extensive complexes of ground squirrel burrows occur throughout the study area, particularly along the western edge of the project site/BRPA site and along the irrigation canal; the burrows represent suitable habitat for burrowing owls. Signs of burrowing owl (owls, whitewash, feathers, or pellets) were not observed at any of the burrows during the non-breeding season surveys. Several documented records of the species occur within five miles of the study area (see Figure 4.4-5 and Figure 4.4-7). The nearest occurrence (CNDDDB Occurrence #1967) is located immediately adjacent to the site along the northeast boundary, and dates to 2016. Despite the extensive potential habitat, burrowing owls were not observed during protocol-level breeding- and non-breeding-season surveys of the study area conducted in 2023 and 2024. However, the species is highly mobile and could move into the area at any time. Thus, the potential for burrowing owl to occur in the study area is *high*.





### Swainson's Hawk

Swainson's hawk (*Buteo swainsoni*) is a raptor species that is not federally listed, but is listed as threatened by CDFW, and is a Yolo HCP/NCCP Covered Species. Breeding pairs typically nest in tall trees associated with riparian corridors, and forage in grassland, irrigated pasture, and cropland with a high density of rodents. The Central Valley populations breed and nest in the late spring through early summer before migrating to Central and South America for the winter.

Large trees throughout the study area represent suitable nesting habitat for the species, and the agricultural fields on-site represent suitable foraging habitat. Many documented occurrences of Swainson's hawk occur within five miles of the study area (see Figure 4.4-4 and Figure 4.4-7), including two occurrences (CNDDDB Occurrence #450 and #1985) which are located on-site. Occurrence #450 is in the southern portion of the project site/BRPA site and dates to 1991, while Occurrence #1985 is located at the northwest corner of the site and dates to 2009. During the 2024 protocol-level surveys for the species, one active nest was observed within the study area along Channel A, and a second was observed just to the north of the study area (see Figure 4.4-6). The species forages throughout the study area regularly. Thus, Swainson's hawk is *present* in the study area.

### Northern Harrier

The northern harrier (*Circus cyaneus*) is not listed, pursuant to either the FESA or CESA. The species is a CDFW Species of Special Concern. Northern harrier, a ground-nesting species, is known to nest within the Central Valley, along the Pacific Coast, and in northeastern California, typically nesting in emergent wetland/marsh, open grasslands, or savannah habitats. Foraging occurs within a variety of open habitats, such as marshes, agricultural fields, and grasslands.

The project site does not support potential nesting habitat for the species because suitable grassland or marsh habitat does not occur on-site; however, the agricultural fields support suitable foraging habitat and suitable nesting habitat occurs within 500 feet of the project site on the old wastewater treatment property and on the Western Program Study Area, the latter of which is included in the BRA study area. One documented record of northern harrier occurs within five miles of the project site/BRPA site (see Figure 4.4-7). The occurrence (CNDDDB Occurrence #51) dates to 2015 and is located approximately 0.5-mile northwest of the study area. The species was observed foraging on-site during several field surveys. Thus, northern harrier is *present* in the study area.

### White-Tailed Kite

White-tailed kite (*Elanus leucurus*) is not federally or State-listed. The raptor is a CDFW Fully Protected species and is also a Yolo HCP/NCCP Covered Species. White-tailed kite is a yearlong resident of the Central Valley and is primarily found in or near foraging areas, such as open grasslands, meadows, farmlands, savannahs, and emergent wetlands. White-tailed kites typically nest from March through June in trees within riparian, oak woodland, and savannah habitats of the Central Valley and Coast Range.

Trees throughout the study area represent suitable nesting habitat for the species, and the agricultural fields on-site represent suitable foraging habitat. Six documented records of white-tailed kite occur within five miles of the project site/BRPA site (see Figure 4.4-7). The nearest occurrence (CNDDDB Occurrence #64) is located approximately 0.9-mile to the southeast of the study area, and dates to 2003. The species was observed foraging on-site during several field surveys. Thus, white-tailed kite is *present* in the study area.



### *Pallid Bat*

Pallid bat (*Antrozous pallidus*) is not federally or State-listed. The species is a CDFW Species of Special Concern and classified by the WBWG as a High priority species. Pallid bat favors roosting sites in crevices in rock outcrops, caves, abandoned mines, hollow trees, and man-made structures, such as barns, attics, and sheds. Though pallid bats are gregarious, the species tends to group in smaller colonies of two to 20 individuals. The bat is a nocturnal hunter and captures prey in flight, but unlike most American bats, the species has been observed foraging for flightless insects, which the bat seizes after landing. Pallid bats forage over open shrub-steppe grasslands, oak savannah grasslands, open Ponderosa pine forests, talus slopes, gravel roads, fruit orchards, and vineyards.

Tree hollows and exfoliating bark on trees throughout the study area provide suitable roosting habitat for pallid bat. One record of the species occurs within five miles of the study area (see Figure 4.4-7). The closest record (CNDDDB Occurrence #312), documented in 1964, overlaps the study area and has been mapped as a “best guess,” based on the vague location description of “Davis.” Thus, the potential for pallid bat to occur in the study area is *high*.

### *Silver-Haired Bat*

Silver-haired bat (*Lasionycteris noctivagans*) is not federally or State-listed. The species is classified by the WBWG as a Medium priority species. The silver-haired bat occurs in more xeric environments during winter and seasonal migrations. The species changes roosts frequently, and uses multiple roosts within a limited area, indicating that clusters of large trees are necessary. Silver-haired bat roosts in hollow trees, abandoned woodpecker holes, under sloughing bark, in rock crevices, and occasionally under wood piles. The bats tend to forage above the canopy, over open meadows, and in the riparian zone along water courses. The species is known to eat a wide variety of species; however, moths appear to be a major portion of dietary prey.

Tree hollows and exfoliating bark on trees throughout the study area represent suitable roosting habitat for silver-haired bat. One record of the species occurs within five miles of the study area (see Figure 4.4-7). The closest record (CNDDDB Occurrence #88), documented in 1957, overlaps the study area and has been mapped as a “best guess,” based on the vague location description of “Davis.” Thus, the potential for silver-haired bat to occur in the study area is *high*.

### *Hoary Bat*

The hoary bat (*Lasiurus cinereus*) is not federally or State-listed. The species is classified by the WBWG as a Medium priority species. Hoary bat is considered to be one of the most widespread of all American bats, with a range extending from Canada to central Chile and Argentina, as well as Hawaii. Hoary bats are solitary and roost primarily in foliage of both coniferous and deciduous trees, near the ends of branches at the edge of a clearing. The species is primarily crepuscular or nocturnal and requires open areas to hunt its preferred prey item, moths. The hoary bat is considered a forest/woodland species and often associated with undisturbed riparian or stream corridors in California.

Trees scattered throughout the study area represent suitable roosting habitat for hoary bat. One record of the species occurs within five miles of the study area (see Figure 4.4-7). The closest record (CNDDDB Occurrence #136), last observed in 1991, overlaps the study area and has been mapped as a “best guess,” based on the vague location description of “Davis.” Thus, the potential for hoary bat to occur in the study area is *high*.



### American Badger

The American badger (*Taxidea taxus*) is not federally or State-listed but is considered a CDFW Species of Special Concern. The species historically ranged throughout much of the State, except in humid coastal forests. Badgers were once numerous in the Central Valley; however, populations now occur in low numbers in the surrounding peripheral parts of the valley and in the adjacent lowlands of eastern Monterey, San Benito, and San Luis Obispo counties. Badgers occupy a variety of habitats, including grasslands and savannahs. The principal requirements seem to be significant food supply, friable soils, and relatively open, uncultivated ground. The burrowing carnivorous mammal is solitary and very territorial. American badger does not have known natural predators, and feeds on small mammals, lizards, snakes, insects, and carrion.

The small area of grassland within the study area is surrounded by development and has regular pedestrian traffic. As such, the grassland is not suitable habitat for American badger. The species may use Channel A as a migratory corridor dispersing to and from suitable habitat. Two documented records of American badger occur within five miles of the study area (see Figure 4.4-7). The nearest occurrence (CNDDDB Occurrence #329), observed in 1986, overlaps the study area and has been mapped as a “best guess,” based on the vague location description of “Davis.” American badgers were not observed within the study area during the field surveys. Thus, the potential for American badger to occur in the study area is *low*.

### Trees

As detailed below in the Methods of Analysis section, Madrone conducted a tree inventory under the supervision of a certified arborist within most of the study area. Existing trees within the project site/BRPA site include planted trees located along East Covell Boulevard and along the southernmost west boundary of the site, as well as non-native and native riparian trees located along either side of Channel A. In addition, native and non-native trees occur in association with the on-site remnants of the mostly demolished rural residence, located in the southern portion of the site.

A total of 1,294 trees were inventoried within the study area. Less than seven percent of the trees inventoried within the Channel A riparian corridor are native. The majority of the trees (78 percent) are Arizona ash and Chinese wingnut (*Pterocarya stenoptera*). Although Arizona ash is native to the Southern California deserts, the species is not regionally native. Table 4.4-4 summarizes the trees inventoried within the study area, including those extrapolated as discussed further in the Method of Analysis section.

| <b>Table 4.4-4<br/>Trees Inventoried Within the Study Area</b> |                                                        |                                 |                           |                         |
|----------------------------------------------------------------|--------------------------------------------------------|---------------------------------|---------------------------|-------------------------|
| <b>Tree Species</b>                                            | <b>Number of Trees (DBH<sup>3</sup> if applicable)</b> |                                 |                           |                         |
|                                                                | <b>Project Area</b>                                    |                                 | <b>Program Study Area</b> | <b>Study Area Total</b> |
|                                                                | <b>Inventoried</b>                                     | <b>Extrapolated<sup>2</sup></b> |                           |                         |
| Aleppo pine<br>( <i>Pinus halepensis</i> )                     | 3 (100.0)                                              | --                              | --                        | 3                       |
| Almond<br>( <i>Prunus dulcis</i> )                             | 2 (36.5)                                               | --                              | --                        | 2                       |
| American sycamore<br>( <i>Platanus occidentalis</i> )          | 2 (19.0)                                               | --                              | 11 (115.5)                | 13                      |
| Arizona ash<br>( <i>Fraxinus velutina</i> )                    | 254 (4,183.1)                                          | 244                             | 5 (91.5)                  | 503                     |

(Continues on next page)





**Table 4.4-4  
Trees Inventoried Within the Study Area**

| Tree Species                                                | Number of Trees (DBH <sup>3</sup> if applicable) |                           |                    |                  |
|-------------------------------------------------------------|--------------------------------------------------|---------------------------|--------------------|------------------|
|                                                             | Project Area                                     |                           | Program Study Area | Study Area Total |
|                                                             | Inventoried                                      | Extrapolated <sup>2</sup> |                    |                  |
| Australian blackwood<br>( <i>Acacia melanoxylon</i> )       | 12 (207.0)                                       | --                        | --                 | 12               |
| Bald cypress<br>( <i>Taxodium distichum</i> )               | 1 (13.0)                                         | --                        | --                 | 1                |
| Black willow <sup>1</sup><br>( <i>Salix gooddingii</i> )    | 1 (27.5)                                         | 1                         | --                 | 2                |
| Boxelder <sup>1</sup><br>( <i>Acer negundo</i> )            | 22 (260.5)                                       | 21                        | --                 | 43               |
| Bradford pear<br>( <i>Pyrus calleryana</i> )                | 3 (49.5)                                         | 1                         | --                 | 4                |
| Cherry plum<br>( <i>Prunus cerasifera</i> )                 | 1 (8.0)                                          | --                        | --                 | 1                |
| Chinese elm<br>( <i>Ulmus parvifolia</i> )                  | 25 (344.8)                                       | 24                        | --                 | 49               |
| Chinese hackberry<br>( <i>Celtis sinensis</i> )             | 8 (100.5)                                        | 10                        | 2 (23.5)           | 20               |
| Chinese pistache<br>( <i>Pistacia chinensis</i> )           | 7 (111.5)                                        | --                        | 1 (9.5)            | 8                |
| Chinese tallowtree<br>( <i>Triadica sebifera</i> )          | 38 (539.1)                                       | --                        | 1 (13.0)           | 39               |
| Chinese wingnut<br>( <i>Pterocarya stenoptera</i> )         | 183 (2,532.6)                                    | 178                       | --                 | 361              |
| Cigar tree<br>( <i>Catalpa bignonioides</i> )               | 14 (203.8)                                       | 14                        | --                 | 28               |
| Coast live oak <sup>1</sup><br>( <i>Quercus agrifolia</i> ) | 4 (47.3)                                         | 1                         | 1 (14.0)           | 6                |
| Cork oak<br>( <i>Quercus suber</i> )                        | 11 (192.5)                                       | 9                         | --                 | 20               |
| English walnut<br>( <i>Juglans regia</i> )                  | 1 (32.5)                                         | --                        | --                 | 1                |
| Japanese privet<br>( <i>Ligusticum japonicum</i> )          | 4 (54.4)                                         | 4                         | --                 | 8                |
| Kentucky coffeetree<br>( <i>Gymnocladus dioica</i> )        | 1 (8.5)                                          | --                        | --                 | 1                |
| London planetree<br>( <i>Platanus x acerifolia</i> )        | 8 (69.5)                                         | 8                         | --                 | 16               |
| Mexican fan palm<br>( <i>Washingtonia robusta</i> )         | 1 (22.0)                                         | 1                         | --                 | 2                |
| Narrow-leaved ash<br>( <i>Fraxinus angustifolia</i> )       | 1 (10.5)                                         | --                        | --                 | 1                |

(Continues on next page)



**Table 4.4-4  
Trees Inventoried Within the Study Area**

| Tree Species                                                                                                                                                                                                   | Number of Trees (DBH <sup>3</sup> if applicable) |                           |                    |                  |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------|---------------------------|--------------------|------------------|
|                                                                                                                                                                                                                | Project Area                                     |                           | Program Study Area | Study Area Total |
|                                                                                                                                                                                                                | Inventoried                                      | Extrapolated <sup>2</sup> |                    |                  |
| Northern California black walnut <sup>1</sup><br>( <i>Juglans hindsii</i> )                                                                                                                                    | 8 (157.5)                                        | 8                         | --                 | 16               |
| Olive<br>( <i>Olea europaea</i> )                                                                                                                                                                              | 1 (16.5)                                         | --                        | --                 | 1                |
| Pecan<br>( <i>Carya illinoensis</i> )                                                                                                                                                                          | 1 (7.5)                                          | --                        | --                 | 1                |
| Persian silk tree<br>( <i>Albizia julibrissin</i> )                                                                                                                                                            | 1(25.0)                                          | --                        | --                 | 1                |
| Queen's crepe-myrtle<br>( <i>Lagerstroemia speciosa</i> )                                                                                                                                                      | 4 (21.5)                                         | --                        | --                 | 4                |
| Red willow <sup>1</sup><br>( <i>Salix laevigata</i> )                                                                                                                                                          | 2 (114.0)                                        | 2                         | --                 | 4                |
| Redwood<br>( <i>Sequoia sempervirens</i> )                                                                                                                                                                     | 2 (43.5)                                         | --                        | --                 | 2                |
| Siberian elm<br>( <i>Ulmus pumila</i> )                                                                                                                                                                        | 38 (799.0)                                       | 11                        | --                 | 49               |
| Silver maple<br>( <i>Acer saccharum</i> )                                                                                                                                                                      | 1 (12.4)                                         | 1                         | --                 | 2                |
| Sour cherry<br>( <i>Prunus cerasus</i> )                                                                                                                                                                       | 1 (8.5)                                          | --                        | --                 | 1                |
| Valley oak <sup>1</sup><br>( <i>Quercus lobata</i> )                                                                                                                                                           | 59 (1,125.0)                                     | 4                         | 7 (101.5)          | 70               |
| <b>Total</b>                                                                                                                                                                                                   | <b>725 (11,504.0)</b>                            | <b>541</b>                | <b>28 (368.5)</b>  | <b>1,294</b>     |
| <sup>1</sup> Native species.<br><sup>2</sup> Most of the extrapolated trees are within the project site, but a few are located within the Program Study Area.<br><sup>3</sup> Diameter at Breast Height (DBH). |                                                  |                           |                    |                  |
| <b>Source: Madrone Ecological Consulting, 2024.</b>                                                                                                                                                            |                                                  |                           |                    |                  |

### 4.4.3 REGULATORY CONTEXT

A number of federal, State, and local policies provide the regulatory framework that guides the protection of biological resources. The following discussion summarizes those laws that are most relevant to biological resources in the vicinity of the project site/BRPA site.

#### Federal Regulations

The following are the federal environmental laws and policies relevant to biological resources.

#### **Federal Endangered Species Act**

The U.S. Congress passed the FESA in 1973 to protect species that are endangered or threatened with extinction. FESA is intended to operate in conjunction with the National Environmental Policy Act (NEPA) to help protect the ecosystems upon which endangered and



threatened species depend. FESA prohibits the “take” of endangered or threatened wildlife species. “Take” is defined to include harassing, harming, pursuing, hunting, shooting, wounding, killing, trapping, capturing, or collecting wildlife species or any attempt to engage in such conduct (FESA Section 3[3], [19]). Harm is further defined to include significant habitat modification or degradation that results in death or injury to listed species by significantly impairing behavioral patterns (50 Code of Federal Regulations [CFR] Section 17.3). Harass is defined as actions that create the likelihood of injury to listed species to such an extent as to significantly disrupt normal behavior patterns (50 CFR Section 17.3). Actions that result in take can result in civil or criminal penalties.

Section 10 requires the issuance of an “incidental take” permit before any public or private action may be taken that could take an endangered or threatened species. The permit requires preparation and implementation of an HCP that would offset the take of individuals that may occur, incidental to implementation of a proposed project, by providing for the protection of the affected species.

Pursuant to the requirements of FESA, a federal agency reviewing a project within the jurisdiction of the agency must determine whether any federally listed threatened or endangered species may be present on-site and whether the proposed project will have a potentially significant impact on such species. In addition, the agency is required to determine whether the proposed action is likely to jeopardize the continued existence of any species proposed to be listed under FESA or result in the destruction or adverse modification of critical habitat proposed to be designated for such species (16 U.S. Code [USC], Section 1536[3], [4]).

For federally listed species covered under the Yolo HCP/NCCP, the Biological Opinion issued by the USFWS for the Yolo HCP/NCCP provides take coverage for covered projects. Further consultation is not required as long as the covered project complies with Yolo HCP/NCCP requirements. For federally listed species that are not Yolo HCP/NCCP Covered Species, take coverage is required as outlined below.

In the context of the Proposed Project and BRPA, FESA consultation with USFWS or the NMFS would be initiated if development would result in take of a threatened or endangered species not covered under the Yolo HCP/NCCP or if issuance of a Section 404 permit or other federal agency action could result in take of an endangered species not covered under the Yolo HCP/NCCP or adversely modify critical habitat of such a species.

### **Migratory Bird Treaty Act**

Raptors (birds of prey), migratory birds, and other avian species are protected by a number of State and federal laws. The federal Migratory Bird Treaty Act (MBTA) prohibits the killing, possessing, or trading of migratory birds except in accordance with regulations prescribed by the Secretary of Interior.

### **Clean Water Act**

The USACE regulates discharge of dredged or fill material into waters of the U.S. under Section 404 of the Clean Water Act (CWA). “Discharge of fill material” is defined as the addition of fill material into waters of the U.S., including but not limited to, the following: placement of fill that is necessary for the construction of any structure, or impoundment requiring rock, sand, dirt, or other material for the construction; site-development fills for recreational, industrial, commercial, residential, and other uses; causeways or road fills; and fill for intake and outfall pipes and sub-





aqueous utility lines (33 CFR Section 328.2[f]). In addition, Section 401 of the CWA (33 USC, Section 1341) requires any applicant for a federal license or permit to conduct any activity that may result in a discharge of a pollutant into waters of the U.S. to obtain a certification that the discharge will comply with the applicable effluent limitations and water quality standards.

Waters of the U.S. include a range of wet environments, such as lakes, rivers, streams (including intermittent streams), mudflats, sandflats, wetlands, sloughs, and wet meadows. Wetlands are defined as “those areas that are inundated or saturated by surface or groundwater at a frequency and duration sufficient to support and under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions” (33 CFR Section 328.3[b]).

Furthermore, jurisdictional waters of the U.S. can be defined by exhibiting a defined bed and bank and ordinary high-water mark (OHWM). The OHWM is defined by the USACE as “that line on shore established by the fluctuations of water and indicated by physical character of the soil, destruction of terrestrial vegetation, the presence of litter and debris, or other appropriate means that consider the characteristics of the surrounding areas” (33 CFR Section 328.3[e]).

### **State Regulations**

The following are the State environmental laws and policies relevant to biological resources.

#### **California Department of Fish and Wildlife**

CDFW administers a number of laws and programs designed to protect fish and wildlife resources under the California Fish and Game Code (CFGF), such as CESA (CFGF Section 2050, et seq.), Fully Protected Species (CFGF Section 3511), and the Lake or Streambed Alteration Agreement (LSAA) Program (CFGF Sections 1600 to 1616). Such regulations are summarized in the following sections.

#### **California Endangered Species Act**

The State of California enacted CESA in 1984. CESA is similar to the FESA but pertains to State-listed endangered and threatened species. Candidate species under the CESA are defined as native plant or animal species being considered for addition to the State's endangered or threatened species list. CESA requires State agencies to consult with CDFW when preparing CEQA documents to ensure that the State lead agency actions do not jeopardize the existence of listed species. CESA directs agencies to consult with CDFW on projects or actions that could affect listed species, directs CDFW to determine whether jeopardy would occur, and allows CDFW to identify “reasonable and prudent alternatives” to the project consistent with conserving the species. Agencies can approve a project that affects a listed species if they determine that “overriding considerations” exist; however, the agencies are prohibited from approving projects that would result in the extinction of a listed species.

As with FESA, for covered projects that may impact State-listed species under CESA that are also Covered Species under the Yolo HCP/NCCP, direct consultation with CDFW for State-listed take authorization is not required as long as the covered project complies with Yolo HCP/NCCP requirements. For projects that may result in take of State-listed species that are not Yolo HCP/NCCP Covered Species, CESA directs agencies to consult with CDFW on projects or actions that could affect listed species, directs CDFW to determine whether jeopardy would occur and allows CDFW to identify “reasonable and prudent alternatives” to the project consistent with conserving the species. CESA allows CDFW to authorize exceptions to the State's prohibition



against take of a listed species if the "take" of a listed species is incidental to carrying out an otherwise lawful project that has been approved under CEQA (CFGF Section 2081).

### California Fish and Game Codes

A number of species have been designated "Fully Protected" species under Sections 5515, 5050, 3511, and 4700 of the CFGC, but are not listed as endangered (Section 2062) or threatened (Section 2067) species under CESA. Except for take related to scientific research, all take of Fully Protected species is prohibited. The CFGC defines take as "hunt, pursue, catch, capture, or kill, or attempt to hunt, pursue, catch, capture, or kill."

Birds of prey are protected in California under provisions of the CFGC Section 3503.5 (1992), which states, "it is unlawful to take, possess, or destroy any birds in the order Falconiformes or Strigiformes (birds of prey) or to take, possess, or destroy the nest or eggs of any such bird except as otherwise provided by this code or any regulation adopted pursuant thereto." Construction disturbance during the breeding season could result in the incidental loss of fertile eggs or nestlings, or otherwise lead to nest abandonment. Disturbance that causes nest abandonment and/or loss of reproductive effort is considered "taking" by CDFW.

### Lake or Streambed Alteration Program

The CDFW is responsible for conserving, protecting, and managing California's fish, wildlife, and native plant resources. To meet this responsibility, CFGC Section 1602 requires notification to CDFW of any proposed activity that may substantially modify a river, stream, or lake. Notification is required by any person, business, State or local government agency, or public utility that proposes an activity that will:

- substantially divert or obstruct the natural flow of any river, stream, or lake;
- substantially change or use any material from the bed, channel, or bank of any river, stream, or lake; or
- deposit or dispose of debris, waste, or other material containing crumbled, flaked, or ground pavement where it may pass into any river, stream, or lake.

For the purposes of Section 1602, rivers, streams, and lakes must flow at least intermittently through a bed or channel. If notification is required and CDFW believes the proposed activity is likely to result in adverse harm to the natural environment, the CDFW will require that the parties enter into a LSAA.

### CDFW Species of Special Concern

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

### **Native Plant Protection Act**

The Native Plant Protection Act (NPPA) was enacted in 1977 and allows the Fish and Game Commission to designate plants as rare or endangered. Currently, 64 species, subspecies, and varieties of plants are protected as rare under the NPPA. The NPPA prohibits take of endangered or rare native plants, but includes some exceptions for agricultural and nursery operations, emergencies, and after properly notifying CDFW for vegetation removal from canals, roads, and other sites, changes in land use, and in certain other situations.



## **Regional Water Quality Control Board**

Any action requiring a CWA Section 404 permit, or a Rivers and Harbors Act Section 10 permit, must also obtain a CWA Section 401 Water Quality Certification. The State of California Water Quality Certification (WQC) Program was formally initiated by the State Water Resources Control Board (SWRCB) in 1990 under the requirements stipulated by Section 401 of the federal CWA. Although the CWA is a federal law, Section 401 of the CWA recognizes that states have the primary authority and responsibility for setting water quality standards. In California, under Section 401, the State and Regional Water Quality Control Boards (RWQCBs) are the authorities that certify that issuance of a federal license or permit does not violate California's water quality standards (i.e., that they do not violate Porter-Cologne and the Water Code). The WQC Program currently issues the WQC for discharges requiring USACE's permits for fill and dredge discharges within waters of the U.S., and also implements the State's wetland protection and hydromodification regulation program under the Porter-Cologne Water Quality Control Act.

On April 2, 2019, the SWRCB adopted a State Wetland Definition and Procedures for Discharges of Dredged or Fill Material to Waters of the State (Procedures), for inclusion in the forthcoming Water Quality Control Plan for Inland Surface Waters, Enclosed Bays, and Estuaries of California Plan. The Procedures consist of four major elements: (1) a wetland definition; (2) a framework for determining if a feature that meets the wetland definition is a water of the State; (3) wetland delineation procedures; and (4) procedures for the submittal, review, and approval of applications for WQCs and Waste Discharge Requirements (WDR) for dredge or fill activities. The State Office of Administrative Law (OAL) approved the Procedures on August 28, 2019, and the Procedures became effective May 28, 2020.

Under the Procedures and the State Water Code (Water Code Section 13050[e]), "waters of the State" are defined as "any surface water or groundwater, including saline waters, within the boundaries of the state." Unless excluded by the Procedures, any activity that could result in discharge of dredged or fill material to waters of the State, which includes waters of the U.S. and non-federal waters of the State, requires filing of an application under the Procedures.

The Porter-Cologne Water Quality Control Act (Porter-Cologne Act, Water Code Section 13000 et seq.) is California's statutory authority for the protection of water quality in conjunction with the federal CWA. The Porter-Cologne Act requires the SWRCB and RWQCBs under the CWA to adopt and periodically update water quality control plans, or basin plans. Basin plans are plans in which beneficial uses, water quality objectives, and implementation programs are established for each of the nine regions in California. The Porter-Cologne Act also requires dischargers of pollutants or dredged or fill material to notify the RWQCBs of such activities by filing Reports of Waste Discharge and authorizes the SWRCB and RWQCBs to issue and enforce waste discharge requirements, National Pollutant Discharge Elimination System (NPDES) permits, Section 401 water quality certifications, or other approvals.

## **Local Regulations**

The following are the local environmental laws and policies relevant to biological resources.

## **Yolo County Habitat Conservation Plan and Natural Community Conservation Plan**

The Yolo HCP/NCCP, which was adopted in January 2019, is a 50-year regional plan that provides for the conservation of 12 Covered Species and the natural communities and agricultural land on which they depend, while allowing for orderly development in Yolo County consistent with





local general plans. The following six local agencies prepared the Yolo HCP/NCCP: the Yolo Habitat Conservancy, County of Yolo, City of Davis, City of West Sacramento, City of Winters, and City of Woodland. The Yolo HCP/NCCP only applies to eligible projects, also known as Covered Activities, undertaken within the Yolo HCP/NCCP Plan Area, which includes all areas within Yolo County, including the incorporated cities of Davis, West Sacramento, Winters, and Woodland.

The Yolo HCP/NCCP provides the basis for issuance of long-term permits under FESA and the California Natural Community Conservation Planning Act (NCCPA) that cover an array of public and private activities, including activities that are essential to the ongoing viability of Yolo County's agricultural and urban economies. Specifically, the Yolo HCP/NCCP provides permittees (i.e., Yolo County, the four incorporated cities, and the Yolo Habitat Conservancy) with incidental take permits from both USFWS and CDFW for the 12 Covered Species, pursuant to Section 10(a)(1)(B) of the FESA and Section 2835 of the NCCPA chapter of the CFGC. The Yolo HCP/NCCP ensures compliance with the FESA, NCCPA, and CESA for Covered Activities that may affect Covered Species.

In addition to the permittees, the Yolo HCP/NCCP permits may cover the activities of other entities through certificates of inclusion obtained by completing the Yolo HCP/NCCP application process. The Yolo Habitat Conservancy charges various types of fees to cover implementation costs, including administration, land acquisition, restoration, and land management costs. Yolo HCP/NCCP applicants can either pay mitigation fees for land cover conversion, or conduct wetland restoration, and/or dedicate land in-lieu of the fees. Wetland restoration and land-in-lieu proposals must be reviewed and approved by the Yolo Habitat Conservancy. If an applicant opts to pay the mitigation fees, the Yolo Habitat Conservancy applies an adopted land cover fee schedule, with additional fees for wetlands. Fees are automatically increased annually, adjusted for inflation. Additionally, every five years, the Yolo Habitat Conservancy completes a fee assessment to review costs, underlying assumptions, and actual costs. After the review, fee schedule adjustments are made, and automatic annual increases resume based off the five-year fee assessment.

### **City of Davis General Plan**

The City of Davis General Plan biological resource policies that are applicable to the Proposed Project and BRPA are presented below.

#### **Habitat and Natural Areas Chapter**

Goal HAB 1 Identify, protect, restore, enhance and create natural habitats. Protect and improve biodiversity consistent with the natural biodiversity of the region.

Policy HAB 1.1 Protect existing natural habitat areas, including designated Natural Habitat Areas.

Policy HAB 1.2 Enhance and restore natural areas and create new wildlife habitat areas.

### **City of Davis Tree Ordinance**

The City of Davis regulates tree planting and removal within the community in Davis Municipal Code Chapter 37, Tree Planting, Preservation, and Protection. Article 37.01 of the Municipal Code contains the administrative provisions, the pertinent sections of which are as follows:



### **Section 37.01.020 Definitions**

**City tree** means any tree, other than a street tree, planted or maintained by the city within a city easement, right-of-way, park, greenbelt, public place or property owned or leased by the city.

**Landmark tree** means a tree that has determined by resolution of the city council to be of high value because of its species, size, age, form, historical significance, or some other professional criterion. The landmark tree list, available from the community services department, lists these identified trees.

**Private tree** means any tree privately owned and growing on private property, which may include landmark trees and/or trees of significance.

**Street tree** means any tree planted and/or maintained by the city, or recorded as a street tree, adjacent to a street or within a city easement or right-of-way on private property, within the street tree easement.

**Tree** means any woody perennial plant having one or several main stems commonly achieving ten or more feet in height and capable of being pruned and shaped to develop a branch-free trunk at least nine feet in height. Reference to any tree indicates the entire plant, including both visible (canopy, trunk) and below grade (roots).

**Tree of significance** means any tree included but not limited to those listed as per Section 37.03.050 as small and large trees which measure five inches or more in diameter (DBH).

In addition, Davis Municipal Code Article 37.03 contains the criteria for landmark trees and trees of significance, the pertinent sections of which are as follows:

#### **37.03.020 Landmark tree designation criteria**

(a) Any person may and is encouraged to submit a proposal to designate a tree as a landmark tree. Property owners of trees under consideration shall be notified that a proposal has been submitted and shall have the opportunity to be fully involved in the designation process. Proposals shall be reviewed by the director and sent to the tree commission for its review. Upon recommendation of the tree commission and approval of the City Council, a tree may be designated as a landmark tree if it meets any of the following criteria:

- (1) The tree is an outstanding specimen of a desirable species;
- (2) The tree is one of the largest or oldest trees in Davis;
- (3) The tree is of historical interest;
- (4) The tree is of distinctive form; or,
- (5) The tree is an unusual species, significant grove or is otherwise unique.

The director shall notify, in writing, the person who submitted the proposal and the tree owner (if different from the applicant) of the City Council's decision.

(b) When considering designating, removing designation (per Section 37.03.040) or removing (per Sections 37.03.060 and 37.03.070) landmark trees of historic value, the historical resources management commission shall be given the opportunity to comment on the proposal prior to tree commission review. (Ord. 2099 § 1, 2002)

#### **37.03.050 Trees of significance – Identification and classification**

All trees of significance are considered significant at five inches or greater in diameter (DBH). The following list [as included in the Davis Municipal Code] of potential trees of



significance divides tree species into two separate categories based upon their potential size at maturity; however, this list is not exhaustive. Should a property owner not know how a specific tree(s) five inches or greater may be affected by this section, (such as identification of species or species not on the list), the property owner may contact the city arborist. Not all trees on the following lists are appropriate for street trees or parking lot trees. For recommended street trees and parking lot trees, the City of Davis master tree list should be consulted.

**37.03.070 Landmark trees and trees of significance – Removal or modification associated with building permits or discretionary projects**

(d) Standards and provisions to be observed considering a permit under this section are as follows:

- (1) The design and placement of development should attempt to incorporate existing healthy trees into the site design.
  - (A) All trees to be removed shall be mitigated as required in the permit, with options as follows:
  - (B) Replanting a Tree(s) On-Site. Trees shall be planted in number and size so that there is no net loss in tree diameter at breast height (DBH). For example, if one tree is removed with a twelve-inch DBH size, mitigation may consist of a replacement of equal size, two trees each six-inch DBH, or four trees each three-inch DBH. The replanted tree(s) shall be minimum five-gallon size and of a species that will eventually equal or exceed the removed tree in size.
  - (C) Replanting a Tree(s) Off-Site. If there is insufficient space on the property for the replacement tree(s), required planting shall occur on the other property in the applicant's ownership or in city-owned open space or park, subject to the approval of the city arborist and authorized property owners.
  - (D) Payment to the Tree Preservation Fund in Lieu of Replacement. If in the city arborist's determination no feasible alternative exists to plant the required mitigation, or there are other considerations for alternative mitigation, the applicant shall pay into the tree preservation fund an amount determined by the director based upon the ISA appraisal guidelines or other approved method. If the director approves another method of appraisal guidelines the director shall publish notice of that approval and notify the permit applicant at the time the permit application is issued.
- (2) Removal or modification shall not be approved unless one of the following shall apply:
  - (A) The tree(s), due to its location in respect to topography and required setbacks and easements, prevents reasonable development of permitted uses. Existing development on similar sites in the same zone and having similar characteristics shall be considered when determining reasonable development of permitted uses.
  - (B) The condition of the tree(s), with respect to general health; disease; maturity; structural integrity; proximity to existing structures; parking; high pedestrian traffic areas; activity areas or interference with utility services, cannot be controlled or remedied through reasonable preservation procedures and practices.





- (C) Good forestry practice suggests a reduction in the number of trees due to incapacity of the property to sustain the present number in healthy condition.
- (3) The visual prominence and function of each tree on the site shall be considered prior to a decision on the application.
- (4) If the application is approved, such conditions shall be imposed as are deemed necessary to fulfill the standards of this chapter.

Davis Municipal Code Section 37.03.050 protects 25 small tree species and 43 large tree species. However, as noted above, the listed tree species is not exhaustive. In addition, Davis Municipal Code Section 37.03.060 requires approval of a valid tree removal request and/or tree modification permit prior to cutting down, pruning substantially, encroaching into the protection zone of, or topping or relocating any landmark tree or tree of significance. Furthermore, Article 37.05 contains protection procedures to be implemented during grading, construction, or other site-related work. Such procedures, include, but are not limited to, inclusion of tree protection measures on approved development plans and specifications, and inclusion of tree care practices, such as the cutting of roots, pruning, etc., in approved tree modification permits, tree preservation plans, or project conditions.

#### **4.4.4 IMPACTS AND MITIGATION MEASURES**

The following section describes the standards of significance and methodology used to analyze and determine the potential impacts of the Proposed Project and BRPA related to biological resources. In addition, a discussion of the project's impacts, as well as mitigation measures, where necessary, is also presented.

##### **Standards of Significance**

Consistent with Appendix G of the CEQA Guidelines, a significant impact would occur if the Proposed Project or BRPA would result in the following:

- Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special-status species in local or regional plans, policies, or regulations, or by the CDFW or USFWS;
- Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by the CDFW or USFWS;
- Have a substantial adverse effect on State or federally protected wetlands (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means;
- Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites;
- Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance; or
- Conflict with the provisions of an adopted HCP, NCCP, or other approved local, regional, or State habitat conservation plan.



## **Method of Analysis**

The information contained in the analysis is primarily based on the BRA prepared by Madrone, which is discussed further below.

## **Biological Resources Assessment**

The analyses within the BRA is based on a literature review and field surveys of the study area, which are detailed further below.

### **Literature Review**

A list of special-status plant and wildlife species with potential to occur within the study area was developed as part of the BRA through queries of the following databases:

- a) CNDDDB query of the study area and all areas within five miles of the study area (Figure 4.4-4, Figure 4.4-5, and Figure 4.4-7);
- b) CNDDDB “unprocessed records” within the study area;
- c) USFWS Information for Planning and Conservation (IPaC) query of the study area (included as Attachment C of the BRA);
- d) CNPS Rare and Endangered Plant Inventory query of the “Davis, California” U.S. Geological Survey topographic quadrangle and the eight surrounding quadrangles (included as Attachment D of the BRA); and
- e) WBWG Species Matrix.

In addition, any special-status plant and wildlife species that are known to occur in the project region, but that were not identified through any of the above database searches, were also analyzed for their potential to occur within the study area.

### **Field Surveys**

Madrone conducted field surveys of various portions of the study area on August 23 and 25, October 3, November 7, and December 14, 2023, as well as on January 17, 23, and 24, February 7, and April 22, 2024, to map Yolo HCP/NCCP land covers, assess the suitability of habitats on-site to support special-status species, and conduct protocol-level surveys listed below. Meandering pedestrian surveys were performed on foot throughout the study area. Vegetation communities were classified in accordance with the Yolo HCP/NCCP, and plant taxonomy was based on the nomenclature in the Jepson eFlora. A list of all wildlife species observed during field surveys is included as Attachment E of the BRA (see Appendix D of this EIR).

The following biological surveys have been conducted within the study area:

- **Special-Status Plant Survey:** Late-summer visits were conducted on August 23 and 25, 2023, but much of the habitat was being actively farmed or was disked and lacked vegetation. Thus, the surveys were repeated in April, June, and July 2024 when the habitat had not been disturbed and sufficient vegetation was present to conduct a determinate-level survey. The 2024 surveys were comprehensive for the entire study area. The special-status plant surveys were conducted in accordance with the USFWS Guidelines for Conducting and Reporting Botanical Inventories for Federally Listed, Proposed and Candidate Plants, CDFW’s Protocols for Surveying and Evaluating Impacts to Special Status Native Plant Populations and Natural Communities, and the CNPS Botanical Survey Guidelines.



- Dry-Season and Wet-Season Vernal Pool Branchiopod Surveys: Dry-season samples were collected on October 26, 2023 in areas that appear to pond in winter, based on aerial photograph examination, including the Western Program Study Area. Wet-season surveys were conducted in all ponded habitat during the winter of 2023 through 2024. Additional habitat was identified during the course of the wet-season surveys, and dry-season samples of the additional habitat were collected on June 18, 2024. The surveys were conducted in accordance with the USFWS Survey Guidelines for the Listed Large Branchiopods. A report is included as Attachment F to the BRA.
- Burrowing Owl Surveys: Four non-breeding-season surveys were completed on October 3, November 7, and December 14, 2023 and January 17, 2024. Four breeding-season surveys were conducted on March 21, April 9, May 14, and June 20, 2024. Surveys were conducted in accordance with the CDFW Staff Report on Burrowing Owl Mitigation (2012). A report is included as Attachment G to the BRA.
- Swainson's Hawk Nest Surveys: Seven Swainson's hawk surveys were conducted within the study area and a 0.5-mile buffer on January 17, March 21 and 26, and April 4, 9, 12, and 19, 2024. The surveys were conducted in accordance with the CDFW Recommended Timing and Methodology for Swainson's Hawk Nesting Surveys in California's Central Valley (2000). A report is included as Attachment H to the BRA.
- VELB Surveys: Elderberry shrub surveys were conducted concurrent with the special-status plant surveys. As required by the Yolo HCP/NCCP, all elderberry shrubs with stems one inch in diameter or greater were mapped, stems were counted, and an exit hole search was conducted.
- Tree Inventory: A tree inventory was conducted under the supervision of a Certified Arborist, pursuant to the City's Tree Ordinance, within most of the study area on May 31 and June 3, 4, 6, 7, and 21, 2024. Detailed tree data was collected throughout all areas outside the Channel A riparian corridor. Approximately half of the trees within the Channel A riparian corridor were also inventoried. Following discussions with City of Davis staff, the remaining trees within the riparian corridor were estimated by extrapolating the collected data to the remaining canopy area. Given the current uncertainty regarding exactly which trees may be impacted, and because a formal arborist survey would be required in the future in order to secure a Tree Modification Permit from the City, estimating the number and types of trees on-site was determined to be sufficient for the purposes of CEQA review. As such, the tree data presented in Attachment K of the BRA (see Appendix D of this EIR) includes tree points where trees were inventoried, and canopy polygons where trees were extrapolated.

Trees were extrapolated in non-surveyed portions of the Channel A riparian corridor as follows: The inventoried riparian canopy acreage was divided by the number of inventoried trees of each species, which yielded the "occupied area" for each tree by species. Subsequently, the non-inventoried canopy acreage was divided by the "occupied area" for each species to yield the number of each species of tree expected to occur in the non-inventoried area. DBH and condition were collected for all inventoried trees. The report for the survey is included as Attachment I to the BRA.

- Giant Garter Snake Habitat Assessment: A review of data from the USFWS Giant Garter Snake 5-Year Review (2012) and the CNDDDB for all current known locations of giant garter snake within the vicinity of the study area was conducted. After reviewing background information, a field survey was conducted January 24, 2024. The field survey was conducted for the entire study area, but focused on evaluating the section of Channel A, which contains potential giant garter snake habitat. Additionally, all areas within 200 feet





of Channel A were evaluated for potential upland habitat. A report is included as Attachment J to the BRA; and

- An ARD was conducted in accordance with the USACE Wetlands Delineation Manual (1987), the Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Arid West Region (Version 2.0) (2008), A Field Guide to the Identification of the Ordinary High Water Mark (OHWM) in the Arid West Region of the Western United States (2008), and the USACE Sacramento District's Minimum Standards for Acceptance of Preliminary Wetlands Delineations (2016).

### **Project-Specific Impacts and Mitigation Measures**

The following discussion of impacts related to biological resources is based on implementation of the Proposed Project and BRPA in comparison to existing conditions and the standards of significance presented above.

#### **4.4-1 Have a substantial adverse effect, either directly or through habitat modifications, on special-status plant species. Based on the analysis below and with implementation of mitigation, the impact is *less than significant*.**

The species that are considered to be *absent* from the study area include Ferris' milk-vetch, heartscale, brittlescale, bristly sedge, pappose tarplant, palmate-bracted bird's beak, Jepson's coyote-thistle, woolly-rose-mallow, Heckard's pepper-grass, little mousetail, Baker's navarretia, Colusa grass, bearded popcornflower, California alkali grass, saline clover, and Crampton's tuctoria. As detailed in Table 4.4-3, the special-status plant species present within the study area include alkali milk-vetch and San Joaquin spearscale. Approximately 19,300 alkali milk vetch plants and approximately 20,900 San Joaquin spearscale plants were observed during the special-status plant surveys (see Figure 4.4-6).

The following discussions include an analysis of potential impacts to special-status plant species associated with both development of the Proposed Project, as well as the BRPA.

#### **Proposed Project**

The Proposed Project would permanently impact all alkali milk-vetch and San Joaquin spearscale plants within the study area. The special-status plant surveys conducted throughout the study area in 2023 and 2024 were negative for all other special-status plant species that could occur within the proposed impact area; however, given enough time, plants may become established in areas where suitable habitat exists. Based on the current development plan for the Proposed Project, the on-site alkali playa and nearby seasonal wetlands, which provide suitable habitat for a variety of special-status plant species, would be impacted, and any special-status plants occurring within those features could be impacted, if present. Special-status plants could become established within the foregoing vegetation communities and land covers in the interim between surveys/analysis and construction, which could result in potential impacts during construction of the Proposed Project. Based on agency guidance, should construction not commence within three years of completion of protocol-level plant surveys, additional surveys are recommended.



### Biological Resources Preservation Alternative

Due to the preservation of the on-site Alkali Prairie land cover as part of the 47.1-acre Natural Habitat Area, the BRPA would avoid all alkali milk-vetch and San Joaquin spearscale plants within the study area.

While the special-status plant surveys conducted throughout the study area in 2023 and 2024 were negative for all other special-status plant species that could occur within the proposed impact area, given enough time, plants may become established in areas where suitable habitat exists. The BRPA would avoid a substantial portion of the aquatic resources in the BRPA site, which would reduce the potential for impacts to special-status plant species; however, development of the BRPA would still result in permanent impacts to the on-site freshwater emergent marsh, and off-site seasonal wetland within the Western Program Study Area. Thus, should special-status plants become established within the foregoing habitats in the interim between surveys/analysis and construction, potential impacts to special-status plant species could occur during construction of the BRPA. Based on agency guidance, should construction not commence within three years of completion of protocol-level plant surveys, additional surveys are recommended.

### Conclusion

Based on the above, the Proposed Project and BRPA could have a substantial adverse effect, either directly or through habitat modifications, on a plant species identified as a candidate, sensitive, or special-status species in local or regional plans, policies, or regulations, or by the CDFW or USFWS, and a **significant** impact could occur.

### Mitigation Measure(s)

Implementation of the following mitigation measures are applicable to both the Proposed Project and the BRPA and would reduce the above potential impact to a *less-than-significant* level. The Yolo HCP/NCCP provides incidental take coverage of Palmate-bracted bird's beak. All other special-status plant species are not covered under the Yolo HCP/NCCP. Thus, Mitigation Measures 4.4-1(a) and 4.4-1(b) apply to all special-status plant species that could be potentially impacted by the Proposed Project or the BRPA, other than Palmate-bracted bird's beak, which is subject to the applicable Yolo HCP/NCCP Avoidance and Minimization Measure (AMM) through Mitigation Measure 4.4-1(c).

### Proposed Project, Biological Resources Preservation Alternative

4.4-1(a) *If construction does not commence by the end of 2027 (i.e., within three years from the date of Madrone's 2024 protocol-level plant surveys), protocol-level special-status plant surveys shall be conducted throughout the study area in accordance with the U.S. Fish and Wildlife Service (USFWS) Guidelines for Conducting and Reporting Botanical Inventories for Federally Listed, Proposed, and Candidate Plants; the California Native Plant Society (CNPS) Botanical Survey Guidelines of the California Native Plant Society; and the California Department of Fish and Wildlife (CDFW) Protocols for Surveying and Evaluating Impacts to Special Status Native Plant Populations and Natural Communities. The protocols require conducting surveys at the*



appropriate time of year, when plants are identifiable and in bloom and/or in fruit (which may include multiple visits to capture blooming and/or fruiting periods for all target plants), and includes ensuring that habitats are not disturbed prior to the survey so that any plants that are present may be documented. A report summarizing the results of the protocol-level special-status plant surveys shall be submitted for review and approval to the City of Davis Community Development Department and Public Works Utilities and Operations Department.

If, based on whichever is approved, the Proposed Project or Biological Resources Preservation Alternative (BRPA) avoids the special-status plants through an associated "Avoidance Zone," then further mitigation is not necessary. The size of the Avoidance Zone needed to prevent impacts may vary based on the plant species and its habitat requirements. If a special-status plant listed under the federal Endangered Species Act (FESA) or California Endangered Species Act (CESA) is found and is to be avoided, then an appropriate Avoidance Zone shall be developed in consultation with USFWS or CDFW, as applicable. If the species is not listed under FESA or CESA, an appropriate Avoidance Zone shall be developed by a qualified botanist in consultation with the City of Davis. Avoidance Zone areas may differ by species and site-specific conditions, and they shall be developed such that the avoided special-status plant population is likely to persist in perpetuity. Avoidance zones may be based on a fixed buffer distance from the special-status plant population, at the limit of a hydrologic break (such as Channel A), or as otherwise determined appropriate for the species in question. For plants associated with seasonal wetlands, the Avoidance Zone shall be 250 feet, but this zone may be as small as 50 feet for plant species that occur in uplands and do not appear to be associated with wetland hydrology.

4.4-1(b)

If any impacts (direct or indirect) would occur to special-status plants, a Special-Status Plant Mitigation Plan shall be developed and submitted to the City of Davis Community Development Department and Public Works Utilities and Operations Department (or USFWS or CDFW, as appropriate for FESA- or CESA-listed species). The Special-Status Plant Mitigation Plan shall be subject to review and approval by the City, USFWS, or CDFW (as appropriate, based on listing status) prior to issuance of a grading permit that would impact the plants. The project proponent shall mitigate according to one or a combination of the options below. It should be noted that the options are minimum recommendations; the USFWS and/or CDFW may require additional mitigation if the plants are FESA- or CESA-listed.

- Indirect impacts: Indirect impacts would occur if the Proposed Project or BRPA avoids the mapped populations, but affects a portion of an Avoidance Zone. The project proponent shall mitigate for indirect impacts through a 0.5:1 mitigation ratio (mitigation-to-impact), based on the acreage or number of plants that have impacts within an Avoidance Zone. If there are



dense populations, acreage may be a better metric for dense population, while mitigation based on number of plants may be better for relatively few, widely scattered plants.

- Direct impacts: Direct impacts would occur if grading or other direct disturbance occurs within mapped populations. The project proponent shall mitigate for direct impacts through a 1:1 ratio for preservation of an existing population, or a 2:1 ratio for relocation/translocation of impacted plants/seeds. The ratios may be based on the acreage of occupied habitat or number of plants. The metric shall be clearly defined in the Special-Status Plant Mitigation Plan.
  - Preservation: Identify one or more existing, unprotected populations of the special-status plant that would be impacted by the Proposed Project or BRPA in the project vicinity and protect the population in perpetuity by establishing a preserve on the land that supports those populations. Once the proposed mitigation area is approved by the City of Davis and/or USFWS/CDFW (as appropriate, based on listing status, if any), the mitigation area shall be protected by a recorded conservation easement or deed restriction and managed in accordance with a long-term management plan that maintains the habitats the conservation easement was established to protect (including the special-status plants). Additionally, a preserve management endowment shall be established to fund the long-term management outlined in the long-term management plan, or sufficient annual management funding shall be a condition of a Homeowner's Association, Community Services District, or other alternative as approved by the City of Davis or regulating agency.

As this option would preserve an existing, established population, temporal loss would not occur and the option would include low risk of failure. The 1:1 ratio may be based on the acreage of occupied habitat or number of plants; this metric shall be clearly defined in the Special-Status Plant Mitigation Plan. This option may be implemented at a mitigation/conservation bank if the target plant species is present at the bank. The Special-Status Plant Mitigation Plan shall describe how the purchase of bank credits translates into appropriate 1:1 preservation.

- Relocation and translocation: Mitigate impacts by establishment of a new special-status plant population or expansion of an existing special-status plant population. The proposed mitigation area may be on-site or off-site and shall be permanently protected by the recordation of a conservation easement or deed





restriction, development of a long-term management plan that maintains the habitats that the conservation easement was established to protect, and establishment of a preserve management endowment or sufficient annual management funding as a condition of a Homeowner's Association, Community Services District, or other alternative, as approved by the City of Davis or regulating agency.

The project proponent shall locate and protect the mitigation area(s), translocate seeds or relocate perennial plants to the mitigation area(s), monitor the translocated/relocated seeds/plants for a minimum of five years, and meet established success criteria as detailed in the Special-Status Plant Mitigation Plan. The minimum success criterion for this option shall be a 2:1 replacement of directly impacted plants and 1:1 replacement for indirectly impacted plants by year five of monitoring (or as otherwise required by the regulatory agencies). This ratio may be based on the acreage of occupied habitat or number of plants. This metric shall be clearly defined in the Special-Status Plant Mitigation Plan.

If the success criteria are not met, then additional habitat shall be set aside as set forth by the Preservation requirements or as agreed upon by the City of Davis and/or USFWS/CDFW, as appropriate. Because population sizes for annual plants can vary widely from year to year, for relocation or translocation, population counts or acreage mapping shall be conducted in the last two years of monitoring, and the highest count or acreage shall be at least equivalent to the number of required replacement plants.

- 4.4-1(c) *If construction does not commence by the end of 2027 (i.e., within three years from the date of Madrone's 2024 protocol-level plant surveys), the following measure shall be required:*

Yolo HCP/NCCP AMM11: *Palmate-bracted bird's-beak is covered by the Yolo HCP/NCCP only for the removal of suitable habitat and not for the removal of palmate-bracted bird's beak plants. This AMM ensures compliance with this provision. To determine if palmate-bracted bird's-beak is present and could be affected, the project proponent will conduct a planning-level survey for this species for any covered activities to be conducted within 250 feet of suitable habitat (as defined in Appendix A, Covered Species Accounts). The survey will be conducted during the period from May 31 to September 30 and will be consistent with Protocols for Surveying and Evaluating Impacts to*



*Special Status Native Plant Populations and Natural Communities (California Department of Fish and Game 2009).*

*The project proponent will avoid occupied habitat where palmate-bracted bird's beak has been located within any of the last 15 years (seed viability could be as little as three years and as much as six years, as described in Appendix A, Section A.1.2, Species Description and Life History). The project proponent also will avoid any new occurrences of this species identified during planning-level surveys. Avoidance will require a 250-foot setback from the occupied habitat, or greater distance depending on site-specific topography to avoid hydrologic effects. A shorter buffer distance may apply if it is determined to avoid effects and is approved by the Conservancy, USFWS, and CDFW. Mortality of palmate-bracted bird's beak individuals will be avoided, except as needed through management activities that provide an overall benefit to the species.*

**4.4-2 Have a substantial adverse effect, either directly or through habitat modifications, on Crotch's bumble bee. Based on the analysis below and with implementation of mitigation, the impact is *less than significant*.**

As discussed above, Crotch's bumble bee is considered to have moderate potential to occur within the study area. The following discussions include an analysis of potential impacts to Crotch's bumble bee associated with development of the Proposed Project, as well as the BRPA.

Proposed Project

The California Annual Grassland Alliance land cover and unplowed portions of the Alkali Prairie land cover within the study area represent potential habitat for Crotch's bumble bee.

As shown in Table 4.4-5 and Figure 4.4-8, under the Proposed Project, approximately 2.7 acres of California Annual Grassland Alliance land cover in the Western Program Study Area could be impacted and approximately 26 acres of the unplowed portions of the Alkali Prairie land cover would be permanently impacted. If Crotch's bumble bee is present at the time of grading, incidental mortality could occur. Therefore, without completion of protocol-level preconstruction surveys of areas that would be disturbed to confirm the presence/absence of Crotch's bumble bee, the Proposed Project could have a substantial adverse effect, either directly or through habitat modifications, on special-status wildlife species.



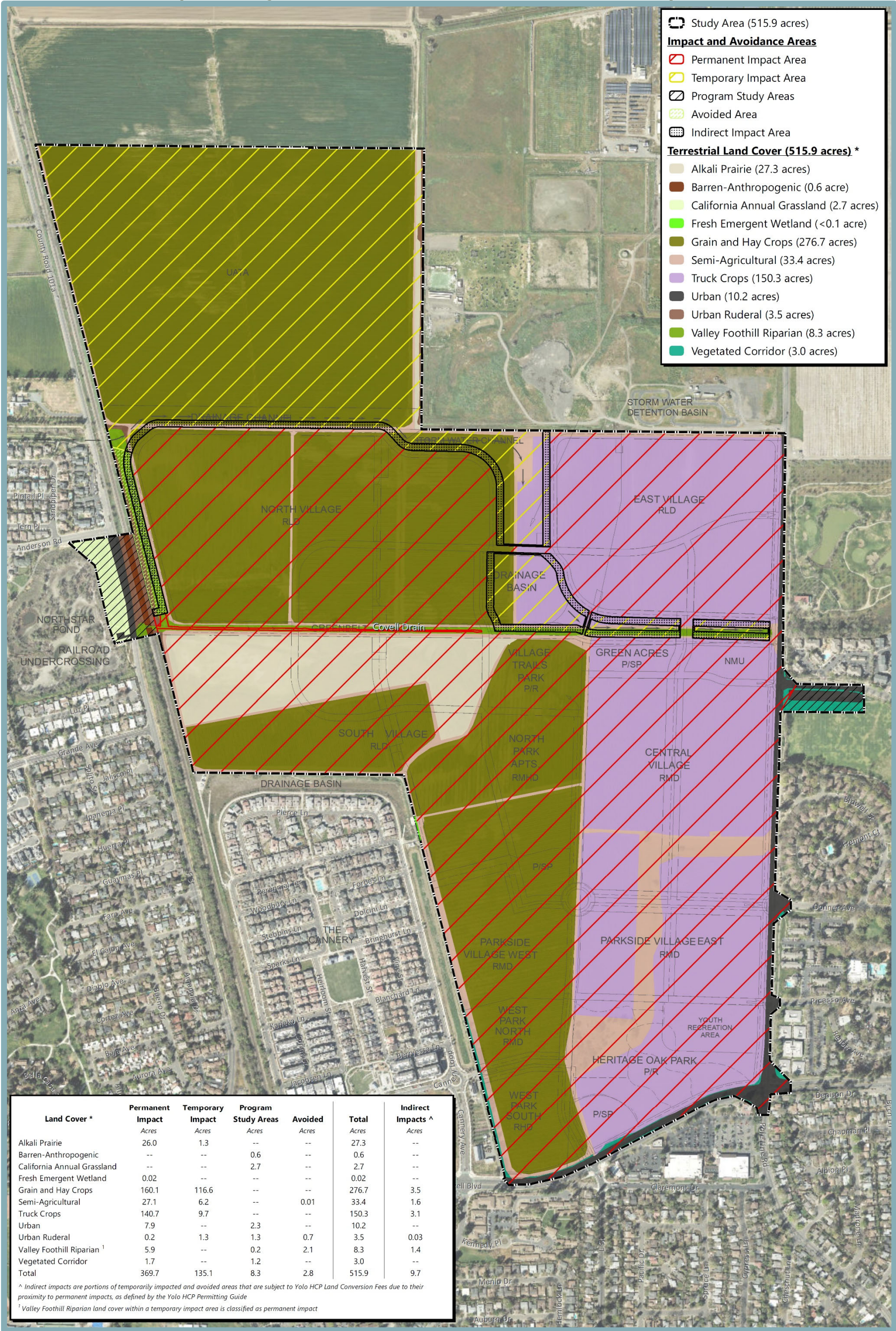
**Table 4.4-5  
Proposed Project Yolo HCP/NCCP Land Cover Impacts**

| Land Cover Type                                                                                                                                                                                                       | Acres            |                  |                     |            |              |                  |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------|------------------|---------------------|------------|--------------|------------------|
|                                                                                                                                                                                                                       | Permanent Impact | Temporary Impact | Program Study Areas | Avoided    | Total        | Indirect Impacts |
| Alkali Prairie                                                                                                                                                                                                        | 26.0             | 1.3              | --                  | --         | 27.3         | --               |
| Barren-Anthropogenic                                                                                                                                                                                                  | --               | --               | 0.6                 | --         | 0.6          | --               |
| California Annual Grassland                                                                                                                                                                                           | --               | --               | 2.7                 | --         | 2.7          | --               |
| Fresh Emergent Wetland                                                                                                                                                                                                | 0.02             | 0.0              | --                  | --         | 0.02         | --               |
| Grain and Hay Crops                                                                                                                                                                                                   | 160.1            | 116.6            | --                  | --         | 276.7        | 3.5              |
| Semiagricultural                                                                                                                                                                                                      | 27.1             | 6.2              | --                  | 0.0        | 33.4         | 1.6              |
| Truck Crops                                                                                                                                                                                                           | 140.7            | 9.7              | --                  | --         | 150.3        | 3.1              |
| Urban                                                                                                                                                                                                                 | 7.9              | 0.0              | 2.3                 | --         | 10.2         | --               |
| Urban Ruderal                                                                                                                                                                                                         | 0.2              | 1.3              | 1.3                 | 0.7        | 3.5          | --               |
| Valley Foothill Riparian                                                                                                                                                                                              | 5.9              | 0.0              | 0.2                 | 2.1        | 8.3          | 1.4              |
| Vegetated Corridor                                                                                                                                                                                                    | 1.7              | 0.0              | 1.2                 | --         | 3.0          | --               |
| <b>Total</b>                                                                                                                                                                                                          | <b>369.7</b>     | <b>135.1</b>     | <b>8.3</b>          | <b>2.8</b> | <b>515.9</b> | <b>9.7</b>       |
| Note: Indirect impacts are portions of temporarily impacted and avoided areas subject to Yolo HCP/NCCP Land Conversion fees due to their proximity to permanent impacts, as defined by the Yolo HCP Permitting Guide. |                  |                  |                     |            |              |                  |
| <b>Source: Madrone Ecological Consulting, 2024.</b>                                                                                                                                                                   |                  |                  |                     |            |              |                  |





Figure 4.4-8  
Proposed Project Potential Yolo HCP/NCCP Land Cover Impacts





### Biological Resources Preservation Alternative

Similar to the Proposed Project, the California Annual Grassland Alliance land cover within the Western Program Study Area represents potential habitat for Crotch's bumble bee. Under the BRPA, impacts to the California Annual Grassland Alliance land cover may impact Crotch's bumble bees. If Crotch's bumble bees are present at the time of grading, incidental mortality could occur. In addition, the unplowed portions of the Alkali Prairie land cover represent potential habitat. However, as shown in Table 4.4-6 and Figure 4.4-9, the BRPA would preserve the majority of the Alkali Prairie land cover through avoiding 25.8 acres of the land cover. Therefore, potential impacts to Crotch's bumble bee would be significantly reduced as compared to the Proposed Project. Nonetheless, without completion of protocol-level preconstruction surveys of areas that would be disturbed to confirm the presence/absence of Crotch's bumble bee, the BRPA could have a substantial adverse effect, either directly or through habitat modifications, on special-status wildlife species.

### Conclusion

Based on the above, the Proposed Project and the BRPA could have a substantial adverse effect, either directly or through habitat modifications, on a wildlife species (Crotch's bumble bee) identified as a candidate, sensitive, or special-status species in local or regional plans, policies, or regulations, or by the CDFW or USFWS. Thus, a **significant** impact could occur.

### Mitigation Measure(s)

Implementation of the following mitigation measure is applicable to both the Proposed Project and the BRPA and would reduce the above potential impact to a *less-than-significant* level.

### *Proposed Project, Biological Resources Preservation Alternative*

4.4-2 *The provisions contained herein only apply if Crotch's bumble bee remains a candidate species or is listed under CESA at the commencement of construction. Following CDFW's status report on Crotch's bumble bee, if the California Fish and Game Commission finds that the petitioned action is not warranted, the provisions contained herein shall not be required.*

*If feasible, initial ground-disturbing activities associated with the Proposed Project or BRPA (e.g., grading, vegetation removal, staging) shall take place between September 1 and March 31 (i.e., outside the colony active period) to avoid potential impacts on special-status bumble bees. If completing all initial ground-disturbing activities between September 1 and March 31 is not feasible, then at a maximum of 14 days prior to the commencement of construction activities, a qualified biologist with 10 or more years of experience conducting biological resource surveys within California, and familiar with Crotch's bumble bee life history, shall conduct a preconstruction survey for special-status bumble bees in the area(s) proposed for impact.*



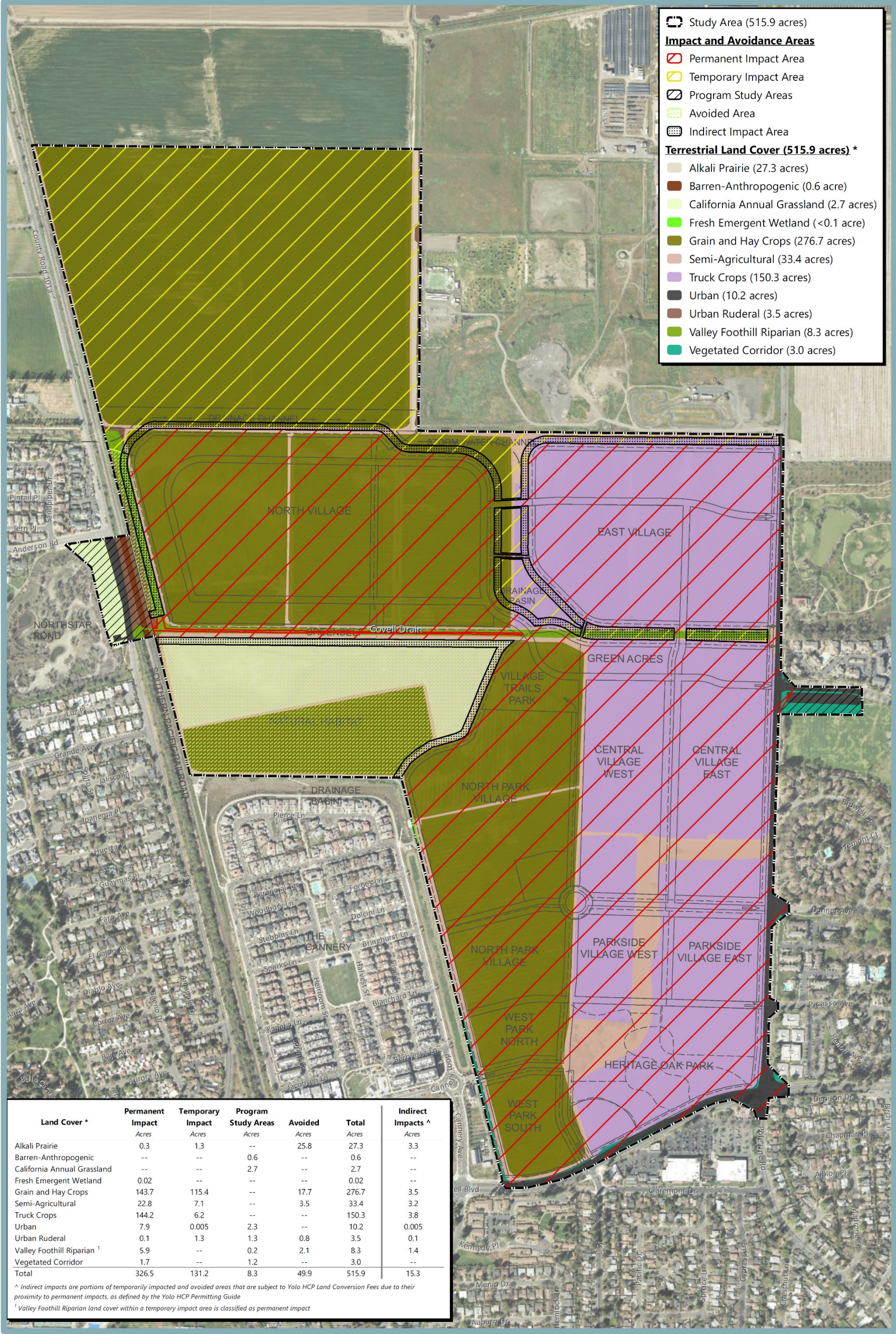
**Table 4.4-6  
Biological Resources Preservation Alternative  
Yolo HCP/NCCP Land Cover Impacts**

| Land Cover Type                                                                                                                                                                                                       | Acres            |                  |                     |             |              |                  |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------|------------------|---------------------|-------------|--------------|------------------|
|                                                                                                                                                                                                                       | Permanent Impact | Temporary Impact | Program Study Areas | Avoided     | Total        | Indirect Impacts |
| Alkali Prairie                                                                                                                                                                                                        | 0.3              | 1.3              | --                  | 25.8        | 27.3         | 3.3              |
| Barren-Anthropogenic                                                                                                                                                                                                  | --               | --               | 0.6                 | --          | 0.6          | --               |
| California Annual Grassland                                                                                                                                                                                           | --               | --               | 2.7                 | --          | 2.7          | --               |
| Fresh Emergent Wetland                                                                                                                                                                                                | 0.02             | 0.0              | --                  | --          | 0.02         | --               |
| Grain and Hay Crops                                                                                                                                                                                                   | 143.7            | 115.4            | --                  | 17.7        | 276.7        | 3.5              |
| Semiagricultural                                                                                                                                                                                                      | 22.8             | 7.1              | --                  | 3.5         | 33.4         | 3.2              |
| Truck Crops                                                                                                                                                                                                           | 144.2            | 6.2              | --                  | --          | 150.3        | 3.8              |
| Urban                                                                                                                                                                                                                 | 7.9              | 0.0              | 2.3                 | --          | 10.2         | 0.0              |
| Urban Ruderal                                                                                                                                                                                                         | 0.1              | 1.3              | 1.3                 | 0.8         | 3.5          | 0.1              |
| Valley Foothill Riparian                                                                                                                                                                                              | 5.9              | 0.0              | 0.2                 | 2.1         | 8.3          | 1.4              |
| Vegetated Corridor                                                                                                                                                                                                    | 1.7              | 0.0              | 1.2                 | --          | 3.0          | 0.0              |
| <b>Total</b>                                                                                                                                                                                                          | <b>326.5</b>     | <b>131.2</b>     | <b>8.3</b>          | <b>49.9</b> | <b>515.9</b> | <b>15.3</b>      |
| Note: Indirect impacts are portions of temporarily impacted and avoided areas subject to Yolo HCP/NCCP Land Conversion fees due to their proximity to permanent impacts, as defined by the Yolo HCP Permitting Guide. |                  |                  |                     |             |              |                  |
| <b>Source: Madrone Ecological Consulting, 2024.</b>                                                                                                                                                                   |                  |                  |                     |             |              |                  |





Figure 4.4-9  
Biological Resources Preservation Alternative Potential Yolo HCP/NCCP Land Cover Impacts





*The survey shall occur during the period from one hour after sunrise to two hours before sunset, with temperatures between 65 degrees Fahrenheit and 90 degrees Fahrenheit, with low wind and zero rain. If the timing of the start of construction makes the survey infeasible due to the temperature requirements, the surveying biologist shall select the most appropriate days based on the National Weather Service seven-day forecast and shall survey at a time of day that is closest to the temperature range stated above. The survey duration shall be commensurate with the extent of suitable floral resources (which represent foraging habitat) present within the area proposed for impact, and the level of effort shall be based on the metric of a minimum of one person-hour of searching per three acres of suitable floral resources/foraging habitat. A meandering pedestrian survey shall be conducted throughout the area proposed for impact in order to identify patches of suitable floral resources. Suitable floral resources for Crotch's bumble bee include species in the following families: Apocynaceae, Asteraceae, Boraginaceae, Fabaceae, and Lamiaceae. Suitable floral resources for western bumble bee include species in the following families: Asteraceae, Fabaceae, Rhamnaceae, and Rosaceae, as well as plants in the genera Eriogonum and Penstemon.*

*At a minimum, preconstruction survey methods shall include the following:*

- Search areas with floral resources for foraging bumble bees. Observed foraging activity may indicate a nest is nearby, and therefore, the survey duration shall be increased when foraging bumble bees are present;*
- If special-status bumble bees are observed, watch any special-status bumble bees present and observe their flight patterns. Attempt to track their movements between foraging areas and the nest;*
- Visually look for nest entrances. Observe burrows, any other underground cavities, logs, or other possible nesting habitat;*
- If floral resources or other vegetation preclude observance of the nest, small areas of vegetation may be removed via hand removal, line trimming, or mowing to a height of a minimum of four inches to assist with locating the nest;*
- Look for concentrated special-status bumble bee activity;*
- Listen for the humming of a nest colony; and*
- If bumble bees are observed, attempt to photograph the individual and identify it to species.*

*The biologist conducting the survey shall record when the survey was conducted, a general description of any suitable foraging habitat/floral resources present, a description of observed bumble bee activity, a list of bumble bee species observed, a description of any vegetation removed to facilitate the survey, and their determination of if survey observations suggest a special-status bumble bee nest(s) may be*



*present or if construction activities could result in take of special-status bumble bees. The report shall be submitted to the City of Davis Community Development Department and Public Works Utilities and Operations Department prior to the commencement of construction activities.*

*If bumble bees are not located during the preconstruction survey or the bumble bees located are definitively identified as a common species (i.e., not special-status species), then further mitigation or coordination with the CDFW is not required.*

*If any sign(s) of a bumble bee nest is observed, and if the species present cannot be established as a common bumble bee, then construction shall not commence until either (1) the bumble bees present are positively identified as common (i.e., not a special-status species), or (2) the completion of coordination with CDFW to identify appropriate mitigation measures, which may include, but not be limited to, waiting until the colony active season ends, establishment of nest buffers, or obtaining an Incidental Take Permit (ITP) from CDFW.*

*If special-status bees are located, and after coordination with CDFW take of special-status bumble bees cannot be avoided, the project proponent shall obtain an ITP from CDFW, and the project proponent shall implement all conditions identified in the ITP. Mitigation required by the ITP may include, but not be limited to, the project proponent translocating nesting substrate in accordance with the latest scientific research to another suitable location (i.e., a location that supports similar or better floral resources as the impact area), enhancing floral resources on areas of the project site/BRPA site that will remain appropriate habitat, worker awareness training, and/or other measures specified by CDFW.*

**4.4-3 Have a substantial adverse effect, either directly or through habitat modifications, on special-status branchiopods. Based on the analysis below and with implementation of mitigation, the impact is *less than significant*.**

The following discussions include an analysis of potential impacts to special-status branchiopods associated with both development of the Proposed Project, as well as the BRPA.

Proposed Project

The identified special-status branchiopod species with the potential to occur within the study area include vernal pool fairy shrimp, vernal pool tadpole shrimp, and conservancy fairy shrimp. Protocol-level wet- and dry-season surveys for the species were conducted in all suitable habitat within the study area and the surveys were negative for conservancy fairy shrimp and vernal pool fairy shrimp. Vernal pool tadpole shrimp was determined to be present within the study area. Approximately 9.812 acres



of occupied vernal pool tadpole shrimp habitat, including alkali playa and wetland ditch basin, are present within the study area.

All 9.812 acres of vernal pool tadpole shrimp would be permanently filled as part of the Proposed Project, including potential future construction activities that could occur within the Western Program Study Area, and any cysts within the features would be crushed and buried. As such, mortality of vernal pool tadpole shrimp, as well as permanent loss of suitable habitat, would occur during construction of the Proposed Project.

#### Biological Resources Preservation Alternative

Because the BRPA would preserve the 47.1-acre Natural Habitat Area, which includes the majority of the Alkali Prairie land cover within the BRPA site, potential impacts related to special-status branchiopods would be reduced, as 9.789 acres of vernal pool tadpole shrimp habitat would be avoided. However, 0.023-acre of vernal pool tadpole shrimp habitat would be permanently filled, and any cysts within permanently filled features would be crushed and buried. In addition, potential off-site activities associated with the grade-separated crossing in the Western Program Study Area could result in potential impacts to 0.104-acre of seasonal wetland in the Western Program Study Area. As such, mortality of vernal pool tadpole shrimp, as well as permanent loss of suitable habitat, would occur during construction of the BRPA.

#### Conclusion

Based on the above, the Proposed Project and the BRPA could have a substantial adverse effect, either directly or through habitat modifications, on a branchiopod species identified as a candidate, sensitive, or special-status species in local or regional plans, policies, or regulations, or by the CDFW or USFWS, and a **significant** impact could occur.

#### Mitigation Measure(s)

Implementation of the following mitigation measure is applicable to both the Proposed Project and the BRPA and would reduce the above potential impact to a *less-than-significant* level.

#### Proposed Project and Biological Resources Preservation Alternative

4.4-3 *If occupied aquatic habitat is located in planned development areas associated with the Proposed Project or BRPA, the project proponent shall consult with the USFWS regarding impacts to federally listed vernal pool tadpole shrimp prior to the approval by the City of Davis of any permit authorizing construction.*

*The project proponent shall obtain and comply with any conditions of the appropriate take authorization from the USFWS. The conditions in the take authorization may include, but shall not be limited to, fencing off avoided habitat; worker awareness training; preservation, restoration, or enhancement of habitat on- or off-site to compensate for indirect and/or direct effects; purchase of habitat credits (the mitigation ratio for habitat preservation is generally 2:1) from an agency-approved*





*mitigation/conservation bank; working with a local land trust to preserve land; or any other method acceptable to USFWS.*

**4.4-4 Have a substantial adverse effect, either directly or through habitat modifications, on monarch butterfly. Based on the analysis below and with implementation of mitigation, the impact is *less than significant*.**

As discussed above, monarch butterfly is considered to have high potential to occur within the study area. The following discussions include an analysis of potential impacts to monarch butterfly associated with both development of the Proposed Project, as well as the BRPA.

Proposed Project

Pursuant to the BRA, several stands of narrowleaf milkweed are located along the western study area boundary that represent potential habitat for monarch butterfly. The area is proposed for permanent impacts under the Proposed Project. Additional habitat for monarch butterfly occurs in areas that could be disturbed as part of potential future construction activities within the off-site Western and Eastern Program Study Areas. If monarch butterfly eggs, larva, or chrysalises are present on the milkweed plants when they are removed, incidental mortality could occur.

Biological Resources Preservation Alternative

Under the BRPA, the area where most of the narrowleaf milkweed plants occur (south of Channel A and west of the alkali playas) would be avoided. However, isolated milkweed plants scattered throughout the study area could still be permanently impacted by BRPA construction activities. Additional habitat for monarch butterfly occurs in areas that could be disturbed as part of potential future construction activities within the off-site Western and Eastern Program Study Areas. If monarch butterfly eggs, larva, or chrysalises are present on the milkweed plants when they are removed, incidental mortality could occur.

Conclusion

Based on the above, the Proposed Project and the BRPA could have a substantial adverse effect, either directly or through habitat modifications, on a wildlife species (monarch butterfly) identified as a candidate, sensitive, or special-status species in local or regional plans, policies, or regulations, or by the CDFW or USFWS. Thus, a **significant** impact could occur.

Mitigation Measure(s)

Implementation of the following mitigation measure is applicable to both the Proposed Project and the BRPA and would reduce the above potential impact to a *less-than-significant* level.

Proposed Project and Biological Resources Preservation Alternative

4.4-4 *The provisions contained herein only apply if monarch butterfly remains proposed for listing under FESA at the commencement of construction.*



*If construction occurs during the time when milkweed plants may host monarch eggs or caterpillars (approximately mid-March through late September), a preconstruction survey shall be conducted by a qualified biologist within the proposed impact area and a 50-foot buffer in accessible areas for the presence of eggs, larvae (i.e., caterpillars), or pupae, at most, 14 days prior to plant removal. Additionally, other plants immediately adjacent to milkweed plants shall also be searched for chrysalises. If eggs, caterpillars, or pupae are not detected, additional protection measures are not necessary.*

*A report summarizing the results of the survey shall be submitted for review and approval to the City of Davis Community Development Department and Public Works Utilities and Operations Department.*

*If eggs, caterpillars, or pupae are found, the plants shall be avoided with a 50-foot buffer until metamorphosis is completed and adult butterflies emerge and leave the host plant. If the eggs, larvae, or chrysalises cannot be avoided, all eggs, larvae, and chrysalises, including the portion of the plant to which they are attached, shall be translocated to an alternative location. The location must be a minimum of 50 feet outside of the impact area and contain a similarly sized or larger population of larval host plants. The portions of the plants supporting eggs or chrysalises shall be tied to the live stem of the avoided larval host plant while caterpillars shall be placed directly on a stem or leaf of a larval host plant. Should the species be listed under FESA in the future, coordination with USFWS shall be conducted prior to translocation.*

**4.4-5 Have a substantial adverse effect, either directly or through habitat modifications, on VELB. Based on the analysis below and with implementation of mitigation, the impact is *less than significant*.**

As discussed above, VELB is considered to have high potential to occur within the study area. The following discussion includes an analysis of potential impacts related to VELB associated with the development of the Proposed Project and the BRPA. Because the Proposed Project and the BRPA would both include components with potential to affect the species and its habitat, the following evaluation applies to both development scenarios.

**Proposed Project, Biological Resources Preservation Alternative**

As generally shown in Figure 4.4-6, a total of 23 elderberry shrubs have been mapped inside or within 100 feet of the project site/BRPA site. One elderberry shrub would be permanently impacted, and an additional 22 elderberry shrubs would be indirectly impacted by construction activities associated with both the Proposed Project and BRPA. The elderberry shrubs represent potential habitat for VELB, which is a Yolo HCP/NCCP Covered Species. If VELB larvae are present within the elderberry shrubs when the shrubs are removed, incidental mortality of larvae could occur. Additionally, construction activities that occur within 100 feet of avoided elderberry shrubs could



indirectly affect VELB, if present, given that dust, herbicides, or adjacent compaction could reduce the health of the shrubs hosting the beetles and cause larva inside the shrubs to die.

Based on the above, the Proposed Project and the BRPA could have a substantial adverse effect, either directly or through habitat modifications, on a wildlife species (VELB) identified as a candidate, sensitive, or special-status species in local or regional plans, policies, or regulations, or by the CDFW or USFWS, and a **significant** impact could occur.

#### Mitigation Measure(s)

VELB is a Yolo HCP/NCCP Covered Species. Thus, the Proposed Project and BRPA would be subject to the following species-specific Yolo HCP/NCCP AMM to address potential impacts to the species. Implementation of the following mitigation measure would reduce the above potential impact to a *less-than-significant* level.

#### *Proposed Project and Biological Resources Preservation Alternative*

4.4-5 *Yolo HCP/NCCP AMM12: The project proponent will retain a qualified biologist who is familiar with valley elderberry longhorn beetle and evidence of its presence (i.e., exit holes in elderberry shrubs) to map all elderberry shrubs in and within 100 feet of the project footprint with stems that are greater than one inch in diameter at ground level. To avoid take of valley elderberry longhorn beetle fully, the project proponent will maintain a buffer of at least 100 feet from any elderberry shrubs with stems greater than one inch in diameter at ground level. AMM1, Establish Buffers, describes circumstances in which a lesser buffer may be applied. For elderberry shrubs that cannot be avoided with a designated buffer distance as described above, the qualified biologist will quantify the number of stems one inch or greater in diameter to be affected, and the presence or absence of exit holes. The Conservancy will use this information to determine the number of plants or cuttings to plant on a riparian restoration site to help offset the loss, consistent with Section 6.4.2.4.1, Valley Elderberry Longhorn Beetle. Additionally, prior to construction, the project proponent will transplant elderberry shrubs identified within the project footprint that cannot be avoided.*

*Transplantation will only occur if a shrub cannot be avoided and, if indirectly affected, the indirect effects would otherwise result in the death of stems or the entire shrub. If the project proponent chooses, in coordination with a qualified biologist, not to transplant the shrub because the activity would not likely result in death of stems of the shrub, then the qualified biologist will monitor the shrub annually for a five-year monitoring period. The monitoring period may be reduced with concurrence from the wildlife agencies if the latest research and best available information at the time indicates that a shorter monitoring period is warranted. If death of stems at least one inch in diameter occurs within the monitoring period, and the qualified biologist determines that the shrub is sufficiently healthy to transplant, the*





*project proponent will transplant the shrub as described in the following paragraph, in coordination with the qualified biologist. If the shrub dies during the monitoring period, or the qualified biologist determines that the shrub is no longer healthy enough to survive transplanting, then the Conservancy will offset the shrub loss consistent with the preceding paragraph.*

*The project proponent will transplant the shrubs into a location in the HCP/NCCP reserve system that has been approved by the Conservancy. Elderberry shrubs outside the project footprint but within the 100-foot buffer will not be transplanted.*

*Transplanting will follow the following measures:*

- 1. Monitor: A qualified biologist will be on-site for the duration of the transplanting of the elderberry shrubs to ensure the effects on elderberry shrubs are minimized.*
- 2. Timing: The project proponent will transplant elderberry plants when the plants are dormant, approximately November through the first two weeks of February, after they have lost their leaves. Transplanting during the non-growing season will reduce shock to the plant and increase transplantation success.*
- 3. Transplantation procedure:*
  - a. Cut the plant back three to six feet from the ground or to 50 percent of its height (whichever is taller) by removing branches and stems above this height. Replant the trunk and stems measuring one inch or greater in diameter. Remove leaves that remain on the plants.*
  - b. Relocate plant to approved location in the reserve system, and replant as described in Section 6.4.2.4.1, Valley Elderberry Longhorn Beetle.*

**4.4-6 Impacts to western spadefoot either directly (e.g., cause a wildlife population to drop below self-sustaining levels, threaten to eliminate an animal community) or through substantial habitat modifications. Based on the analysis below and with implementation of mitigation, the impact is less than significant.**

As discussed above, western spadefoot is considered to have low potential to occur within the study area. The following discussions include an analysis of potential impacts to western spadefoot associated with both development of the Proposed Project, as well as the BRPA.

Proposed Project

Western spadefoot is a nocturnal amphibian that forages in grassland, open chaparral, and pine-oak woodlands for a variety of invertebrates such as insects and worms and breeds in a variety of temporary wetlands, including creeks, pools in intermittent



drainages, vernal pools, and seasonal wetlands, and other fish-free water features. A total of approximately 10.055 acres of alkali playa and wetland ditch would be permanently impacted by the Proposed Project. The foregoing habitats provide suitable breeding habitat for western spadefoot. Additional habitat for western spadefoot occurs in areas that could be disturbed as part of potential future construction activities within the off-site Western Program Study Area. Thus, incidental mortality could occur to any individual within such aquatic features or in burrows in adjacent uplands.

### Biological Resources Preservation Alternative

As discussed above, the on-site alkali playa and wetland ditch provide suitable breeding habitat for western spadefoot. Because the BRPA would preserve the 47.1-acre Natural Habitat Area, which includes the majority of the Alkali Prairie land cover within the BRPA site, the alkali playa and a portion of the wetland ditches would be avoided, thereby reducing potential impacts to western spadefoot as compared to the Proposed Project. However, approximately 0.017-acre of wetland ditch would be temporarily impacted by the BRPA. Additional habitat for western spadefoot occurs in areas that could be disturbed as part of potential future construction activities within the off-site Western Program Study Area. As such, under the BRPA, incidental mortality could occur to any individuals within those features or in burrows in adjacent uplands.

### Conclusion

Based on the above, the Proposed Project and the BRPA could have a substantial adverse effect, either directly or through habitat modifications, on a wildlife species (western spadefoot) identified as a candidate, sensitive, or special-status species in local or regional plans, policies, or regulations, or by the CDFW or USFWS. Thus, a **significant** impact could occur.

### Mitigation Measure(s)

Implementation of the following mitigation measure is applicable to both the Proposed Project and the BRPA and would reduce the above potential impact to a *less-than-significant* level. The aquatic component of the survey, including sampling aquatic habitat thoroughly with dipnets during March or early April, when spadefoot tadpoles would be present, has already been completed concurrent with the vernal pool branchiopod surveys and does not need to be repeated.

### Proposed Project and Biological Resources Preservation Alternative

4.4-6 *Prior to the commencement of construction, one nocturnal acoustic survey of all areas within 300 feet of suitable aquatic habitat shall be conducted during the spring prior to construction of the Proposed Project or BRPA. Acoustic surveys shall consist of walking through the area and listening for the distinctive snore-like call of the species. Timing and methodology for the aquatic and acoustic surveys shall be based on those described in Distribution of the Western Spadefoot (Spea hammondi) in the Northern Sacramento Valley of California, with Comments on Status and Survey Methodology. If both the aquatic survey and the nocturnal acoustic survey are negative, further mitigation shall not be necessary. A report summarizing the results of*



*the aquatic survey and nocturnal acoustic survey shall be submitted for review and approval to the City of Davis Community Development Department and Public Works Utilities and Operations Department.*

*If western spadefoots are identified within the study area during the surveys and the species is not a federally listed species or candidate species and is still a California Species of Special Concern, the following shall be conducted:*

- The tadpoles (as many as are reasonably possible to capture) shall be captured and relocated either to aquatic habitat to be avoided on-site (and implement the fencing requirement outlined below), or to an off-site open space preserve with suitable habitat in the vicinity of the project site/BRPA site. If western spadefoot are observed within aquatic habitat proposed for avoidance, then the project proponent may either relocate the tadpoles to an off-site open space preserve with suitable habitat in the vicinity of the project site/BRPA site, or install silt fence along the edge of the proposed impact area within 300 feet of the occupied aquatic habitat to prevent metamorphosed individuals from dispersing into the construction area.*

*If western spadefoots are identified within the study area during the surveys and the species is a federally listed species or a candidate for listing, the following shall be conducted:*

- The project proponent shall consult with the USFWS regarding impacts to western spadefoot from the Proposed Project or BRPA. The project proponent shall obtain and comply with any conditions of the appropriate take authorization from the USFWS. The conditions in the take authorization may include, but not necessarily be limited to, fencing off avoided habitat; worker awareness training; preservation, restoration, or enhancement of habitat on- or off-site to compensate for indirect and/or direct effects; purchase of habitat credits from an agency-approved mitigation/conservation bank; working with a local land trust to preserve land; or any other method acceptable to USFWS.*

**4.4-7 Have a substantial adverse effect, either directly or through habitat modifications, on northwestern pond turtle. Based on the analysis below and with implementation of mitigation, the impact is *less than significant*.**

As discussed above, northwestern pond turtle is considered to have low potential to occur within the study area. The following discussion includes an analysis of potential impacts related to northwestern pond turtle associated with the development of the Proposed Project and the BRPA. Because the Proposed Project and the BRPA would





both include components with potential to affect the species and its habitat, the following evaluation applies to both development scenarios.

#### Proposed Project, Biological Resources Preservation Alternative

When inundated, Channel A represents potential habitat for northwestern pond turtle, a Yolo HCP/NCCP Covered Species. Portions of Channel A that run through the project site/BRPA site would be impacted by both the Proposed Project and the BRPA. Additional habitat for northwestern pond turtle occurs in areas that could be disturbed as part of potential future construction activities within the off-site Western Program Study Area. If northwestern pond turtles are present during construction activities, individual turtles could be injured or killed by heavy equipment during initial grading activities. In addition, if northwestern pond turtles are present and/or nesting in the upland areas adjacent to Channel A, incidental mortality of individual turtles or eggs could occur during construction that occurs adjacent to the drainage.

Based on the above, the Proposed Project and the BRPA could have a substantial adverse effect, either directly or through habitat modifications, on a wildlife species (northwestern pond turtle) identified as a candidate, sensitive, or special-status species in local or regional plans, policies, or regulations, or by the CDFW or USFWS. Thus, a **significant** impact could occur.

#### Mitigation Measure(s)

Northwestern pond turtle is a Yolo HCP/NCCP Covered Species. Thus, the Proposed Project and BRPA would be subject to the following species-specific Yolo HCP/NCCP AMM to address potential impacts to the species. Implementation of the following mitigation measure would reduce the above potential impact to a *less-than-significant* level.

#### Proposed Project and Biological Resources Preservation Alternative

4.4-7 *Yolo HCP/NCCP AMM14: There are no specific design requirements for western pond turtle habitat, however, project proponents must follow design requirements for the valley foothill riparian and lacustrine and riverine natural communities described in AMMs 9 and 10, which require a 100-foot (minimum) permanent buffer zone from the canopy drip-line (the farthest edge on the ground where water will drip from the tree canopy, based on the outer boundary of the tree canopy). If modeled upland habitat will be impacted, a qualified biologist must be present and will assess the likelihood of western pond turtle nests occurring in the disturbance area (based on sun exposure, soil conditions, and other species habitat requirements). If a qualified biologist determines that there is a moderate to high likelihood of western pond turtle nests within the disturbance area, the qualified biologist will monitor all initial ground disturbing activity for nests that may be unearthed during the disturbance, and will move out of harm's way any turtles or hatchlings found.*



**4.4-8 Have a substantial adverse effect, either directly or through habitat modifications, on tricolored blackbird. Based on the analysis below and with implementation of mitigation, the impact is *less than significant*.**

As discussed above, tricolored blackbird is considered to have low potential to occur within the study area. The following discussions include an analysis of potential impacts to tricolored blackbird associated with both development of the Proposed Project, as well as the BRPA.

Proposed Project

Potential nesting habitat for tricolored blackbird, a Yolo HCP/NCCP Covered Species, is not present on-site. However, the on-site Alkali Prairie and Grain and Hay Crops land covers represent potential foraging habitat for the species. Under the Proposed Project, 186.1 acres of tricolored blackbird foraging habitat would be permanently impacted. Removal of the foraging habitat could reduce the food available to nestlings at nest colonies in the vicinity, which could result in mortality of the species. However, it should be noted that the loss of on-site foraging habitat would be offset by the proposed project's participation in the Yolo HCP/NCCP and the payment of land conversion fees.

Biological Resources Preservation Alternative

Under the BRPA, 143.9 acres of tricolored blackbird foraging habitat would be permanently impacted, including the Alkali Prairie and Grain and Hay Crops land covers within the BRPA site. Removal of the foraging habitat could reduce the food available to nestlings at nest colonies in the vicinity, which could result in mortality of the species.

Conclusion

Based on the above, the Proposed Project and the BRPA could have a substantial adverse effect, either directly or through habitat modifications, on a wildlife species (tricolored blackbird) identified as a candidate, sensitive, or special-status species in local or regional plans, policies, or regulations, or by the CDFW or USFWS. Thus, a **significant** impact could occur.

Mitigation Measure(s)

Tricolored blackbird is a Yolo HCP/NCCP Covered Species. Thus, the Proposed Project and BRPA would be subject to the following species-specific Yolo HCP/NCCP AMM to address potential impacts to the species. Implementation of the following mitigation measure would reduce the above potential impact to a *less-than-significant* level.

Proposed Project and Biological Resources Preservation Alternative

4.4-8 Yolo HCP/NCCP AMM21: The project proponent will retain a qualified biologist to identify and quantify (in acres) tricolored blackbird nesting and foraging habitat (as defined in Appendix A, Covered Species Accounts) within 1,300 feet of the footprint of the covered activity. If a 1,300-foot buffer from nesting habitat cannot be maintained, the



*qualified biologist will check records maintained by the Conservancy (which will include CNDDDB data, and data from the tricolored blackbird portal) to determine if tricolored blackbird nesting colonies have been active in or within 1,300 feet of the project footprint during the previous five years. If there are no records of nesting tricolored blackbirds on the site, the qualified biologist will conduct visual surveys to determine if an active colony is present, during the period from March 1 to July 30, consistent with protocol described by Kelsey (2008).*

*Operations and maintenance activities or other temporary activities that do not remove nesting habitat and occur outside the nesting season (March 1 to July 30) do not need to conduct planning or construction surveys or implement any additional avoidance measures.*

*If an active tricolored blackbird colony is present or has been present within the last five years within the planning-level survey area, the project proponent will design the project to avoid adverse effects within 1,300 feet of the colony site(s), unless a shorter distance is approved by the Conservancy, USFWS, and CDFW. If a shorter distance is approved, the project proponent will still maintain a 1,300-foot buffer around active nesting colonies during the nesting season but may apply the approved lesser distance outside the nesting season. Adjacent parcels under different land ownership will be surveyed only if access is granted or if the parcels are visible from authorized areas.*

**4.4-9 Have a substantial adverse effect, either directly or through habitat modifications, on burrowing owl. Based on the analysis below and with implementation of mitigation, the impact is less than significant.**

As discussed above, burrowing owl is considered to have high potential to occur within the study area. The following discussions include an analysis of potential impacts to burrowing owl associated with both development of the Proposed Project, as well as the BRPA.

Proposed Project

Extensive complexes of ground squirrel burrows occur throughout the project site, particularly along the western edge of the site and along Channel A. The burrows represent suitable habitat for burrowing owl, which is a Yolo HCP/NCCP Covered Species. While burrowing owls or owl sign (white wash, feathers, or pellets) were not observed during the protocol-level burrowing owl surveys, the Proposed Project would permanently impact approximately 53.3 acres of potential burrowing owl habitat, including Alkali Prairie, Semiagricultural, and Urban Ruderal land covers. In addition, portions of the Western and Eastern Program Study Areas also contain suitable burrowing owl habitat. Given enough time, burrowing owls could colonize the project site and off-site Western and Eastern Program Study Areas in the interim between surveys/analysis and commencement of construction activities. If ground disturbance occurs while burrowing owls are occupying the on-site burrows, individuals could be directly impacted by the Proposed Project.





### Biological Resources Preservation Alternative

Similar to the Proposed Project, the BRPA would result in impacts to the ground squirrel burrows that occur within the BRPA site, particularly along the western edge of the site and along Channel A. Additionally, the BRPA would permanently impact approximately 23.1 acres of potential burrowing owl habitat, including the Semiagricultural and Urban Ruderal land covers. In addition, portions of the Western and Eastern Program Study Areas also contain suitable burrowing owl habitat. Thus, while potential impacts to burrowing owl would be reduced relative to those associated with the Proposed Project, if ground disturbance occurs while burrowing owls are occupying burrows within the BRPA site and off-site Western and Eastern Program Study Areas, individuals could be directly impacted.

### Conclusion

Based on the above, the Proposed Project and the BRPA could have a substantial adverse effect, either directly or through habitat modifications, on a wildlife species (burrowing owl) identified as a candidate, sensitive, or special-status species in local or regional plans, policies, or regulations, or by the CDFW or USFWS. Thus, a **significant** impact could occur.

### Mitigation Measure(s)

Burrowing owl is a Yolo HCP/NCCP Covered Species. Thus, the Proposed Project and BRPA would be subject to the following species-specific Yolo HCP/NCCP AMM to address potential impacts to the species. Implementation of the following mitigation measure would reduce the above potential impact to a *less-than-significant* level.

### Proposed Project and Biological Resources Preservation Alternative

4.4-9      *The project applicant shall comply with Yolo HCP/NCCP AMM18. However, should the Yolo HCP/NCCP be modified with respect to burrowing owl coverage in the future given the recent change in the species' status, the project applicant shall comply with the Yolo HCP/NCCP provisions pertaining to burrowing owl as they exist at the time of permit issuance.*

Yolo HCP/NCCP AMM18: *The project proponent will retain a qualified biologist to conduct planning-level surveys and identify western burrowing owl habitat (as defined in Appendix A, Covered Species Accounts) within or adjacent to (i.e., within 500 feet of) a covered activity. If habitat for this species is present, additional surveys for the species by a qualified biologist are required, consistent with CDFW guidelines (Appendix L).*

*If burrowing owls are identified during the planning-level survey, the project proponent will minimize activities that will affect occupied habitat as follows. Occupied habitat is considered fully avoided if the project footprint does not impinge on a nondisturbance buffer around the suitable burrow. For occupied burrowing owl nest burrows, this nondisturbance buffer could range from 150 to 1,500 feet (Table 4-2, Recommended Restricted Activity Dates and Setback Distances by Level of Disturbance for Burrowing Owls [incorporated as Table 4.4-7*



of this chapter]), depending on the time of year and the level of disturbance, based on current guidelines (California Department of Fish and Game 2012). The Yolo HCP/NCCP generally defines low, medium, and high levels of disturbances of burrowing owls as follows.

- **Low:** Typically 71-80 dB, generally characterized by the presence of passenger vehicles, small gas-powered engines (e.g., lawn mowers, small chain saws, portable generators), and high-tension power lines. Includes electric hand tools (except circular saws, impact wrenches and similar). Management and enhancement activities would typically fall under this category. Human activity in the immediate vicinity of burrowing owls would also constitute a low level of disturbance, regardless of the noise levels.
- **Moderate:** Typically 81-90 dB, and would include medium- and large-sized construction equipment, such as backhoes, front end loaders, large pumps and generators, road graders, dozers, dump trucks, drill rigs, and other moderate to large diesel engines. Also includes power saws, large chainsaws, pneumatic drills and impact wrenches, and large gasoline-powered tools. Construction activities would normally fall under this category.
- **High:** Typically 91-100 dB, and is generally characterized by impacting devices, jackhammers, compression (“jake”) brakes on large trucks, and trains. This category includes both vibratory and impact pile drivers (smaller steel or wood piles) such as used to install piles and guard rails, and large pneumatic tools such as chipping machines. It may also include large diesel and gasoline engines, especially if in concert with other impacting devices. Felling of large trees (defined as dominant or subdominant trees in mature forests), truck horns, yarding tower whistles, and muffled or underground explosives are also included. Very few covered activities are expected to fall under this category, but some construction activities may result in this level of disturbance.

**Table 4.4-7  
Recommended Restricted Activity Dates and  
Setback Distances by Level of Disturbance for  
Burrowing Owls**

| Time of Year                                                                                                                         | Level of Disturbance (feet)<br>from Occupied Burrows |        |       |
|--------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------|--------|-------|
|                                                                                                                                      | Low                                                  | Medium | High  |
| April 1-August 15                                                                                                                    | 600                                                  | 1,500  | 1,500 |
| August 16-October 15                                                                                                                 | 600                                                  | 600    | 1,500 |
| October 16-March 31                                                                                                                  | 150                                                  | 300    | 1,500 |
| Source: Yolo Habitat Conservancy. Yolo County Habitat Conservation Plan/Natural Community Conservation Plan [Table 4-2]. April 2018. |                                                      |        |       |



*The project proponent may qualify for a reduced buffer size, based on existing vegetation, human development, and land use, if agreed upon by CDFW and USFWS (California Department of Fish and Game 2012).*

*If the project does not fully avoid direct and indirect effects on nesting sites (i.e., if the project cannot adhere to the buffers described above), the project proponent will retain a qualified biologist to conduct preconstruction surveys and document the presence or absence of western burrowing owls that could be affected by the covered activity. Prior to any ground disturbance related to covered activities, the qualified biologist will conduct the preconstruction surveys within three days prior to ground disturbance in areas identified in the planning-level surveys as having suitable burrowing owl burrows, consistent with CDFW preconstruction survey guidelines (Appendix L, Take Avoidance Surveys). The qualified biologist will conduct the preconstruction surveys three days prior to ground disturbance. Time lapses between ground disturbing activities will trigger subsequent surveys prior to ground disturbance.*

*If the biologist finds the site to be occupied by western burrowing owls during the breeding season (February 1 to August 31), the project proponent will avoid all nest sites, based on the buffer distances described above, during the remainder of the breeding season or while the nest is occupied by adults or young (occupation includes individuals or family groups that forage on or near the site following fledging). Occupancy of burrowing owl habitat during preconstruction surveys is confirmed at a site when at least one burrowing owl or sign (fresh whitewash, fresh pellets, feathers, or nest ornamentation) is observed at or near a burrow entrance. Construction may occur inside of the disturbance buffer during the breeding season if the nest is not disturbed and the project proponent develops an AMM plan that is approved by the Conservancy, CDFW, and USFWS prior to project construction, based on the following criteria:*

- The Conservancy, CDFW, and USFWS approves the AMM plan provided by the project proponent.*
- A qualified biologist monitors the owls for at least three days prior to construction to determine baseline nesting and foraging behavior (i.e., behavior without construction).*
- The same qualified biologist monitors the owls during construction and finds no change in owl nesting and foraging behavior in response to construction activities.*
- If the qualified biologist identifies a change in owl nesting and foraging behavior as a result of construction activities, the qualified biologist will have the authority to stop all construction related activities within the non-disturbance buffers described above. The qualified biologist will report this information to the Conservancy, CDFW, and USFWS within 24 hours, and the*





Conservancy will require that these activities immediately cease within the non-disturbance buffer. Construction cannot resume within the buffer until the adults and juveniles from the occupied burrows have moved out of the project site, and the Conservancy, CDFW, and USFWS agree.

- If monitoring indicates that the nest is abandoned prior to the end of nesting season and the burrow is no longer in use by owls, the project proponent may remove the nondisturbance buffer, only with concurrence from CDFW and USFWS. If the burrow cannot be avoided by construction activity, the biologist will excavate and collapse the burrow in accordance with CDFW's 2012 guidelines to prevent reoccupation after receiving approval from the wildlife agencies.

If evidence of western burrowing owl is detected outside the breeding season (December 1 to January 31), the project proponent will establish a non-disturbance buffer around occupied burrows, consistent with Table 4-2 (incorporated as Table 4.4-7 of this chapter), as determined by a qualified biologist. Construction activities within the disturbance buffer are allowed if the following criteria are met to prevent owls from abandoning important overwintering sites:

- A qualified biologist monitors the owls for at least three days prior to construction to determine baseline foraging behavior (i.e., behavior without construction).
- The same qualified biologist monitors the owls during construction and finds no change in owl foraging behavior in response to construction activities.
- If there is any change in owl roosting and foraging behavior as a result of construction activities, these activities will cease within the buffer.
- If the owls are gone for at least one week, the project proponent may request approval from the Conservancy, CDFW, and USFWS for a qualified biologist to excavate and collapse usable burrows to prevent owls from reoccupying the site if the burrow cannot be avoided by construction activities. The qualified biologist will install one-way doors for a 48-hour period prior to collapsing any potentially occupied burrows. After all usable burrows are excavated, the buffer will be removed and construction may continue.

Monitoring must continue as described above for the nonbreeding season as long as the burrow remains active.

A qualified biologist will monitor the site, consistent with the requirements described above, to ensure that buffers are enforced and owls are not disturbed. Passive relocation (i.e., exclusion) of owls has been used in the past in the Plan Area to remove and exclude owls from active burrows during the nonbreeding season (Trulio 1995).



*Exclusion and burrow closure will not be conducted during the breeding season for any occupied burrow. If the Conservancy determines that passive relocation is necessary, the project proponent will develop a burrowing owl exclusion plan in consultation with CDFW biologists. The methods will be designed as described in the species monitoring guidelines (California Department of Fish and Game 2012) and consistent with the most up-to-date checklist of passive relocation techniques. This may include the installation of one-way doors in burrow entrances by a qualified biologist during the nonbreeding season. These doors will be in place for 48 hours and monitored twice daily to ensure that the owls have left the burrow, after which time the biologist will collapse the burrow to prevent reoccupation. Burrows will be excavated using hand tools. During excavation, an escape route will be maintained at all times. This may include inserting an artificial structure, such as piping, into the burrow to prevent collapsing until the entire burrow can be excavated and it can be determined that no owls are trapped inside the burrow. The Conservancy may allow other methods of passive or active relocation, based on best available science, if approved by the wildlife agencies. Artificial burrows will be constructed prior to exclusion and will be created less than 300 feet from the existing burrows on lands that are protected as part of the reserve system.*

**4.4-10 Have a substantial adverse effect, either directly or through habitat modifications, on Swainson's hawk or white-tailed kite. Based on the analysis below and with implementation of mitigation, the impact is less than significant.**

The following discussions include an analysis of potential impacts to Swainson's hawk and white-tailed kite associated with both development of the Proposed Project, as well as the BRPA.

Proposed Project

The large trees throughout the project site provide suitable nesting habitat to accommodate Swainson's hawk and white-tailed kite, both of which are Yolo HCP/NCCP Covered Species. In addition, Swainson's hawk and white-tailed kite have been observed foraging in suitable habitats throughout the project site and off-site Western Program Study Area, including the Alkali Prairie, California Annual Grassland Alliance, Semiagricultural, and Grain and Hay Crops land covers. One active Swainson's hawk nest was documented within a tree in the riparian corridor surrounding Channel A within the project site, and a second active nest was documented just north of the project site (see Figure 4.4-6).

Under the Proposed Project, the active Swainson's hawk nests would be avoided, but approximately 952 trees that could be used by Swainson's hawks and white-tailed kite for nesting throughout the project site would be removed. If Swainson's hawks or white-tailed kite were nesting in trees removed during construction, incidental mortality of individuals of the species could occur. Additionally, although approximately 285 trees would be avoided adjacent to the western boundary of the project site, as well



as in the new Heritage Oak Park in the southeastern portion of the site, that could be used by Swainson's hawks and white-tailed kite for nesting, if the species are nesting in avoided habitat in the vicinity of construction activities, such activities could cause the species to abandon their nests.

A total of approximately 213.2 acres of Alkali Prairie, Semiagricultural, and Grain and Hay Crops land covers that represent Swainson's hawk and white-tailed kite foraging habitat would also be permanently impacted. Removal of on-site foraging habitat could indirectly impact the species by reducing the availability of prey. Thus, the Proposed Project could have a substantial adverse effect on Swainson's hawk and white-tailed kite foraging habitat. However, the land preservation and management objectives of the Yolo HCP/NCCP are intended to mitigate for the loss of Swainson's hawk and white-tailed kite nesting and foraging habitat within the Plan Area, including the project site. Section 5.7.6.3 of the Yolo HCP/NCCP explains that with full implementation of the HCP/NCCP, 19,286 acres of natural foraging habitat and 22,508 acres of cultivated lands foraging habitat for Swainson's hawk will be conserved in Category 1 and 2 public and easement lands, including public and easement lands and newly protected lands. In addition, Section 5.7.7.2 explains that the Yolo HCP/NCCP will preserve 18,792 acres of foraging habitat for white-tailed kite and will enroll approximately 3,330 acres of pre-permit reserve lands with white-tailed kite foraging habitat into the reserve system. Overall, the loss of foraging habitat is addressed at a regional scale through the Yolo HCP/NCCP, and the Yolo HCP/NCCP will provide a substantial net benefit to the Swainson's hawk and white-tailed kite.

#### Biological Resources Preservation Alternative

Similar to the Proposed Project, the large trees throughout the BRPA site provide suitable nesting habitat to accommodate Swainson's hawk and white-tailed kite, both of which are Yolo HCP/NCCP Covered Species. In addition, Swainson's hawk and white-tailed kite have been observed foraging in suitable habitats throughout the BRPA site and off-site Western Program Study Area, including the Alkali Prairie, California Annual Grassland Alliance, Semiagricultural, and Grain and Hay Crops land covers. As discussed above, one active Swainson's hawk nest was documented within a tree in the riparian corridor surrounding Channel A within the BRPA site, and a second active nest was documented just north of the site (see Figure 4.4-6).

Under the BRPA, the active Swainson's hawk nests would be avoided, but approximately 952 trees that could be used by Swainson's hawks and white-tailed kite for nesting throughout the BRPA site would be removed. If Swainson's hawks or white-tailed kite were nesting in trees removed during construction, incidental mortality of individuals of the species could occur. Additionally, although approximately 285 trees would be avoided adjacent to the western boundary of the BRPA site, as well as in the new Heritage Oak Park in the southeastern portion of the site, that could be used by Swainson's hawks and white-tailed kite for nesting, if the species are nesting in avoided habitat in the vicinity of construction activities, such activities could cause the species to abandon their nests. A total of approximately 166.7 acres of Alkali Prairie, Semiagricultural, and Grain and Hay Crops land covers that represent Swainson's hawk and white-tailed kite foraging habitat would also be permanently impacted. Removal of on-site foraging habitat could indirectly impact the species by reducing the availability of prey. As discussed above, implementation of the Yolo HCP/NCCP would





address the loss of foraging habitat for Swainson's hawk and white-tailed kite at a regional level. Nonetheless, while potential impacts would be reduced as compared to the Proposed project, the BRPA could have a substantial adverse effect on Swainson's hawk and white-tailed kite foraging habitat.

### Conclusion

Based on the above, the Proposed Project and the BRPA could have a substantial adverse effect, either directly or through habitat modifications, on a raptor species (Swainson's hawk and white-tailed kite) identified as a candidate, sensitive, or special-status species in local or regional plans, policies, or regulations, or by the CDFW or USFWS. Thus, a **significant** impact could occur.

### Mitigation Measure(s)

Swainson's hawk and white-tailed kite are both Yolo HCP/NCCP Covered Species. Thus, the Proposed Project and BRPA would be subject to the following species-specific Yolo HCP/NCCP AMM to address potential impacts to the species. Implementation of the following mitigation measure would reduce the above potential impact to a *less-than-significant* level.

#### *Proposed Project and Biological Resources Preservation Alternative*

4.4-10 *Yolo HCP/NCCP AMM16: The project proponent will retain a qualified biologist to conduct planning-level surveys and identify any nesting habitat present within 1,320 feet of the project footprint. Adjacent parcels under different land ownership will be surveyed only if access is granted or if the parcels are visible from authorized areas.*

*If a construction project cannot avoid potential nest trees (as determined by the qualified biologist) by 1,320 feet, the project proponent will retain a qualified biologist to conduct preconstruction surveys for active nests consistent, with guidelines provided by the Swainson's Hawk Technical Advisory Committee (2000), between March 15 and August 30, within 15 days prior to the beginning of the construction activity. The results of the survey will be submitted to the Conservancy and CDFW. If active nests are found during preconstruction surveys, a 1,320-foot initial temporary nest disturbance buffer shall be established. If project related activities within the temporary nest disturbance buffer are determined to be necessary during the nesting season, then the qualified biologist will monitor the nest and will, along with the project proponent, consult with CDFW to determine the best course of action necessary to avoid nest abandonment or take of individuals. Work may be allowed only to proceed within the temporary nest disturbance buffer if Swainson's hawk or white-tailed kite are not exhibiting agitated behavior, such as defensive flights at intruders, getting up from a brooding position, or flying off the nest, and only with the agreement of CDFW and USFWS. The designated on-site biologist/monitor shall be on-site daily while construction-related activities are taking place within the 1,320-foot buffer and shall have the authority to stop work if raptors are exhibiting agitated behavior. Up to 20 Swainson's hawk nest trees (documented*



*nesting within the last 5 years) may be removed during the permit term, but they must be removed when not occupied by Swainson's hawks.*

*For covered activities that involve pruning or removal of a potential Swainson's hawk or white-tailed kite nest tree, the project proponent will conduct preconstruction surveys that are consistent with the guidelines provided by the Swainson's Hawk Technical Advisory Committee (2000). If active nests are found during preconstruction surveys, no tree pruning or removal of the nest tree will occur during the period between March 1 and August 30 within 1,320 feet of an active nest, unless a qualified biologist determines that the young have fledged and the nest is no longer active.*

**4.4-11 Have a substantial adverse effect, either directly or through habitat modifications, on northern harrier, other nesting birds, and other raptors protected under the MBTA and CFGC. Based on the analysis below and with implementation of mitigation, the impact is *less than significant*.**

The following discussion includes an analysis of potential impacts related to northern harrier, other nesting birds, and other raptors protected under the MBTA and CFGC associated with the development of the Proposed Project and the BRPA. Because the Proposed Project and the BRPA would both include components with potential to affect the species and their habitat, the following evaluation applies to both development scenarios.

Proposed Project, Biological Resources Preservation Alternative

In addition to the special-status bird and raptor species listed above, other bird species protected by the MBTA and CFGC, including northern harrier, have the potential to be present and nest within the project site/BRPA site and off-site Western and Eastern Program Study Areas. If such species are actively nesting within trees, shrubs, or ground cover planned for removal during construction, incidental mortality of individuals could occur. Furthermore, construction activities adjacent to birds nesting in avoided areas could result in nest abandonment.

Based on the above, the Proposed Project and the BRPA could have a substantial adverse effect, either directly or through habitat modifications, on nesting songbirds and raptor species protected under the MBTA and CFGC. Thus, a **significant** impact could occur.

Mitigation Measure(s)

Implementation of the following mitigation measure is applicable to both the Proposed Project and the BRPA and would reduce the above potential impact to a *less-than-significant* level.

Proposed Project and Biological Resources Preservation Alternative

4.4-11 *If construction activities take place during the typical bird breeding/nesting season (February 15 through August 31), a*



*preconstruction nesting bird survey shall be conducted by a qualified biologist throughout the project site/BRPA site and all accessible areas within a 500-foot radius of proposed construction areas, at most, 14 days prior to the commencement of construction. If a break in construction activity of more than 14 days occurs, then subsequent surveys shall be conducted. A report summarizing the survey(s) shall be provided to the City of Davis Community Development Department and Public Works Utilities and Operations Department within 30 days of the completed survey and is valid for one construction season. If nests are not found, further mitigation is not required.*

*If active raptor nests are found, construction activities shall not take place within 500 feet of the nest until the young have fledged. If active songbird nests are found, a 100-foot non-disturbance buffer shall be established. The non-disturbance buffers may be reduced if a smaller, sufficiently protective buffer is approved by the City after taking into consideration the natural history of the species of bird nesting, the proposed activity level adjacent to the nest, the nest occupants' habituation to existing or ongoing activity, and nest concealment (i.e., whether visual or acoustic barriers occur between the proposed activity and the nest). A qualified biologist may visit the nest, as needed, to determine when the young have fledged the nest and are independent of the site or the nest can be left undisturbed until the end of the nesting season.*

*If the nest buffer is reduced but construction activities cause a nesting bird to vocalize, make defensive flights at intruders, get up from a brooding position, or fly off the nest in a way that would be considered a result of construction activities, then the exclusionary buffer shall be increased such that activities are far enough from the nest to stop the agitated behavior. The revised non-disturbance buffer shall remain in place until the chicks have fledged or as otherwise determined by a qualified biologist in consultation with the City.*

*Construction activities may only resume within the non-disturbance buffer after a follow-up survey by the biologist has been conducted and a report has been prepared indicating that the nest (or nests) are not active any longer, and that new nests have not been identified.*

**4.4-12 Have a substantial adverse effect, either directly or through habitat modifications, on special-status roosting bats. Based on the analysis below and with implementation of mitigation, the impact is *less than significant*.**

As discussed above, pallid bat, silver-haired bat, and hoary bat are considered to have high potential to occur within the study area. The following discussion includes an analysis of potential impacts related to special-status roosting bats associated with the development of the Proposed Project and the BRPA. Because the Proposed Project





and the BRPA would both include components with potential to affect the species and their habitat, the following evaluation applies to both development scenarios.

#### Proposed Project, Biological Resources Preservation Alternative

Pursuant to the BRA, pallid bat, silver-haired bat, and hoary bat all have high potential to occur within the study area. More specifically, the trees and the on-site remnants of the former rural residence within the study area provide habitat for the foregoing special-status bat species. Additional habitat for special-status bats occurs in areas that could be disturbed as part of potential future construction activities within the off-site Western and Eastern Program Study Areas. As such, if special-status bats are roosting in trees proposed for removal during construction of either the Proposed Project or BRPA, the bats could be injured or killed.

Based on the above, the Proposed Project and the BRPA could have a substantial adverse effect, either directly or through habitat modifications, on a bat species identified as a candidate, sensitive, or special-status species in local or regional plans, policies, or regulations, or by the CDFW or USFWS. Thus, a **significant** impact could occur.

#### Mitigation Measure(s)

Implementation of the following mitigation measure is applicable to both the Proposed Project and the BRPA and would reduce the above potential impact to a *less-than-significant* level.

#### *Proposed Project and Biological Resources Preservation Alternative*

4.4-12

*A preconstruction roosting bat survey shall be conducted by a qualified biologist within 14 days prior to any tree or structure removal that would occur during the breeding season (April through August). A report summarizing the results of the preconstruction roosting bat survey shall be submitted for review and approval to the City of Davis Community Development Department and Public Works Utilities and Operations Department. If preconstruction surveys indicate that roosts of special-status bats are not present, or that roosts are inactive or potential habitat is unoccupied, further mitigation shall not be required. If roosting bats are found, exclusion shall be conducted by the qualified biologist in coordination with CDFW. Methods may include acoustic monitoring, evening emergence surveys, and the utilization of two-step tree removal supervised by the qualified biologist. Two-step tree removal involves removal of all branches that do not provide roosting habitat on the first day, and then the next day cutting down the remaining portion of the tree. Building exclusion methods may include such techniques as installation of passive one-way doors, or the installation of netting when the bats are not present to prevent their reoccupation. Once the bats have been excluded, tree or building removal may occur.*



**4.4-13 Have a substantial adverse effect, either directly or through habitat modifications, on American badger. Based on the analysis below and with implementation of mitigation, the impact is *less than significant*.**

As discussed above, American badger is considered to have low potential to occur within the study area. The following discussion includes an analysis of potential impacts related to American badger associated with the development of the Proposed Project and the BRPA. Because the Proposed Project and the BRPA would both include components with potential to affect the species and its habitat, the following evaluation applies to both development scenarios.

**Proposed Project, Biological Resources Preservation Alternative**

A small area of grassland within the study area is surrounded by development and has regular pedestrian traffic, which renders the area as unsuitable for American badger. Thus, suitable habitat for American badger does not occur within the project site/BRPA site. However, the species could use Channel A as a migration corridor between areas of suitable habitat. The Proposed Project and the BRPA would both involve extensive work in and around Channel A. If badgers are present within the work area, individuals could be directly impacted.

Based on the above, the Proposed Project and the BRPA could have a substantial adverse effect, either directly or through habitat modifications, on a wildlife species (American badger) identified as a candidate, sensitive, or special-status species in local or regional plans, policies, or regulations, or by the CDFW or USFWS. Thus, a ***significant*** impact could occur.

**Mitigation Measure(s)**

Implementation of the following mitigation measure is applicable to both the Proposed Project and the BRPA and would reduce the above potential impact to a *less-than-significant* level.

**Proposed Project and Biological Resources Preservation Alternative**

**4.4-13** *Within 48 hours prior to the commencement of construction, a preconstruction survey for American badger shall be conducted by a qualified biologist. A report summarizing the results of the preconstruction survey shall be submitted for review and approval to the City of Davis Community Development Department and Public Works Utilities and Operations Department. If American badger or burrows with American badger are found on-site during the preconstruction survey, consultation with CDFW shall occur prior to the initiation of any construction activities, to determine an appropriate burrow excavation and/or relocation method. If American badger is not found, further mitigation shall not be required.*



**4.4-14 Have a substantial adverse effect on any riparian habitat or other Sensitive Natural Community identified in local or regional plans, policies, regulations or by the CDFW or USFWS. Based on the analysis below and with implementation of mitigation, the impact is *less than significant*.**

The on-site alkali vernal pools (i.e., the seasonal wetlands within the Alkali Prairie land cover) are classified as a Sensitive Natural Community pursuant to the Yolo HCP/NCCP. Please see Impact 4.4-15 for a discussion of impacts related to on-site seasonal wetlands.

As previously discussed, an 8.3-acre strip of woody vegetation occurs along either side of Channel A within the study area, which although almost entirely comprised of non-native trees, is riparian in nature. As such, the foregoing area is classified as Valley Foothill Riparian land cover. Existing trees and vegetation within the vicinity of the rerouted and expanded portion of Channel A would be removed, and new plantings would be installed in the area as part of the Proposed Project and BRPA. The existing portion of Channel A to the west of the proposed detention basin would remain within a proposed greenbelt with a new multi-use pathway along the edge outside the limits of the existing vegetation and would serve as a high-flow channel for the enhanced drain. The following discussions include an analysis of potential impacts to riparian habitat or other Sensitive Natural Communities associated with both development of the Proposed Project, as well as the BRPA.

Proposed Project

Of the total 8.3 acres of Valley Foothill Riparian land cover within the study area, the BRA determined that 5.9 acres within the project site and 0.2-acre in the off-site Western Program Study Area could be permanently impacted by the Proposed Project (see Figure 4.4-8). Overall, a total of 6.1 acres of Valley Foothill Riparian land cover would be potentially impacted by the Proposed Project (see Table 4.4-5). The Proposed Project would be required to comply with Yolo HCP/NCCP AMM9, set forth by Mitigation Measure 4.4-14(a) below, which requires a 100-foot buffer from the Valley Foothill Riparian canopy drip-line, or if avoidance is infeasible, a lesser buffer or encroachment into the Sensitive Natural Community may be allowed if approved by the Yolo Habitat Conservancy and the wildlife agencies, based on the criteria listed in AMM1. According to AMM1, a lesser resource protection buffer than is stipulated may be approved by the agencies if they determine that the community is avoided to an extent that is consistent with the project purpose. For example, if the purpose of the project is to provide a stream crossing or replace a bridge, the project may encroach into the resource protection buffer and the natural community or species habitat to the extent that is necessary to fulfill the project purpose. Ultimately, the Conservancy and wildlife agencies will determine whether a buffer less than 100 feet from the on-site Valley Foothill Riparian land cover would be allowable. Depending on the determination, the amount of permanently impacted Valley Foothill Riparian habitat could be increased. Regardless, all project-related impacts to Valley Foothill Riparian habitat would be fully mitigated through compliance with the Yolo HCP/NCCP.

As discussed further under Impact 4.4-18 below, Covered Activities within the Yolo HCP/NCCP permit area are subject to land cover conversion fees established by the





Yolo HCP/NCCP. In addition, the Proposed Project would be required to comply with the regulations established by CFGC 1600 et seq. Specifically, CFGC Section 1602 requires notification to CDFW before a project commences “any activity that may substantially divert or obstruct the natural flow or substantially change the bed, channel, or bank of any river, stream, or lake.” CDFW then reviews the proposed action(s). If CDFW determines that the proposed activity would substantially affect fish and wildlife resources, a LSAA containing measures to protect affected fish and wildlife resources would be required. The LSAA program is not integrated in the Yolo HCP/NCCP and must be applied for separately and apart from the Yolo HCP/NCCP. The LSAA would be comprised of the final mitigation measure(s) and condition(s) mutually agreed upon by CDFW and the project applicant. Additionally, projects that require a LSAA often additionally require a permit from the USACE under Section 404 of the CWA, which is discussed further under Impact 4.4-15. In such instances, the conditions of the Section 404 permit and the LSAA may overlap.

Because the Proposed Project would potentially result in disturbances to the Valley Foothill Riparian land cover within the project site and off-site Western Program Study Area, the Proposed Project would be required to comply with the provisions of CFGC Section 1600, et seq. Without compliance, a significant impact could occur.

#### Biological Resources Preservation Alternative

Of the total 8.3 Valley Foothill Riparian land cover acreage, the BRA determined that 5.9 acres within the BRPA site and 0.2-acre in the off-site Program Study Areas would be permanently impacted by the BRPA (see Figure 4.4-9). Overall, a total of 6.1 acres of Valley Foothill Riparian land cover would be potentially impacted by the BRPA (see Table 4.4-6). Conversion of Valley Foothill Riparian land cover would be subject to applicable land cover conversion fees established by the Yolo HCP/NCCP.

In addition, similar to the Proposed Project, the BRPA would be required to comply with Yolo HCP/NCCP AMM9 and the regulations established by CFGC 1600 et seq and may additionally require a permit from the USACE under Section 404 of the CWA. Without compliance, a significant impact could occur.

#### Conclusion

Based on the above, without compliance with the provisions of CFGC Section 1600, et seq., the Proposed Project and the BRPA could have a substantial adverse effect on riparian habitat identified in local or regional plans, policies, regulations or by the CDFW or USFWS, and a **significant** impact could occur under either development scenario.

#### Mitigation Measure(s)

Implementation of the following mitigation measure is applicable to both the Proposed Project and the BRPA and would reduce the above potential impact to a *less-than-significant* level.

#### *Proposed Project and Biological Resources Preservation Alternative*

4.4-14(a) Yolo HCP/NCCP AMM9: *The buffers for each sensitive natural community are as follows:*



- *Alkali prairie and vernal pools: The area necessary to provide the hydrologic conditions needed to support the wetlands within these natural communities (250 feet). Covered activities will avoid vernal pools or alkali seasonal wetlands by 250 feet, or other distance based on site specific topography to avoid indirect hydrologic effects. A buffer of less than 250 feet around vernal pools or alkali seasonal wetlands will be subject to wildlife agency concurrence that effects will be avoided. Considerations that may warrant a buffer of less than 250 feet may include topography (i.e., if the surrounding microwatershed extends less than 250 feet from the pool or wetland), intervening hydrologic barriers such as roads or canals, or other factors indicating that the proposed disturbance area does not contribute to the pool's hydrology. Other considerations may include temporary disturbance during the dry season where measures are implemented to avoid disturbance of the underlying claypan or hardpan, and the area is returned to pre-project conditions prior to the following rainy season.*
- *Valley foothill riparian: One hundred feet from canopy drip-line. If avoidance is infeasible, a lesser buffer or encroachment into the sensitive natural community may be allowed if approved by the Conservancy and the wildlife agencies, based on the criteria listed in AMM1. Transportation or utility crossings may encroach into this sensitive natural community provided effects are minimized and all other applicable AMMs are followed.*
- *Lacustrine and riverine: Outside urban planning units, 100 feet from the top of banks. Within urban planning units, 25 feet from the top of the banks.*
- *Fresh emergent wetland: Fifty feet from the edge of the natural community.*

4.4-14(b)

*Prior to the commencement of ground-disturbing activities, the project proponent shall apply for a Section 1600 Lake or Streambed Alteration Agreement (LSAA) from CDFW. The information provided shall include a description of all the activities associated with the Proposed Project or BRPA, not just those closely associated with the drainages and/or riparian vegetation.*

*Impacts shall be outlined in the application and shall be in substantial conformance with the impacts to biological resources outlined in the Biological Resources Assessment prepared for the Village Farms Davis Project by Madrone Ecological Consulting. Impacts for each activity shall be broken down by temporary and permanent impacts, and a description of the proposed mitigation for biological resource impacts shall be outlined per activity and then by temporary and permanent. Information regarding project-specific drainage and hydrology changes resulting from project implementation shall be provided, as well as a description of stormwater treatment methods.*



*Minimization and avoidance measures shall be proposed, as appropriate, and may include preconstruction species surveys and reporting, protective fencing around avoided biological resources, worker environmental awareness training, seeding disturbed areas adjacent to open space areas with native seed, and installation of project-specific stormwater best management practices (BMPs).*

*Mitigation for impacts to riparian vegetation may include restoration or enhancement of resources on- or off-site, purchase of off-site habitat credits from an agency-approved mitigation/conservation bank, working with a local land trust to preserve land, or any other method acceptable to CDFW. Mitigation shall result in no net loss of riparian vegetation. Written verification of the Section 1600 LSAA shall be submitted to the City of Davis Community Development Department and Public Works Utilities and Operations Department.*

**4.4-15 Have a substantial adverse effect on State or federally protected wetlands (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means. Based on the analysis below and with implementation of mitigation, the BRPA's impact is less than significant. Even with implementation of mitigation, the Proposed Project's impact is significant and unavoidable.**

Wetlands are generally considered to be areas that are periodically or permanently inundated by surface or groundwater, and support vegetation adapted to life in saturated soil. Wetlands are recognized as important features on a regional and national level due to their high inherent value to fish and wildlife, use as storage areas for storm and flood waters, and water recharge, filtration, and purification functions. The following discussions include an analysis of potential impacts to State- or federally protected wetlands associated with both development of the Proposed Project, as well as the BRPA.

Proposed Project

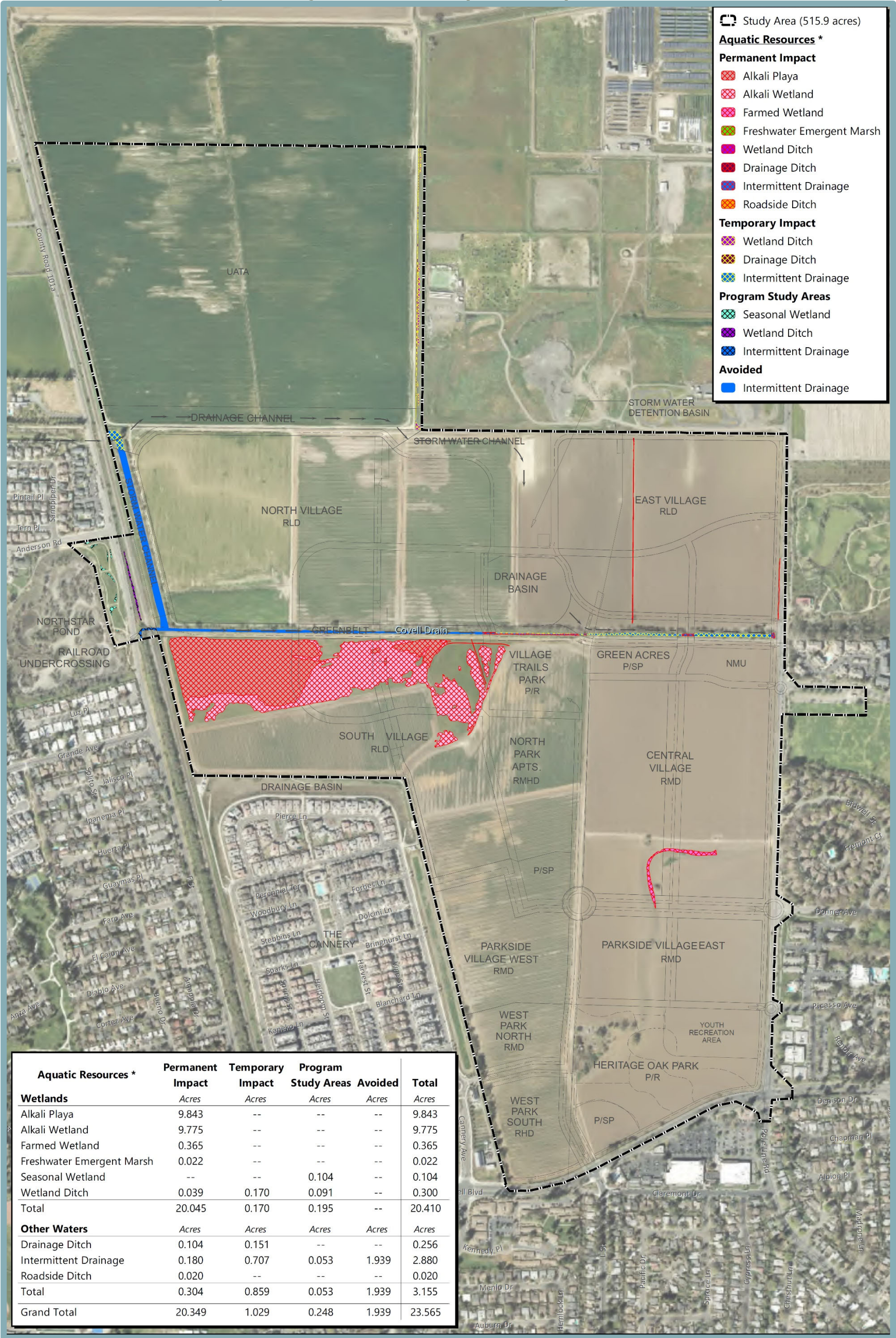
Based on the ARD conducted as part of the BRA, approximately 23.565 total acres of aquatic resources occur within the study area (see Figure 4.4-10). As summarized in Figure 4.4-10 and Table 4.4-8, approximately 20.349 acres of aquatic resources would be permanently impacted by the Proposed Project, approximately 1.029 acres would be temporarily impacted, and 0.248-acre within the Western Program Study Area could be potentially impacted.

In order to avoid and minimize effects from Covered Activities on wetlands and waters of the U.S., the Yolo HCP/NCCP sets forth AMM10, which requires project proponents to adhere to stormwater management plans established through compliance with the NPDES permit program. In addition, the Proposed Project would be subject to land cover conversion fees established by the Yolo HCP/NCCP to address conversion of land cover acreages summarized in Table 4.4-5.





Figure 4.4-10  
Proposed Project Potential Impacts to Aquatic Resources





| <b>Table 4.4-8<br/>Proposed Project Aquatic Resource Impacts</b>                                                |                    |                   |                     |              |               |
|-----------------------------------------------------------------------------------------------------------------|--------------------|-------------------|---------------------|--------------|---------------|
| Aquatic Resource Type                                                                                           | Acres <sup>1</sup> |                   |                     |              |               |
|                                                                                                                 | Permanent Impacts  | Temporary Impacts | Program Study Areas | Avoided      | Total         |
| <b>Wetlands</b>                                                                                                 |                    |                   |                     |              |               |
| Alkali Playa                                                                                                    | 9.843              | --                | --                  | --           | 9.843         |
| Alkali Wetland                                                                                                  | 9.775              | --                | --                  | --           | 9.775         |
| Farmed Wetland                                                                                                  | 0.365              | --                | --                  | --           | 0.365         |
| Freshwater Emergent Marsh                                                                                       | 0.022              | --                | --                  | --           | 0.022         |
| Seasonal Wetland                                                                                                | --                 | --                | 0.104               | --           | 0.104         |
| Wetland Ditch                                                                                                   | 0.039              | 0.170             | 0.091               | --           | 0.300         |
| <b>Other Waters</b>                                                                                             |                    |                   |                     |              |               |
| Drainage Ditch                                                                                                  | 0.104              | 0.151             | --                  | --           | 0.256         |
| Intermittent Drainage – Channel A                                                                               | 0.180              | 0.707             | 0.053               | 1.939        | 2.880         |
| Roadside Ditch                                                                                                  | 0.020              | --                | --                  | --           | 0.020         |
| <b>Total</b>                                                                                                    | <b>20.349</b>      | <b>1.029</b>      | <b>0.248</b>        | <b>1.939</b> | <b>23.565</b> |
| <sup>1</sup> Summation errors may occur due to rounding.<br><b>Source: Madrone Ecological Consulting, 2024.</b> |                    |                   |                     |              |               |

Finally, the USACE, RWQCB, and CDFW have jurisdiction over modifications to stream channels, river banks, lakes, and other wetland features. The USACE's jurisdiction is established through the provisions of Section 404 of the CWA, and the jurisdictional authority of the RWQCB is established pursuant to Section 401 of the CWA, which typically requires a water quality certification when an individual or nationwide permit is issued by the USACE.

The RWQCB also has jurisdiction over waters of the State under the Porter-Cologne Water Quality Control Act. As such, the Proposed Project would be required to obtain a Section 404 permit from the USACE and a Section 401 permit from the RWQCB and would be subject to all the conditions set forth by said permits. As part of compliance with the Section 404 permit process, the protocol-level ARD of the study area would be subject to the USACE jurisdictional determination process. Additionally, as discussed further under Impact 4.4-14, the project would also be subject to the regulations set forth through CFGC Section 1600, et seq.

The Proposed Project would result in a significant impact related to federally or State-protected wetlands.

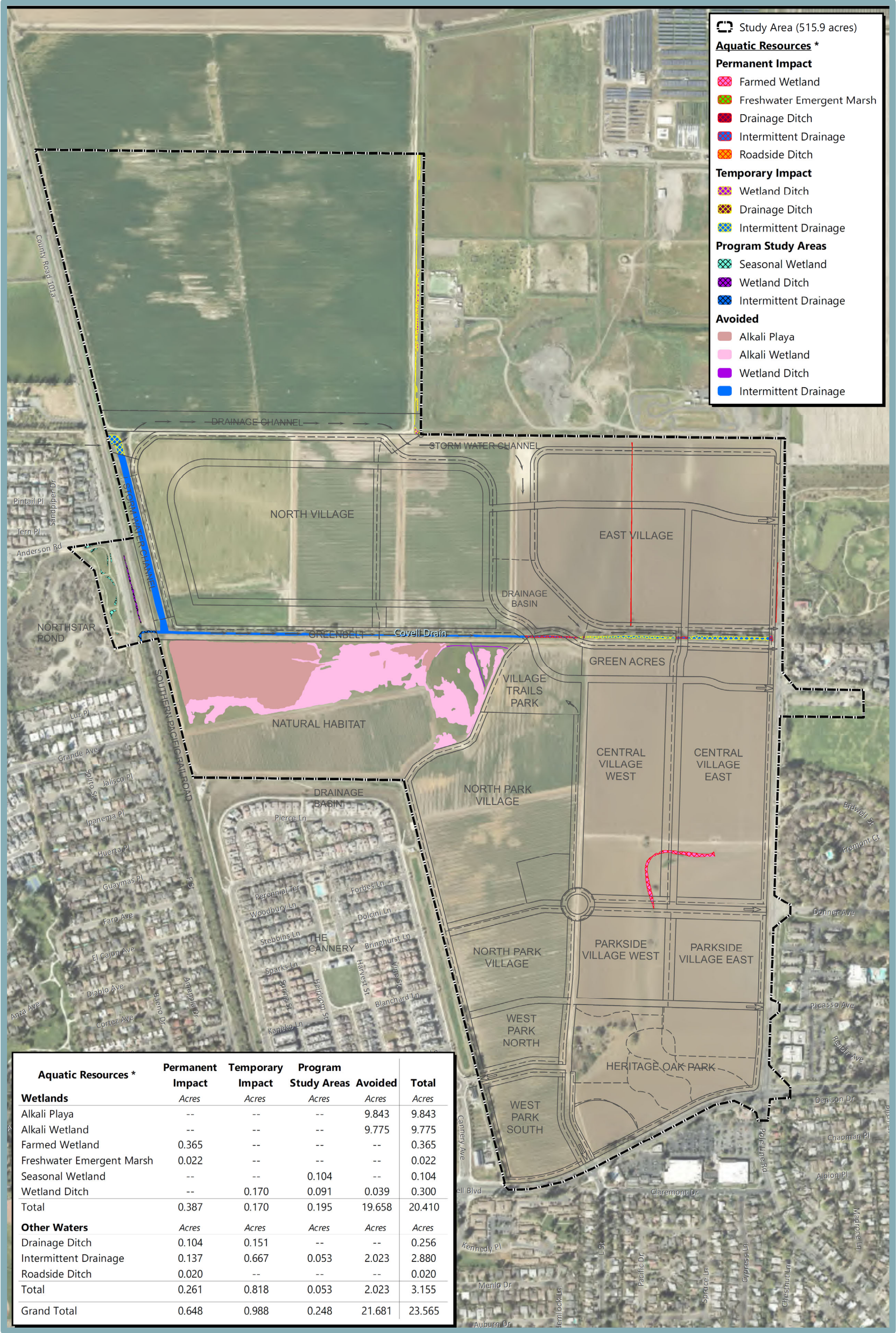
#### Biological Resources Preservation Alternative

As discussed above, approximately 23.565 total acres of aquatic resources occur within the study area. As shown in Figure 4.4-11 and summarized in Table 4.4-9, due to the inclusion of the 47.1-acre Natural Habitat Area (which contains the site's Alkali Prairie land cover), approximately 0.648-acre of aquatic resources would be permanently impacted by the BRPA.





Figure 4.4-11  
Biological Resources Preservation Alternative Potential Impacts to Aquatic Resources





| <b>Table 4.4-9</b><br><b>Biological Resources Preservation Alternative</b><br><b>Aquatic Resource Impacts</b>   |                    |                   |                     |               |               |
|-----------------------------------------------------------------------------------------------------------------|--------------------|-------------------|---------------------|---------------|---------------|
| Aquatic Resource Type                                                                                           | Acres <sup>1</sup> |                   |                     |               |               |
|                                                                                                                 | Permanent Impacts  | Temporary Impacts | Program Study Areas | Avoided       | Total         |
| <b>Wetlands</b>                                                                                                 |                    |                   |                     |               |               |
| Alkali Playa                                                                                                    | --                 | --                | --                  | 9.843         | 9.843         |
| Alkali Wetland                                                                                                  | --                 | --                | --                  | 9.775         | 9.775         |
| Farmed Wetland                                                                                                  | 0.365              | --                | --                  | --            | 0.365         |
| Freshwater Emergent Marsh                                                                                       | 0.022              | --                | --                  | --            | 0.022         |
| Seasonal Wetland                                                                                                | --                 | --                | 0.104               | --            | 0.104         |
| Wetland Ditch                                                                                                   | --                 | 0.170             | 0.091               | 0.039         | 0.300         |
| <b>Other Waters</b>                                                                                             |                    |                   |                     |               |               |
| Drainage Ditch                                                                                                  | 0.104              | 0.151             | --                  | --            | 0.256         |
| Intermittent Drainage – Channel A                                                                               | 0.137              | 0.667             | 0.053               | 2.023         | 2.880         |
| Roadside Ditch                                                                                                  | 0.020              | --                | --                  | --            | 0.020         |
| <b>Total</b>                                                                                                    | <b>0.648</b>       | <b>0.988</b>      | <b>0.248</b>        | <b>21.681</b> | <b>23.565</b> |
| <sup>1</sup> Summation errors may occur due to rounding.<br><b>Source: Madrone Ecological Consulting, 2024.</b> |                    |                   |                     |               |               |

Approximately 0.988-acre would be temporarily impacted, and 0.248-acre within the Western Program Study Area could be potentially impacted. Compared to the Proposed Project, the BRPA would result in fewer permanent impacts of 19.701 acres, fewer temporary impacts of 0.041 acres, and similar potential impacts in the Western Program Study Area.

As discussed above, the BRPA would be subject to Yolo HCP/NCCP AMM9, which requires a 250-foot buffer from vernal pools or alkali seasonal wetlands, or other distance based on site specific topography to avoid indirect hydrologic effects. A buffer of less than 250 feet around vernal pools or alkali seasonal wetlands would be subject to wildlife agency concurrence that effects would be avoided. As stated in AMM9, considerations that may warrant a buffer of less than 250 feet may include topography, intervening hydrologic barriers such as roads or canals, or other factors indicating that the proposed disturbance area does not contribute to the pool's hydrology.

The BRPA would not result in disturbance to the south or to the west of the alkali playa/alkali wetland area that would be avoided under the BRPA. The alkali playa/alkali wetlands are bounded along the north side by a constructed levee that runs along the southern edge of Channel A. The levee and Channel A would be left in place, and the only work proposed within 250 feet of Channel A would consist of minor upgrades to the existing dirt road along the top of the levee to convert the levee into a trail. These minor upgrades are not expected to affect the hydrology of the wetlands, and indirect impacts are not expected along the northern edge (with the exception of the Yolo HCP/NCCP standard 50 foot indirect impact buffer that applies to all natural land covers). Along the eastern edge, the edge of the mapped alkali wetlands are





defined by a farm road with a raised berm. Disturbance would occur approximately five to 10 feet from the edge of the wetlands, including installation of a recreational trail along the edge of the buffer area. A park/open space and residential development would occur to the east of the trail. The farm road may form a hydrologic break, but detailed topographic surveys would be conducted to determine whether or not indirect impacts associated with the development proposed along the eastern edge of the wetland would occur. The Yolo Habitat Conservancy and wildlife agencies would ultimately determine whether indirect impacts would occur to the alkali wetlands as a result of the BRPA, and applicable Yolo HCP/NCCP fees would be assigned accordingly.

Similar to the Proposed Project, the BRPA would also be subject to Yolo HCP/NCCP AMM10, which requires project proponents to adhere to stormwater management plans established through compliance with the NPDES permit program. In addition, the BRPA would be subject to land cover conversion fees established by the Yolo HCP/NCCP to address conversion of land cover acreages summarized in Table 4.4-9.

Similar to the Proposed Project, the BRPA would also be required to obtain a Section 404 permit from the USACE and a Section 401 permit from the RWQCB and would be subject to all the conditions set forth by said permit.

As part of compliance with the Section 404 permit process, the protocol-level ARD of the study area would be subject to the USACE jurisdictional determination process. The BRPA would also be subject to the regulations set forth through CFGC Section 1600, et seq. Without compliance with the applicable provisions of the CWA, CFGC, and RWQCB, the BRPA could result in a significant impact related to federally or State-protected wetlands.

### Conclusion

Based on the above, without compliance with the Yolo HCP/NCCP or Section 404 and 401 of the CWA, the BRPA could have a substantial adverse effect on State- or federally protected wetlands (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means. The Proposed Project would result in a greater significant impact to wetlands due to the removal of the alkali wetlands. Therefore, a **significant** impact could occur.

### Mitigation Measure(s)

Implementation of the following mitigation measures would reduce the above potential impact related to the BRPA to a *less-than-significant* level through incorporation of alkali wetland buffers, as determined by the resource agencies through AMM compliance, and providing replacement habitat for the limited wetland and other waters impacts. However, unlike the BRPA, the Proposed Project would remove the on-site alkali wetlands. Protocol-level wet- and dry-season surveys for vernal pool tadpole shrimp were conducted in all suitable habitat within the study area, and vernal pool tadpole shrimp were documented in the alkali playa/alkali wetland complex (see Figure 4.4-6). According to the Yolo HCP/NCCP, the alkali prairie natural community consists of 312 acres, which is less than one percent of the Yolo HCP/NCCP Plan Area (Yolo HCP/NCCP, pg. 2-41), though it is noted that the 312 acres does not



include the on-site alkali playa/alkali wetland complex. Given the limited extent of this habitat within the region and the habitat value for the federally endangered vernal pool tadpole shrimp, the loss of approximately 19.6 acres of alkali playa/alkali wetland complex, would be considered significant. Further, while Mitigation Measure 4.4-15(c) requires no-net loss replacement or rehabilitation of federally jurisdictional waters, creation of net new habitat would not occur (e.g., 2:1 or greater). As a result, the Proposed Project's impact to wetlands would be *significant and unavoidable*.

The Proposed Project and the BRPA would be subject to Yolo HCP/NCCP AMM9, set forth by Mitigation Measure 4.4-15(a), and AMM10, which requires compliance with NPDES permit requirements, set forth by Mitigation Measure 4.4-15(b). Additionally, in order to ensure compliance with the CWA, both the Proposed Project and the BRPA would be subject to Mitigation Measures 4.4-15(c) and (d), which require the project proponent to obtain a Section 404 permit from the USACE and a Section 401 permit from the RWQCB and subjects the Proposed Project and BRPA to all conditions set forth in said permits.

*Proposed Project and Biological Resources Preservation Alternative*

4.4-15(a) *Implement Mitigation Measure 4.4-14(a).*

4.4-15(b) *Yolo HCP/NCCP AMM10: Project proponents will comply with stormwater management plans that regulate development as part of compliance with regulations under National Pollutant Discharge Elimination System (NPDES) permit requirements. Covered activities that result in any fill of waters or wetlands will also comply with requirements under Section 404 of the Clean Water Act, State Water Resources Control Board (State Board), Fish and Game Code Section 1602, and Regional Board regulations. Other than requirements for buffers, minimizing project footprint, and species-specific measures for wetland-dependent covered species, this HCP/NCCP does not include specific best management practices for protecting wetlands and waters because they may conflict with measures required by the USACE, State Board, Regional Board, and CDFW.*

4.4-15(c) *Prior to the commencement of construction, the project proponent shall apply for a Section 404 permit from the U.S. Army Corps of Engineers (USACE). Waters that will be impacted shall be replaced or rehabilitated on a "no-net-loss" basis. Habitat restoration, rehabilitation, and/or replacement shall be at a location and by methods acceptable to the USACE. Written verification of the Section 404 permit shall be submitted to the City of Davis Community Development Department and Public Works Utilities and Operations Department.*

4.4-15(d) *Prior to the commencement of construction, the project proponent shall apply for a Section 401 water quality certification/waste discharge requirement from the Regional Water Quality Control Board (RWQCB), and adhere to the certification conditions. Written verification of the Section 401 permit shall be submitted to the City of Davis Community*



Development Department and Public Works Utilities and Operations  
Department.

**4.4-16 Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites. Based on the analysis below, the impact is *less than significant*.**

The following discussion includes an analysis of potential impacts related to the movement of any native resident or migratory fish or wildlife species or interference with established native resident, migratory wildlife corridors, or the use of native wildlife nursery sites associated with the development of the Proposed Project and the BRPA. Because the Proposed Project and the BRPA would both include components with potential to affect migratory corridors, the following evaluation applies to both development scenarios.

**Proposed Project, Biological Resources Preservation Alternative**

Wildlife corridors link areas of suitable wildlife habitat that are otherwise separated by rugged terrain, changes in vegetation, or human disturbance. The fragmentation of open space areas by urbanization creates isolated "islands" of wildlife habitat. Fragmentation also occurs when a portion of one or more habitats is converted into another habitat, such as when woodland or scrub habitat is altered or converted into grasslands after a disturbance, such as fire, mudslide, or grading activities. Wildlife corridors mitigate the effects of fragmentation by (1) allowing animals to move between remaining habitats, thereby permitting depleted populations to be replenished and promoting genetic exchange; (2) providing escape routes from fire, predators, and human disturbances, thereby reducing the risk of catastrophic events (such as fire or disease) on population or local species extinction; and (3) serving as travel routes for individual animals as they move within their home ranges in search of food, water, mates, and other needs.

The majority of the project site/BRPA site is currently comprised of active agricultural fields, which prevent use of the majority of the site as a migratory wildlife corridor or native wildlife nursery site. The only feature within the project site/BRPA site that could currently serve as a wildlife corridor is the Valley Foothill Riparian land cover corridor along Channel A. Under both the Proposed Project Alternative and the BRPA, although the existing trees may be removed, an approximately 100-foot-wide greenbelt would be established along Channel A and its adjacent riparian corridor in the western portion of the project site/BRPA site. The western greenbelt area would be approximately 10 feet wider than the existing riparian corridor and adjacent roadways and, therefore, is expected to maintain or enhance wildlife passage. The eastern portion of the Channel A corridor would be removed and replaced with a new wider drainageway that includes extensive native riparian plantings. The new drainageway is anticipated to provide better wildlife cover, a much wider swathe of habitat, and eventually water for a longer period into the summer. Additionally, two vehicular bridges would cross the new drainageway that would be sized large enough to allow the passage of large mammals such as coyote and deer.





Based on the above, the Proposed Project and the BRPA would not interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites. Therefore, a ***less-than-significant*** impact would occur.

Mitigation Measure(s)

*None required.*

**4.4-17 Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance, or have a substantial adverse effect on the environment by converting oak woodlands or impacting individual trees. Based on the analysis below and with implementation of mitigation, the impact is *less than significant*.**

The following discussion includes an analysis of potential impacts related to conflicts with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance, associated with the development of the Proposed Project and the BRPA. Because the Proposed Project and the BRPA would both include components with potential to impact protected trees, the following evaluation applies to both development scenarios.

Proposed Project, Biological Resources Preservation Alternative

Approximately 1,266 trees are present within the project site/BRPA site. Under both the Proposed Project and the BRPA, approximately 952 trees would be removed and approximately 285 trees in avoidance areas along Channel A and in the new Heritage Oak Park would be avoided. Table 4.4-10 summarizes potential impacts to trees within the project site/BRPA site.

Additionally, indirect effects from construction could occur to any trees that are avoided. Indirect effects could include compaction from adjacent construction, altered hydrology, or exposure to fungi or other pathogens.

New trees would be planted as part of the Proposed Project and the BRPA, particularly along the enhanced Channel A. However, new trees would take time to mature and provide quality wildlife habitat, therefore resulting in a temporary loss of potential habitat.

To address potential impacts to the existing trees within the study area, the Proposed Project and BRPA would be required to comply with the applicable provisions of Davis Municipal Code Chapter 37. As previously discussed, the City's Tree Ordinance protects various types of trees, including street trees, City trees, and trees of significance/private trees. Compliance with the City's Tree Ordinance would include a combination of preserving the existing healthy trees into the project design, planting of new trees to replace those removed, planting of new trees off-site in City-owned property, and/or payment of in-lieu fees into the City's Preservation Fund. Without compliance, a significant impact would occur.



**Table 4.4-10**  
**Proposed Project and Biological Resources Preservation**  
**Alternative Tree Impacts**

| Tree Species                                                             | Number of Trees      |            |              |
|--------------------------------------------------------------------------|----------------------|------------|--------------|
|                                                                          | Permanently Impacted | Avoided    | Total        |
| Aleppo pine ( <i>Pinus halepensis</i> )                                  | 2                    | 1          | 3            |
| Almond ( <i>Prunus dulcis</i> )                                          | 0                    | 2          | 2            |
| American sycamore ( <i>Platanus occidentalis</i> )                       | 2                    | 0          | 2            |
| Arizona ash ( <i>Fraxinus velutina</i> )                                 | 370                  | 116        | 486          |
| Australian blackwood ( <i>Acacia melanoxylon</i> )                       | 0                    | 12         | 12           |
| Bald cypress ( <i>Taxodium distichum</i> )                               | 1                    | 0          | 1            |
| Black willow ( <i>Salix gooddingii</i> ) <sup>1</sup>                    | 2                    | 0          | 2            |
| Boxelder ( <i>Acer negundo</i> ) <sup>1</sup>                            | 38                   | 4          | 42           |
| Bradford pear ( <i>Pyrus calleryana</i> )                                | 4                    | 0          | 4            |
| Cherry plum ( <i>Prunus cerasifera</i> )                                 | 1                    | 0          | 1            |
| Chinese elm ( <i>Ulmus parvifolia</i> )                                  | 32                   | 16         | 48           |
| Chinese hackberry ( <i>Celtis sinensis</i> )                             | 8                    | 0          | 8            |
| Chinese pistache ( <i>Pistacia chinensis</i> )                           | 2                    | 5          | 7            |
| Chinese tallowtree ( <i>Triadica sebifera</i> )                          | 41                   | 6          | 47           |
| Chinese wingnut ( <i>Pterocarya stenoptera</i> )                         | 317                  | 35         | 352          |
| Cigar tree ( <i>Catalpa bignonioides</i> )                               | 21                   | 6          | 27           |
| Coast live oak ( <i>Quercus agrifolia</i> ) <sup>1</sup>                 | 2                    | 3          | 5            |
| Cork oak ( <i>Quercus suber</i> )                                        | 18                   | 2          | 20           |
| English walnut ( <i>Juglans regia</i> )                                  | 1                    | 0          | 1            |
| Japanese privet ( <i>Ligusticum japonicum</i> )                          | 7                    | 1          | 8            |
| Kentucky coffeetree ( <i>Gymnocladus dioica</i> )                        | 1                    | 0          | 1            |
| London planetree ( <i>Platanus x acerifolia</i> )                        | 6                    | 9          | 15           |
| Mexican fan palm ( <i>Washingtonia robusta</i> )                         | 0                    | 2          | 2            |
| Narrow-leaved ash ( <i>Fraxinus angustifolia</i> )                       | 1                    | 0          | 1            |
| Northern California black walnut ( <i>Juglans hindsii</i> ) <sup>1</sup> | 14                   | 1          | 15           |
| Olive ( <i>Olea europaea</i> )                                           | 0                    | 1          | 1            |
| Pecan ( <i>Carya illinoensis</i> )                                       | 1                    | 0          | 1            |
| Persian silk tree ( <i>Albizia julibrissin</i> )                         | 1                    | 0          | 1            |
| Queen's crepe-myrtle ( <i>Lagerstroemia speciosa</i> )                   | 4                    | 0          | 4            |
| Red willow ( <i>Salix laevigata</i> ) <sup>1</sup>                       | 3                    | 1          | 4            |
| Redwood ( <i>Sequoia sempervirens</i> )                                  | 2                    | 0          | 2            |
| Siberian elm ( <i>Ulmus pumila</i> )                                     | 40                   | 8          | 48           |
| Silver maple ( <i>Acer saccharum</i> )                                   | 2                    | 0          | 2            |
| Sour cherry ( <i>Prunus cerasus</i> )                                    | 1                    | 0          | 1            |
| Valley oak ( <i>Quercus lobata</i> ) <sup>1</sup>                        | 8                    | 55         | 70           |
| <b>Total</b>                                                             | <b>952</b>           | <b>285</b> | <b>1,237</b> |
| <sup>1</sup> Native species.                                             |                      |            |              |
| <b>Source: Madrone Ecological Consulting, 2024.</b>                      |                      |            |              |



Based on the above, without compliance with the City of Davis Tree Ordinance, the Proposed Project and the BRPA could conflict with local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance. Therefore, a **significant** impact could occur.

#### Mitigation Measure(s)

Implementation of the following mitigation measure is applicable to both the Proposed Project and the BRPA and would reduce the above potential impact to a *less-than-significant* level.

#### *Proposed Project and Biological Resources Preservation Alternative*

**4.4-17** *Prior to the commencement of construction, the project proponent shall retain a certified arborist to conduct a tree inventory throughout the study area, the results of which shall be submitted for review and approval to the City of Davis Community Development Department and Public Works Utilities and Operations Department.*

*If the project would result in impacts to city trees, street trees, and/or trees of significance, as defined by Davis Municipal Code Chapter 37, the potential impacts to such trees shall be mitigated in accordance with the City's Tree Ordinance. Final mitigation requirements shall be determined by the City of Davis and may include the following options:*

- Incorporation of existing healthy trees into the design of the project;*
- Replanting of trees on-site;*
- Replanting of trees off-site in City-owned open space or park; and/or*
- Payment to the City's Tree Preservation Fund in lieu of replacement.*

#### **4.4-18 Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan. Based on the analysis below and with implementation of mitigation, the impact is *less than significant*.**

The following discussion includes an analysis of potential impacts related to conflicts with the Yolo HCP/NCCP associated with the development of the Proposed Project and the BRPA. Because the components of the Proposed Project and the BRPA would both include components with potential to conflict with the provisions of the Yolo HCP/NCCP, the following evaluation applies to both development scenarios.

#### Proposed Project, Biological Resources Preservation Alternative

Applicants of development projects within the Yolo HCP/NCCP permit area are required to complete a Yolo HCP/NCCP application package, which includes an application form, a project description, land cover mapping and planning-level surveys, verification of land cover impacts, an AMM plan, and fees or equivalent mitigation.





Land cover conversion fees, in effect at time of payment, would be applied for the land cover impacts associated with either the Proposed Project or BRPA, in accordance with Yolo HCP/NCCP guidelines. Payment of land cover impact fees would support the regional preservation of foraging habitat for special-status species under the Yolo HCP/NCCP.

In addition, pursuant to Yolo HCP/NCCP Chapter 4, the Yolo HCP/NCCP AMMs are intended to ensure that adverse effects on Covered Species and natural communities are avoided and minimized. As previously discussed in this chapter in the species-specific analyses of potential impacts that could occur to Yolo HCP/NCCP Covered Species, the Proposed Project and BRPA would be subject to the applicable Yolo HCP/NCCP AMMs. However, without compliance with the aforementioned provisions of the Yolo HCP/NCCP, the project would result in a significant impact.

Based on the above, without compliance with all applicable AMMs set forth by the Yolo HCP/NCCP, the Proposed Project and the BRPA could conflict with the provisions of an adopted HCP, NCCP, or other approved local, regional, or State habitat conservation plan, and a **significant** impact could occur.

#### Mitigation Measure(s)

Implementation of the following mitigation measures are applicable to both the Proposed Project and the BRPA and would reduce the above potential impact to a *less-than-significant* level.

#### *Proposed Project and Biological Resources Preservation Alternative*

- 4.4-18(a) *Yolo HCP/NCCP AMM3: Where natural communities and covered species habitat are present, workers will confine land clearing to the minimum area necessary to facilitate construction activities. Workers will restrict movement of heavy equipment to and from the project site to established roadways to minimize natural community and covered species habitat disturbance. The project proponent will clearly identify boundaries of work areas using temporary fencing or equivalent and will identify areas designated as environmentally sensitive. All construction vehicles, other equipment, and personnel will avoid these designated areas.*
- 4.4-18(b) *Yolo HCP/NCCP AMM4: To prevent injury and mortality of giant garter snake, western pond turtle, and California tiger salamander, workers will cover open trenches and holes associated with implementation of covered activities that affect habitat for these species or design the trenches and holes with escape ramps that can be used during non-working hours. The construction contractor will inspect open trenches and holes prior to filling and contact a qualified biologist to remove or release any trapped wildlife found in the trenches or holes.*
- 4.4-18(c) *Yolo HCP/NCCP AMM5: Workers will minimize the spread of dust from work sites to natural communities or covered species habitats on adjacent lands.*



- 4.4-18(d) Yolo HCP/NCCP AMM6: All construction personnel will participate in a worker environmental training program approved/authorized by the Conservancy and administered by a qualified biologist. The training will provide education regarding sensitive natural communities and covered species and their habitats, the need to avoid adverse effects, state and federal protection, and the legal implications of violating the FESA and NCCPA Permits. A pre-recorded video presentation by a qualified biologist shown to construction personnel may fulfill the training requirement.
- 4.4-18(e) Yolo HCP/NCCP AMM7: Workers will direct all lights for nighttime lighting of project construction sites into the project construction area and minimize the lighting of natural habitat areas adjacent to the project construction area.
- 4.4-18(f) Yolo HCP/NCCP AMM8: Project proponents should locate construction staging and other temporary work areas for covered activities in areas that will ultimately be a part of the permanent project development footprint. If construction staging and other temporary work areas must be located outside of permanent project footprints, they will be located either in areas that do not support habitat for covered species or are easily restored to prior or improved ecological functions (e.g., grassland and agricultural land). Construction staging and other temporary work areas located outside of project footprints will be sited in areas that avoid adverse effects on the following:
- Serpentine, valley oak woodland, alkali prairie, vernal pool complex, valley foothill riparian, and fresh emergent wetland land cover types.
  - Occupied western burrowing owl burrows. [Occupied for the purpose of AMM8 means at least one burrowing owl has been observed occupying the burrow within the last three years. Occupancy of a burrow may also be indicated by owl sign at the burrow entrance, including molted feathers, cast pellets, prey remains, eggshell fragments, or excrement at or near a burrow entrance or perch site]
  - Nest sites for covered bird species and all raptors, including noncovered raptors, during the breeding season.

Project proponents will follow specific AMMs for sensitive natural communities (Section 4.3.3, Sensitive Natural Communities) and covered species (Section 4.3.4, Covered Species) in temporary staging and work areas. For establishment of temporary work areas outside of the project footprint, project proponents will conduct surveys to determine if any of the biological resources listed above are present. Within one year following removal of land cover, project proponents will restore temporary work and staging areas to a condition equal to or greater than the covered species habitat function of the affected habitat. Restoration of vegetation in temporary work and staging areas



*will use clean, native seed mixes approved by the Conservancy that are free of noxious plant species seeds.*

4.4-18(g) *Implement Mitigation Measures 4.4-1(c), 4.4-5, 4.4-7, 4.4-9, 4.4-10, 4.4-11, 4.4-14(a), and 4.4-15(b).*

### **Cumulative Impacts and Mitigation Measures**

As defined in Section 15355 of the CEQA Guidelines, “cumulative impacts” refers to two or more individual effects which, when considered together, are considerable, compound, or increase other environmental impacts. The individual effects may be changes resulting from a single project or a number of separate projects. The cumulative impact from several projects is the change in the environment that results from the incremental impact of the project when added to other closely related past, present, and reasonably foreseeable probable future projects.

The geographic scope for the cumulative biological resources analysis generally includes buildout of the Proposed Project or BRPA in conjunction with buildout of the Davis General Plan planning area, as well as a list of present and probable future projects. For more details regarding the cumulative setting, refer to Chapter 6, Statutorily Required Sections, of this EIR.

#### **4.4-19 Cumulative loss of habitat for special-status species. Based on the analysis below, the BRPA’s incremental contribution to the significant cumulative impact is *less than cumulatively considerable*, and the Proposed Project’s incremental contribution to the significant cumulative impact is *cumulatively considerable and significant and unavoidable*.**

The following discussion includes an analysis of potential cumulative impacts related to special-status species associated with the development of the Proposed Project and the BRPA. Because the Proposed Project and the BRPA would both include components with potential to impact species and their habitats, the following evaluation applies to both development scenarios.

#### **Proposed Project, Biological Resources Preservation Alternative**

The cumulative analysis in this EIR is based upon development of either the Proposed Project or the BRPA, in conjunction with buildout of the Davis General Plan planning area, as well as a list of present and probable future projects. In addition to the Proposed Project/BRPA, Shriners Property, a 234-acre residential subdivision project located north of the East Covell Boulevard/Alhambra Drive intersection, is currently under review by the City. Just west of Shriners Property, which is currently used for agricultural uses, north of the East Covell Boulevard/Monarch Lane intersection, is the Palomino Place Project, which is proposed on a 25-acre site and would include single- and multi-family housing, as well as health and training facilities. Other development projects undergoing planning review are located in the southern portion of the City, including two new multi-family residential apartment buildings, a new commercial hotel building, and a 700-unit residential neighborhood located on the 46.9-acre agricultural site formerly known as the Nishi Housing Site. The Bretton Woods University Retirement Community project, located northwest of the West Covell Boulevard/Risling Place intersection, is currently under review by the City of Davis.





Finally, the City of Davis previously approved the Davis Innovation and Sustainability Campus (DiSC) 2022 Project, which was proposed for a 102-acre site currently used for agricultural uses (plus the 16.5-acre Mace Triangle property) located immediately to the east of Mace Boulevard and to the north of CR 32A, northeast of the City limits. Buildout of the Proposed Project or BRPA, in combination with the foregoing development projects and other development within the City of Davis, would result in a significant cumulative impact related to the loss of special-status species habitat.

As discussed above, the study area contains a variety of Yolo County HCP/NCCP land covers, including Alkali Prairie, Barren-Anthropogenic, California Annual Grassland Alliance, Fresh Emergent Wetland, Grain and Hay Crops, Semiagricultural, Truck Crops, Urban, Urban Ruderal, Valley Foothill Riparian, and Vegetated Corridor land covers. In addition, the study area is comprised of various aquatic resources, including alkali playa, alkali wetland, farmed wetland, fresh emergent marsh, seasonal wetland, wetland ditch, drainage ditch, Channel A, and roadside ditch. As discussed throughout this chapter, the above areas represent potential habitat for various special-status species listed in Table 4.4-3.

This chapter provides a wide range of mitigation to minimize potential adverse effects associated with the Proposed Project and BRPA to habitat for special-status species. For example, mitigation measures have been set forth in this chapter to ensure that the Proposed Project and BRPA complies with all applicable Yolo HCP/NCCP AMMs, including, but not limited to, AMMs to address potential impacts to Yolo HCP/NCCP Covered Species, such as palmate-bracted bird's beak, VELB, northwestern pond turtle, Swainson's hawk, and burrowing owl, as well as AMMs for potential impacts to natural communities and on-site wetlands. For example, the Yolo HCP/NCCP AMMs require planning-planning surveys for Covered Species, and if detected, implementation of construction-free buffers, and monitoring during construction. Additionally, the Proposed Project and BRPA would be required to pay land cover conversion fees and wetland fees to the Yolo Habitat Conservancy.

In addition, while either development scenario would result in the loss of a portion of the existing on-site habitat, the proposed parks, greenbelts, Urban Agricultural Transition Area (UATA), and trail components would include a total of approximately 186.0 acres of green space preserved on-site under both the Proposed Project and BRPA, with the BRPA additionally preserving the 47.1-acre Natural Habitat Area, which is comprised of Alkali Prairie land cover and associated watershed.

The Yolo HCP/NCCP requires the Yolo Habitat Conservancy to protect approximately 33,300 acres over 50 years, primarily through the acquisition of habitat conservation easements on agricultural land funded with development fees paid by project proponents. The Yolo HCP/NCCP coordinates conservation efforts to ensure that the lands are selected consistent with a conservation strategy based on biological criteria, including the selection of lands that provide habitat to multiple species and are located near existing protected lands and riparian areas. The Yolo Habitat Conservancy regularly consults with the CDFW and the USFWS to ensure that the Yolo HCP/NCCP is successfully and sustainably implemented. As such, the Yolo HCP/NCCP functions as the regional strategy for preserving natural habitat, and compliance with the Yolo HCP/NCCP would prevent cumulative impacts. Projects within the City limits, including projects associated with buildout of the Davis General Plan planning area, as well as



the list of present and probable future projects, would all be required to comply with the Yolo HCP/NCCP. The Yolo HCP/NCCP EIR concluded that cumulative impacts related to biological resources would be less than significant with implementation of the Yolo HCP/NCCP given the regional benefits to biological resources.

Overall, with incorporation of the mitigation measures set forth herein, the BRPA would be required to comply with all applicable Yolo HCP/NCCP AMMs and pay all applicable land cover conversion fees to address Covered Activities within the study area. The mitigation measures set forth herein additionally address potential impacts to biological resources that are not covered under the Yolo HCP/NCCP. The BRPA would also avoid the on-site alkali wetlands, which are limited in extent in the HCP/NCCP area. As such, the BRPA would not result in substantial adverse effects to biological resources protected by CEQA.

However, with respect to the Proposed Project, as discussed above, the on-site alkali playa/alkali wetland complex, within which vernal pool tadpole shrimp have been detected (see Figure 4.4-6), would be removed. According to the Yolo HCP/NCCP, the alkali prairie natural community consists of 312 acres, which is less than one percent of the Yolo HCP Plan Area (Yolo HCP, pg. 2-41), though it is noted that the 312 acres does not include the on-site alkali playa/alkali wetland complex. Given the limited extent of this habitat with the region and the habitat value for the federally endangered vernal pool tadpole shrimp, the loss of approximately 19.6 acres of alkali playa/alkali wetland complex, would be considered significant. Further, while Mitigation Measure 4.4-15(c) requires no-net loss replacement or rehabilitation of federally jurisdictional waters, creation of net new habitat would not occur. While known alkali playa/alkali wetland does not occur on the sites of the aforementioned planned and future projects, wetlands and other waters are present. Therefore, the effects of the Proposed Project and other planned development would combine to significantly impact wetlands and other waters in the City of Davis planning area that provide valuable habitat to protected species.

Based on the above, cumulative buildout of the City of Davis would result in a significant cumulative impact related to the loss of special-status species habitat, and the contribution to the significant impact under the Proposed Project, even with incorporation of the mitigation measures set forth herein, would be *cumulatively considerable*. With incorporation of the mitigation measures set forth herein, the BRPA's contribution to the cumulative significant impact would be *less than cumulatively considerable*.

#### Mitigation Measure(s)

As discussed under Impact 4.4-15 above, because the Proposed Project would result in the loss of approximately 19.6 acres of alkali playa/alkali wetland complex and the creation of net new habitat would not occur, the Proposed Project's incremental contribution to the significant cumulative effect would remain *cumulatively considerable* and *significant and unavoidable*. With incorporation of the mitigation measures set forth herein, the BRPA's contribution to the cumulative significant impact would be *less than cumulatively considerable*.



*Proposed Project and Biological Resources Preservation Alternative*

4.4-19      *Implement Mitigation Measures 4.4-14(a), 4.4-14(b), 4.4-15(a), 4.4-15(b), 4.4-15(c), and 4.4-15(d).*

