

3.5 BIOLOGICAL RESOURCES

3.5.1 INTRODUCTION

This section describes effects to biological resources that could result from implementation of the Proposed Action or one of its alternatives, and is based on information drawn from the following sources:

- Amoruso Ranch Specific Plan (ARSP) EIR by the City of Roseville (City of Roseville 2016a).
- City of Roseville General Plan 2035 (City of Roseville 2016b);
- Amoruso Ranch Biological Resources Assessment prepared by ECORP Consulting, Inc. (ECORP), dated October 30, 2015 ;
- Amoruso Project Impacts and Mitigation, prepared by ECORP, dated July 20, 2018.

3.5.2 AFFECTED ENVIRONMENT

3.5.2.1 Regional Setting

As stated in **Section 3.4**, the project region is defined as the southwestern portion of Placer County. The project site is located in the transition zone between land developed with urban uses to the east and land developed for intensive agriculture to the west. This transition zone is marked by older alluvial soils with well-developed hardpans and some dense clay pans. Due to its poorly drained soils, lands within this transition zone are primarily utilized for grazing, while level lands with well-drained soils on the valley floor to the west have been largely converted to agriculture. Habitat types typical of the region include annual grasslands, oak woodlands, vernal pool and swale complexes, seasonal seeps and marshes, ponds, riparian forest and scrub, perennial streams, cropland (especially irrigated rice fields), and scattered areas of ruderal vegetation.

3.5.2.2 Location and Setting

Project Site

The project site refers to all areas where disturbance related to the Proposed Action would occur and includes the following:

- **Project Site:** Refers to the approximately 674.4-acre property in the City of Roseville between Sunset Boulevard West to the north and the Creekview Specific Plan area to the south. The approximately 674 acre property is composed of 517 acres which would be developed by the Applicant, 108 acres of grassland that would be preserved and avoided, and 49 acres that would be set aside for the future Placer Parkway.
- **Offsite Improvement Areas:** Refers to the following areas located off-site where project-related infrastructure improvements would occur:
 - **Al Johnson Wildlife Area property:** approximately 1.6 acres in the adjacent City-owned Al Johnson Wildlife Area (AJWA) property (formerly known as the Reason Farms Stormwater Detention Facilities property), on which drainage improvements to serve the Proposed Action would be constructed; and

- **Sunset Boulevard West ROW:** approximately 12.2-acres of ROW along Sunset Boulevard West, north of the project site where roadway widening would occur as part of the Proposed Action.

The project site consists of flat to gently rolling topography with elevations ranging from approximately 75 feet above mean sea level in the southwestern portion of the site to 125 feet above mean sea level in the northeastern portion of the site. The project site supports non-native annual grassland and, although most of the project site is currently uncultivated, the land has been used as pastureland and for other agricultural uses in the past, and is currently used for cattle grazing.

The project site is mainly bordered by unincorporated agricultural lands and land planned for development within the City of Roseville. Unincorporated agricultural land and a rural subdivision (Toad Hill Ranches) are located directly to the north of the project site. The Gleason Property, an unincorporated parcel that is actively used for cattle grazing, is located directly to the northwest, while unincorporated land within the formerly proposed Placer Ranch Specific Plan that is currently utilized for grazing is located directly to the east. Within the City of Roseville, the AJWA, which is owned by the City, is located to the southwest, while lands proposed for development under the Creekview Specific Plan (CSP) and West Roseville Specific Plan (WRSP) are located to the south and southeast, respectively.

Placer Parkway Alignment

A section of the planned Placer Parkway project (Parkway) is located on the project site. As set forth in **Section 2.0 Proposed Action and Alternatives**, the Proposed Action contains a narrow 300-foot wide Parkway corridor that follows a 5,500-foot radius alignment. The planned roadway alignment extends from the northeastern corner of the project site in a westerly direction to exit the site into the AJWA. The 49-acre Parkway alignment is not a part of the Proposed Action and is identified as “Not a Part of this Subdivision” (NAPOTS) in this Draft EIS, although biological resources present within the Parkway alignment are shown on the graphics and described in this section.

Mitigation Properties

The Applicant has identified three nearby properties to provide compensatory mitigation for the Proposed Action. These are the Mourier East, Mourier West, and Skover properties (collectively “mitigation properties”) (see **Figure 3.5-1**). Each of the mitigation properties is discussed in more detail below.

Mourier East Property

Mourier East mitigation site is a 240-acre site located approximately 0.5 mile west of the project site. The site is comprised of gently rolling to flat terrain, and has elevations that range from approximately 50 to 75 feet above mean sea level. A review of historic aerial photos (USDA 1937) indicates that portions of the site have been manipulated and/or altered by past land uses and appears to have been disked, but not dryland farmed. However, the site is currently used for cattle grazing (ECORP 2014e).

Mourier West Property

Mourier West mitigation site is a 265-acre site located approximately 2 miles west of the project site. The site is comprised of leveled to gently rolling terrain and has elevations ranging from approximately 50 feet to 75 feet above mean sea level. The northern portion of the site was contoured and used for rice cultivation, but is now fallow. The contour rice check berms are still present, and have resulted in linear seasonal wetlands. The southern portion of the site has been disked, but has never been dryland farmed (ECORP 2014e).

Skover Property

Skover mitigation site is a 139-acre site located approximately 2.5 miles west of the project site. The site is comprised of leveled terrain and has elevations of approximately 60 to 65 feet above mean sea level. Since the mid-1970s, the vast majority of the site has been leveled and farmed for cultivated rice production. Irrigation water is mechanically pumped into the rice fields and all of the fields are connected by culverts or ditches. The fields typically remain flooded until the late summer/fall and harvested when each field is drained into man-made ditches. Individual fields are separated by small upland checks or larger levees, some of which are used as access roads (ECORP 2014e).

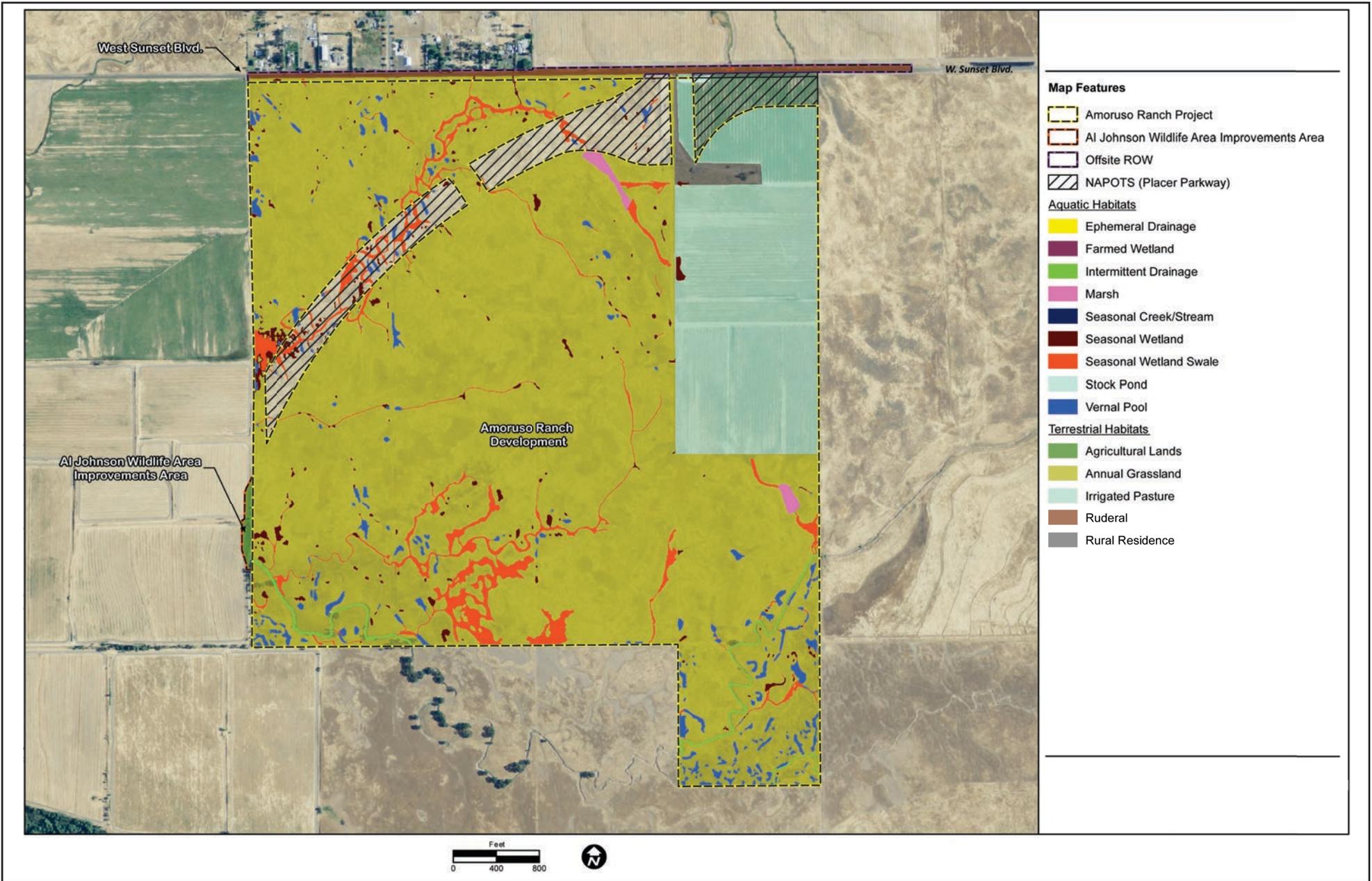
3.5.2.3 Biological Communities

The project site has four general biological communities: agricultural lands; non-native annual grasslands; irrigated pasture; and rural residence. **Figure 3.5-1, Project Site Biological Communities**, presents the biological communities on the project site and **Table 3.5-1, Project Site Biological Communities**, presents the acreage of each community on the site. The site also supports a number of aquatic resources that are embedded in the annual grasslands. Aquatic resources associated with the project site are discussed in **Section 3.4**.

**Table 3.5-1
Project Site Biological Communities**

<i>Type</i>	Project Site	AJWA Improvements Area	Sunset Boulevard West ROW	NAPOTS (Placer Parkway)	Total
<i>Biological Communities</i>					
Agricultural Lands	--	1.4	0.2	--	1.6
Non-Native Annual Grassland	519.1	0.2	5.5	38.0	563.5
Aquatic/Wetland Complex	8.0	--	--	0.4	8.3
Irrigated Pasture	94.4	--	--	10.7	104.6
Rural Residence	3.7	--	0.9	>0.1	4.5
Road	--	--	5.6	0.1	5.7
Total	625.2	1.6	12.2	49.2	688.2

Source: ECORP 2018



SOURCE: ECORP Consulting, Inc.; NAIP, 2018

FIGURE 3.5-1

The three off-site mitigation properties have six general biological communities: agricultural lands; non-native annual grasslands; irrigated pasture; rural residence, aquatic/wetland complex, and riverine/riparian. **Figure 3.5-2, Off-site Mitigation Properties Biological Communities**, presents the biological communities on the three off-site mitigation properties and **Table 3.5-2, Off-site Mitigation Properties Biological Communities**, presents the acreage of each community on the properties. The properties also support a number of aquatic resources that are embedded in the annual grasslands. Aquatic resources associated with the mitigation properties are discussed in **Section 3.4**.

**Table 3.5-2
Off-site Mitigation Properties Biological Communities**

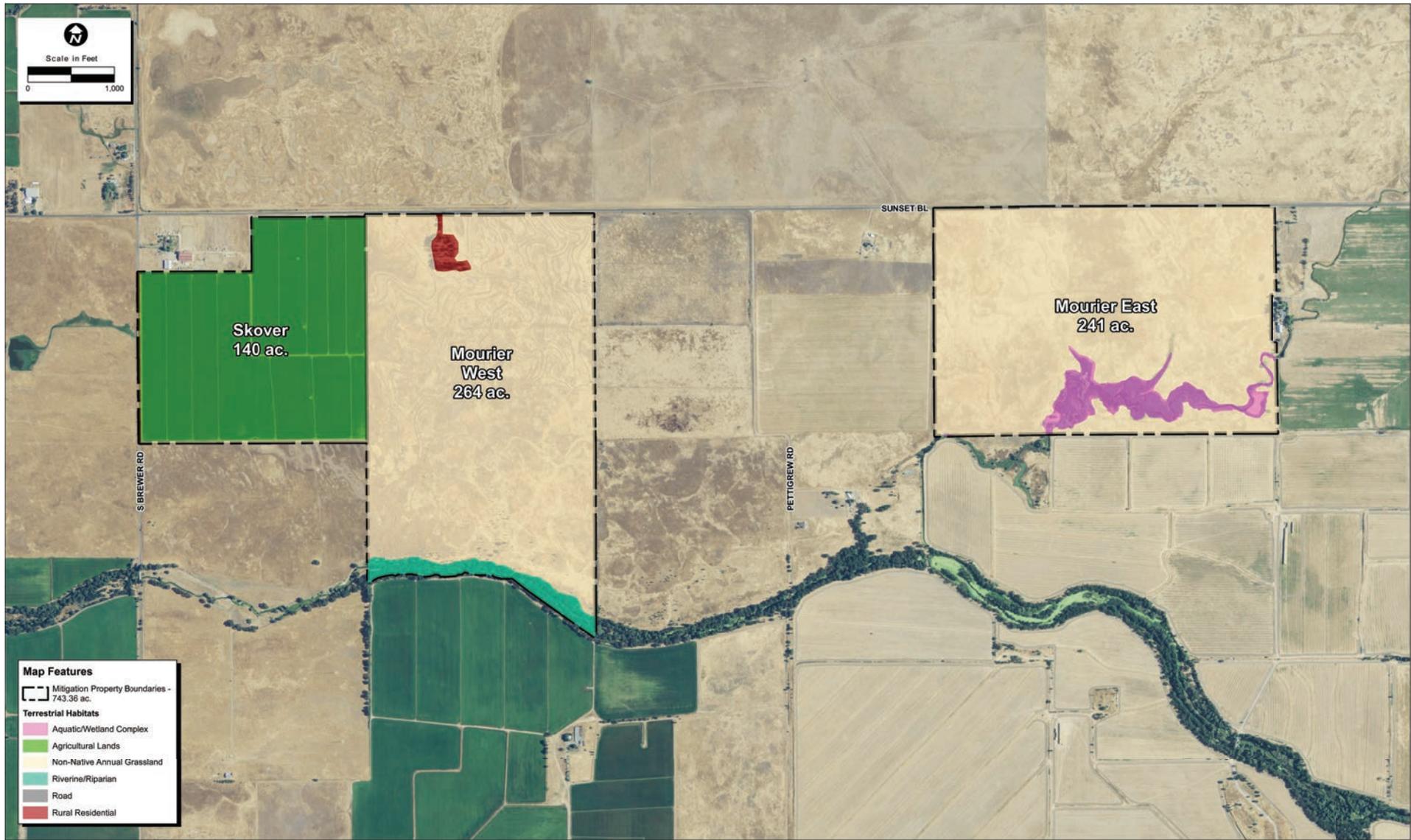
Type	Mourier East	Mourier West	Skover	Total
<i>Biological Communities</i>				
Agricultural Lands	--	--	138	138
Non-Native Annual Grassland	213	246	1	460
Irrigated Pasture	1	--	--	1
Rural Residence	<1	6	<1	6
Aquatic/Wetland Complex	25	--	--	25
Riparian Woodland	--	12	--	12
Road	2	--	1	3
Total	241	264	140	645

Source: ECORP 2018

Agricultural Lands

The off-site improvements area in the AJWA consists of about 2 acres of leveled agricultural fields planted with wheat (*Triticum aestivum*) and Italian rye grass (*Festuca perennis*), interspersed with cut-leaved geranium (*Geranium dissectum*) and filaree (*Erodium botrys*). Ruderal weedy vegetation occurs along the upper edges of the fields, berms, and roadsides, including Mediterranean barley (*Hordeum marinum ssp. gussoneanum*), filaree, cut-leaved geranium, and pineapple weed (*Matricaria discoidea*). The portion of University Creek within the AJWA was realigned during historic farming practices into a linear ditch and supports maturing riparian vegetation such as valley oak (*Quercus lobata*), Goodding's black willow (*Salix gooddingii*), and Fremont's cottonwood (*Populus fremontii*), and wetland species such as broad-leaf water plantain (*Alisma triviale*) and fringed water-plantain (*Damasonium californicum*) (ECORP 2015k).

The Skover property includes about 138 acres of rice fields. Vegetation associated with upland check berms/levees tends to be ruderal in nature. Representative species include dallis grass (*Paspalum dilatatum*), wild radish (*Raphanus sativa*), Bermuda grass (*Cynodon dactylon*), panicled willow-herb (*Epilobium brachycarpum*), mannagrass (*Glyceria declinata*), Johnson grass (*Sorghum halepense*), yellow bristlegrass (*Setaria pumila*), barnyard grass (*Echinochloa crus-galli*), and ripgut brome (*Bromus diandrus*).



SOURCE: ECORP Consulting, Inc., NAIP, 2018

FIGURE 3.5-2

Rice cells have been leveled to facilitate uniform-depth flooding during the growing season. The rice fields are rotated in and out of production and may remain in production for several years followed by fallow periods. After the harvest, the soil may remain saturated as a result of flood irrigation prior to the onset of the winter rainy season (ECORP 2015k).

Non-Native Annual Grassland

The annual grassland community within the project site and the three off-site mitigation properties is comprised primarily of non-native, naturalized grasses of Mediterranean origin including: soft brome (*Bromus hordeaceus*), Italian ryegrass (*Festuca perennis*), wild oat (*Avena fatua*), barbed goatgrass (*Aegilops triuncialis*), little quaking grass (*Briza minor*), medusahead grass (*Elymus caput-medusae*), and Oldfield's three-awn (*Aristida oligantha*). Other herbaceous species in this community include rose clover (*Trifolium hirtum*), little hop clover (*Trifolium dubium*), clustered clover (*Trifolium glomeratum*), yellow star-thistle (*Centaurea solstitialis*), filaree, winter vetch (*Vicia villosa*), sticky tarweed (*Holocarpha virgata*), chicory (*Cichorium intybus*), common dandelion (*Taraxacum officinale*), cat's ear (*Hypochaeris* sp.), vinegarweed (*Trichostema lanceolatum*), soft geranium (*Geranium molle*) and cut-leaved geranium. Scattered valley oak trees and Fremont's cottonwood occur along the intermittent drainage on the southern portion of the site. Wetland features occurring throughout the non-native grassland community include; vernal pools, seasonal wetlands, seasonal wetland swales, and seasonal marshes (ECORP 2015k).

Irrigated Pasture

Irrigated pastureland, which occupies the northeastern portion of the project site, is dominated by forage grass species, including Bermuda grass, tall flatsedge (*Cyperus eragrostis*), and Kentucky fescue (*Festuca arundinaceae*) (ECORP 2015k). This land has been utilized as irrigated pasture for at least 40 years.

Rural Residence

Ruderal vegetation in the vicinity of the residence and barn on the project site and the residence on the Mourier West property is comprised of non-native species including yellow star-thistle, filaree, wild oats, chicory, cat's ear, dallis grass, cheeseweed (*Malva parviflora*), and prickly lettuce (*Lactuca serriola*) (ECORP 2015k).

Aquatic/Wetland Complex

The aquatic resources on the project site are described in **Section 3.4 Aquatic Resources**, in this Draft EIS.

Riparian Woodland

Riparian woodland habitat is present along Pleasant Grove Creek, which occurs on the southern boundary of the Mourier West property. Dominant trees within the riparian woodland include valley oak, interior live oak (*Quercus wislizenii*), and Gooding's black willow (*Salix gooddingii*). The understory of the woodland is made up of Himalayan blackberry (*Rubus armeniacus*), soap plant (*Chlorogalum species*), Dallis grass, and curly dock (*Rumex crispus*) (ECORP 2015k).

3.5.2.4 Tree Resources

Very few trees occur on the project site, thus no oak woodland habitat is present. The Arborist Survey Report prepared by ECORP (2013c) identified a total of 28 valley oak trees that met the requirements for protection or mitigation under the City's Tree Preservation Ordinance. The diameter at breast height (DBH) of the valley oaks ranged from 6 to 62 inches. Most of the oaks were of good to fair health and good to fair structure. Only five oaks had either poor health or structure. All 28 valley oak trees were located in the southwestern corner of the project site within the proposed open space preserve area (ECORP 2013c).

An arborist survey of the off-site AJWA improvements area was performed in 2014 (ECORP 2014f). A total of 10 valley oak trees are located within the footprint for the improvements within the AJWA that meet the jurisdictional requirements of protection/mitigation under the City's Tree Preservation Ordinance. The DBH of these valley oaks ranged from 6 to 16.6 inches. All of the oaks were found to be of good to fair health and all have good structure. All 10 of these valley oak trees may be removed during the implementation of the off-site AJWA improvements, and therefore may be subject to protection/mitigation under the City's Tree Preservation Ordinance as part of the Proposed Action. Arborist surveys of the off-site mitigation properties have not been completed.

3.5.2.5 Wildlife

The project site and three off-site mitigation properties are located within an area of pastures and undeveloped grasslands, with scattered rural residences and agricultural operations. This area is considered important for wintering raptors in the Central Valley. Burrowing owls (*Athene cunicularia*) have been found on the project site, a colony of nesting tricolored blackbirds has been observed within the Mourier East Property, and several raptor nests have been documented to occur immediately south of the project site within the Creekview Specific Plan area (ECORP 2011b; 2015k).

The grassland community within the project site and the three off-site mitigation properties supports other birds, including mourning dove (*Zenaidura macroura*), Western meadowlark (*Sturnella neglecta*), savannah sparrow (*Passerculus sandwichensis*), and foraging habitat for tricolored blackbirds (*Agelaius tricolor*). Other wildlife species observed in the grassland community include western fence lizard (*Sceloporus occidentalis*), gopher snake (*Pituophis catenifer*), deer mouse (*Peromyscus maculatus*), California vole (*Microtus californicus*), and coyote (*Canis latrans*) (ECORP 2015k).

Trees may provide suitable nesting habitat for a variety of birds. Within the project site, trees are limited to a small area along the intermittent drainage (University Creek) in the southern portion of the project site and around the rural residence located within the northwestern corner of the site. As the intermittent drainage (University Creek) leaves the project site in the southwestern corner of the site, it enters the off-site AJWA improvements area and supports riparian trees along its banks, including valley oak, Gooding's black willow, and Fremont's cottonwood. No active raptor nests were observed in the trees on the project site during spring 2011 surveys. Other birds that may nest in these trees include mourning dove, white-breasted nuthatch (*Sitta carolinensis*), and house finch (*Haemorhous mexicanus*). On the off-site mitigation properties, trees include a grove of blue gum and riparian habitat along Pleasant Grove Creek

on the Mourier West property. Raptor surveys have not been conducted within the AJWA improvements area, or the three off-site mitigation properties. The rice fields within the Skover Property support a variety of wintering waterfowl that likely includes Northern pintail (*Anas acuta*), tundra swan (*Cygnus columbianus*), greater white-fronted geese (*Anser albifrons*), American widgeon (*Anas americana*), and green-winged teal (*Anas carolinensis*), among many others (ECORP 2015k).

3.5.2.6 Special-Status Species

Special-status species are plants and wildlife that are legally protected under the Federal Endangered Species Act (FESA) and the California Endangered Species Act (CESA) or other regulations, and other plants and wildlife that are considered sufficiently rare to warrant discussion in this Draft EIS under the National Environmental Policy Act (NEPA). Special-status plants and animals that warrant discussion in an EIS are defined as:

- Species listed or proposed for listing as Threatened or Endangered under the FESA (50 Code of Federal Regulations [CFR] 17.12 [listed plants], 50 CFR 17.11 [listed animals], and various notices in the Federal Register [FR] [proposed species])
- Species that are candidates for possible future listing as Threatened or Endangered under the FESA (72 FR 69034, December 6, 2007)
- Species listed or candidates for listing by the State of California as Threatened or Endangered under CESA (14 CCR 670.5)
- Species that meet the definitions of Rare, Threatened, or Endangered under the California Environmental Quality Act (CEQA) (*State CEQA Guidelines*, Section 15380)
- Plants listed as rare or endangered under the California Native Plant Protection Act (NPPA) (California Fish and Game Code, Section 1900 et seq.)
- Plants considered by the California Native Plant Society (CNPS) to be Rare, Threatened, or Endangered in California (CRPR Lists 1B and 2)
- Plants listed by CNPS as those about which more information is needed to determine their status and plants of limited distribution (CRPR Lists 3 and 4) that may be included as special-status species on the basis of local significance or recent biological information
- Animals listed on California Department of Fish and Game's Special Animals List (California Fish and Game 2008) Animals fully protected in California (California Fish and Game Code, Section 3511 [birds], 4700 [mammals], and 5050 [reptiles and amphibians])

The databases listed above identify 11 plant species and 38 species of wildlife that either occur or have some potential to occur within the project site and the three off-site mitigation properties because of the presence of suitable habitat. In general, vernal pool and seasonal wetland habitats that meet the general definition of habitat are considered suitable habitat by these species. Each of the species on the generated list was assessed for their potential to occur within the project site, including the three off-site mitigation properties, and/or to be affected by the Proposed Action using the following criteria:

- **Present:** Species was observed during the site visit or is known to occur within the site boundary based on documented occurrences within the California Natural Diversity Database (CNDDDB).

- **Potential to Occur:** Habitat (including soils and elevation requirements) for the species occurs within the site boundary.
- **Low Potential to Occur:** Marginal or limited amounts of habitat occur and/or the species is not known to occur in the vicinity based on CNDDDB records and other available documentation.
- **Absent:** No suitable habitat (including soils and elevation requirements) and/or the species is not known to occur in the vicinity based on CNDDDB records and other available documentation.

Figure 3.5-3, Special-Status Species Locations, provides a map of the locations where special-status species were found during surveys of the project site and the three off-site mitigation properties.

Special-Status Plants

Special-status plant species that occur or have potential to occur in or near the project site and the three off-site mitigation properties are presented in **Table 3.5-3, Special-Status Plants with Potential to occur on the Project Site and Mitigation Properties**, below. Protocol-level special-status plant surveys of the project site were conducted during the 2009, 2011, and 2015 blooming seasons (ECORP 2013a; 2013b; and 2015a). Protocol-level special-status plant surveys for the AJWA portion of the off-site improvement area were conducted in 2014 (ECORP 2014b). Special-status plant surveys were conducted within the three off-site mitigation properties in 2015 (ECORP 2015b; 2015c; 2015d). Only one special-status plant, dwarf downingia, was found within the project site and the off-site AJWA improvements area. It is not state or federally listed, but is on the California Rare Plant Rank (CRPR) List 2.2. Potential habitats for other special-status plant species are present within the project site and the three off-site mitigation properties, but none were detected during presence/absence surveys. Based on the plant surveys in existing habitat, the federally-listed slender Orcutt grass and Sacramento Valley Orcutt grass do not occur there. .

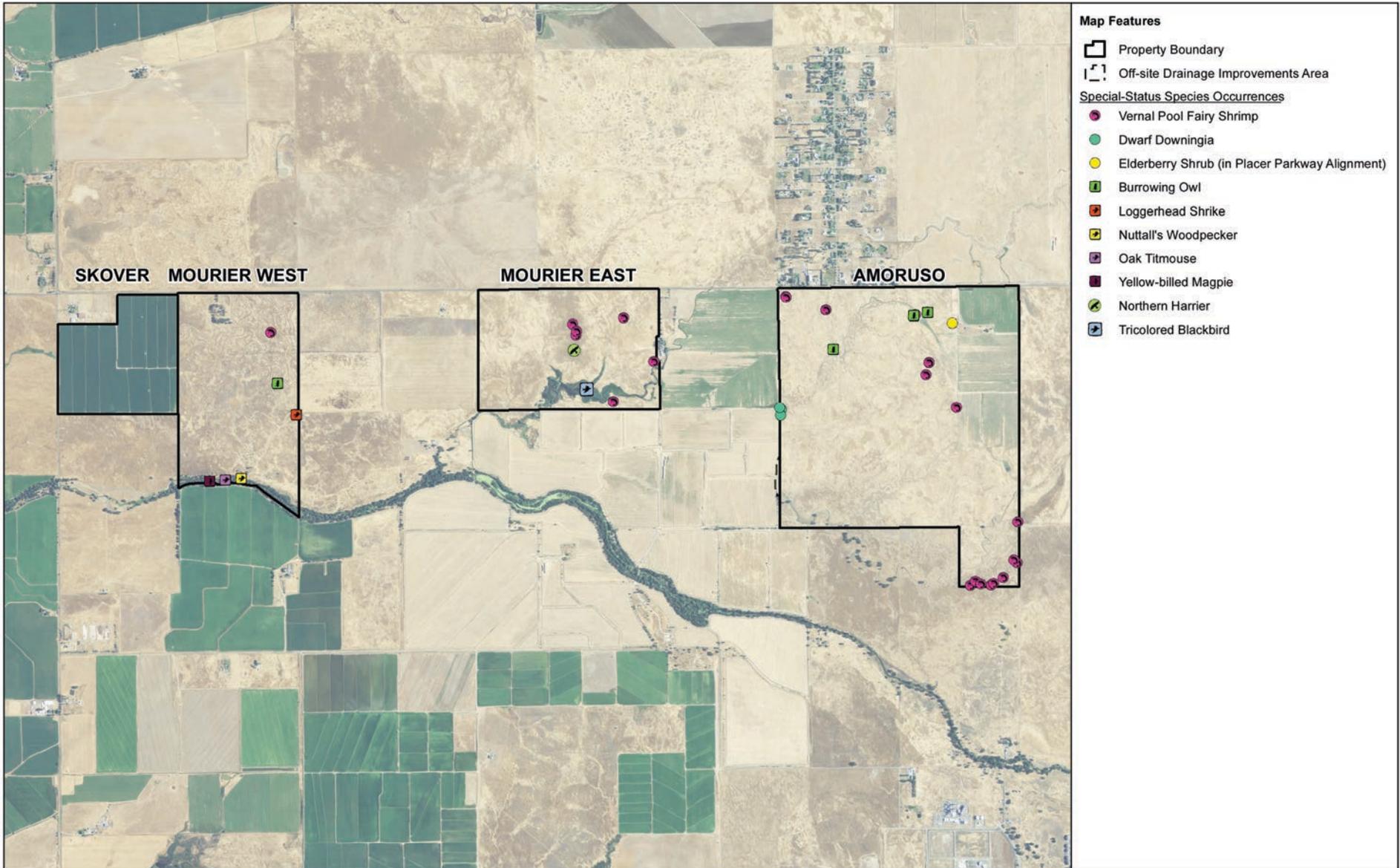
Special-Status Wildlife

Table 3.5-4, Special-status Wildlife Species with Potential to occur on the Project Site and Mitigation Properties, below, presents wildlife species that were observed on the project site during field surveys or have some potential to occur because the project site has some areas of suitable habitat or because the species are present at nearby locations.

Federal Special-Status Wildlife Species

Invertebrates

Three federally-listed invertebrates have a potential to occur in seasonal wetland habitats on the project site and the three off-site mitigation properties: vernal pool tadpole shrimp (*Lepidurus packardi*) and Conservancy fairy shrimp (*Branchinecta conservatio*), both federally-listed as endangered; and vernal pool fairy shrimp (*Branchinecta lynchi*), federally-listed as threatened. These species occur in vernal pools and other seasonal wetland habitats throughout the Central Valley, and are known to occur in western Placer County.



SOURCE: ECORP Consulting, Inc., National Agriculture Imagery Program, 2018

FIGURE 3.5-3

Special-Status Species Locations

**Table 3.5-3
Special-Status Plants with Potential to occur on the Project Site and Off-site Mitigation Properties**

Common and Scientific Names	Status Federal/State/CNPS	Habitat Requirements	Potential to occur on Project Site	Potential to occur on off- site Mitigation Properties
Big-scale balsam-root <i>Balsamorhiza macrolepis</i> var. <i>macrolepis</i>	-/-1B.2	Chaparral, cismontane woodland, and valley and foothill grassland; sometimes on serpentine soils; elevation range 295 to 5,102 feet	Absent; not found during 2009, 2011, 2014, or 2015 surveys.	Absent; not found during 2015 surveys.
Hispid bird's beak <i>Chloropyron molle</i> ssp. <i>hispidum</i>	-/-1B.1	Alkaline meadows and seeps, playas, and valley and foothill grassland; elevation range 3 to 509 feet	Absent; habitat not present.	Absent; habitat not present.
Dwarf downingia <i>Downingia pusilla</i>	-/-2B.2	Vernal pools and mesic areas in valley and foothill grassland; elevation range 3 to 1,460 feet	Present; found during 2014 and 2015 surveys.	Absent; not found during 2015 surveys.
Bogg's Lake hedge-hyssop <i>Gratiola heterosepala</i>	-/CE/1B.1	Clay soils in vernal pools and in marshes and swamps on lake margins; elevation range 33 to 7,792 feet	Absent; not found during 2009, 2011, 2014 or 2015 surveys.	Absent; not found during 2015 surveys.
Ahart's dwarf rush <i>Juncus leiospermus</i> var. <i>ahartii</i>	-/-1B.1	Mesic areas in valley and foothill grassland; elevation range 98 to 751 feet	Absent; not found during 2009, 2011, 2014 or 2015 surveys.	Absent; not found during 2015 surveys.
Red Bluff dwarf rush <i>Juncus leiospermus</i> var. <i>leiospermus</i>	-/-1B.1	Vernally mesic areas in chaparral, cismontane woodland, valley and foothill grassland; meadows and seeps, and vernal pools; elevation range 115 to 3,346 feet	Absent; not found during 2009, 2011, 2014 or 2015 surveys.	Absent; not found during 2015 surveys.
Legenere <i>Legenere limosa</i>	-/-1B.1	Vernal pools; elevation range 3 to 2,887 feet	Absent; not found during 2009, 2011, 2014 or 2015 surveys.	Absent; not found during 2015 surveys.
Pincushion navarretia <i>Navarretia myersii</i> spp. <i>myersii</i>	-/-1B.1	Vernal pools, often on acidic soils; elevation range 66 to 1,083 feet	Absent; not found during 2009, 2011, 2014 or 2015 surveys.	Absent; not found during 2015 surveys.
Slender Orcutt grass <i>Orcuttia tenuis</i>	FT/CE/1B.1	Often gravelly vernal pools; elevation range 115 to 5,774 feet	Absent; not found during 2009, 2011, 2014 or 2015 surveys.	Absent; not found during 2015 surveys.
Sacramento Orcutt grass <i>Orcuttia viscida</i>	FT/FE/1B.1	Vernal pools; elevation range 98 to 328 feet	Absent; not found during 2009, 2011, 2014 or 2015 surveys.	Absent; not found during 2015 surveys.

Common and Scientific Names	Status Federal/State/CNPS	Habitat Requirements	Potential to occur on Project Site	Potential to occur on off-site Mitigation Properties
Sanford's arrowhead <i>Sagittaria sanfordii</i>	-/-/1B.2	Shallow freshwater marshes, swamps, sloughs, small low gradient valley streams; elevation range 0 to 2,133 feet	Absent; not found during 2009, 2011, 2014 or 2015 surveys	Absent; not found during 2015 surveys.

Status explanations:

FE = Federal ESA listed, Endangered.

CE = California ESA or Native Plant Protection Act listed, Endangered.

FT = Federal ESA listed, Threatened.

CT = California ESA or Native Plant Protection Act listed, Threatened.

CC = Candidate for California ESA listing as Endangered or Threatened.

FC = Candidate for federal ESA listing as Threatened or Endangered.

1B.1 = California Rare Plant Rank/Rare or Endangered in California and elsewhere, seriously threatened in California (over 80% of occurrences threatened / high degree and immediacy of threat).

1B.2 = California Rare Plant Rank/Rare or Endangered in California and elsewhere, fairly threatened in California (20-80% occurrences threatened / moderate degree and immediacy of threat).

2B.2 = California Rare Plant Rank/Rare or Endangered in California, more common elsewhere, fairly threatened in California (20-80% occurrences threatened / moderate degree and immediacy of threat).

These species occur within a range of specific environmental conditions that include soil type, vegetation characteristics, water depth, water temperature, inundation duration, and water quality. The U.S. Fish and Wildlife Service (USFWS) requires at least two years of protocol-level surveys to determine if invertebrates are absent from the site (USFWS 1994).

ECORP conducted protocol-level surveys of the project site during the 2007 to 2008 and 2008 to 2009 wet seasons (ECORP 2008a; 2009). Twelve wet season site visits to sample the pools on-site were conducted between December 12, 2007, and April 28, 2008, which resulted in the identification of federally-listed vernal pool fairy shrimp in 6 vernal pools; in addition, state-listed California fairy shrimp were observed in 13 vernal pools, 1 seasonal wetland, and 2 seasonal wetland swales. Fifteen wet season site visits were conducted between November 20, 2008 and May 28, 2009, which resulted in the identification of vernal pool fairy shrimp in 14 vernal pools and 1 seasonal wetland and California fairy shrimp in 13 vernal pools and 1 seasonal wetland onsite. Neither vernal pool tadpole shrimp nor Conservancy fairy shrimp were detected during the surveys. Both of these species have a very restricted known distribution in western Placer County compared with the vernal pool fairy shrimp, making them unlikely to occur on the project site.

ECORP also conducted surveys for listed large branchiopods at the off-site AJWA improvements area during the 2014 wet season, followed by a dry season survey in 2014, in accordance with listed large branchiopod survey guidelines issued by USFWS (ECORP 2014a). Pursuant to the guidelines, a guideline-level listed large branchiopod survey consists of two wet season surveys done within a five-year period, or two consecutive seasons of one full wet season survey and one dry season survey. No listed large branchiopods were found within the off-site AJWA improvements area during the wet and dry season surveys.

Finally, ECORP conducted one wet season survey of the Mourier East and Mourier West properties during the 2007-2008 wet season, with a total of nine sample dates at each site (ECORP 2008b; 2008c). While these surveys provide results for listed large branchiopod species present within these two sites, they are not guideline-level surveys.

Valley elderberry longhorn beetle

Protocol-level surveys for the federally-listed as threatened valley elderberry longhorn beetle (VELB) (*Desmocerus californicus dimorphus*), were conducted within the project site by ECORP in 2011, within the off-site AJWA improvements area in 2014, and within the three off-site mitigation properties in 2013, 2014, and 2015 (ECORP 2013d; 2014c; 2015h; 2015i; 2015j). During these surveys, one elderberry shrub (*Sambucus nigra ssp. caerulea*), the exclusive host plant for the VELB, was located within the project site. However, the shrub is located within the Parkway alignment, so it would not be impacted as a result of the Proposed Action. No elderberry shrubs were located within the off-site AJWA improvements area or the three off-site mitigation properties.

**Table 3.5-4
Special-status Wildlife Species with Potential to Occur on the Project Site and Off-site Mitigation Properties**

Common and Scientific Names	Status Federal/ State/ Other	Habitat Requirements	Potential to occur on Project Site	Potential to occur on off- site Mitigation Properties
Invertebrates				
Conservancy fairy shrimp <i>Branchinecta conservatio</i>	FE/--/--	Typically large deep, turbid vernal pools and playa pools with long inundation periods	Absent; not observed during 2007-2008 and 2008-2009 protocol-level wet season survey; marginally suitable habitat present on-site	Low potential to occur; not observed during 2007-2008 assessment level survey at Mourier East and Mourier West
Vernal pool fairy shrimp <i>Branchinecta lynchi</i>	FT/--/--	Vernal pools, seasonal wetland swales, seasonal wetlands	Present; observed during 2007-2008 and 2008-2009 protocol-level wet season surveys	Present; observed during 2007-2008 assessment level survey at Mourier East and Mourier West
Vernal pool tadpole shrimp <i>Lepidurus packardii</i>	FE/--/--	Vernal pools seasonal wetlands, sock ponds	Absent; not observed during 2007-2008 and 2008-2009 protocol-level wet season survey	Low potential to occur; not observed during 2007-2008 assessment level survey at Mourier East and Mourier West
Valley elderberry longhorn beetle <i>Desmocerus californicus dimorphus</i>	FT/--/--	Elderberry shrubs	Occurs within Placer Parkway alignment and would not be impacted by the Proposed Action.	Absent; habitat not present
Amphibians				
California tiger salamander <i>Ambystoma californiense</i>	FT/CT/CSC	Breeding: vernal pools, wetlands, stock ponds; Upland: adjacent grassland or oak woodland; needs underground refuge (e.g., ground squirrel and gopher burrows)	Absent; project site outside the known distribution range of this species	Absent; project site outside the known distribution range of this species
California red-legged frog <i>Rana aurora draytonii</i>	FT/--/CSC	Found in permanent and temporary pools of streams, marshes, and ponds with dense grassy and/or shrubby vegetation; elevation range from sea level to 1,600 meters	Absent; project site outside the known current distribution range of this species	Absent; project site outside the known current distribution range of this species
Western spadefoot <i>Spea hammondi</i>	--/--/CSC	California endemic species of vernal pools, swales, wetlands and adjacent grasslands throughout the Central Valley	Potential; not found during 2011 survey or during 2007-2008 and 2008-2009 wet season branchiopod surveys	Potential; not found during 2007-2008 wet season branchiopod survey

Common and Scientific Names	Status Federal/ State/ Other	Habitat Requirements	Potential to occur on Project Site	Potential to occur on off- site Mitigation Properties
Reptiles				
Northwestern pond turtle <i>Actinemys armorata</i>	--/--/CSC	Occurs in ponds, streams, detention basins, ditches, and deepwater marshes; requires basking sites and upland habitat up to 0.5 km from water for egg laying	Absent; suitable habitat not present on-site	Potential; suitable habitat within Mourier West property along Pleasant Grove Creek and the ditch in the Skover property; surveys not conducted
Giant garter snake <i>Thamnophis couchi gigas</i>	FT/CT/--	Occurs in freshwater ditches, sloughs, marshes, and rice fields in the Central Valley; almost extirpated from the southern parts of its range	Absent; project site outside the known current distribution range of this species	Absent; project site outside the known current distribution range of this species
Birds				
Tricolored blackbird <i>Agelaius tricolor</i>	--/CT/-	Nesting colonies in dense vegetation of marshes, blackberry or shrub thickets in or near grasslands with nearby water	Absent; found foraging on-site but appropriate nesting habitat not present; not observed nesting during 2011 surveys	Present; nesting colony incidentally observed on Mourier East property; surveys not conducted
Grasshopper sparrow <i>Ammodramus savannarum</i>	--/--/CSC	Grasslands	Potential; not found during 2011 surveys	Potential; surveys not conducted
Burrowing owl <i>Athene cunicularia</i>	--/--/BCC, CSC	Grazed grasslands, deserts, chaparrals with sparse vegetation, ruderal areas	Present; observed on site and likely as nesting pair	Present; individual incidentally observed on Mourier West property; surveys not conducted
Oak titmouse <i>Baeolophus inornatus</i>	--/--/BCC	Oak woodlands, riparian corridors; cavity nester	Potential; found on-site but not nesting during 2011 surveys	Present; individual incidentally observed on Mourier West property; surveys not conducted
Swainson's hawk (nesting) <i>Buteo swainsoni</i>	--/CT/BCC	Forages in grasslands and agricultural fields; nests in trees within riparian corridors and in trees bordering grassland habitat and agricultural fields	Potential; found foraging but not nesting during 2011 surveys	Potential; surveys not conducted
Mountain Plover	--/--/BCC, CSC	Winters in California; habitat includes tilled fields, heavily grazed open grassland, burned fields, and alfalfa fields	Absent; suitable habitat not present on-site	Potential; surveys not conducted

Common and Scientific Names	Status Federal/ State/ Other	Habitat Requirements	Potential to occur on Project Site	Potential to occur on off- site Mitigation Properties
Northern harrier (nesting) <i>Circus cyaneus</i>	--/--/CSC	Forages in grasslands, marshes and agricultural fields; nests on ground in marshes and grassland habitats	Potential; found foraging but not nesting during 2011 surveys	Present; individual incidentally observed on Mourier East; surveys not conducted
Western yellow-billed cuckoo <i>Coccyzus americanus occidentalis</i>	FT/CE/BCC	Dense riparian corridors	Absent; suitable habitat not present on-site	Low potential; surveys or habitat assessment not conducted
White-tailed kite (nesting) <i>Elanus leucurus</i>	--/--/CFP	Forages in grasslands and agricultural fields; nests in trees within riparian corridors and in trees bordering grassland habitat and agricultural fields	Potential; found foraging but not nesting during 2011 surveys	Potential; surveys not conducted
Greater sandhill crane <i>Grus canadensis tabida</i>	--/CT/--	Forages and overwinters within large seasonal wetlands, irrigated pastures, alfalfa and corn fields	Low potential; not observed during 2011 surveys	Potential; surveys not conducted
Loggerhead shrike <i>Lanius ludovicianus</i>	--/--/BCC, CSC	Forages in grasslands and agricultural fields; nests in trees within riparian corridors and in trees bordering grassland habitat and agricultural fields	Potential; found foraging but not nesting during 2011 surveys	Present; individual incidentally observed on Mourier West property; surveys not conducted
California black rail <i>Laterallus jamaicensis</i>	--/CT/BCC, CSC	Marshes, wetlands with dense vegetation, rice field borders	Absent; suitable habitat not present on-site	Low potential; surveys or habitat assessment not conducted
Yellow-billed magpie (nesting) <i>Pica nuttallii</i>	--/--/BCC	Oak woodland, grasslands, rural developments, parks	Potential; found foraging but not nesting during 2011 surveys	Present; individual incidentally observed on Mourier West property; surveys not conducted
Nuttall's woodpecker <i>Picoides nuttallii</i>	--/--/BCC	Oak woodlands and riparian; cavity nester	Potential; found foraging but not nesting during 2011 surveys	Present; individual incidentally observed on Mourier West property; surveys not conducted
Purple martin <i>Progne subis</i>	--/--/CSC	Riparian woodland, oak woodland, cavity nester	Low potential; not observed during 2011 surveys	Low potential; surveys not conducted
Great egret (rookery) <i>Ardea alba</i>	*	Rookery sites in stand of trees typically near marsh or riparian habitat	Potential; not observed during 2011 surveys	Potential; surveys not conducted

Common and Scientific Names	Status Federal/ State/ Other	Habitat Requirements	Potential to occur on Project Site	Potential to occur on off- site Mitigation Properties
Great blue heron (rookery) <i>Ardea herodias</i>	*	Rookery sites in stand of trees typically near marsh or riparian habitat	Potential; not observed during 2011 surveys	Potential; surveys not conducted
Snowy egret <i>Egretta thula</i>	*	Rookery sites in stand of trees typically near marsh or riparian habitat	Low potential; not observed during 2011 surveys	Potential; surveys not conducted
Black-crowned night-heron (rookery) <i>Nycticorax nycticorax</i>	*	Rookery sites in stand of trees typically near marsh or riparian habitat	Low potential; not observed during 2011 surveys	Potential; surveys not conducted
Golden eagle (nesting and wintering) <i>Aquila chrysaetos</i>	--/--/BCC, CFP	Nests on cliffs; forages in open areas including grasslands	Potential; foraging habitat present; but does not nest in the region; observed foraging during 2011 survey	Potential; foraging habitat present; but does not nest in the region; surveys not conducted
Short-eared owl (nesting) <i>Asio flammeus</i>	--/--/CSC	Nests and forages in grassland, marshes, and other open habitats	Potential; foraging habitat present but does not nest in the region; not observed during 2011 survey	Potential; foraging habitat present; but does not nest in the region; surveys not conducted
Ferruginous hawk (wintering) <i>Buteo regalis</i>	--/--/CSC	Nests in trees in open areas or near forest edges, forages in open areas including grasslands	Potential; foraging habitat present but does not nest in the region; observed foraging during 2011 survey	Potential; foraging habitat present; but does not nest in the region; surveys not conducted
Prairie falcon (nesting) <i>Falco mexicanus</i>	--/--/BCC	Nests on cliffs, forages in grasslands, shrub-steppe, deserts, and other open areas; often winters in cultivated fields, near lakeshores, and feedlots	Potential; foraging habitat present but does not nest in the region; not observed during 2011 survey	Potential; foraging habitat present; but does not nest in the region; surveys not conducted
Long-billed curlew (nesting) <i>Numenius americanus</i>	--/--/BCC	Nests on ground in open areas with low, sparse vegetation	Potential; foraging habitat present but does not nest in the region; not observed during 2011 survey	Potential; foraging habitat present; but does not nest in the region; surveys not conducted
Fox Sparrow (wintering)	--/--/BCC	Winters in riparian habitat with thick cover, chaparral with thick vegetation	Absent; suitable habitat not present on-site	Potential; wintering habitat potential, but does not nest in the region; surveys not conducted
Mammals				
American badger <i>Taxidea taxus</i>	--/--/CSC	Occurs in drier open stages of most shrub, forest, and herbaceous habitats with friable soils	Low potential; not observed during 2011 surveys	Low potential; surveys not conducted

Common and Scientific Names	Status Federal/ State/ Other	Habitat Requirements	Potential to occur on Project Site	Potential to occur on off- site Mitigation Properties
Pallid bat <i>Antrozous pallidus</i>	--/--/CSC	Roosts in mines, man-made structures, and rock outcrops, and occasionally trees; forages in open areas including grasslands	Potential, roosting not observed during 2001 survey; Foraging – potential	Potential; surveys not conducted
Townsend’s big-eared bat <i>Corynorhinus townsendii townsendii</i>	--/CC/CSC	Roosts in caves, mines, buildings, rock crevices, trees; forages in a wide range of habitats including grasslands	Potential, roosting not observed during 2001 survey; Foraging – potential	Potential; surveys not conducted

Status explanations:

FE = Federal ESA listed, Endangered.

CE = California ESA Listed, Endangered.

FT = Federal ESA listed, Threatened.

CT = California ESA listed, Threatened.

FPD = Listed under Federal ESA, but formally proposed for delisting.

CC = Candidate for California ESA listing as Endangered or Threatened.

FC = Candidate for federal ESA listing as Threatened or Endangered.

CFP = Fish and Game Code of California Fully Protected Species (§3511-birds, §4700-mammals, §5050- reptiles/amphibians).

BCC = U.S. Fish and Wildlife Service Bird of Conservation Concern (USFWS, 2008).

CSC = California Department of Fish and Game Species of Special Concern (CDFW, 2015).

* Rookeries are tracked and are of special interest to CDFW.

CRBP = City of Roseville Beaver Management Policy.

California tiger salamander

California tiger salamander (CTS) is federally-listed as threatened and is a state species of special concern. It can be found throughout Central California in vernal pools and seasonal ponds, including stock ponds, in grassland, from sea level to about 1,500 feet. The project site and the three off-site mitigation properties are not within the current known range of the CTS (ECORP 2015k). As a result, this species is considered absent from the project and mitigation sites and is not discussed further.

California red-legged frog

California red-legged frog (CRLF) is federally-listed as threatened and is designated as a state species of special concern. Once common, most of the remaining populations occur in the Coast Ranges. The project site and the three off-site mitigation properties are not within the current known range of the CRLF (ECORP 2015k). As a result, this species is considered absent from the project and mitigation sites and is not discussed further.

Giant garter snake

Giant garter snake is state- and federally-listed as threatened. The project site and the three off-site mitigation properties are not within the current known range of the giant garter snake (ECORP 2015k). As a result, this species is considered absent from the project and mitigation sites and is not discussed further.

Oak titmouse

The oak titmouse is a federal bird of conservation concern. This species is a year-round resident throughout much of California, including most of the coastal slope, the Central Valley, and the western Sierra Nevada foothills. Its primary habitat is woodland dominated by oaks though can occur in mixed woodlands locally. The oak titmouse was observed within the project site during surveys, but was not nesting (ECORP 2011b). Potential nesting habitat includes the trees in the southern portion of the project site; along the rural residential development north of Sunset Boulevard West (Toad Hill Ranches #1); and, within the Mourier West property. Oak titmouse was incidentally observed near Pleasant Grove Creek within the Mourier West property during assessment level surveys in 2015 (ECORP 2015f). To date, no bird surveys have been performed for the off-site AJWA improvements area or the three off-site mitigation properties.

Western yellow-billed cuckoo

Western yellow-billed cuckoo is federally-listed as threatened and is a state listed endangered species. Typical nesting habitat includes dense riparian thicket/woodland. There is no suitable nesting habitat for western yellow-billed cuckoo on the project site (ECORP 2015k). In addition, there is no suitable nesting habitat for western yellow-billed cuckoo on the mitigation sites, along the University Creek riparian corridor within the AJWA improvements area, or within the West Sunset off-site improvement area (ECORP 2018b).

Yellow-billed magpie

The yellow-billed magpie is a federal bird of conservation concern. This endemic species is a yearlong resident of the Central Valley and Coast Ranges from San Francisco Bay to Santa Barbara County. Yellow-billed magpie builds large, bulky nests in trees in a variety of open woodland habitats, typically near grassland, pastures, or cropland. Yellow-billed magpie was observed within the project site during surveys, but was not observed nesting (ECORP 2011b). Potential nesting habitat includes the trees along University Creek in the project site and the AJWA improvements area, along the rural residential development north of Sunset Boulevard West (Toad Hill Ranches #1), and within the Mourier West property. Yellow-billed magpie was incidentally observed near Pleasant Grove Creek within the Mourier West property during assessment level surveys in 2015 (ECORP 2015f). To date, no bird surveys have been performed for the off-site AJWA improvements area or the three off-site mitigation properties.

Nuttall's woodpecker

The Nuttall's woodpecker is a federal bird of conservation concern. They are resident from Siskiyou County south to Baja California. Nuttall's woodpeckers nest in tree cavities primarily within oak woodlands. Breeding occurs from March through June. Potential nesting habitat includes the trees along University Creek on the project site and the AJWA improvements area, the Mourier West property, and along the rural residential development north of Sunset Boulevard West (Toad Hill Ranches #1). Nuttall's woodpeckers were observed on the project site during surveys but were not observed nesting (ECORP 2011b). The Nuttall's woodpecker was incidentally observed near Pleasant Grove Creek with the Mourier West property during assessment level surveys in 2015 (ECORP 2015f). To date, no bird surveys have been performed for the off-site AJWA improvements area or the three off-site mitigation properties.

State Special-Status Wildlife Species*Western spadefoot toad*

Western spadefoot toad is a state species of special concern. It occurs throughout the Central Valley and adjacent foothills up to 4,500 feet. The nearest documented occurrence of western spadefoot (CNDDB Occurrence No. 174) is located approximately one mile south of the project site (CDFW 2014). This occurrence included one adult crossing Phillip Road at a bend, approximately 1.5 miles west of the junction of Fiddymont Road and 0.3 miles west of where Phillip Road parallels Pleasant Grove Creek. The population is presumed to be extant. This species was not found within the project site during a field survey conducted in 2011 (ECORP 2011a). Surveys for this species have not been performed for the off-site AJWA improvements area or the three off-site mitigation properties, but wetlands within these sites may provide potentially suitable habitat.

Northwestern pond turtle

Northwestern pond turtle is a state species of special concern. The species occurs throughout California from the coast to mid elevation Sierra Nevada. The species is associated with permanent water bodies that include basking sites and sufficient prey. They also use upland areas to aestivate and to overwinter.

There are no documented occurrences of Northwestern pond turtle within five miles of the project site (CDFW 2014). The portion of Pleasant Grove Creek with the Mourier West property and the ditch within the Skover property may represent Northwestern pond turtle habitat (ECORP 2015k). Surveys for this species have not been performed within the project site, AJWA improvements area, or the three mitigation properties.

Tricolored blackbird

Tricolored blackbird is a state listed threatened species. The species breeds in colonies that require open accessible water, a protected nesting area (including either flooded or thorny or spiny vegetation), and a suitable foraging area providing adequate insect prey within a few miles of the nesting colony. Tricolored blackbird has been found foraging within the project site during surveys (ECORP 2011b). However, there is no suitable nesting habitat within the project site, and it is unlikely to be found nesting within the off-site AJWA improvements area (ECORP 2015k). There is an established colony of nesting tricolored blackbirds located within the Mourier East property (UCD 2015). Tricolored blackbirds were also incidentally observed nesting within the marsh located on the Mourier East property during the 2014 brachiopods surveys on the adjacent AJWA improvements area. Tricolored blackbird surveys or habitat assessments have not been performed for the off-site AJWA improvements area or the three off-site mitigation properties.

Grasshopper sparrow

The grasshopper sparrow is a state species of special concern. They inhabit grasslands and nest on the ground. Their nest is well-concealed open cup on the ground under vegetation. Grasshopper sparrows forage on the ground in vegetation, mainly eating insects, especially grasshoppers, and seeds. Grasshopper sparrow was not found on the project site during surveys (ECORP 2011b). Potential nesting habitat includes the annual grassland community within the project site, the off-site AJWA improvements area, and the three off-site mitigation properties (ECORP 2015k). Grasshopper sparrow surveys or habitat assessments have not been performed for the off-site AJWA improvements area or the three off-site mitigation properties.

Burrowing owl

Burrowing owl is a state species of special concern. It is a small ground-dwelling owl that typically occupies the burrows created by ground squirrels. The species also occupies artificial habitats, such as those created by pipes and small culverts. Burrowing owls forage in grassland and agricultural habitats with low vegetative height. The annual grasslands within the project site and the three mitigation properties represent potential habitat for burrowing owl. Burrowing owls have been found within the project site, presumably nesting (ECORP 2011b). Burrowing owl was incidentally observed within the Mourier West property during a site visit in 2014 (ECORP 2015k). Burrowing owl surveys or habitat assessments have not been performed for the AJWA improvements area or the three off-site mitigation properties.

Northern harrier

Northern harrier is a state species of special concern. The northern harrier is a ground-nesting raptor, which nests on the ground in marsh, grassland, and some agricultural habitats, particularly grain fields. It forages in seasonal wetland, grassland, and agricultural habitats. Northern harrier has been found within the project site, but was not observed nesting during surveys (ECORP 2011b). Potential nesting and foraging habitat for northern harrier include the annual grasslands within the project site, the off-site AJWA improvements area, and the three off-site mitigation properties (ECORP 2015k). Northern harrier was incidentally observed within the Mourier East property during assessment level surveys in 2015 (ECORP 2015e). To date, no bird surveys have been performed for the off-site AJWA improvements area or the three off-site mitigation properties.

Swainson's hawk

Swainson's hawk is a state-listed Threatened species. It nests in riparian forests, remnant oak woodlands, isolated trees, and roadside trees. It forages primarily in agricultural habitats, particularly those that optimize availability of prey, and also uses irrigated pastures and annual grasslands. Swainson's hawk has been observed foraging but not nesting within the project site (ECORP 2011b). Nesting is presumed to have occurred in the Creekview Specific Plan (CSP) Area to the south of the project site (City of Roseville 2011a). In addition, a nest was observed in 2015 directly east of the project site in the Placer Ranch area (ECORP 2015g). Potential nesting habitat within the project site includes the larger trees in the southern portion of the project site and the AJWA improvements area along University Creek, as well as trees along Pleasant Grove Creek and near the rural residence on the Mourier West property, while the annual grasslands and agricultural lands within the entire project site represent potential foraging habitat (ECORP 2015k). To date, no bird surveys have been performed for the off-site AJWA improvements areas or the three off-site mitigation properties.

White-tailed kite

White-tailed kite is listed as a state species-of-special concern and is fully protected by state law. The white-tailed kite nests in riparian forests and woodlands, and occasionally in isolated trees. It forages in grasslands, seasonal wetlands, and agricultural fields. The white-tailed kite has been found within the project site but was not observed nesting during surveys (ECORP 2011b). Annual grassland on the project site represents potential foraging habitat and potential nesting habitat includes: the trees along University Creek on the project site, the AJWA improvements area, the rural residential development north of Sunset Boulevard West (Toad Hill Ranches #1), and the Mourier West property. To date, no bird surveys have been performed for the off-site AJWA improvements area or the three off-site mitigation properties.

Greater sandhill crane

Greater sandhill crane is a state-listed Threatened species. Portions of the Sacramento-San Joaquin Delta and Cosumnes River basin are principal wintering grounds for the crane. Most traditional foraging areas are near communal roost sites (within 2-3 miles) that are flooded with several inches of standing or slowly moving water. Foraging habitat includes harvested fields, irrigated pastures, alfalfa fields, and

seasonally flooded habitats. The greater sandhill crane was not observed within the project site during surveys (ECORP 2011b), and since the foraging habitat is marginal, it has a low potential to occur within the project site and the three off-site mitigation properties (ECORP 2015k). To date, no bird surveys have been performed for the off-site AJWA improvements area or the three off-site mitigation properties.

Loggerhead shrike

Loggerhead shrike is a state species of special concern. The species prefers open habitats with scattered trees, shrubs, posts, fences, utility lines, or other perches. It nests in small trees and shrubs, and forages in pastures and agricultural lands. The loggerhead shrike has been found within the project site during surveys but was not nesting (ECORP 2011b). Potential nesting habitat includes the smaller trees along University Creek on the project site and the AJWA improvements area, along the rural residential development north of Sunset Boulevard West (Toad Hill Ranches #1), and the Mourier West property (ECORP 2015k). Loggerhead shrike was incidentally observed within the Mourier West property during assessment-level surveys in 2015 (ECORP 2015f). To date, no bird surveys have been performed for the off-site AJWA improvements area or three off-site mitigation properties.

California black rail

California black rail is a state-listed Threatened species. The black rail typically inhabits marshes dominated by bulrushes and cattails. A relatively narrow range of conditions is required for occupancy and successful breeding. The black rail breeds in marshland with a specific water depth. Too much water will prevent nesting and too little water will lead to abandonment of the site. The California black rail was not observed on the project site during previous surveys (ECORP 2011b). There is no suitable breeding or foraging habitat for California black rail within the project site (ECORP 2015k). California black rail habitat assessments or surveys have not been performed for the off-site AJWA improvements area or the three off-site mitigation properties.

Purple martin

The purple martin is a state species of special concern. It occurs within the foothills of the Sierra Nevada and the Coast Range to the Pacific Coast, with several small subpopulations occurring within the city limits of Sacramento. The purple martin typically nests in woodlands where tree cavities are utilized to raise broods. Potential marginal habitat includes the trees along University Creek on the project site and the AJWA improvements area, and along the rural residential development north of Sunset Boulevard West (Toad Hill Ranches #1). Additionally, the riparian habitat along Pleasant Grove creek within the Mourier West property may provide potential habitat for the purple martin (ECORP 2015k). This species was not observed on the project site during surveys (ECORP 2011b). To date, no bird surveys have been performed for the off-site AJWA improvements area or the three off-site mitigation properties.

Heron and Egret Rookeries

Heron and egret rookeries are colonial nesting sites for heron and egret species. While these species are not considered special-status species, rookeries are included on the CDFW's special animals list because these breeding colonies can support a large segment of local populations. No rookery sites were found

within the project site during 2011 surveys (ECORP 2015k). No bird surveys have been performed for the riparian area along University Creek within the off-site AJWA improvements area, or the three off-site mitigation properties, including Mourier West property, which supports a riparian corridor.

Special-status winter resident bird species

Several special-status birds may forage within the project site and/or the AJWA improvements area during the non-nesting season. These include golden eagle, short-eared owl, ferruginous hawk, mountain plover, prairie falcon, long-billed curlew, and fox sparrow. These species do not nest in the Central Valley but may occur as post-breeding dispersers, migrants, or winter residents. The ferruginous hawk was observed on the project site during previous surveys (ECORP 2011b). To date, no bird surveys have been performed for the offsite AJWA improvements areas or the three off-site mitigation properties (ECORP 2015k).

American badger

The American badger is a state species of special concern. American badgers occupy diverse habitats. The principal requirements seem to be sufficient food, friable soils, and relatively open, uncultivated ground, and they prefer grasslands, savannas, and mountain meadows near timberline. The nearest documented occurrence of the American badger (CNDDB Occurrence No. 304) is located approximately 17.5 miles south of the project site (CDFW 2014). This occurrence involved a male specimen that was collected on an unknown date for the U.C. Davis Museum of Zoology at Polk, 21st Avenue at Power Inn Road, Sacramento (CDFW 2014).

This species has a low potential to occur within the project site, AJWA improvements area, and the three off-site mitigation properties (ECORP 2015k). No potential American badger burrows were found during raptor survey transects within the project site while searching for nesting burrowing owls (ECORP 2011b). To date, no surveys for this species or its burrows have been performed for the off-site AJWA improvements area, or the three off-site mitigation properties.

Bats

The pallid bat is a state species of special concern. Townsend's big-eared bat is both a state species of special concern and candidate species proposed for listing under CESA. These special-status bat species may occur within the study area. Potential roosting habitat within the project site includes the larger trees in the southern portion of the site along University Creek and the rural residence-associated dilapidated barn and trees in the northwest corner of the site. Potential roosting habitat within the AJWA improvements area includes the larger trees along University Creek. Potential roosting habitat within the Mourier West property includes the larger trees along Pleasant Grove Creek in the southern portion of the site and the grove of blue gum trees, the rural residence, and associated barns in the northern portion of the property (ECORP 2015k). No bat roosts were observed in the trees during tree inspections for nesting raptor surveys within the project site (ECORP 2011b). Targeted surveys for bats have not occurred within the AJWA improvements area or the three off-site mitigation properties.

3.5.3 SIGNIFICANCE THRESHOLDS AND ANALYSIS METHODOLOGY

3.5.3.1 Significance Thresholds

Council on Environmental Quality (CEQ) regulations requires an evaluation of a proposed action's ecological effects such as the effects on natural resources and on the components, structures, and functioning of affected ecosystems (40 CFR 1508.8), as well as effects on endangered or threatened species or their habitat (40 CFR 1508.27). NEPA does not specify significance thresholds to evaluate the effects of a proposed action on biological resources.

For purposes of evaluating the effects in this Draft EIS, the Corps has determined that the Proposed Action, or an alternative, would result in significant effects on biological resources if it would:

- Have a substantial adverse effect, either directly or through habitat modification, on any species identified as a Candidate, Sensitive, Threatened, Endangered, or special-status species, in local or regional plans, policies, or regulations, or by CDFW or USFWS;
- Have a substantial adverse effect on riparian habitat; or
- Interfere substantially with the movement of any native, resident, or migratory wildlife species.

3.5.3.2 Analysis Methodology

The analysis in this Draft EIS examines both the direct and indirect effects of the Proposed Action or an alternative on biological resources. The types of direct and indirect effects, and the approach to their evaluation, are set forth below.

Direct Effects

With respect to direct effects, the analysis assumes full buildout of the Proposed Action or an alternative would result in loss of all habitats within those portions of the site that are designated for development. Proposed activities that would result in direct effects include:

- Vegetation clearing (including trees), grading, excavating/trenching, and paving activities during construction;
- Temporary stockpiling and side-casting of soil, construction materials, or other construction wastes;
- Soil compaction, dust, and water runoff from the construction site;
- Short-term construction-related noise (from equipment); and
- Degradation of water quality in on-site drainages and wetlands, resulting from construction runoff containing sediment, petroleum products, or other pollutants.

Indirect Effects

With respect to indirect effects, the analysis covers the proposed 98-acre open space preserve located along the southern boundary of the project site, which includes the University Creek corridor, and the

proposed 10-acre general open space area located adjacent to the planned Parkway alignment in the northwestern portion of the project site. Proposed activities that could result in indirect effects include:

- Altering light and noise levels;
- Altering hydrology;
- Causing damage through toxicity associated with herbicides, insecticides, and rodenticides;
- Degradation of water quality in off-site drainages and wetlands, resulting from runoff containing sediment, petroleum products or other pollutants;
- Introducing pet and human disturbance (including trash dumping);
- Increasing habitat for native competitors or predators; and
- Introducing invasive non-native species.

3.5.4 ENVIRONMENTAL CONSEQUENCES AND MITIGATION MEASURES

Impact BIO-1 Effects on Listed Vernal Pool Invertebrates and Their Habitat

No Action Alt. Under the No Action alternative, no aquatic resources would be filled. Therefore, **no direct** impacts to listed vernal pool invertebrates or their habitat would occur from development under the No Action alternative.

However, as noted by the USFWS, indirect effects on avoided vernal pools and swales can occur as a result of adjacent ground disturbing activities within a 250-foot radius of avoided vernal pools, specifically, activities and/or structures that adversely affect water quality or alter the hydrology of the micro-watershed. These indirect effects on vernal pool hydrology and water quality can adversely affect listed vernal pool invertebrates and/or their habitat, and it is estimated that 15.84 acres would be indirectly affected under the No Action alternative. Additionally, impervious surfaces added to the site under this alternative would likely change the hydrologic regime and/or geomorphology of avoided vernal pools, which could lead to habitat degradation and/or changes in wetland type. Furthermore, since the development footprint avoids all wetlands, vernal pool habitat would be substantially fragmented and likely sustain a great amount of long-term indirect edge effects and other stressors from adjacent development, which would not be regulated; and thus, would not be avoided, minimized, and/or compensated. For all of these reasons, development of the No Action alternative could result in substantial indirect effects on listed vernal pool invertebrates and/or their habitat. Thus, **indirect** effects on listed vernal pool invertebrates and/or their habitat under the No Action alternative would be **significant**.

Mitigation Measure BIO-1a, which requires the Applicant to obtain authorization from the USFWS under Section 10 of the FESA, is available to avoid, minimize, and/or compensate for indirect impacts to listed vernal pool invertebrates or their habitat under the No Action alternative. Although a mitigation plan has not been put forth by the Applicant for the No Action alternative, should such a plan be put forth, it is likely

that the Applicant would compensate for the effects on vernal pool invertebrates by preserving appropriate habitat on one or more of the three off-site mitigation properties, two of which contain vernal pool habitat that is comparable to that on the project site. As a DA permit would not be required, the Corps would have no authority to impose and/or enforce this mitigation measure on this alternative.

**Proposed
Action**

The Proposed Action would directly and indirectly affect listed vernal pool invertebrates and their habitat. As noted earlier, the project site is located within the Western Placer County core area of the Southeast Sacramento Valley vernal pool region. The Western Placer County core area is ranked as Zone 2 by the USFWS for the recovery of vernal pool invertebrate species. Vernal pool fairy shrimp were observed in 6 vernal pools on the project site during the 2007-2008 wet season surveys and 14 vernal pools and 1 seasonal wetland on the project site during the 2009-2009 wet season surveys. Suitable habitat for listed vernal pool invertebrates such as vernal pool fairy shrimp and vernal pool tadpole shrimp is present on the project site. Vernal pool invertebrate aquatic habitat is recognized here as all wetlands with vernal pool hydrology. Because the line between vernal pools and seasonal wetlands is often obscure, it is reasonable to apply a geomorphic standard rather than a vegetation standard to determine whether or not a particular feature could support a breeding population of listed vernal pool invertebrates. Vernal pool hydrology means those wetlands that fill with winter rains and dry by mid spring and do not receive any dry season supplemental water. On the project site, this includes vernal pools, seasonal wetlands, and wetland swales.

The Proposed Action would directly affect listed vernal pool invertebrates and their aquatic habitat by grading and placing fill into vernal pools, seasonal wetlands, and wetland swales. Grading activities would result in species mortality and permanent loss of vernal pool habitat. In addition, as provided by the USFWS, should construction activities occur within 250 feet of vernal pools and wetlands, even though those pools and seasonal wetlands would not be filled, the habitat value of the pools for vernal pool invertebrates could decline. **Table 3.5-5, Proposed Action Impacts to Listed Vernal Pool Invertebrate Habitat**, presents acres of habitat directly and indirectly impacted by the Proposed Action within the project boundary, including the adjacent West Sunset Boulevard right-of-way and offsite AJWA improvements area. As the table shows, of the total invertebrate aquatic habitat on the project site which is defined to include vernal pools, seasonal wetlands and seasonal wetland swale areas, the Proposed Action would directly remove by filling about 16.40 acres of fairy shrimp habitat (compared to no direct removal of fair shrimp habitat under No Action alternative). In addition, some development on the project site would occur near the preserved vernal pools; therefore, although not directly filled, activities under the Proposed Action have the potential to indirectly affect approximately 8.15 acres of vernal pool invertebrate habitat (compared

to 15.84 acres under No Action alternative).

**Table 3.5-5
Proposed Action Impacts to Listed Vernal Pool Invertebrate Habitat (in Acres)**

Type	Direct Impact	Indirect Impact	Avoided/ Preserved	NAPOTS	Total
Vernal Pools	3.01	.230	5.76	1.04	11.93
Seasonal Wetlands	2.91	0.76	1.36	0.56	5.59
Wetland Swales	10.48	5.09	6.33	2.96	24.86
Total	16.40	8.15	13.45	4.56	42.38

Source: ECORP 2018a

1. The table reports invertebrate habitat within the NAPOTS (Placer Parkway alignment) for completeness. These acres would not be affected by the Proposed Action.
2. The table reports indirect impacts calculated using a 250 foot buffer surrounding disturbance. Indirect impacts will be less under the PCCP. See the proposed Mitigation Plan (ECORP 2018) for a discussion of PCCP methodology and implementation for the Proposed Action.
3. The acreage value for each feature has been rounded to the nearest 1/100 decimal. Summation of these values may not equal the total acreage reported.

Based on the above, the Corps has determined that the loss of listed vernal pool invertebrates or their habitat as a result of grading, filling, or indirect degradation would result in **significant direct** and **indirect** effects.

As discussed under **Impact AR-1** in **Section 3.4 Aquatic Resources**, the Applicant has put forth a draft PRMP which would avoid the filling of vernal pool invertebrate habitat on the project site and permanently preserve that habitat. In addition, the Applicant would preserve vernal pool invertebrate habitat on three mitigation sites as well as restore wetlands, including vernal pool invertebrate habitat. Compensatory mitigation included in the Applicant's PRMP is summarized in **Section 3.4, Aquatic Resources**. Furthermore, **Mitigation Measure AR-1a** would be implemented to mitigate for impacts on aquatic resources, including wetlands that could support or provide habitat for listed vernal pool invertebrates. Thus, the mitigation measure would also compensate for the loss of vernal pool invertebrate habitat and would mitigate the Proposed Action's direct effects on listed vernal pool invertebrates. Additionally, **Mitigation Measures AR-1b** and **BIO-1b** would be implemented to minimize the Proposed Action's indirect effects on listed vernal pool invertebrates.

It is noted that there could be temporary impacts to vernal pool invertebrates and/or their habitat during the wetland restoration activities on the mitigation sites. The federally threatened vernal pool fairy shrimp was observed in five vernal pools and one seasonal wetland during 2007-08 wet season surveys for federally listed branchiopods at the Mourier East property (ECORP 2008a), and the species was

observed in one seasonal wetland on the Mourier East property. No listed invertebrates were observed on the Skover property. However, any short term effects on the species or their habitat would be offset by the preservation and restoration of the habitat on the mitigation sites.

As stated earlier, the Proposed Action would dedicate to the City of Roseville two open space preserves containing avoided vernal pool invertebrate habitat. A pedestrian trail under the Proposed Action would be located along the northern edge of the open space preserves and would include educational signage along their boundaries. This would minimize potential indirect effects from passive recreational use and human access. However, ground-disturbing activities, including the placement and/or construction of structures, trails, and roadways within 250 feet of avoided vernal pools, would likely result in adverse indirect effects on listed vernal pool invertebrates and/or their habitat. For example, development within 250 feet of avoided wetlands could lead to the introduction of exotic weed species, changes in the hydrologic regime, or the erosion of adjacent uplands that could result in the deposition of sediment within avoided wetlands resulting from discharges of urban runoff containing debris, fertilizers, pesticides, and herbicides. Maintenance activities, including firebreak maintenance, weed abatement, and maintenance of the trail, could also degrade habitat. However, implementation of **Mitigation Measure AR-1b** would avoid and minimize these indirect impacts.

**Alt. 1
(Southern
Avoidance)**

Alternative 1 would expand the two open space preserves in the southern portion of the project site and eliminate the Northern Avoidance Area. As shown in **Table 3.5-6, Alternative 1 Impacts to Listed Vernal Pool Invertebrate Habitat**, this alternative would directly affect about 16.40 acres (compared to no direct effects under No Action alternative) and indirectly affect about 10.45 of vernal pool invertebrate habitat (compared to 15.84 acres under No Action alternative). The loss of listed vernal pool invertebrates or their habitat as a result of grading, filling, or indirect degradation would be a **significant direct** and **indirect** effect of the alternative.

As with the Proposed Action, implementation of the draft PRMP as well as **Mitigation Measure AR-1a** would reduce impacts on listed vernal pool invertebrate habitat by providing replacement habitat and preserving wetlands similar to those removed by the alternative. **Mitigation Measures AR-1b** and **BIO-1b** would also be implemented to avoid or reduce both direct and indirect impacts on vernal pool species habitat within the preserved areas on the project site.

There could be temporary impacts to vernal pool invertebrates and/or their habitat during the wetland restoration activities on the mitigation sites. However, any such short term effects would be offset by the preservation and restoration of the habitat on the mitigation sites.

Table 3.5-6
Alternative 1 Impacts to Listed Vernal Pool Invertebrate Habitat (in Acres)

Type	Direct Impact	Indirect Impact	Avoided/ Preserved	NAPOTS	Total
Vernal Pools	3.01	2.02	5.58	1.04	11.65
Seasonal Wetlands	2.91	1.16	1.36	0.56	5.99
Wetland Swales	10.48	7.27	6.33	2.96	27.04
Total	16.40	10.45	13.27	4.56	44.68

Source: ECORP 2018

1. The table reports invertebrate habitat within the NAPOTS (Placer Parkway alignment) for completeness. These acres would not be affected by the alternative.
2. The acreage value for each feature has been rounded to the nearest 1/100 decimal. Summation of these values may not equal the total acreage reported.
3. Indirect impacts include impacts to offsite features within a 250 foot buffer of the project grading area.

Alt. 2
(Northern
Avoidance)

Alternative 2 would significantly expand the general open space area in the northern portion of the project site and reduce the two open space preserves in the southern portion of the project site. As shown in **Table 3.5-7, Alternative 2 Impacts to Listed Vernal Pool Invertebrate Habitat**, this alternative would directly affect about 20.64 acres (compared to no direct affects under No Action alternative) and indirectly affect about 13.59 acres of vernal pool invertebrate habitat (compared to 15.84 acres under No Action alternative). The loss of listed vernal pool invertebrates or their habitat as a result of grading, filling, or indirect degradation would be a **significant direct and indirect** effect of the alternative.

Table 3.5-7
Alternative 2 Impacts to Listed Vernal Pool Invertebrate Habitat (in Acres)

Type	Direct Impact	Indirect Impact	Avoided/ Preserved	NAPOTS	Total
Vernal Pools	4.71	3.01	4.81	0.33	12.86
Seasonal Wetlands	2.24	1.80	2.06	0.52	6.62
Wetland Swales	13.69	8.78	5.19	0.88	28.54
Total	20.64	13.59	12.06	1.73	48.02

Source: ECORP 2018

1. The table reports invertebrate habitat within the NAPOTS (Placer Parkway alignment) for completeness. These acres would not be affected by the alternative.
2. The acreage value for each feature has been rounded to the nearest 1/100 decimal. Summation of these values may not equal the total acreage reported.
3. Indirect Impacts include impacts to offsite features within a 250 foot buffer of the project grading area.

As with the Proposed Action, implementation of the draft PRMP as well as **Mitigation Measure AR-1a** would reduce impacts on listed vernal pool invertebrate habitat by providing replacement habitat and preserving wetlands similar to those filled by the alternative. **Mitigation Measures AR-1b** and **BIO-1b** would also be implemented to avoid or reduce both direct and indirect impacts on vernal pool species habitat within the preserved areas on the project site.

While there could be temporary impacts to vernal pool invertebrate habitat on the mitigation sites during the wetland restoration activities, any such short term effects would be offset by the preservation and restoration of the habitat on the mitigation sites. .

**Alt. 3
(Distributed
Avoidance)**

Alternative 3 would slightly expand the Northern Avoidance Area and slightly reduce the two southern open space preserves. As shown in **Table 3.5-8, Alternative 3 Impacts to Listed Vernal Pool Invertebrate Habitat**, this alternative would directly affect about 20.35 acres (compared to no direct affects under No Action alternative) and indirectly affect about 12.98 acres of vernal pool invertebrate habitat (compared to 15.84 acres under No Action alternative). The loss of listed vernal pool invertebrates or their habitat as a result of grading, filling, or indirect degradation would be a **significant direct** and **indirect** effect of the alternative.

**Table 3.5-8
Alternative 3 Impacts to Listed Vernal Pool Invertebrate Habitat (in Acres)**

Type	Direct Impact	Indirect Impact	Avoided/ Preserved	NAPOTS	Total
Vernal Pools	3.71	2.88	5.83	0.27	12.69
Seasonal Wetlands	2.45	1.87	1.98	0.39	6.69
Wetland Swales	14.19	8.23	4.75	0.84	28.01
Total	20.35	12.98	12.56	1.50	47.39

Source: ECORP 2018

1. The table reports invertebrate habitat within the NAPOTS (Placer Parkway alignment) for completeness. These acres would not be affected by the alternative.
2. The acreage value for each feature has been rounded to the nearest 1/100 decimal. Summation of these values may not equal the total acreage reported.
3. Indirect Impacts include impacts to offsite features within a 250 foot buffer of the project grading area.

As with the Proposed Action, implementation of the draft PRMP as well as **Mitigation Measure AR-1a** would reduce impacts on listed vernal pool invertebrate habitat by providing replacement habitat and preserving wetlands similar to those removed by the alternative. **Mitigation Measures AR-1b** and **BIO-1b** would also be implemented to avoid or reduce both direct and indirect impacts on vernal pool species habitat within the preserved areas on the project site.

While there could be temporary impacts to vernal pool invertebrate habitat during the wetland restoration activities on the mitigation sites, any such short term effects would be offset by the preservation and restoration of the habitat on the mitigation sites.

Mitigation Measure BIO-1a: **Secure Take Authorization for Federally Listed Vernal Pool Invertebrates**
(Applicability – No Action)

No project construction shall proceed in areas supporting potential habitat for federally listed vernal pool invertebrates until a Section 10 general permit has been issued by the USFWS.

Mitigation Measure BIO-1b: **Secure Take Authorization for Federally Listed Vernal Pool Invertebrates and Implement Permit Conditions**
(Applicability – Proposed Action, and Alternatives 1, 2, and 3)

No project construction shall proceed in areas supporting potential habitat for federally listed vernal pool invertebrates until a biological opinion (BO) and incidental take statement has been issued by the USFWS. The Corps will consult with the USFWS under Section 7 of the Endangered Species Act and if the Corps determines DA permits will be issued for impacts to habitat on the project site, the BO conditions shall be incorporated into the terms and conditions of the DA permits. The Applicant shall abide by permit conditions (including conservation and minimization measures) intended to be completed before on-site construction.

Impact BIO-2 Effects on Federally Listed Plant Species

No Action Alt. As discussed in **Subsection 3.5.2.6** above, vernal pools on the project site and three off-site mitigation properties represent potential habitat for federally listed plant species. Under the No Action alternative, although the project site would be developed, all vernal pools on the site would be avoided and no fill would be placed within this habitat. Thus, **no direct** or **indirect** effects to federally listed plant species would occur under the No Action alternative.

Proposed Action, Alts. 1, 2, 3 As discussed in **Subsection 3.5.2.6** above, vernal pools on the project site and three off-site mitigation properties represent potential habitat for federally listed plant species. Although focused special-status plant surveys were conducted during the blooming period for all special-status plant species likely to occur in the area, none of the federally listed plant species were observed on the project site or the three off-site mitigation properties. However, it is possible, although highly unlikely, that federally listed plant species could have moved onto the project site and the three off-site mitigation properties after the surveys were conducted as suitable habitat exists, and construction on the project site and the three off-site mitigation properties under the Proposed Action and Alternatives 1, 2, and 3 could result in the loss of these species. This would be a **significant direct** effect. **No indirect** effects were identified.

Mitigation Measure BIO-2 lists measures to be taken if federally listed plant species are discovered on the project site or three off-site mitigation properties.

Mitigation Measure BIO-2: Federally Listed Plant Species Measures¹
(Applicability – Proposed Action and Alternatives 1, 2, and 3)

The following mitigation measures shall be implemented to reduce impacts to federally listed plant species:

- a) If federally listed plant species are found within the project site, avoidance zones shall be established around plant populations to clearly demarcate areas for avoidance. Avoidance measures and buffer distances may vary between species and the specific avoidance zone distance will be determined in coordination with appropriate resource agencies (USFWS).
- b) If federally listed plant species are found within the project site and avoidance of the species is not possible, then additional measures such as seed collection and/or transplantation shall be developed in consultation with the appropriate agencies (USFWS).

Impact BIO-3 Effects on Federally Listed Amphibian and Reptile Species

No Action Alt., Proposed Action, Alts. 1, 2, 3 As discussed in **Subsection 3.5.2.6** above, neither the project site nor the three off-site mitigation properties are located within the current known range of the CTS, CRLF, or giant garter snake. Therefore, these species are considered absent from the project site and the three off-site mitigation properties. Thus, no **direct** or **indirect** effects on federally listed amphibian and reptile species under the Proposed Action, or the alternatives, were identified.

Impact BIO-4 Effects on Valley Elderberry Longhorn Beetle (VELB)

No Action Alt., Proposed Action, Alts. 1, 2, 3 As discussed in **Subsection 3.5.2.6** above, one elderberry shrub was found on the project site. No elderberry shrubs were found on the three off-site mitigation properties. Since the elderberry shrub is located within the Parkway alignment identified as NAPOTS, development of the No Action alternative, Proposed Action, or Alternatives 1, 2, or 3 would not result in the disturbance or removal of the shrub. Thus, **no direct** or **indirect** effects on VELB under the Proposed Action, or the alternatives, were identified.

¹ This measure is substantially the same as Mitigation Measure 4.8-3 in the ARSP EIR and was adopted by the City of Roseville at the time of project approval and will be enforced by the City.

Impact BIO-5 Effects on Western Yellow-billed Cuckoo

No Action Alt., Proposed Action, Alts. 1, 2, 3 As discussed in **Subsection 3.5.2.6** above, there is no suitable nesting habitat for western yellow-billed cuckoo on the project site, mitigation sites, or AJWA improvements area. Therefore, **no direct or indirect** effects on the western yellow-billed cuckoo were identified under the Proposed Action or Alternatives 1, 2, or 3.

Impact BIO-6 Effects on State Special-Status Plant Species

No Action Alt. As discussed in **Subsection 3.5.2.6** above, only one special-status plant, dwarf downingia, was found within the project site and the off-site AJWA improvements area. It is not state or federally listed, but is on the CRPR List 2.2. Potential habitat for other special-status plant species is present but no other special-status plant species were detected during presence/absence surveys.

As discussed in **Table 3.5-5**, dwarf downingia is only present in vernal pools and mesic areas in valley and foothill grassland. As development of the No Action alternative would not fill potential WOUS on the project site, **no direct or indirect** effects to dwarf downingia would occur under this alternative.

Proposed Action, Alts. 1, 2, 3 Development of the Proposed Action or Alternatives 1, 2, or 3 would result in the removal of dwarf downingia, which was observed in vernal pools on the project site but not on the mitigation sites. This would be a **significant direct** effect. However, imposition of **Mitigation Measure BIO-6** by the City of Roseville would mitigate the loss of this species by requiring that soil inoculum be collected from the affected dwarf downingia population and placed within an acceptable property approved by the City, in consultation with CDFW. **No indirect** effects were identified.

Mitigation Measure BIO-6: **State Special-status Plant Measures²**
(Applicability – Proposed Action, and Alternatives 1, 2, and 3)

The following mitigation measures shall be implemented to reduce impacts to special-status plant species:

- a) *A qualified botanist or biologist shall collect source pool inoculum from the two vernal pools containing dwarf downingia and shall transfer the soil inoculum to an approved off-site location. A botanist or qualified biologist shall determine which vernal pools will provide the best suitable habitat. Transferred inoculum into created and/or restored wetlands shall require monitoring, in accordance with Section 404 permit guidelines or other City/CDFW approved mitigation plan.*
- b) *If special-status plant species are found within the project site, avoidance zones shall be established around plant populations to clearly demarcate areas for avoidance. Avoidance measures and buffer distances may*

² This measure is substantially the same as Mitigation Measure 4.8-3 in the ARSP EIR and was adopted by the City of Roseville at the time of project approval and will be enforced by the City.

vary between species and the specific avoidance zone distance will be determined in coordination with appropriate resource agencies (CDFW).

- c) If special-status plant species are found within the project site and avoidance of the species is not possible, then additional measures such as seed collection and/or transplantation shall be developed in consultation with the appropriate agencies (CDFW).

Impact BIO-7 Effects on State Special-Status Wildlife Species

No Action Alt. As discussed in **Subsection 3.5.2.6**, although the western spadefoot toad was not observed on the project site, suitable habitat for this species (i.e., wetlands) is present on the project site. Similarly, although the northwestern pond turtle was not found on the project site during surveys, University Creek and wetlands on the project site are considered marginal habitat for this species. Since the No Action alternative would not directly affect vernal pools or seasonal wetlands, it would not affect western spadefoot and northwestern pond turtle habitat. Furthermore, even though the No Action alternative would develop upland areas that may be used by these species, the amount of development under this alternative would be limited. Thus, **no direct** or **indirect** effects on these species were identified.

Proposed Action, Alts. 1, 2, 3 In addition to developing the project site with urban development, the Proposed Action, as well as Alternatives 1, 2, and 3, would involve some ground disturbing activities at the three off-site mitigation properties. Similar to the project site, although the western spadefoot toad was not observed on the three off-site mitigation properties, suitable habitat for this species (i.e., wetlands) is present on the sites. Construction activities would directly affect vernal pools, seasonal wetlands, and perennial marsh which provide habitat for both the northwestern pond turtle and the western spadefoot. The Proposed Action and Alternatives 1 through 3 would also develop upland areas with urban uses; thereby eliminating potential basking habitat for these species. In addition, the Proposed Action, as well as Alternatives 1, 2, and 3, could indirectly affect western spadefoot and northwestern pond turtle habitat in the long term by adding impervious surfaces that could change the hydrology and geomorphology of avoided aquatic habitat. This would be a **significant direct** effect on these species. **No indirect** effects were identified.

Mitigation Measure BIO-7a, which is the same as Mitigation Measure 4.8-4 in the ARSP EIR, would minimize the potential for loss of western spadefoot individuals during site grading activities by requiring the capture any adult or larval western spadefoots or western spadefoot egg masses, and relocation to suitable habitat. Similarly, **Mitigation Measure BIO-7b**, which is the same as Mitigation Measure 4.8-5 in the ARSP EIR, would minimize the potential for loss of northwestern pond turtle individuals during site grading activities by ensuring that any turtles present in the

development footprint are relocated to a protected area with suitable habitat outside the area of disturbance. Additionally, implementation of the Applicant's draft PRMP for the unavoidable loss of potential WOUS described under **Mitigation Measures AR-1a** and **AR-1b**, which require preservation and protection of existing aquatic resources, would protect individual western spadefoot toads and northwestern pond turtles by avoiding impacts on areas that are designated preserves. Imposition of **Mitigation Measures BIO-7a** and **BIO-7b** by the City of Roseville, and **Mitigation Measure AR-1a** by the Corps, would provide protection of potential habitat for western spadefoot and northwestern pond turtle by preserving or enhancing and protecting habitat that is capable of supporting these species. Furthermore, pursuant to **Mitigation Measure BIO-8b** below, more than 500 acres of grassland habitat, or potential upland basking habitat for these species, would be preserved.

Mitigation Measure BIO-7a: Relocate Western Spadefoot Toad
(Applicability – Proposed Action and Alternatives 1, 2, and 3)

The following mitigation measures shall be implemented to reduce impacts to western spadefoot toad (*Spea hammondi*):

- a) A qualified biologist shall perform preconstruction surveys for western spadefoot toad within the construction area for each phase of the project in the appropriate season (generally February) to detect adults, larvae, and/or egg masses, within 14 days prior to the start of construction.
- b) If no western spadefoots are found, no further measures pertaining to this species are necessary.
- c) Pools that are found to support western spadefoot shall be avoided if feasible. If avoidance is not feasible, then the CDFW shall be consulted for its recommendation with respect to relocation of adults, larvae, tadpoles, or egg masses. Although there is no set protocol for the relocation of western spadefoot, the capture and relocation of reptile and amphibian species from habitat that will be impacted to similar areas of protected suitable habitat is a standard part of both USFWS and CDFW procedures and recommendations for mitigating impacts. When done in combination with habitat restoration and preservation, the procedure is known to be successful in reducing potential impacts to special-status amphibian and reptile populations.

Mitigation Measure BIO-7b: Relocate Northwestern Pond Turtle
(Applicability – Proposed Action and Alternatives 1, 2, and 3)

The following mitigation measures shall be implemented to reduce impacts to northwestern pond turtle (*Actinemys armorata*):

- a) A qualified biologist shall perform preconstruction surveys for northwestern pond turtle within the construction area for each phase of the project within 24 hours prior to the start of construction
- b) If no northwestern pond turtles are found, no further measures pertaining to this species are necessary.

- c) *If northwestern pond turtles are found within an area proposed for impact, a qualified biologist shall relocate the northwestern pond turtle to a suitable location away from the proposed construction, in consultation with CDFW.*

Impact BIO-8 Effects on Protected Raptor Species and Other Nesting Birds

No Action Alt. Grassland and trees within the project site provide suitable foraging habitat and nesting sites for several protected bird and raptor species. As discussed in **Subsection 3.5.2.6**, the following special-status or protected bird species were observed foraging or nesting on the project site or in the vicinity of the project site during surveys: tricolored blackbird, oak titmouse, Swainson's hawk, northern harrier, white-tailed kite, loggerhead shrike, yellow-billed magpie, Nuttall's woodpecker, and ferruginous hawk. Only the burrowing owl was observed nesting on the project site. In addition, Swainson's hawk is known to nest in the Creekview Specific Plan area immediately south of the project site and in the Placer Ranch area to the east of the project site.

Construction disturbance as part of the development under the No Action alternative could result in active nest abandonment, removal of an active nest, or other injury to a protected bird or raptor species. This would be a **significant direct** effect. Compliance with the MBTA and CESA would reduce impacts by prohibiting the take of any migratory bird, including nests, eggs, or products, or the removal of any pertinent shrub or tree that could affect nesting. To ensure that legally protected birds of prey are not taken during project construction, **Mitigation Measure BIO-8a**, which is the same as Mitigation Measure 4.8-6 in the ARSP EIR, requires that, when feasible, tree removals or excavations near potential burrowing owl burrows occur during the period when these species are not nesting (September through February). Imposition of **Mitigation Measure BIO-8a** by the City of Roseville under the No Action alternative would address these potentially significant direct impacts on protected bird and raptor species. **No indirect** effects were identified.

Development of the No Action alternative would eliminate approximately 294 acres of foraging habitat (grassland, vernal pool, wetland, and cultivated habitat suitable for foraging) for Swainson's hawk. CDFW recommends that projects that result in the loss of potential habitat for Swainson's hawk (which includes grasslands) within 10 miles of an active nest site provide mitigation for that loss. As part of the CEQA review process for the Proposed Action and in compliance with California Fish and Game Code, the Applicant has committed to mitigate the loss of Swainson's hawk foraging habitat by preserving grassland habitat at the CDFW-specified ratios. Imposition of **Mitigation Measure BIO-8b** by the City of Roseville under the No Action alternative, which is the same as Mitigation Measure 4.8-7 in the ARSP EIR, would address these potentially

significant direct impacts to this species.

**Proposed
Action**

In addition to construction on the project site, the Proposed Action would involve ground disturbing activities on the three off-site mitigation properties. Similar to the project site, grassland and trees within the three off-site mitigation properties provide suitable foraging habitat and nesting sites for several protected bird and raptor species, and several special-status or protected bird and raptor species were observed foraging or nesting on the three off-site mitigation properties during surveys. Only the tricolored blackbird was observed nesting within the Mourier East property. In addition, Swainson's hawk is known to nest in the Creekview Specific Plan area immediately south of the project site and in the Placer Ranch area to the east of the three off-site mitigation properties; and is therefore, expected to forage on the project site and mitigation properties.

As shown in **Table 3.5-9**, development of the Proposed Action would eliminate approximately 595.7 acres of foraging habitat (compared to 294 acres under No Action alternative). In addition, ground disturbing activities and tree removal for the development of the Proposed Action or the restoration of wetlands on the three off-site mitigation properties may affect potential nesting habitat of other protected bird species. This would be a **significant direct** effect. Imposition of **Mitigation Measures BIO-8a** and **8b** by the City of Roseville under the Proposed Action would require avoidance and protection of active nest sites and would mitigate for the loss of Swainson's hawk foraging habitat by preserving grassland habitat at the CDFW-specified ratios.

Implementation of the PRMP at the three mitigation sites would have the potential to temporarily reduce foraging habitat for Swainson's hawk. However, upon completion of restoration activities, the foraging habit would be restored. No direct or indirect effects related to Swainson's hawk foraging habitat were identified. **No indirect** effects under the Proposed Action were identified.

**Table 3.5-9
Swainson's Hawk Foraging Habitat Impacts and Mitigation (in Acres)**

Distance from Nest (miles)	Potential Onsite Foraging Habitat Impacted	On-Site Open Space Preservation	Net Impacted Foraging Habitat	Mitigation Ratio	Required Mitigation Habitat
0-1	578.3	91.4	486.9	1:1	486.9
1-5	17.4	0	17.4	0.75:1	13.0
Total	595.7	91.4	504.2	--	499.9

Source: ECORP 2015g

Alts. 1, 2, 3 For the same reasons presented above under the No Action alternative and the Proposed Action, ground disturbing activities and tree removal for the development of the three on-site alternatives, including associated wetland restoration activities on the three off-site mitigation properties, would affect potential nesting habitat of protected bird species. This would be a **significant direct** effect. Imposition of **Mitigation Measures BIO-8a** and **8b** by the City of Roseville under Alternatives 1, 2, or 3 would require avoidance and protection of active nest sites and would mitigate for the loss of Swainson's hawk foraging habitat by preserving grassland habitat at the CDFW-specified ratios.

As with the Proposed Action, implementation of the PRMP at the three mitigation sites would have the potential to temporarily reduce foraging habitat for Swainson's hawk. However, upon completion of restoration activities, the foraging habitat would be restored. **No indirect** effects under Alternatives 1, 2, or 3 were identified.

Mitigation Measure BIO-8a: **Avoid Nesting Sites for Protected Bird Species³**
(Applicability – No Action, Proposed Action, and Alternatives 1, 2, and 3)

To ensure that raptor and other bird species protected under the MBTA are not injured or disturbed by construction in the vicinity of nesting habitat, the Applicant shall implement the following measures:

- a) **Nesting Raptors:** All raptors and their active nests are protected under the California Fish and Game Code and federal MBTA. To ensure that there are no impacts to protected active nests, the following mitigation measures shall be implemented:
- A qualified biologist shall conduct a pre-construction nesting bird survey of all suitable habitats within the limits of construction of the project site and all accessible areas within 300 feet of the limits of construction activity. The preconstruction surveys shall occur within 3 days of the initiation of construction activity during the nesting season (February 1 through August 31). If there is a break in construction activity of more than 2 weeks then subsequent surveys should be conducted; however, no additional surveys are required for ongoing construction activities.
 - If no active raptor nests are found, no further measures pertaining to raptors nests are necessary.
 - If active nests are found, the active nests shall be monitored by a qualified biologist for the first 24 hours prior to any construction-related activity to establish a behavioral baseline. A no-disturbance buffer around the nest shall be established. The buffer distance shall be established by a qualified biologist in accordance with CDFW's recommendations for buffer distances relative to the species identified. The exclusionary buffer shall remain in place until the chicks have fledged or as otherwise determined by a qualified biologist.

³ This measure is substantially the same as Mitigation Measure 4.8-6 in the ARSP EIR and was adopted by the City of Roseville at the time of project approval and will be enforced by the City.

- *Once construction activities commence within the project site, all nests shall be monitored by a qualified biologist to detect any behavioral changes as a result of construction. If behavioral changes are observed that may result in adverse effects to the success of breeding, the work causing that change shall cease and consultation with CDFW shall be initiated to identify potential avoidance and minimization measures. Should construction activities cause observed stress to nesting birds, the exclusionary buffer shall be adjusted (e.g. increased) based on findings of a qualified biologist.*
 - *Pre-construction nest surveys are not required for construction activity outside the nesting season.*
- b) **Burrowing Owl:** *Burrowing owls were detected within the project site during surveys. To minimize impacts to protected burrowing owls and their burrows, the following mitigation measures shall be implemented:*
- *If possible, initiate construction activities during the non-breeding season, September 1 through January 31.*
 - *A qualified biologist shall conduct a take avoidance (pre-construction) burrowing owl survey of all suitable habitats within the limits of construction of the project site and all accessible areas within 492 feet of the limits of construction within 14 days of the initiation of construction activity, according to the Staff Report on Burrowing Owl Mitigation (CDFW, 2012). If no burrowing owls or sign are observed, construction may proceed.*
 - *If burrowing owls or signs of owls are found, avoidance setbacks shall be implemented in accordance with CDFW Burrowing Owl Mitigation (CDFW, 2012).*
 - *If avoidance setbacks are infeasible, the qualified biologist shall coordinate with CDFW, and prepare and implement a Burrowing Owl Exclusion Plan that will include passive relocation according to protocol outlined in the Staff Report on Burrowing Owl Mitigation (CDFW, 2012). If passive relocation methods are employed, the project impact site shall be rendered inhospitable for further burrowing owl re-occupation in accordance with the Exclusion Plan.*
- c) **Swainson's Hawk:** *Swainson's hawks have been found nesting on the adjacent CSP Area to the south of the project site (City of Roseville, 2011a). To minimize impacts to protected Swainson's hawks and their nests, the following mitigation measures shall be implemented:*
- *If possible, initiate site construction activities during the non-breeding season, September 1 through February 28.*
 - *A qualified biologist shall conduct a pre-construction nesting bird survey of all suitable habitats within the limits of construction of the project site and all accessible areas within 0.5 mile of the limits of construction within 14 days of the initiation of construction activity during the nesting season (March 1 through August 31).*
 - *If no active Swainson's hawk nests are found, no further measures pertaining to Swainson's hawk nests are necessary.*
 - *If active nests are found, the qualified biologist shall monitor the active nests for the first 24 hours prior to any construction-related activity to establish a behavioral baseline. A no-disturbance buffer*

- around the nest shall be established. The buffer distance shall be established by a qualified biologist in accordance with CDFW's recommendations.
- Once construction activities commence on-site, all nests shall be monitored by a qualified biologist to detect any behavioral changes as a result of construction within the project site. If behavioral changes are observed that may result in adverse effects to the success of breeding, the work causing that change shall cease and consultation with CDFW shall be initiated to identify potential avoidance and minimization measures.
 - Pre-construction Swainson's hawk nesting surveys are not required for construction activity outside the nesting season.
- d) **California Black Rail:** There is no potential California black rail habitat with the project site. However, surveys or habitat assessments for this species have not been performed within the off-site Al Johnson Wildlife Area improvements area. To ensure that there are no impacts to California black rail, the following mitigation measures shall be implemented:
- A qualified biologist shall conduct a habitat assessment of the off-site Al Johnson Wildlife Area improvements area to identify suitable California black rail habitat. The qualified biologist shall prepare a map identifying areas that support suitable habitat.
 - If suitable habitat is within areas proposed for construction during the breeding season (February 1 through July 31), the qualified biologist shall conduct a pre-construction survey for the California black rail. Three surveys shall be conducted at least seven days apart during peak calling times (one half hour before dawn until three hours after, and three hours before sunset until one half hour after) using playback of taped breeding calls. The last survey shall occur within 14 days of the start of construction.
 - If no California black rail is detected, no further measures pertaining to this species are necessary.
 - If a California black rail is detected, impacts shall be avoided by establishing an appropriate buffer, as determined by the qualified biologist in consultation with CDFW. No project activity shall commence within the buffer area until a qualified biologist confirms that the rail has evacuated the area. The size of the buffer shall be determined by the biologist and confirmed by CDFW; buffer size may vary, depending on the nest location, nest stage, and construction activity.
- e) **Nuttall's Woodpecker, Loggerhead Shrike, Yellow-billed Magpie, Oak Titmouse, and Grasshopper Sparrow:** The project site supports potential nesting habitat for one special-status woodpecker and five special-status passerine bird species: Nuttall's woodpecker (USFWS conservation concern), loggerhead shrike (USFWS conservation concern and CDFW SSC), yellow-billed magpie (USFWS conservation concern), oak titmouse (USFWS conservation concern), and grasshopper sparrow (CDFW SSC). To ensure that there are no impacts to protected active nests of these species, the following mitigation measures shall be implemented:
- A qualified biologist shall conduct a pre-construction nesting bird survey of all suitable habitats within the limits of construction within the project site and all accessible areas within 50 feet of the limits of construction within 14 days of the initiation of construction activity during the nesting season (Nuttall's woodpecker, March-July; loggerhead shrike, March-May; yellow-billed magpie, late February-mid-July; oak titmouse, March-July; grasshopper sparrow, May-July).

- *If no active special-status bird nests are found, no further measures pertaining to special-status birds are necessary.*
 - *If active nests are found, the active nests will be monitored by a qualified biologist prior to any construction-related activity to establish a behavioral baseline. A no-disturbance buffer around the nest shall be established. The buffer distance shall be established by a qualified biologist in consultation with CDFW.*
 - *Once construction activities commence on-site, all nests shall be monitored by a qualified biologist to detect any behavioral changes as a result of construction of the proposed project. If behavioral changes are observed that may result in adverse effects to the success of breeding, the work causing that change shall cease and consultation with CDFW shall be initiated to identify potential avoidance and minimization measures.*
 - *Pre-construction bird nesting surveys are not required for construction activity outside the nesting season.*
- f) ***Migratory Bird Treaty Act Birds:*** *Many birds, including commonly occurring species, are protected under the California Fish and Game Code and the Federal MBTA. To ensure that there are no impacts to protected birds or their active nests, the following mitigation measures shall be implemented:*
- *A qualified biologist shall conduct a pre-construction nesting bird survey of all suitable habitats within the limits of construction within the project site and all accessible areas within 50 feet of the limits of construction within 3 days of the initiation of construction activity during the nesting season (February 1 to August 31). If there is a break in construction activity of more than 2 weeks then subsequent surveys should be conducted; however no additional surveys are required for ongoing construction activities.*
 - *If no protected birds are found, no further measures pertaining to protected birds are necessary.*
 - *If active nests are found, a qualified biologist shall monitor the active nests prior to any construction-related activity to establish a behavioral baseline. A no-disturbance buffer around the nest shall be established. The buffer distance shall be established by a qualified biologist in consultation with CDFW. The exclusionary buffer shall remain in place until the chicks have fledged or as otherwise determined by a qualified biologist.*
 - *Once construction activities commence on-site, all nests will be monitored by a qualified biologist to detect any behavioral changes as a result of construction of the Proposed Project. If behavioral changes are observed that may result in adverse effects to the success of breeding, the work causing that change shall cease and consultation with CDFW shall be initiated to identify potential avoidance and minimization measures. Should construction activities cause observed stress to nesting birds, the exclusionary buffer shall be adjusted (e.g. increased) based on findings of a qualified biologist.*
 - *Pre-construction bird nesting surveys are not required for construction activity outside the nesting season.*

Mitigation Measure BIO-8b:**Preservation of Grassland Habitat**

(Applicability – No Action, Proposed Action, and Alternatives 1, 2, and 3)

CDFW recommends that projects that result in the loss of potential foraging habitat for Swainson's hawk (which includes grasslands) within 10-miles of an active nest site provide mitigation for that loss. To the extent feasible, strategies for preserving on-site grasslands as raptor and migratory bird foraging habitat shall be addressed in the City's OSPOMP, the Applicant's permittee-responsible compensatory mitigation plan pursuant to a Section 404 Permit, or other applicable CDFW approved plan. Some of these strategies could include; but are not necessarily limited to, grazing for grassland management, monitoring for biological values, and adaptive management.

Mitigation for Swainson's hawk foraging habitat would concurrently mitigate for loss of habitat for a number of other bird species in the region such as burrowing owl, red-tailed hawk, white-tailed kite, northern harrier, Ferruginous hawk, and loggerhead shrike among others.

A Swainson's Hawk Grassland Habitat Mitigation Plan shall be developed to mitigate for the loss of foraging habitat. Therefore, under the Proposed Action, the Applicant shall preserve no less than 595.7 acres of grassland and agricultural foraging habitat for Swainson's hawk and approximately 91.4 acres of Swainson's hawk foraging habitat shall be maintained and preserved onsite. The remainder of the mitigation shall be accomplished via the preservation of 499.9 acres of grassland communities within the three off-site mitigation properties, which will offset the loss of foraging habitat pursuant to the CDFW established formula for Swainson's hawk foraging habitat replacement.

Impact BIO-9 Effects on State Special-Status Bats

No Action Alt. As discussed in **Subsection 3.5.2.8**, two special-status bat species, pallid bat and Townsend's big-eared bat, which are both state species of special concern, potentially occur on the project site. Pallid bats occur primarily in shrubland, woodlands, and forested habitats, but can also occur in grasslands. Townsend's bat occurs in a variety of woodland and open habitats. Both of these species roost in mines, caves, large hollow trees, and occasionally in large open buildings that are usually abandoned or infrequently inhabited. The project site may support suitable foraging habitat, and the dilapidated barn/residence and several trees may support roosting or maternity sites. Because roosting habitat is present, the development of the project site under the No Action alternative could result in a **significant direct** effect on special-status bat species. **No indirect** effects on special-status bat species were identified. To ensure that special-status bat species are not affected during project construction, **Mitigation Measure BIO-9** requires that that a qualified biologist conduct pre-construction surveys at dusk and dawn for potential bat roosting habitat and provide avoidance measures should any special-status bats be identified. **Mitigation Measure BIO-9**, which is the same as

Mitigation Measure 4.8-9 in the ARSP EIR, is highly likely to be imposed by the City of Roseville on the No Action alternative to address this effect.

Proposed Action, Alts. 1, 2, 3 Similar to the project site, the same two special-status bat species could potentially occur on the three off-site mitigation properties. For the same reasons presented above under the No Action alternative, development of the project site and wetland restoration activities on the three off-site mitigation properties under the Proposed Action and Alternatives 1, 2, or 3 could result in a **significant direct** effect on special-status bat species. **No indirect** effects were identified. As identified above, **Mitigation Measure BIO-9**, as imposed and enforced by the City of Roseville, would require that that a qualified biologist conduct preconstruction surveys at dusk and dawn for potential bat roosting habitat and provides avoidance measures should any special-status bats be identified.

Mitigation Measure BIO-9: **Protection of Bat Roosting Sites⁴**
(Applicability – No Action, Proposed Action, and Alternatives 1, 2, and 3)

To ensure that there are no impacts to active bat roosts, the following mitigation measures are recommended:

- a) A qualified biologist shall conduct a dusk emergence survey (start one hour before sunset and last three hours), followed by a pre-dawn re-entry survey (start one hour before sunrise and last for two hours), in addition a daytime visual inspection of all potential bat roosting habitat within the limits of construction within the project site, as well as the three off-site mitigation properties, included as part of the pre-construction clearance survey. If no active bat roosts or sign are observed, construction may proceed.*
- b) If no active special-species bat roosts are found, no further measures pertaining to special-species bats are necessary.*
- c) If roosting special-species bats are found on- or off-site during the surveys, avoid direct and indirect impacts to roosting sites by establishing a no-disturbance buffer of 100 feet around roost sites, in consultation with CDFW.*
- d) Clearing and grubbing adjacent to the roost site and lighting use near the roost site where it would shine on the roost or interfere with bats entering or leaving the roost shall be prohibited.*
- e) Operation of internal combustion equipment, such as generators, pumps, and vehicles within 100 feet of the roost site shall be prohibited.*

Impact BIO-10 Effects on Wildlife Movement

No Action Alt. Wildlife movement activities generally fall into one of three movement categories:
 (1) dispersal (e.g., of juvenile animals from natal areas or individuals extending range

⁴ This measure is substantially the same as Mitigation Measure 4.8-9 in the ARSP EIR and was adopted by the City of Roseville at the time of project approval and will be enforced by the City.

distributions), (2) seasonal migration, and (3) movement related to home range activities (foraging for food or water, defending territories, or searching for mates, breeding areas, or cover).

Wildlife corridors link areas of suitable wildlife habitat that are otherwise separated by changes in vegetation or human disturbance. The fragmentation of open space areas by urbanization creates isolated islands of wildlife habitat. In the absence of habitat linkages that allow movement to adjoining open space areas, some wildlife species, especially the larger and more mobile mammals, would not likely persist over time because fragmentation prohibits the infusion of new individuals and genetic information. Open space wildlife corridors mitigate the effects of this 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, thus reducing the risk of catastrophic events, and (3) serving as travel routes for individual animals as they move within their home ranges in search of food, water, and other needs.

Development of the project site under the No Action alternative could impede the movement of wildlife by disturbing and/or blocking local movement corridors. Wildlife species that are adapted to live in grasslands or that move between isolated pockets of water would not easily move across the future urbanized landscapes, would be displaced, and may concentrate their movements within the remaining open space. Although the two preserves along University Creek would allow relatively free access through the site, the construction of a road crossing for Westbrook Boulevard could create a barrier that would prevent wildlife passage along this corridor. Outdoor lighting can also have a negative effect on wildlife by interfering with nocturnal movement and causing disorientation, making individuals more vulnerable to predation or making it more difficult for them to capture prey. Passive recreational use along nature or bicycle trails may also have indirect impacts such as interfering with foraging, breeding, or movement. As a result, the development of the project site under the No Action alternative could result in **significant direct** and **indirect** effects on wildlife movement.

Implementation of **Mitigation Measure BIO-10** would require the use of either a clear-span bridge or culvert large enough for the passage of wildlife under Westbrook Boulevard without having to travel over the road surface. Furthermore, **Mitigation Measure AES-3c** requires that outdoor lighting be placed, designed, and directed to avoid spillover light into the University Creek and open space preserve areas (refer to **Section 3.1, Aesthetics** for a detailed discussion). Imposition of **Mitigation Measures BIO-10** and **AES-3c** by the City of Roseville under the No Action alternative, which are the same as Mitigation Measures 4.8-8 and 4.14-3 in the ARSP EIR, would address this effect.

Proposed Action, Alts. 1, 2, 3 Wetland restoration activities on the three off-site mitigation properties may temporarily affect wildlife movement; however, no permanent effects would occur. For the same reasons presented above, development of the project site under the Proposed Action, as well as Alternatives 1, 2, or 3, could result in **significant direct** and **indirect** effects on wildlife movement across the project site. However, imposition of **Mitigation Measures BIO-10** and **AES-3c** by the City of Roseville would address these effects.

Mitigation Measure BIO-10: Wildlife Movement⁵

(Applicability – No Action, Proposed Action, and Alternatives 1, 2, and 3)

To protect the long term quality of habitat along the University Creek stream channel and associated riparian corridor as for use as wildlife movement and migration corridors, the Applicant shall ensure that movement corridors are not obstructed. Through compliance with Section 1600 of the CDFW Code, the applicant(s) shall enter into a Streambed Alteration Agreement prior to conducting any construction activities within the stream corridor, which sets forth mitigation measures that the applicant must implement. These measures shall include, but not be limited to, the use of a span and/or culvert for the road crossing that is large enough that wildlife have enough space to pass without having to travel over the road surface, the implementation of bank stabilization measures, and/or restoration and revegetation of stream corridor habitat that has been damaged due to the project's construction. The road crossing feature shall be constructed in a configuration as to provide wildlife with unimpeded passage. Furthermore, recreational use trails shall be lined by post and rail fence and signage shall be posted to direct trail users to stay within the designated trail corridor. The trails shall be closed to use one-half hour after sunset to one-half hour before sunrise and shall not be illuminated.

Impact BIO-11 Loss of Riparian Habitat

No Action Alt. The extension of Westbrook Boulevard through the project site from the Creekview Specific Plan area north to Sunset Boulevard West would involve the construction of a road bridge over University Creek; the construction of which could require the removal of riparian habitat. Therefore, the No Action alternative could result in **significant direct** effects on riparian habitat. No **indirect** effects on riparian habitat under the No Action alternative were identified. However, imposition of **Mitigation Measure BIO-10** (outlined above) by the City of Roseville would mitigate this effect.

⁵ This measure is substantially the same as Mitigation Measure 4.8-8 in the ARSP EIR and was adopted by the City of Roseville at the time of project approval and will be enforced by the City.

Proposed Action, Alts. 1, 2, 3 Wetland restoration activities would not affect the riparian corridor adjacent to the southern boundaries of the Mourier West property. Development of the project site under the Proposed Action and Alternatives 1, 2, and 3 would not involve activities that would affect University Creek riparian habitat, as the lands adjacent to the creek would be placed into two separate preserve parcels prior ground breaking disturbances. Restoration work at the mitigation sites would also not involve any disturbance of riparian habitat. However, as discussed under the No Action alternative, the extension of Westbrook Boulevard north from the Creekview Specific Plan area would involve the construction of a bridge over University Creek. Thus, the Proposed Action and Alternatives 1, 2, or 3 could result in **significant direct** effects on riparian habitat located on the project site. No **indirect** effects on riparian habitat were identified. However, imposition of **Mitigation Measure BIO-10** (outlined above) by the City of Roseville would mitigate this effect.

3.5.5 REFERENCES

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