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Special Status Species and Sensitive Natural Communities Survey Report for Dry Creek Parkway Trails, Phase II

Sacramento County, CA

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Acronyms and Abbreviations

AMSL	above mean sea level
BSA	Biological Study Area
CDFW	California Department of Fish and Wildlife
CEQA	California Environmental Quality Act
CESA	California state Endangered Species Act
CNDDB	California Natural Diversity Database
CNPS	California Native Plant Society
County	County of Sacramento
CRPRs	California Rare Plant Ranks
ESA	federal Endangered Species Act
GRRP	Gibson Ranch Regional Park
MBTA	Migratory Bird Treaty Act
mph	miles per hour
NRCS	Natural Resources Conservation Service
NWI	National Wetlands Inventory
project	Sacramento County's Phase II Dry Creek Parkway Trail Project
USFWS	U.S. Fish and Wildlife Service
USGS	U.S. Geological Survey
VELB	Valley elderberry longhorn beetle

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Introduction

This report describes the results of reconnaissance-level biological resources surveys for Sacramento County's Phase II Dry Creek Parkway Trail Project (project). The purpose of the surveys was to evaluate habitats and sensitive biological resources present along and adjacent to the approximately 3.2-mile-long alignment of the proposed project. This report discusses the methods and results of AECOM's desktop analysis and biological resources surveys of the project footprint and defines the extent and type of vegetation communities in and adjacent to the project footprint.

Project Background and Description

In August 2011, Sacramento County Regional Parks completed Phase I of the Dry Creek Parkway Trail project, which constructed three miles of bicycle, pedestrian, and equestrian trails within the Dry Creek Parkway in northern Sacramento County. Phase II is the next extension of this 10-mile long master-planned regional trail system. This next extension will link the Cherry Island Soccer Complex with Gibson Ranch Park, each of which has thousands of visitors annually. It is also the next link in connecting the Sacramento County trail system with the adjacent Placer County trail system. Phase II of the Dry Creek Parkway Trail will include the construction of a northern and southern segment. The northern segment will consist of 2.6 miles of paved Class I shared-use bicycle/pedestrian trails and 0.6 mile of equestrian trails (Exhibit 1) from the Cherry Island Soccer Complex at 28th and U Streets to the Placer County line in Gibson Ranch Park. The southern segment of the proposed project would extend a new section of trail from the existing southern Dry Creek Parkway trail terminus to the southwest for approximately 0.7 mile, connecting the Sacramento Northern Bike Trail (south of the Rio Linda Elverta Community Center and Park) to the existing Dry Creek Bikeway Trail (at Dry Creek Road to the east). Two bridges over Dry Creek would be installed south of the Community Center Park. The project also involves improving bicycle lanes, signage, and striping along Curved Bridge Road and Cherry Lane, and providing interpretive signs along the trails.

The bicycle lane improvements will link the Sacramento Northern Trail with the Dry Creek Parkway Trail. The trails will be constructed along the north edge of the Cherry Island Soccer Complex, parallel to 28th Street, and on the east side of Dry Creek adjacent to the Antelope Greens Golf Course and on County-owned parkland. A connection to Northbrook Park on the east side of Dry Creek is planned for this phase. A small section of new equestrian trail will be constructed along 28th Street. The existing band of riparian vegetation surrounding Dry Creek will be preserved to the greatest practical extent.

The proposed multi-use trail would consist of a 12-foot-wide surface paved with asphalt concrete for bicyclists and pedestrians, and a 3-foot-wide decomposed granite shoulder on each side. The multi-use trail base would consist of new aggregate and/or recycled asphalt concrete and Portland cement concrete. The parallel equestrian trail along 28th Street would consist of a 6-foot-wide dirt path.

Four bridges are proposed as part of the project: two in the northern alignment, and two in the southern alignment. Two prefabricated bridges are proposed within the northern alignment. A relatively short bridge will span Goat/Sierra Creek at the east side of the Soccer Complex near 28th Street, and a longer bridge will be placed across Dry Creek in one of two potential locations, both of which are near the northern end of Gibson Ranch Park. These placements are separated by about 900 feet. The land cover and aquatic features within both potential bridge locations are evaluated in this report. The bridges will be anchored to steel-reinforced concrete abutments resting on steel-reinforced concrete cast-in-place piers. Interpretive signs, containing environmental and cultural information, will be placed at several points along the trails. Two new bridge crossings are proposed within the southern alignment. One will be an approximately 150-foot bridge crossing over a perennial stream (an unnamed tributary to Dry Creek), and the other will be an approximately 60-foot bridge crossing over a ditch. The larger bridge in this southern alignment will be located approximately 180 feet east of the Sacramento Northern Bike Trail, and the smaller is located east of the Sacramento Northern Bike Trail.

Project Setting

The project is divided into two sections: the northern alignment and the southern alignment. Both sections of the alignment are within the Rio Linda 7.5 minute Quadrangle. The entirety of the project area is in the Rio Linda community of northern Sacramento County, California (Exhibit 1). The southernmost portion of the northern alignment begins east of the Cherry Island Soccer complex and is bounded by Dry Creek to the west and U Street to the south. The alignment continues northeast before dipping south along Goat/Sierra Creek before continuing north between 28th Street and the Cherry Island Golf Course. The alignment then cuts west with Cherry Island Golf Course to the south and residential areas to the north before continuing north across Elverta Road. The alignment then follows the east bank of Dry Creek and is bounded by Antelope Greens Golf Course to the west to the approximate Placer County line. Most of the surrounding area is developed for residential and recreational use. The northernmost point of the southern alignment begins at the intersection of Curved Bridge Road and Dry Creek Road and runs south along the eastern side of Dry Creek Road until just before it reaches Dry Creek. At that point, the alignment cuts east, crossing county-owned parcels until it reaches and crosses a perennial stream (an unnamed tributary to Dry Creek) on the westernmost side of the alignment.

Methods

Before conducting the biological resources survey, an AECOM biologist searched the California Native Plant Society Rare Plant Inventory (CNPS 2022) and California Natural Diversity Database (CDFW 2022a) for records of special-status species occurring within a nine-quadrangle area containing and surrounding the property, including Taylor Monument, Verona, Pleasant Grove, Rio Linda, Citrus Heights, Roseville, Carmichael, Sacramento West, and Sacramento East U.S. Geological Survey (USGS) 7.5 minute quadrangles (USGS 2018a–j). In addition, the biologist reviewed the U.S. Fish and Wildlife Service (USFWS) Information for Planning and Conservation project planning tool (USFWS 2022a), USFWS National Wetlands Inventory (NWI) (USFWS 2022b), and the USFWS Critical Habitat Mapper (USFWS 2022c).

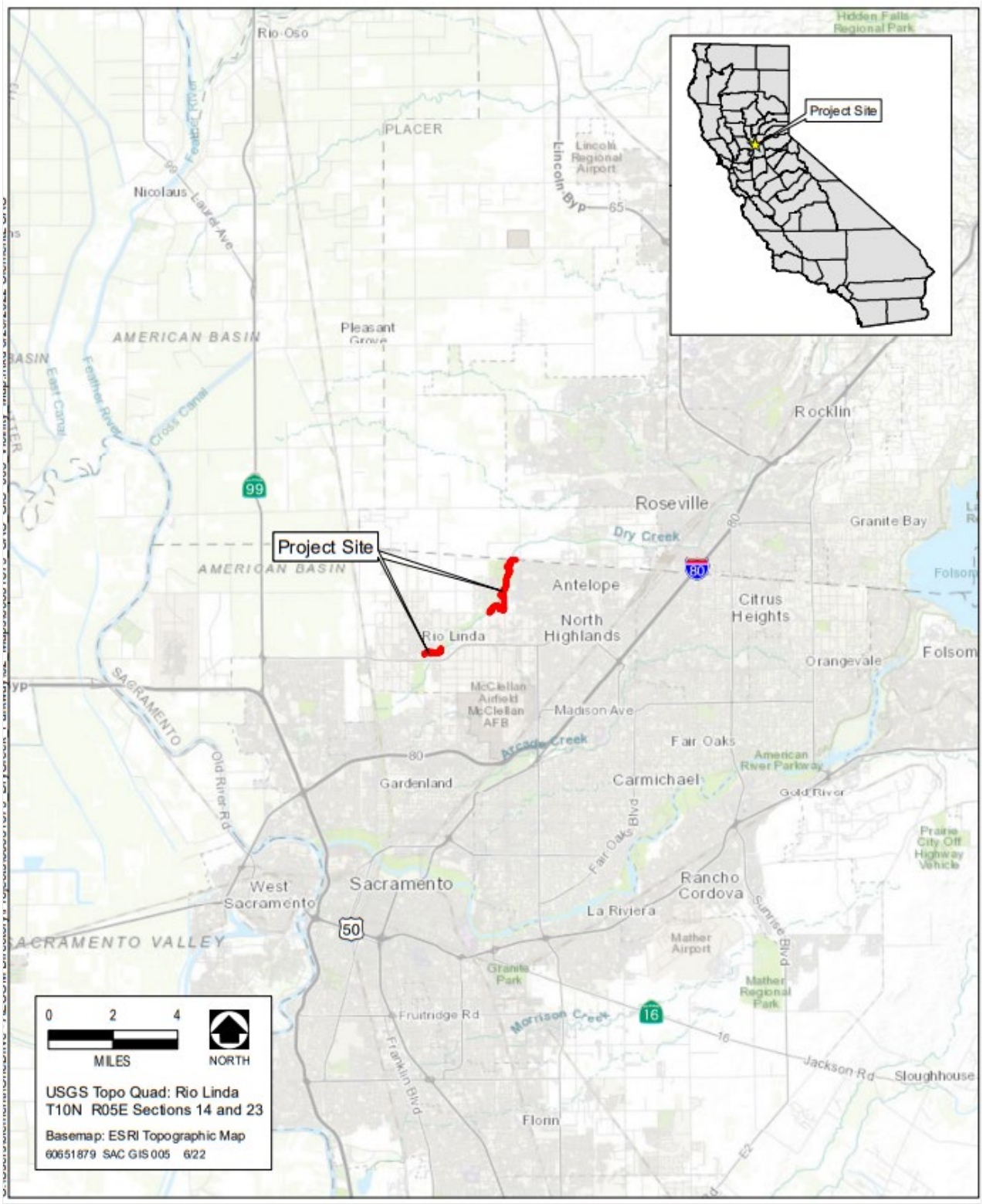
Two sets of field surveys were conducted: one in March of 2021 and the other in April of 2022. In March of 2021, two AECOM wetland ecologists, William Splittstoesser and Jasmine Wurlitzer, conducted field surveys from March 1st through March 5th. In April of 2022, two AECOM wetland ecologists, Charles Battaglia and David Greenspan, conducted field surveys on March 30th and April 1st. The work included mapping land cover types and vegetation and assessing habitat conditions for potential to support special-status species. For both the 2021 and 2022 surveys, the survey area included the proposed project alignment plus a 50-foot swath measured 25-feet from each side of the centerline of the proposed trail. This 50-foot wide swath along the approximately 3.9-mile-long alignment comprised the Biological Study Area (BSA).

During the 2021 reconnaissance survey, weather conditions were sunny with high temperatures between 65º and 70° Fahrenheit, and winds ranging from 0 to 14 miles per hour (mph). During the 2022 reconnaissance survey, weather conditions were sunny with high temperatures between 70º and 75º, and winds ranging from 0 to 20 mph. Plant communities in the BSA were characterized and evaluated for their potential to support the special-status species identified during the pre-field research. Every plant that was encountered in the study area was identified to the taxonomic level necessary to determine whether it was a special-status species. Wildlife observations were included in an inventory of all species encountered.

Results

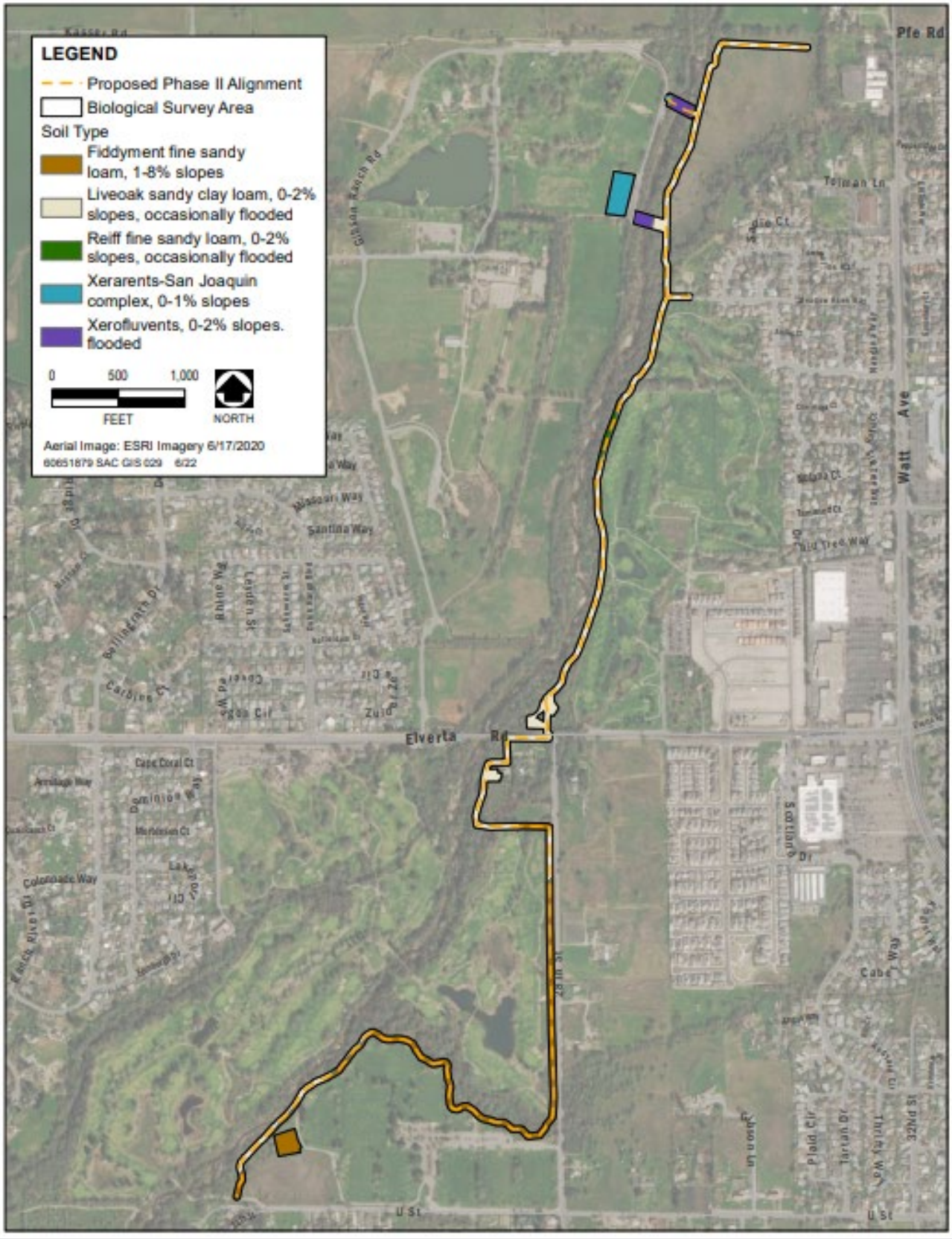
Site Description and Soils

Topography in the project area is generally flat (0–2%). The elevation within the northern alignment varies between approximately 60 feet above mean sea level (AMSL) and 90 feet AMSL, generally increasing from south to north along the 3.2-mile project alignment. The elevation within the southern alignment varies between approximately 40 feet AMSL and 90 feet AMSL, generally increasing from west to east along the 0.6-mile project alignment.



Source: AECOM 2022

Exhibit 1. Site Vicinity Map



Source: NRCS 2021

Exhibit 2. Soils Map - North

Source: NRCS 2021

Exhibit 3. Soils Map – South

According to NRCS Soil Survey of Sacramento County, California (NRCS 2022), the soils within the study area belong to five soil series: Liveoak sandy clay loam, 0–2 % slopes, occasionally flooded, Fiddyment fine sandy loam, 1–8% slopes, Reiff fine sandy loam, 0–2 % slopes, occasionally flooded, Xerofluvents, 0–2 % slopes, flooded, and Xerarents-San Joaquin complex, 0–1% slopes (NRCS 2022) which are described below and presented in Exhibit 2 and Exhibit 3.

Land Cover Types

The acreage of the eight land cover types in the BSA—developed, valley oak woodland, ruderal, annual grassland, valley oak savannah, riverine, riparian scrub, and ornamental landscape—are summarized in Table 1 and depicted in Exhibit 4 through Exhibit 8. Of these eight cover types, valley oak woodland is considered a sensitive natural community (CDFW 2022a).

Table 1. Land Cover Types and Acreages in the Phase II Dry Creek Parkway Trail Biological Study Area

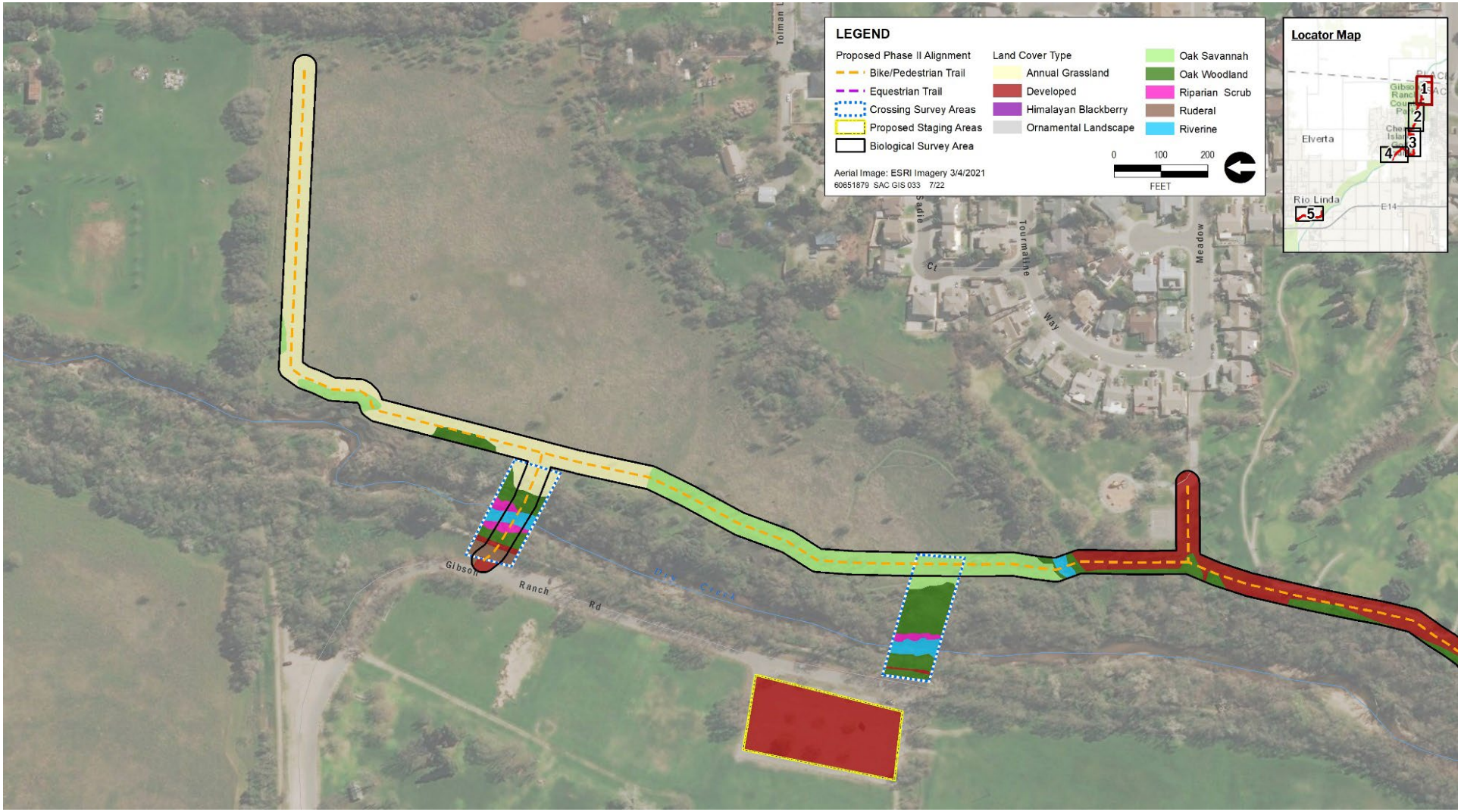
Land Cover Type	Acres
Developed	8.448
Valley Oak Woodland	7.231
Ruderal	3.318
Annual Grassland	3.194
Valley Oak Savannah	1.351
Riverine	0.329
Riparian Scrub	0.129
Ornamental Landscape	0.121
Total	**24.12**

The sections below describe the dominant vegetation present in each land cover type and wildlife species usage observed during the biological surveys.

Developed

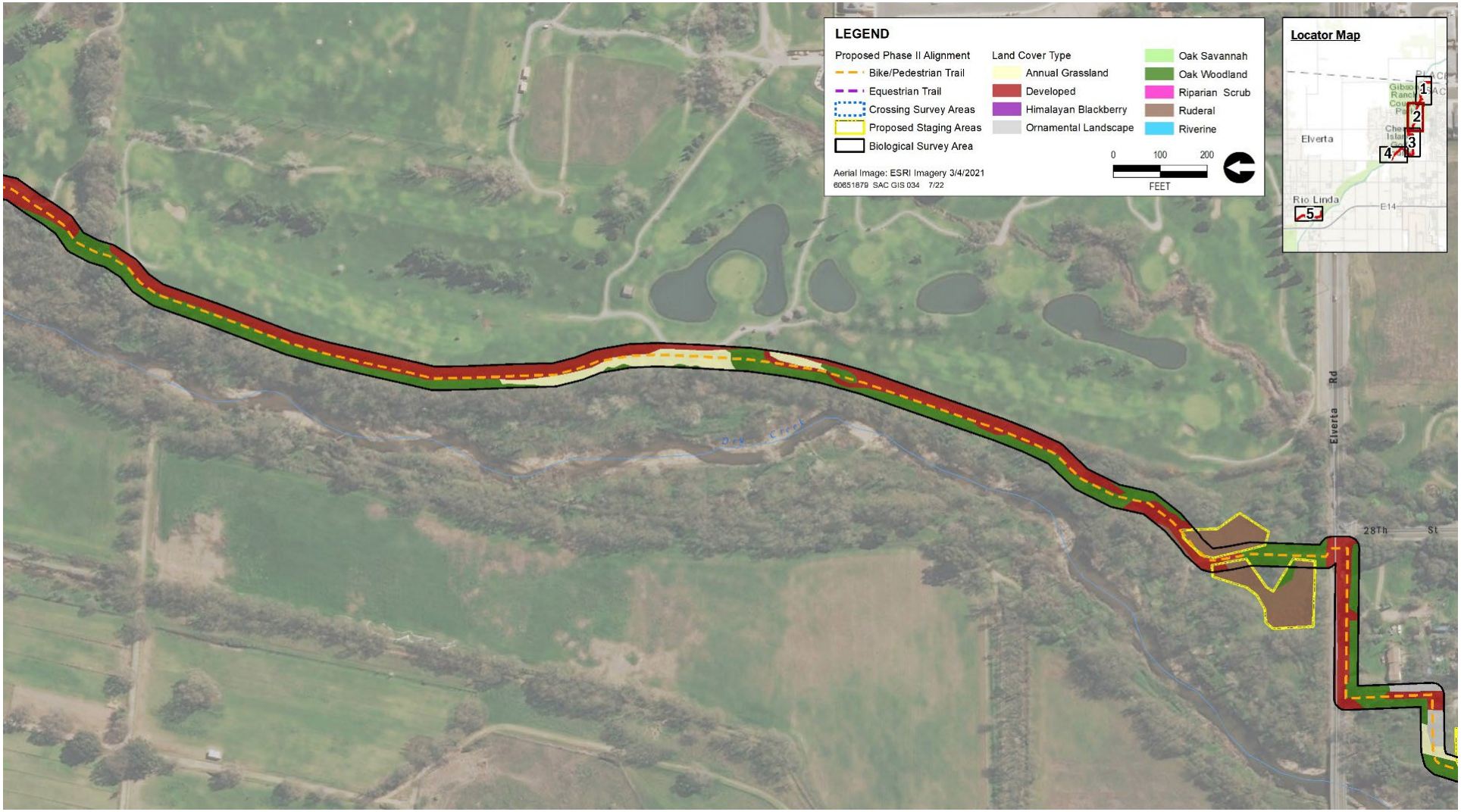
Developed land cover is the most prevalent land cover type in the BSA and is defined as areas developed by humans and that are regularly disturbed through vegetation control methods (i.e., mowing, weed-eating, herbicide application) and other human activities. Developed areas within the study area include mowed turf fields of the Cherry Island Soccer Complex, Northbrook Park, and the Antelope Golf Course, as well as other horticultural landscape areas, walkways and other pathways, roads, road shoulders, parking areas, and transient campsites. Vegetation is absent within developed areas.

Wildlife species observed utilizing developed areas during the 2021 biological survey consisted of various birds perched on fences and light poles surrounding the BSA, and dabbling ducks in or near golf course ponds. Species included dark-eyed junco (*Junco hyemalis*), Canada goose (*Branta canadensis*), American robin (*Turdus migratorius*), Eurasian collared dove (*Streptopelia decaocto*), common raven (*Corvus corax*), European starling (*Sturnus vulgaris*), green heron (*Butorides virescens*), black phoebe (*Sayornis nigricans*), and northern mockingbird (*Mimus polyglottos*). Species observed during the 2022 survey include all species observed during the 2021 survey. Additional species observed during the 2022 survey include mourning dove (*Zenaida macroura*), song sparrow (*Melospiza melodia*), house sparrow (*Passer domesticus*), and house finch (*Haemorhous mexicanus*).



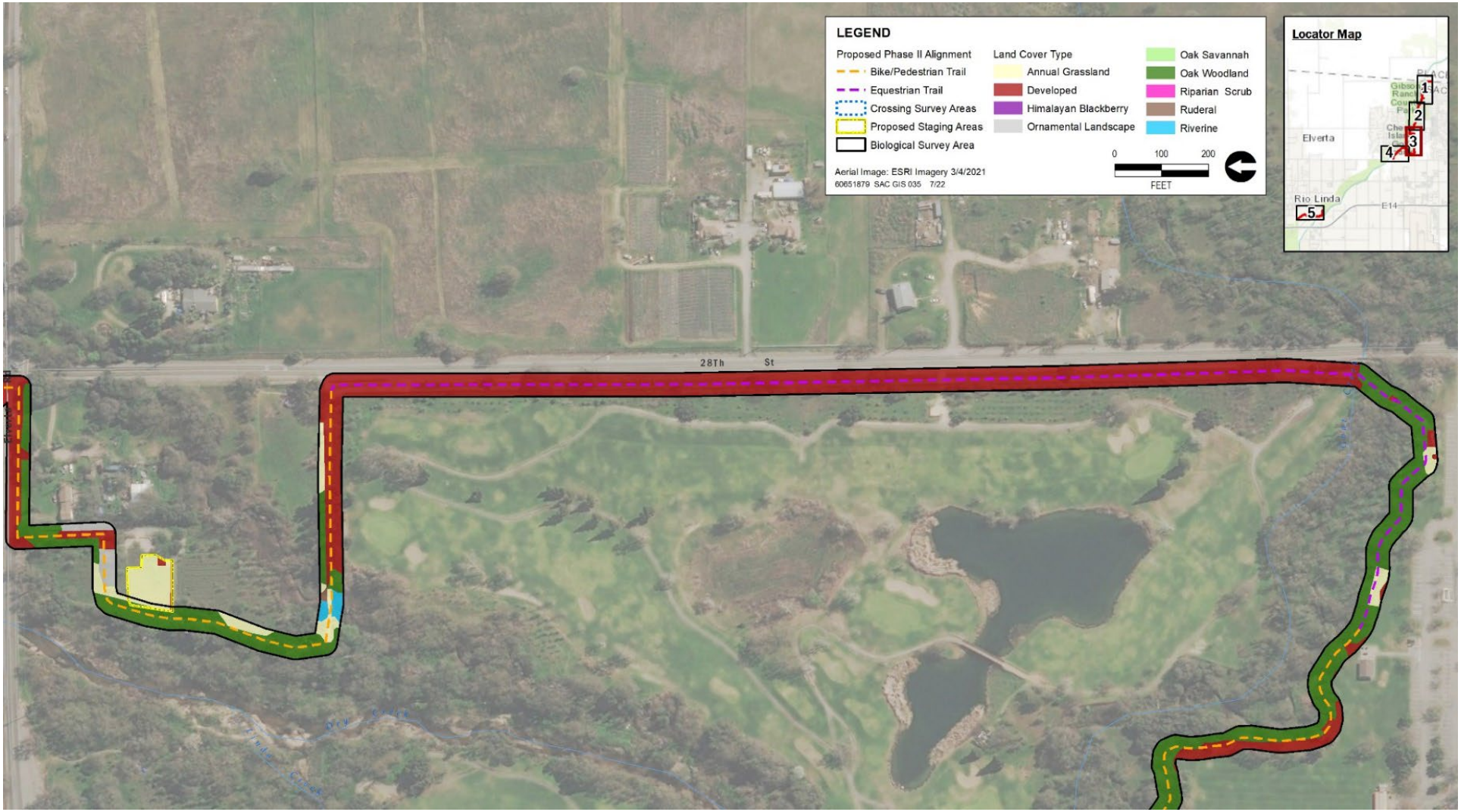
Source: AECOM 2022

Exhibit 4. Vegetation Communities and Land Cover Types (Map 1 of 5)



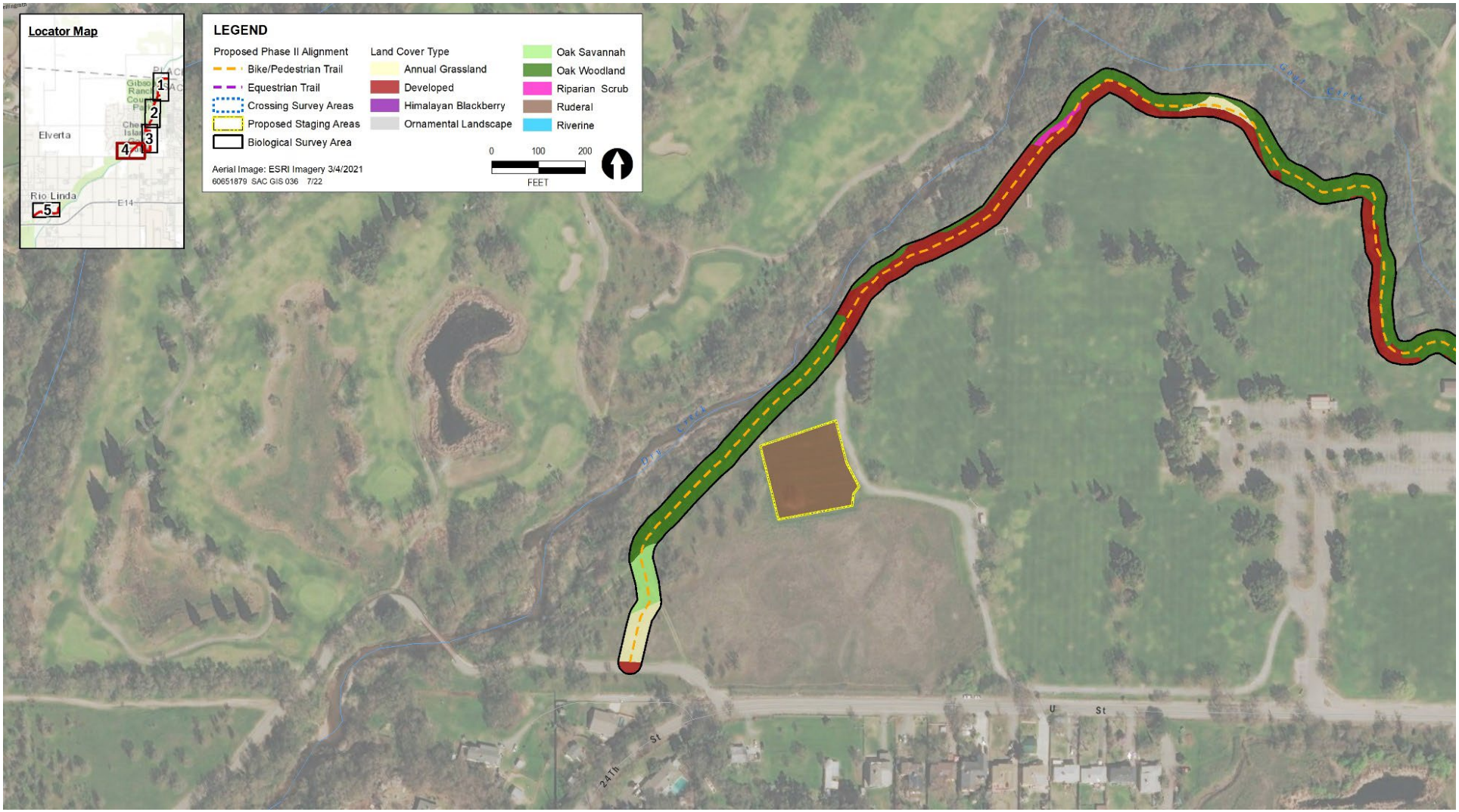
Source: AECOM 2022

Exhibit 5. Vegetation Communities and Land Cover Types (Map 2 of 5)



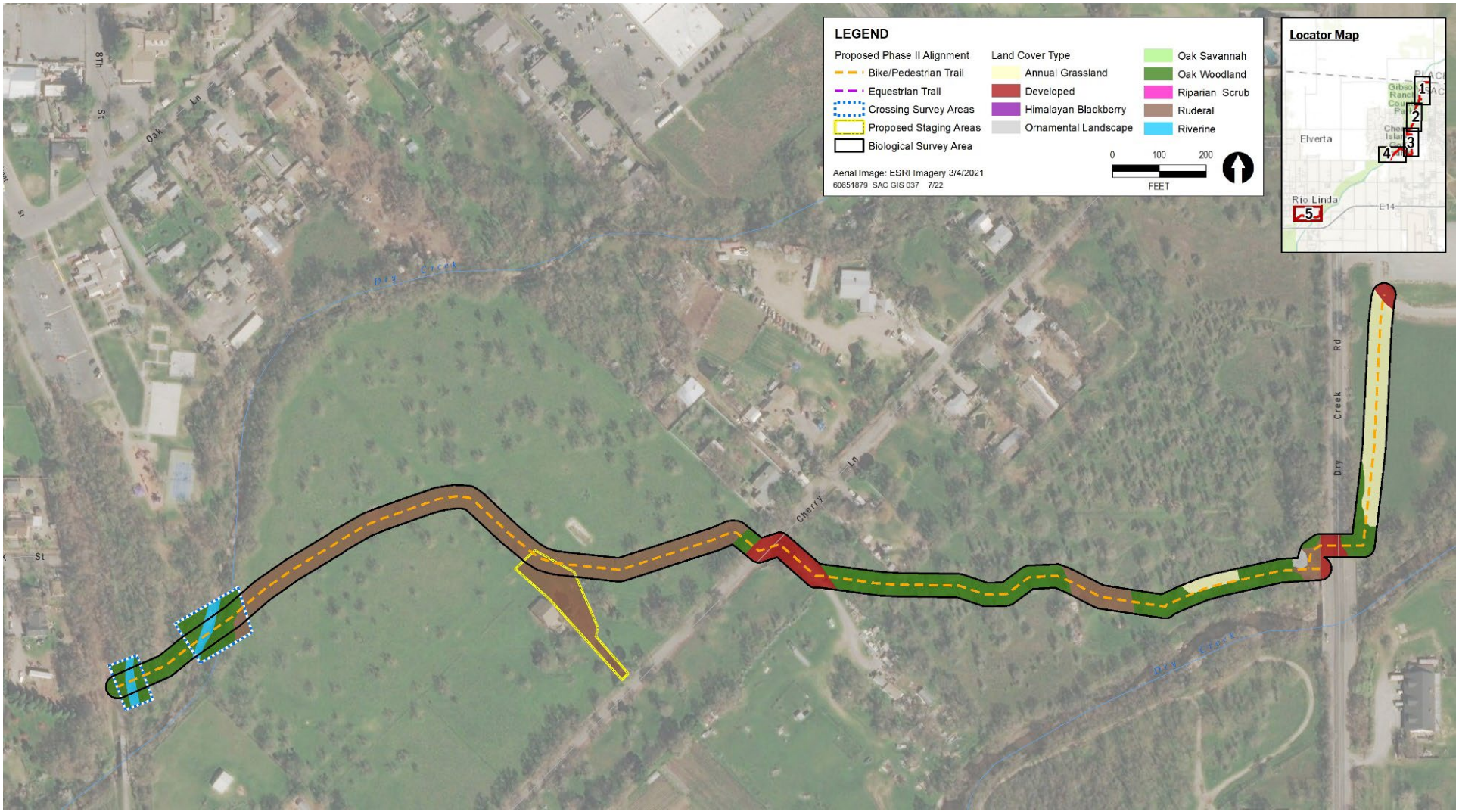
Source: AECOM 2022

Exhibit 6. Vegetation Communities and Land Cover Types (Map 3 of 5)



Source: AECOM 2022

Exhibit 7. Vegetation Communities and Land Cover Types (Map 4 of 5)



Source: AECOM 2022

Exhibit 8. Vegetation Communities and Land Cover Types (Map 5 of 5)

Valley Oak Woodland

Valley Oak Woodland is the second most prevalent land cover type in the BSA. This vegetation community characterizes the riparian corridors along Dry Creek and Sierra/Goat Creek in the BSA, and is generally present along the edges of the BSA between developed zones/annual grasslands and the creek drainages. It contains dense-topped trees which make up potentially suitable habitat for migratory birds, including special status raptors such as Cooper's hawk (*Accipiter cooperii*), Swainson's Hawk (*Buteo swainsoni*), and white-tailed kite (*Elanus leucurus*). Woodland proximity to grasslands provides suitable foraging grounds as well.

Dominant canopy cover is made up of valley oak (*Quercus lobata*) and interior live oak (*Quercus wislizeni*) with an open to continuous shrub layer of Himalayan blackberry (*Rubus armeniacus*), Callery pear (*Pyrus calleryana*), almond *(Prunus dulcis*), black locust (*Robinia pseudoacacia*), privet (*Ligustrum* spp.), and some elderberry (*Sambucus nigra*) and coffeeberry (*Frangula californica*) shrubs. Herbaceous vegetation includes miner's lettuce (*Claytonia perfoliata*), fennel (*Frenulum vulgare*), mugwort (*Artemesia douglasiana*), and white horehound (*Marrubium vulgare*). The valley oak woodland community can be best described as a *Quercus* Forest Alliance with intermittent to continuous canopy, according to the Manual of California Vegetation (CNPS 2022).

Wildlife species observed utilizing woodland habitat at the time of the 2021 survey were in the tree cover, including bushtit (*Psaltriparus minimus*), California scrub jay (*Aphelocoma californica*), red-shouldered hawk (*Buteo lineatus*), yellow-rumped warbler (*Setophaga coronata*), lesser goldfinch (*Spinus psaltria*) cedar waxwing (*Bombycilla cedrorum*), American robin, white-breasted nuthatch (*Sitta carolinensis*), western bluebird (*Sialia mexicana*), oak titmouse (*Baeolophus inornatus*), Nuttall's woodpecker (*Dryobates nuttallii*), ruby-crowned kinglet (*Regulus calendula*), and fox squirrel (*Sciurus niger*). Species observed during 2022 surveys include all species observed in 2021 except ruby-crowned kinglet. New species observed in 2022 include acorn woodpecker (*Melanerpes formicivorus*) and red-tailed hawk (*Buteo jamaicensis*).

Ruderal

Ruderal land cover within the BSA include an area that had previously been occupied by an English walnut orchard, and is now being grazed by cattle, and other areas that have been disturbed and overgrown by non-native invasive plants. Vegetation in these areas consist of dandelion (*Taraxacum officinale*), scarlet pimpernel (*Lysimachia arvensis*), dove's-foot geranium (*Geranium mole*), white clover (*Trifolium repens*), annual bluegrass (*Poa annua*), willowherb (*Epilobium brachycarpum*), fillaree (*Erodium* ssp.), bull thistle (*Cirsium vulgare*), shepard's purse (*Capsella bursa-pastoris*), common mouse ear chickweed (*Cerastium fontanum*), and sweetgum (*Liquidambar styraciflu*). Ruderal vegetation in the study area generally does not conform to any specific vegetation alliances.

Wildlife species observed utilizing developed areas during the 2021 biological survey consisted of various birds perched on fences and light poles surrounding the property, and dabbling in or near golf course ponds, including dark-eyed junco, Canada goose, American robin, Eurasian collared dove, common raven, European starling, green heron, black phoebe, and northern mockingbird. Species observed during 2022 surveys include all species observed in 2021 as well as mallard duck (*Anas platyrhynchos*).

Annual Grassland

Annual grassland is present throughout the study area along the edges of developed areas and as understory vegetation to valley oak woodland and valley oak savannah habitats. It is not mowed or grazed, resulting in dense vegetation growth that would be suitable for birds that nest on or near the ground, such as ring-necked pheasant (*Phasianus colchicus*), savannah sparrow (*Passerculus sandwichensis*), and wild turkey (*Meleagris gallopavo*). The annual grassland vegetation in the study area is composed primarily of nonnative annual grasses, including wild oats (*Avena* spp.), foxtail barley (*Hordeum murinum*), ripgut brome (*Bromus diandrus*), red brome (*Bromus madritensis* ssp. *rubens*), and rattail six weeks fescue (*Festuca myuros*). Forbs scattered throughout the grassland include wild radish (*Raphanus* spp.), winter vetch (*Vicia villosa* ssp. *varia*), milk thistle (*Silybium marianum*), yellow star thistle (*Centuarea solstitialis*), common fiddleneck (*Amsinckia intermedia*), and prickly lettuce (*Lactuca serriola*). The annual grassland community can be best described as an *Avena (barbata, fatua)* Herbaceous Semi-Natural Alliance, according to the Manual of California Vegetation (CNPS 2022).

Wildlife species observed utilizing grassland habitat at the time of the 2021 survey include white-tailed kite, red-winged blackbird, and American robin. Other wildlife that may be found in this habitat include small mammals such as western harvest mouse (*Reithrodontomys megalotis*), California ground squirrel (*Otospermophilus beecheyi*), and Botta's pocket gopher (*Thomomys bottae*). Coyote scat and gopher mounds were observed within grasslands during the survey effort, as were active mammal dens likely belonging to red foxes (*Vulpes vulpes*).

Grassland habitats often provide important foraging habitat for raptors, including American kestrel (*Falco sparverius*), red-tailed hawk, white-tailed kite, and Swainson's hawk. During the biological survey, a white-tailed kite and Cooper's hawk were observed in the BSA. The white-tailed kite was observed foraging in a grassland north of Northbrook Park, immediately east of the project alignment. Nearby oak woodlands are potentially suitable nesting grounds for this species.

All species observed during the 2021 survey were identified during the 2022 survey, no additional species were observed.

Valley Oak Savannah

Valley oak savannah makes up a small percentage of the BSA acreage, primarily located near the southwest portion of the Cherry Island soccer complex and north of Northbrook Park. It consists largely of un-grazed annual grassland consisting of dense nonnative annual grasses including wild oats, foxtail barley, and ripgut brome intermixed with yellow star thistle and scattered small-to-medium size valley oak and interior live oak. The valley oak savannah community can be best described as an *Avena* Herbaceous Semi-Natural Alliance, according to the Manual of California Vegetation (CNPS 2022).

Wildlife species observed utilizing valley oak savannah habitat during the 2021 survey were largely consistent with annual grassland wildlife species and include red-winged blackbird, western bluebird, golden crowned sparrow (*Zonotrichia atricapilla*), Lincoln's sparrow (*Melospiza lincolnii*), and American robin. Like annual grassland habitat, this land cover commonly provides valuable foraging habitat for raptors which are known to occur within the study area.

All species observed during the 2021 survey were identified during the 2022 survey, the only additional species observed was a pair of red-tailed hawks observed in flight over the project area.

Riparian Scrub

Riparian scrub is present along the northern portion of the Cherry Island soccer complex, at the outer edge of valley oak woodland. This scrub community is dominated by sapling valley oak and interior live oak as well as naturalized nonnative tree species such as privet, almond, and Callery pear intermixed with valley sedge (*Carex barbarae)*, Oregon ash (*Fraxinus latifolia*), English plantain (*Plantago lanceolata*), miniature lupine (*Lupinus bicolor)*, black locust, scarlet pimpernel, miner's lettuce, and California wild rose (*Rosa californica)*. Riparian scrub in the study area generally does not conform to any specific vegetation alliances.

Wildlife species observed in riparian scrub habitat during the 2021 survey include bushtit, California scrub jay, wood duck (*Aix sponsa*), northern flicker (*Colaptes auratus*)*,* Anna's hummingbird (*Calypte anna*), and California towhee (*Melozone crissalis*)*.*

Species observed in riparian scrub habitat during the 2022 survey include bushtit, California scrub jay, northern flicker*,* Anna's hummingbird, and California towhee*.*

This land cover type may also provide suitable nesting habitat for special status raptors and other migratory birds.

Riverine

Riverine land cover in the BSA includes three perennial riverine features: Dry Creek, Sierra Creek/Goat Creek, and the Dry Creek overflow channel. Dry Creek parallels most of the project alignment to the west, running north to south. It is characterized by shallow cut sandy banks generally lacking in vegetation. The channel is approximately 10–15 feet wide and ranges from 1–5 feet deep. Little to no aquatic vegetation

appears to be present. The proposed project will cross Dry Creek at two locations near Gibson Regional Park via bridges.

Wildlife species observed utilizing Dry Creek during the 2021 survey included mallard, double-crested cormorant (*Phalacrocorax auritus*), wood duck, and great blue heron (*Ardea herodias*).

Wildlife species observed utilizing Dry Creek during the 2022 survey included mallard), double-crested cormorant, and great blue heron.

Central valley steelhead (*Oncorhynchus mykiss*) are known to occur in Dry Creek, and the creek is designated as Critical Habitat for the species. Though too degraded to support spawning, the creek may be a valuable movement corridor for the species (CDFW 2022a).

Sierra Creek/Goat Creek runs east to west bordering a small portion of the project alignment to the north and east of the Cherry Island Soccer Complex. It is characterized by steep-cut vegetated banks. The creek is approximately 2–3 feet deep and 6–7 feet wide. At the time of the biological survey, dead fish, garbage, and downed branches littered the creek bed.

Although no turtles were observed during the 2021 and 2022 biological surveys, Dry Creek, Goat Creek/Sierra Creek, and adjacent uplands could serve as suitable habitat for western pond turtle (*Emys marmorata*), which require a water source with nearby basking and nesting sites. The species has been observed within 3 miles of the study area, within a vernal pool habitat near Don Julio Creek (CDFW 2022b).

The Dry Creek overflow channel separates from Dry Creek near Elverta Road, runs parallel to Dry Creek on the northwest side, and drains back into Dry Creek approximately 1.2 miles southwest of where the southern alignment connects to the Sacramento Northern Bike Trail. There was water within this feature at the time of the 2022 survey. The vegetation community along the upper banks can be best described as *Quercus* Forest Alliance, with an understory consisting of mowed ruderal grassland.

Ornamental Landscape

Ornamentally landscaped areas within the BSA consist of non-native trees that have been artificially planted and are generally associated with private properties adjacent to the trail alignment. These areas are dominated by almond trees (*Prunis dulcis*) and black locust. Ornamental vegetation in the study area generally does not conform to any specific vegetation alliances.

Special-Status Species

Raptors (i.e., Cooper's hawk, white-tailed kite, red-tailed hawk) and other migratory birds were the only special-status species observed on the study area during the surveys. Appendix A summarizes the special-status plant and animal species that were determined to have the potential to occur in the general project region based on the pre-field investigation (database and literature review). For this analysis, special-status species are plants and animals in any of the following categories:

- Species that are listed under the federal Endangered Species Act (ESA) and/or California Endangered Species Act as rare, threatened, or endangered;
- Species considered to be candidates and proposed for federal or state listing as threatened or endangered;
- Wildlife designated by California Department of Fish and Wildlife (CDFW) as fully protected and/or species of special concern and/or watchlist;
- Birds protected under the federal Migratory Bird Treaty Act (MBTA) and/or California Fish and Game Code Sections 3503, 3503.5, 3800(a), and 3513; or
- Plants ranked by the California Native Plant Society to be rare, threatened, or endangered in California, including plants on Lists 1A, 1B, and 2 of the California Native Plant Society's (CNPS) California Rare Plant Ranks (CRPRs), defined as follows:
  - List 1A—plant species presumed to be extinct in California;

- List 1B—plant species considered to be rare, threatened, or endangered in California and elsewhere; and
- List 2—plant species considered to be rare, threatened, or endangered in California but more common elsewhere.

Each CRPR category may include an extension indicating the level of endangerment in California, as follows:

1. Seriously endangered in California (more than 80 percent of occurrences are threatened and/or high degree and immediacy of threat);
2. Fairly endangered in California (20–80 percent of occurrences are threatened); and
3. Not very endangered in California

Exhibit 9 and Exhibit 10 shows California Natural Diversity Database (CNDDB) records of special-status species within a 3-mile radius of the project area (CDFW 2022b).

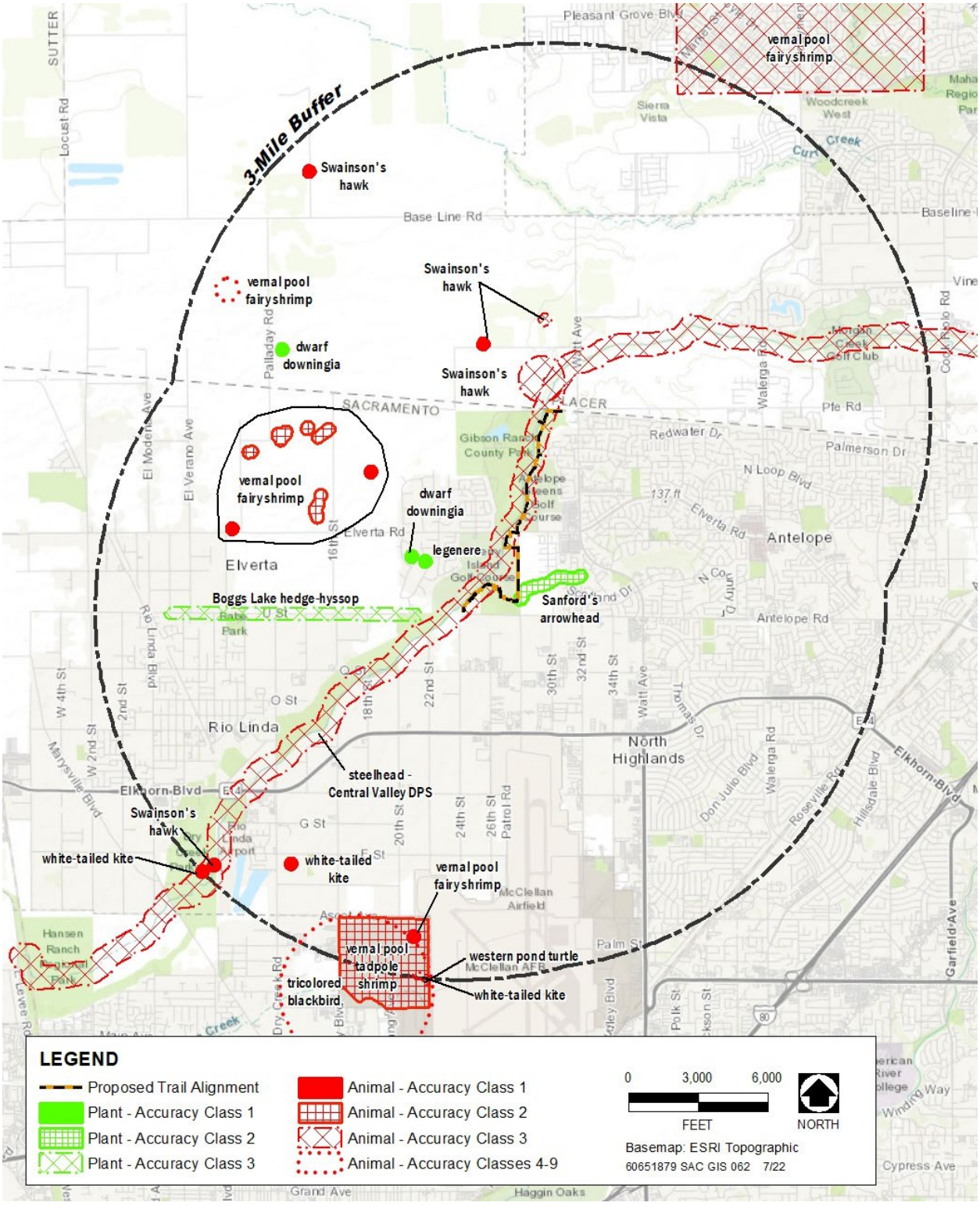
Special-Status Plant Species

The database searches resulted in 12 special-status plant species being evaluated for their potential to occur in the property or vicinity. Based on the results of the biological reconnaissance surveys and database searches, there is one special-status plant species that could occur in the study area: Sanford's arrowhead (*Sagittaria sanfordii*), discussed below. No special-status plant species were observed in the study area during the reconnaissance surveys.

A portion of the project alignment along and across Sierra Creek may provide marginally suitable habitat for Sanford's arrowhead, which is known to occur in the project area and is a CRPR 1B.2 species. The preferred habit for this species is in or near standing or slow-moving freshwater ponds, marshes, and ditches. Blooming occurs from May to October. There is one record of this species 0.25 mile west of the northern segment of the trail where Sierra Creek meets 28th Street, observed in 2001 (CDFW 2022b).

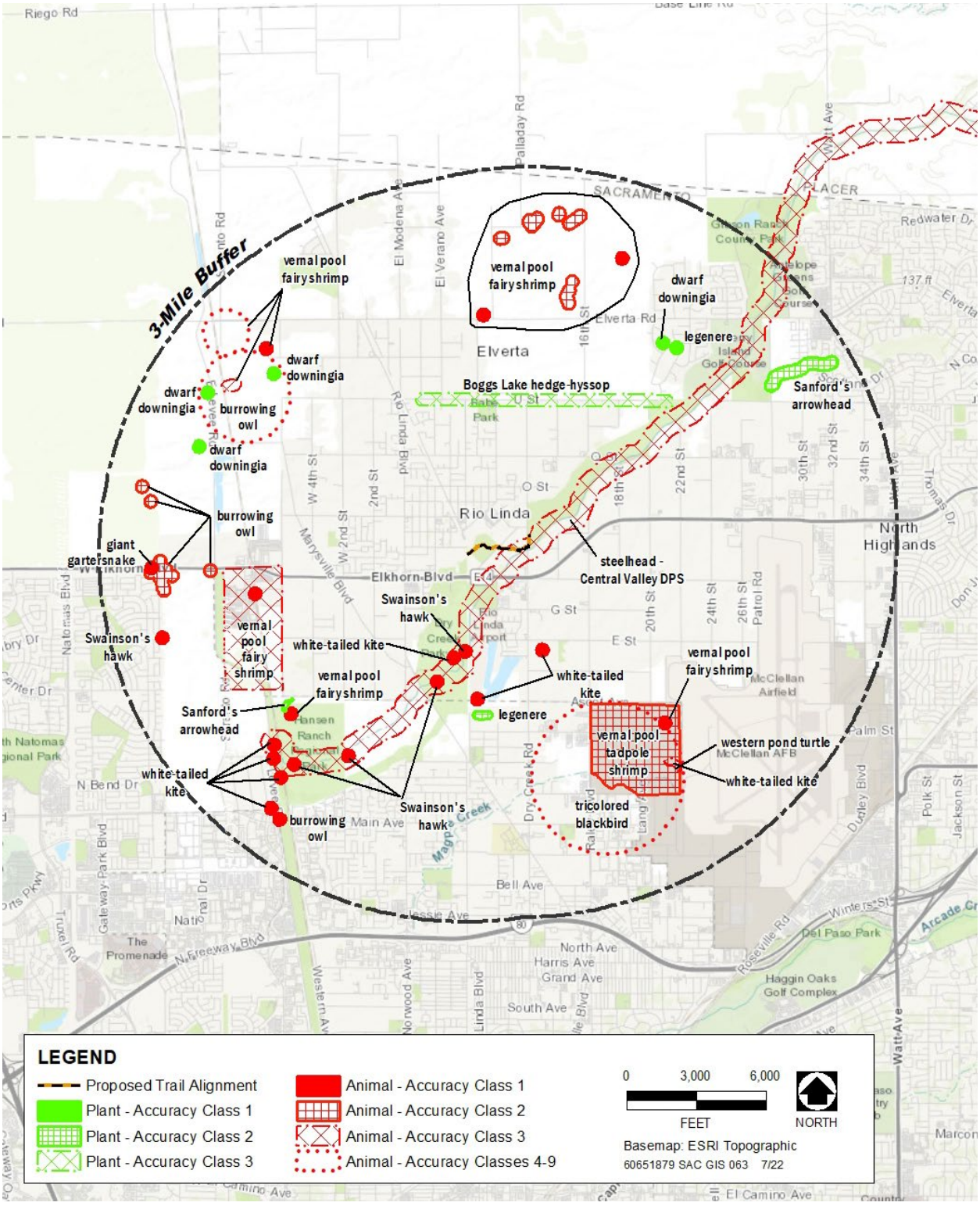
Special-Status Wildlife Species

The database searches resulted in 38 special status species being evaluated for their potential to occur in the vicinity of the project. Based on the results of the biological reconnaissance survey and database searches, AECOM biologists identified seven special-status wildlife species which have potential to occur within the study area (discussed below). During the reconnaissance survey, two of these special status species were observed: Cooper's hawk and white-tailed kite. No special status species were observed during the 2022 survey and suitable habitat for nesting birds was mapped during the habitat assessment (Exhibit 4-8).



Source: CDFW 2021

Exhibit 9. CNDDB Map - North



Source: CDFW 2021

Exhibit 10. CNDDB Map - South

Special Status Reptiles

Dry Creek and Sierra/Goat Creek, and associated sandy uplands, may provide marginally suitable habitat for western pond turtle, a CDFW Species of Special Concern. Suitable aquatic habitat was present in select sections of the study area when surveyed in 2021. Conditions within Dry Creek were generally poor and there was evidence of continuous impacts by human activity. Areas surveyed in 2022 at Gibson Ranch Regional Park (GRRP) contained marginal to suitable habitat for western pond turtle along Dry Creek; however, the species is not expected to thrive within the study area due to highly variable flow and lack of water during summer months. A single occurrence of this species was documented within 3 miles of study area in 1995 along Don Julio Creek at the intersection of Main Ave & Raley Boulevard, McClellan Air Force Base (CDFW 2022b). The area surrounding the observation was described as an annual grassland with numerous vernal pools.

Special Status Fish

Dry Creek is designated as Critical Habitat for Central Valley DPS Steelhead (*Oncorhynchus mykiss irideus* pop. 11) (USFWS 2020), a species listed as federally Threatened. The species has been documented in Dry Creek, approximately 8 miles north of the study area. Dry Creek may serve as a migratory corridor but is likely too degraded to support spawning (CDFW 2021).

Special Status Invertebrates

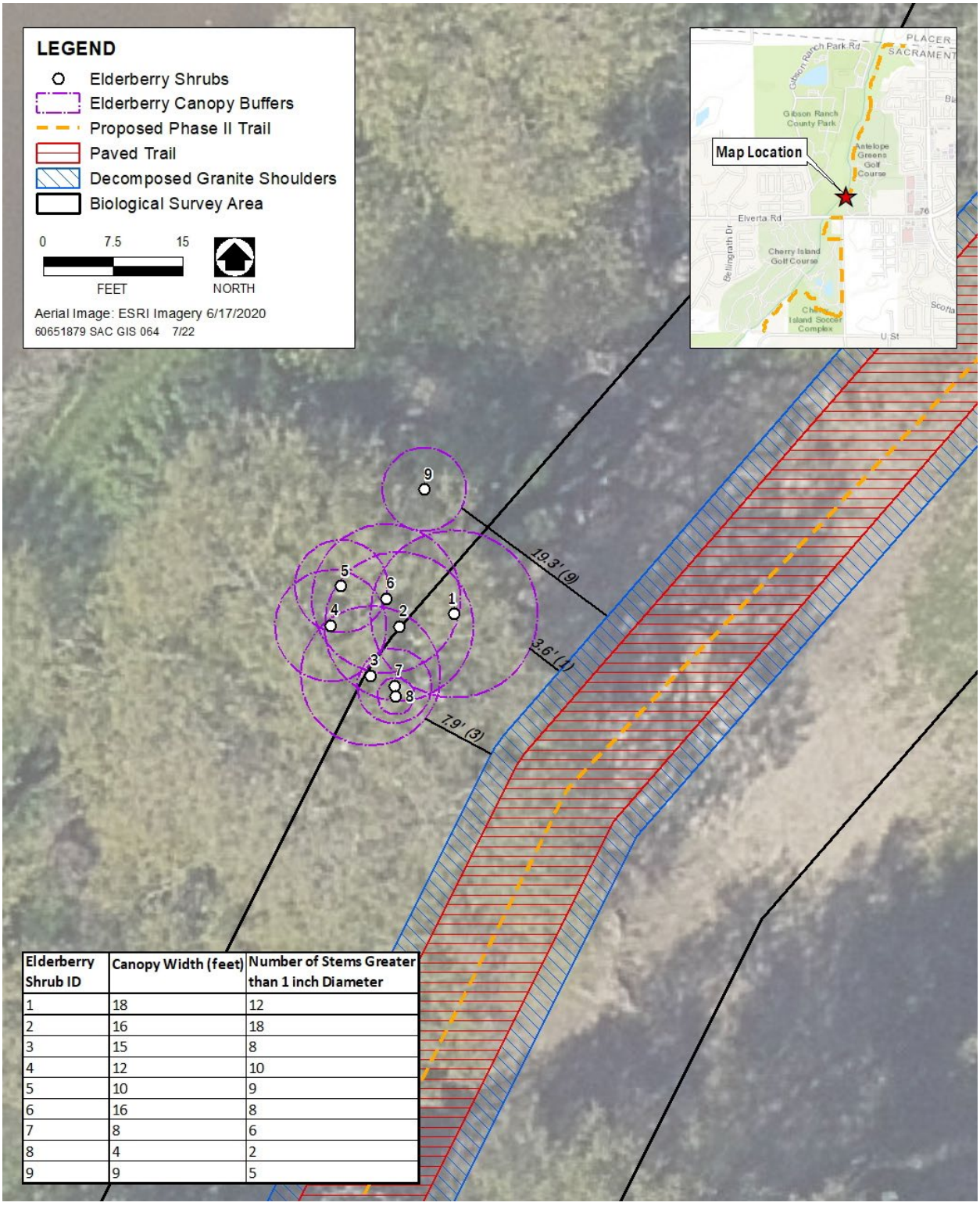
The study area contains a single relatively small patch of blue elderberry (*Sambucus nigra* ssp. *cerulea*) which is the host species for valley elderberry longhorn beetle (VELB) (*Desmocerus californicus dimorphus*), a species listed as federally Threatened. The elderberry patch is located on the west edge of the BSA buffer, north of Elverta Road and West of Antelope Greens Golf Course (Exhibit 11). The VELB prefers to lay eggs in elderberry stems that are 2 to 8 inches in diameter; with some preference shown for “stressed” elderberries (CDFW 2021). This condition describes the elderberry shrubs observed during the field effort. As such, appropriate habitat exists within the study area for VELB; however, no records for the taxon exist within 3 miles of the study area (CDFW 2022b). Exit holes are small holes found on the stems of elderberries that are created by VELB larvae prior to pupation. These indicate the presence of VELB within elderberries and were not observed on the elderberries present within the BSA at the time of the surveys.

Special-Status Raptors

Dense tree canopy along much of the BSA may provide suitable nesting habitat for Swainson’s hawk, white-tailed kite, and Cooper’s hawk, which are state listed and/or CDFW Species of Special Concern. Densely topped trees are most prevalent west of the alignment, but gradually encompass the east and west continuing north. Because these raptors will forage in grassland areas near nest locations, there is potential for the species to forage in or adjacent to the BSA during the nesting season. There are four records of Swainson’s hawk nests and three records of white-tailed kite nests within 3 miles of the BSA (CDFW 2022b). Both white-tailed kite and Cooper’s hawk (non-nesting) were observed in the BSA during the reconnaissance survey (AECOM 2021).

Other Special-Status Birds

Isolated patches of Himalayan blackberry and emergent marsh exist within the study area along drainages and in upland areas adjacent to the riparian corridor. Tricolored blackbird (*Agelaius tricolor*), a state listed and CDFW Species of Special Concern, have been recorded within 3 miles of the BSA utilizing this habitat type as a nesting substrate (CDFW 2022b); however, due to the highly disturbed nature of Himalayan blackberry thickets in the BSA, within which a large transient encampment has been constructed, and proximity of this vegetation community to the busy Elverta Road and a neighboring residence, it is unlikely that the species would nest in this section of the BSA. However, annual grasslands and oak savannah habitats in and adjacent to the study area may provide suitable grounds to forage for insect prey and there is suitable habitat located within the BSA at GRRP.



Elderberry Shrub ID	Canopy Width (feet)	Number of Stems Greater than 1 inch Diameter
1	18	12
2	16	18
3	15	8
4	12	10
5	10	9
6	16	8
7	8	6
8	4	2
9	9	5

Source: Data compiled by AECOM 2021

Exhibit 11. Elderberry Shrub Map

The dense herbaceous cover and abundance of mature and sapling oaks in portions of the study area could provide suitable nesting substrate for migratory birds covered by the MBTA. The MBTA prohibits the killing, possessing, or trading of migratory birds, and essentially all native bird species in California are covered by the MBTA. Migratory bird and raptor nests are protected further by Sections 3503 and 3503.5, respectively, of the California Fish and Game Code.

Sensitive Natural Communities

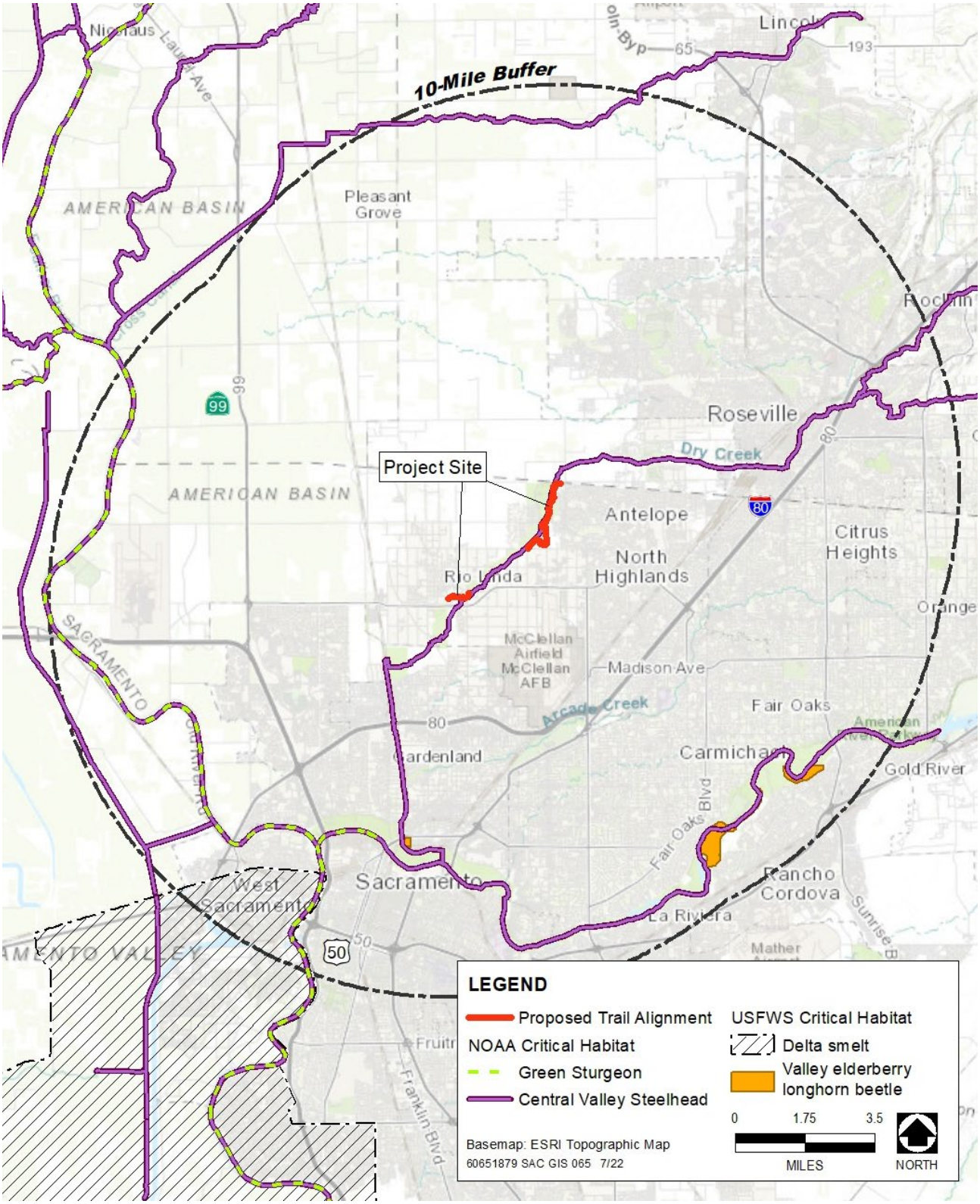
California natural communities are categorized by CDFW and partner organizations, such as CNPS, based on vegetation type classification, and are ranked using the same system to assign global and state rarity ranks for plant and animal species in the CNDDB. Natural communities that are ranked S1–S3 are considered sensitive natural communities by CDFW, to be addressed in the environmental review processes. Riparian habitat is defined separately in the context of Section 1600 of the California Fish and Game Code. According to guidance provided in *A Field Guide to Lake and Streambed Alteration Agreements: Section 1600 Fish and Game Code*, the outer edge of riparian vegetation is a reasonable and identifiable boundary for the lateral extent of a stream, the protection of which should result in preserving the fish and wildlife at risk within a stream or drainage, and therefore may constitute the limits of CDFW jurisdiction along waterways.

Of the eight vegetation communities mapped in the BSA, valley oak woodland is the only community categorized as a sensitive natural community (CDFW 2022a). Valley oak woodland comprises 7.23 acres within the BSA, and is a S3 ranked sensitive natural community.

Riparian habitat within the project site includes mapped valley oak woodland, as well as non-sensitive vegetation communities such as riparian scrub and Himalayan blackberry thickets that overlap waterways and may be subject to regulation by CDFW under Section 1602 of the California Fish and Game Code.

Critical Habitat

The USFWS designates critical habitats for species listed as threatened or endangered under the ESA. These habitats include specific geographic areas that contain features essential for the conservation of a threatened or endangered species and may include an area that will be needed for a species' recovery. Critical habitat for the valley elderberry longhorn beetle is approximately 8 miles to the south and southeast of the study area in the vicinity of the American River in oak woodland riparian habitat (USFWS 2020) (Exhibit 7). Critical habitat for the Delta smelt (*Hypomesus transpacificus*) is designated in the northern Sacramento-San Joaquin Delta, approximately 8 miles to the southwest of the study area (USFWS 2020) (Exhibit 7). Dry Creek is designated as critical habitat for Central Valley Steelhead (USFWS 2020). The project runs directly along Dry Creek for much of the alignment and two small bike/pedestrian bridges are proposed, one of which will cross Dry Creek on the north end of the alignment near Gibson Ranch Regional Park. Central Valley Steelhead have been documented in Dry Creek. However, the creek is too degraded to support spawning and likely only serves as a migration corridor (CDFW 2022b).



Source: USFWS 2020

Exhibit 12. Critical Habitat Map

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———. 2018c. Pleasant Grove Quadrangle, California, 7.5-minute series.

———. 2018d. Taylor Monument Quadrangle, California, 7.5-minute series.

———. 2018e. Citrus Heights Quadrangle, California, 7.5-minute series.

———. 2018f. Roseville Quadrangle, California, 7.5-minute series.

———. 2018g. Carmichael Quadrangle, California, 7.5-minute series.

_____. 2018h. Sacramento West Quadrangle, California, 7.5-minute series.

———. 2018i. Sacramento East Quadrangle, California, 7.5-minute series.

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Appendix A | Special Status Species Occurrence Tables

Table A-1. Special-Status Plant Species with Potential to Occur in the Project Biological Study Area

Scientific Name	Common Name	Regulatory Status[1]			Habitat Requirements	Elevation Range (ft AMSL[2])	Bloom Period	Potential for Occurrence[3]
		Federal	State	CRPR				
Astragalus tener var. *ferrisiae*	Ferris's milk-vetch			1B.1	Subalkaline flats on overflow land in the Central Valley; usually seen in dry, adobe soil in meadows and seeps (wetlands) in valley and foothill grassland.	10–250	Apr–May	**No potential to occur;** no suitable habitat (adobe soil) in the study area.
Balsamorhiza macrolepis	big-scale balsamroot	-	-	1B.2	Chaparral, valley and foothill grasslands, cismontane woodlands. Sometimes found on serpentine soils.	100–4,500	Mar–Jun	**Not likely to occur;** marginally suitable habitat in the study area; however, the study area is outside the species' elevational range.
Chloropyron molle ssp. *hispidum*	hispid salty bird's beak	-	-	1B.1	Meadows and seeps, playas, valley and foothill grasslands. Favor damp, alkaline soils, especially in alkaline meadows and sinks.	15–475	Jun–Sep	**Not likely to occur;** potentially suitable habitat may be present within the study area; however, there are no alkaline soils in the study area. There is only one record of this species recorded in 1997 over 10 miles northeast from the study area (CDFW 2022b).
Downingia pusilla	dwarf downingia	-	-	2B.2	Vernal lake and pool margins in valley and foothill grassland.	0–1,460	Mar–May	**No potential to occur;** no suitable habitat (vernal pools or lakes) in the study area. There are five records of this species within 3 miles of the study which occur near vernal pools and depressions near Gibson's Ranch, Roseville and Steelhead Creek. The Gibson Ranch occurrence has been deemed extirpated (CDFW 2022b).
Gratiola heterosepala	Boggs Lake hedge hyssop	–	SE	1B.2	Clay soils; usually in vernal pools, sometimes on the margins of lakes, stock ponds, borrow pits, marshes or swamps.	30–7,790	Apr–Aug	**No potential to occur;** no suitable habitat (vernal pools, marshes, lake margins) in the study area. There is one record of this species within 3 miles from 1960, and it is presumed possibly extirpated (CDFW 2022b).
Hibiscus lasiocarpos var. *occidentalis*	woolly rose-mallow	–	–	1B.2	Moist, freshwater-soaked river banks and low peat islands in sloughs; also, can occur on riprap and levees. In California, known from the Delta watershed.	0–395	Jun–Sep	**Not likely to occur;** marginally suitable habitat potentially present within the study area along creek banks. There are two records of this species within 15 miles of the study area (CDFW 2022b). Both sightings were outside of ideal habitats and are marginally similar to habitats within the study area (banks, drainages). Banks along creek drainages in the study area were dry, and there is no riprap or levee-type habitats in the study area.
Juncus leiospermus var. *ahartii*	Ahart's dwarf rush	-	-	1B.2	Valley and foothill grasslands. Restricted to edges of vernal pools.	10–30	Mar–May	**No potential to occur;** lack of suitable habitat (vernal pools) in study area.
Juncus leiospermus var. *leiospermus*	Red Bluff dwarf rush	-	-	1B.1	Chaparral, valley and foothill grasslands, cismontane woodlands, vernal pools, meadows and seeps. Found in vernally mesic sites, occasionally on the edges of vernal pools.	10–450	Mar–Jun	**Not likely to occur;** marginally suitable habitat present within the study area. However, there is only one record of this species within 10 miles of the study area recorded in 1982. A revisit to the site in 1997 suggested this was a misidentification (CDFW 2022b).

Table A-1. Special-Status Plant Species with Potential to Occur in the Project Biological Study Area

Scientific Name	Common Name	Regulatory Status[1]			Habitat Requirements	Elevation Range (ft AMSL[2])	Bloom Period	Potential for Occurrence[3]
		Federal	State	CRPR				
Legenere limosa	legenere	–	–	1B.1	In beds of vernal pools; wet places; ponds.	0–2,885	Apr–Jun	**No potential to occur;** no suitable habitat (vernal pools or ponds) in the study area. There are two records of this species within 3 miles of the study area. One record is approximately 0.75 miles west of the northern alignment (near Cherry Island Golf Course) and is from a seasonal pond and deemed extirpated. The other record located approximately 1.6 miles south form the point at which the southern alignment connects to the Sacramento Northern Bike Trail, and is associated with a seasonal wetland habitat. This record is from 1991 and presumed extant (CDFW 2022b).
Orcuttia viscida	Sacramento Orcutt grass	FE	SE	1B.1	Species is only known from fewer than ten occurrences, all in Sacramento County. Deep vernal pools that remain flooded for relatively long periods of time in ancient alluvial soils, such as prehistoric floodplains.	100–350	Apr–Jul (Sep)	**No potential to occur;** no suitable habitat (vernal pools) in the study area, and the study area is outside the elevational range of the species.
Sagittaria sanfordii	Sanford's arrowhead	–	–	1B.2	In standing or slow-moving freshwater ponds, marshes, and ditches.	0–2,135	May–Oct (Nov)	**Could occur;** marginally suitable habitat is present in the study area (slow moving water). There is one record of this species 0.25 miles west of the northern segment of the trail where Sierra Creek meets 28th Street, observed in 2001 (CDFW 2022b).
Symphyotrichum lentum	Suisun Marsh aster	–	–	1B.2	Marshes and swamps (brackish and freshwater); most often seen along sloughs with *Phragmites, Scirpus, Typha*, etc.	0–10	(Apr) May–Nov	**No potential to occur;** no suitable habitat (marshes or swamps) in the study area.

[1] Regulatory Status Definitions:
Federal Status Categories
FE = Listed as endangered under the Federal Endangered Species Act
California State Status Categories
SE = Listed as endangered under California Endangered Species Act
California Rare Plant Rank (CRPR) Categories:
1B = Plant species considered rare or endangered in California and elsewhere (protected under CEQA, but not legally protected under ESA or CESA)
CRPR Threat Rank Extensions:
.1 Seriously endangered in California (>80% of occurrences are threatened and/or high degree and immediacy of threat)
.2 Fairly endangered in California (20 to 80% of occurrences are threatened)

[2] ft AMSL = feet above mean sea level

[3] Potential for Occurrence:
Known to occur: The study area is within the species' range, suitable habitat for the species is present, and the species has been recorded from within the project site.
Could Occur: The study area is within the species' range, suitable habitat for the species is present, and recorded occurrences of the species are generally present in the vicinity.
Not Likely to Occur: Either habitat for the species is marginal or potentially suitable habitat may occur, but no occurrences of the species have been recorded within or near the study area (i.e., within 3 miles) and/or the species' current known range is restricted to areas far from the study area.
No Potential to Occur: The study area is outside the species' range or suitable habitat for the species is absent from the study area and adjacent areas.

Table A-2. Special-Status Wildlife Species with Potential to Occur in the Project Biological Study Area

Scientific Name	Common Name	Regulatory Status[1]			Habitat Requirements	Distribution	Potential for Occurrence[2]
		Federal	State	CDFW			
Crustaceans							
Branchinecta lynchi	vernal pool fairy shrimp	FT	–	–	Vernal pools in valley and foothill grassland; small, clear-water sandstone-depression pools and grassed swale, earth slump, or basalt-flow depression pools.	Endemic to the grasslands of the Central Valley, Central Coast mountains, and South Coast mountains.	**No potential to occur;** no suitable habitat (vernal pools) in the study area.
Lepidurus packardi	vernal pool tadpole shrimp	FE	–	–	Vernal pools in valley and foothill grassland; pools commonly found in grass-bottomed swales of unplowed grasslands. Some pools are mud-bottomed and highly turbid.	Sacramento Valley	**No potential to occur;** no suitable habitat (vernal pools) in the study area.
Insects							
Desmocerus californicus dimorphus	valley elderberry longhorn beetle	FT	–	–	Riparian scrub, elderberry savannah. Host plant is the elderberry shrub (*Sambucus nigra* ssp. *cerulea*). Prefers to lay eggs in elderberries 2–8 inches in diameter; some preference shown for "stressed" elderberries (CDFW 2020).	Occurs only in the Central Valley.	**Could occur;** the species' host plant (blue elderberry) is present in a very small portion of study area. There are no records of this species within 3 miles of the study area (CDFW 2022). Designated critical habitat for this species exists approximately 6.5 miles south of the study area (USFWS 2020).
Fish							
Archoplites interruptus	Sacramento Perch	–	–	SSC	Aquatic; prefers warm water. Aquatic vegetation is essential for young. Tolerates wide range of physio-chemical water conditions.	Historically found in the sloughs, slow-moving rivers, and lakes of the Central Valley.	**No potential to occur;** no suitable aquatic habitat and aquatic vegetation in the study area. There is only one record of this species from 1973 in an isolated pond (CDFW 2021).
Oncorhynchus mykiss irideus pop. 11	Steelhead – Central Valley DPS	FT	–	–	Cool, clear streams with abundant cover and well-vegetated banks, with relatively stable flows. Pool and riffle complexes and cold gravelly streambeds for spawning. Populations in the Sacramento and San Joaquin Rivers and their tributaries.	Populations in the Sacramento and San Joaquin rivers and their tributaries.	**Could occur;** The species has been documented in Dry Creek, approximately 8 miles north of the study area. Dry Creek may serve as a migratory corridor but is too degraded to support spawning (CDFW 2022). Dry Creek is designated critical habitat for this species (USFWS 2020)

Table A-2. Special-Status Wildlife Species with Potential to Occur in the Project Biological Study Area

Scientific Name	Common Name	Regulatory Status[1]			Habitat Requirements	Distribution	Potential for Occurrence[2]
		Federal	State	CDFW			
Oncorhynchus tshawytscha pop. 11	Chinook Salmon – Central Valley spring-run ESU	FT	ST	–	Water temperatures greater than 27 degrees Celsius (80.6 degrees Fahrenheit) are lethal to adults. Spring-run Chinook Salmon enter the Sacramento River from late March through September. Adults hold in cool water habitats through the summer, then spawn in the fall from mid-August through early October. The Sacramento River and its tributaries, including Butte, Mill, Deer, Antelope, and Beegum Creeks.	Federal listing refers to populations spawning in the Sacramento River and tributaries.	**Not likely to occur;** lack of suitable aquatic habitat (cool, clear stream with stable flows and well-vegetated banks) present in the study area. No records of this species are within 3 miles of the study area (CDFW 2022b).
Oncorhynchus tshawytscha pop. 7	Chinook Salmon – Sacramento River winter-run ESU	FE	SE	–	Spawn during summer months. Adult winter-run Chinook salmon immigration and holding through the Delta and into the lower Sacramento River occurs from December through July. Spawning occurs between late-April and mid-August. Primarily spawn in the mainstem Sacramento River between Keswick Dam and the Red Bluff Diversion Dam.	Sacramento River below Keswick Dam. Spawns in the Sacramento River, but not in tributary streams.	**Not likely to occur;** lack of suitable aquatic habitat (cool, clear stream with stable flows and well-vegetated banks) present in the study area. No records of this species are within 3 miles of the study area (CDFW 2022b).
Pogonichthys macrolepidotus	Sacramento Splittail	–	–	SSC	Aquatic; estuary, freshwater marsh, Sacramento/San Joaquin flowing waters. Slow moving river sections, dead end sloughs. Requires flooded vegetation for spawning and foraging for young.	Endemic to the lakes and rivers of the Central Valley, but now confined to the Delta, Suisun Bay, and associated marshes.	**No potential to occur;** no suitable aquatic habitat in the study area.
Spirinchus thaleichthys	Longfin Smelt	FC	ST	–	Aquatic; found in open waters of estuaries, mostly in middle or bottom of water column. Prefers salinities of 15–30 ppt, but can be found in completely freshwater to almost pure seawater.	Found along the Pacific Coast, from Alaska to California.	**No potential to occur;** no suitable aquatic habitat in the study area.
Hypomesus transpacificus	Delta Smelt	FT	SE	–	Aquatic; inhabits estuarine areas in the Sacramento-San Joaquin Delta. Seasonally in Suisun Bay, Carquinez Strait & San Pablo Bay. Seldom found at salinities > 10 ppt. Most often at salinities < 2 ppt.	Endemic to California; only occurs in the San Francisco Estuary.	**No potential to occur;** no suitable aquatic habitat in the study area.

Table A-2. Special-Status Wildlife Species with Potential to Occur in the Project Biological Study Area

Scientific Name	Common Name	Regulatory Status[1]			Habitat Requirements	Distribution	Potential for Occurrence[2]
		Federal	State	CDFW			
Amphibians							
Spea hammondii	western spadefoot	-	–	SSC	Occurs primarily in grassland habitats, but can be found in valley–foothill hardwood woodlands. Vernal pools are essential for breeding and egg-laying.	Throughout the Central Valley and adjacent foothills.	**Not likely to occur;** There may be potential breeding ponds present within migration distance to the study area, however, no Suitable breeding habitat was observed within the study area. Drainages observed during surveys were not considered vernal pool habitat and were generally disturbed.
Rana draytonii	California red-legged frog	FT	–	SSC	Lowlands and foothills in or near permanent sources of deep water with dense, shrubby or emergent riparian vegetation. Requires 11–20 weeks of permanent water for larval development. Must have access to estivation habitat.	Isolated populations in the Sierra Nevada, northern Coast, and northern Transverse Ranges. Common in the San Francisco Bay area (including Marin County) and along the central coast.	**No potential to occur;** the study area is outside of the species' current range, and there is no suitable aquatic habitat/emergent vegetation in the study area. No records in the 9 quadrangles surrounding the study area (CDFW 2022b).
Ambystoma californiense	California tiger salamander	FT	ST	WL	Need underground refuges, especially ground squirrel burrows, and vernal pools or other seasonal water sources for breeding.	Restricted to California, where it is found mostly in the Central Valley. Small populations also occur around Santa Barbara and Sonoma.	**Not likely to occur;** There may be potential breeding ponds present within migration distance to the study area, however, no Suitable breeding habitat was observed within the study area. Drainages observed during surveys were not considered vernal pool habitat and were generally disturbed..
Reptiles							
Emys marmorata	western pond turtle	–	–	SSC	Aquatic; ponds, marshes, rivers, streams and irrigation ditches, usually with aquatic vegetation. Needs basking sites and suitable (i.e., sandy banks or grassy open fields) upland habitat up to 0.5 km from water for egg-laying.	West of the Sierra-Cascade crest and absent from desert regions, except in the Mojave Desert along the Mojave River and its tributaries. Below 6,000 feet elevation.	**Could occur;** marginally suitable habitat exists within and adjacent to the study area (nearly permanent water source and nearby sparsely vegetated uplands for nesting). However, the suitable aquatic habitat present in the study area is highly degraded by human activities and the species is not expected to thrive within the study area. One record of occurrence within 3 miles of study area, along Don Julio Creek. The surrounding area is described as an annual grassland with numerous vernal pools (CDFW 2022b).

Table A-2. Special-Status Wildlife Species with Potential to Occur in the Project Biological Study Area

Scientific Name	Common Name	Regulatory Status[1]			Habitat Requirements	Distribution	Potential for Occurrence[2]
		Federal	State	CDFW			
Thamnophis gigas	giant garter snake	FT	ST	–	Prefers freshwater marsh and low gradient streams. Has adapted to drainage canals and irrigation ditches.	Historical range was in the Sacramento and San Joaquin valleys but its current range is much reduced, and it apparently is extirpated south of Fresno County, except for western Kern County.	**Not likely to occur;** marginally suitable open water habitat present within and immediately adjacent to the study area; however, there is no suitable emergent marsh habitat or other aquatic vegetation in the study area. Few potential burrowing sites located along the study area, but there are no records of this species within 3 miles of the study area (CDFW 2022b). Black bass species were observed during 2022 surveys which in many cases precludes the presence of GGS.
Birds							
Accipiter cooperii (nesting)	Cooper's hawk	–	–	WL	Variety of woodland habitats; nests mainly in riparian growths of deciduous trees, as in canyon bottoms on river flood-plains; also, live oaks.	Breeding resident throughout most of the wooded portion of the state.	**Known to occur (foraging/nesting);** appropriate riparian woodland habitat present within and adjacent to study area. Species observed (non-nesting) onsite during 2021 survey efforts. There are four nesting records of this species within 10 miles of the study area (CDFW 2022b).
Agelaius tricolor (nesting colony)	tricolored blackbird	–	ST	SSC	Highly colonial. Requires open water, protected nesting substrate, and foraging area with insect prey within a few kilometers of the colony.	Most numerous in the Central Valley and vicinity. Generally endemic to California.	**Could occur (foraging);** there is no suitable nesting habitat but there is suitable foraging habitat (grassland) present in the study area. The nearest record of nesting tricolored blackbird is approximately 2.3 miles south of the study area, initially recorded in 1998 in tule marsh habitat, and observed again in 2014 during a statewide survey (CDFW 2022b).
Ammodramus savannarum	grasshopper sparrow	-	-	SSC	Dense grasslands on rolling hills, lowland plains. Often found in valleys and on hillsides on lower mountain slopes. Favors grasslands with a mixture of forbs, grasses, and scattered shrubs.	Breeding resident of the California Coast and Central Valley.	**Potential to occur;** marginally suitable habitat (dense grasslands with forbs) is present in the northern section of the study area, however there are no areas with shrubs or nesting substrate within the grassland. There are areas of dense grassland and oak woodland with scattered shrubs in the southern portion of the study area. There are no records of this species within 10 miles of the project area (CDFW 2022b).

Table A-2. Special-Status Wildlife Species with Potential to Occur in the Project Biological Study Area

Scientific Name	Common Name	Regulatory Status[1]			Habitat Requirements	Distribution	Potential for Occurrence[2]
		Federal	State	CDFW			
Aquila chrysaetos	golden eagle	-	-	FP	Rolling foothills, mountainous areas, sage/juniper flats, and desert. Nesting habitat generally cliff-walled canyons near large trees and open areas.	Year-round resident of the majority of California. Non breeding resident in the Central Valley and SE portions of the State.	**No potential to occur;** there is no suitable nesting habitat in the study area, and there is only a minimal amount of appropriate open hunting habitat within the study area. There is only one record of this species in the 9 quadrangles searched, recorded in 1991 and over 12 miles away from study area (CDFW 2022b).
Athene cunicularia (burrow sites and some wintering sites)	burrowing owl	–	–	SSC	Open, dry, annual or perennial grasslands, deserts, and scrublands, characterized by low-growing vegetation. Dependent on burrowing mammals, most notably, the California ground squirrel, for underground nests.	Resident throughout California in suitable habitat.	**Not likely to occur;** marginally suitable habitat exists in the study area (i.e., grasslands with small mammal burrows and mounds which could act as ground perches). However, the grasslands present within the study area are not open or low-growing, since they are not managed or routinely grazed. There are two records of this species within 3 miles of the southern alignment. One record is 2.5 miles away recorded in 2003, and the other is 3 miles from the project area and recorded in 2012 (CDFW 2022b)
Buteo regalis	ferruginous hawk	-	-	WL	Open grasslands, sagebrush flats, desert scrub, low foothills. Fringes on Pinyon and Juniper habitats. Populations often coincide with Lagomorph cycles.	Winter Resident of the majority of California, excluding NW and portions of the Sierras.	**Not likely to occur;** some suitable foraging habitat (grassland) within the study area. Only one wintering/ foraging record of species occurrence in the database search located in non-native grassland over 13 miles southeast of study area in 1991 (CDFW 2022b).

Table A-2. Special-Status Wildlife Species with Potential to Occur in the Project Biological Study Area

Scientific Name	Common Name	Regulatory Status[1]			Habitat Requirements	Distribution	Potential for Occurrence[2]
		Federal	State	CDFW			
Buteo swainsoni (nesting)	Swainson's hawk	–	ST	–	Breeds in grasslands with scattered trees, juniper-sage flats, riparian areas, savannahs, and agricultural or ranch lands with groves or lines of trees. Requires adjacent suitable foraging areas, such as grasslands, or alfalfa or grain fields supporting rodent populations.	Uncommon breeding resident and migrant in the Central Valley, Klamath Basin, Northeastern Plateau, Lassen County, and Mojave Desert.	**Could occur (foraging/nesting);** suitable foraging habitat (grassland) is present in the study area and some suitable nest trees (riparian woodland). There are more than 100 records of this species within the 9 quadrangle search. The two nesting records closest to the northern segment of the trail are located approximately 0.8 miles north of the northern extent of the alignment and are from 2001 and 2003 (CDFW 2022b). The nesting record closest to the southern segment is located approximately 1.6 miles south of the southern alignment along Dry Creek, and is from 2002 (CDFW 2022b).
Coccyzus americanus occidentalis (nesting)	western yellow-billed cuckoo	FT	SE	–	Riparian forest nester, along the broad, lower flood-bottoms of larger river systems. Nests in riparian jungles of willow, often mixed with cottonwoods, with lower story of blackberry, nettles, or wild grape.	Valley, foothill, and desert riparian habitats in scattered locations in California.	**No potential to occur;** marginal nesting habitat is present within and adjacent to the study area, however the most recent record for this species is further than 8 miles away and occurred in 1877 and the species is presumed extirpated (CDFW 2022b).
Elanus leucurus (nesting)	white-tailed kite	–	–	FP	Open grasslands, meadows, or marshes for foraging, close to dense-topped trees for nesting and perching. Nest trees may be growing in isolation, or at the edge of or within a forest.	Coastal and valley lowlands, and cismontane regions of California.	**Known to occur (foraging/nesting);** suitable foraging habitat (grassland) is present and potentially suitable dense-topped nest trees along Dry Creek. There are eight records of the species nesting within 3 miles of the study area, primarily located along Dry Creek and Steelhead Creek (CDFW 2022b). Species was observed (non-nesting) during the 2021 survey effort.
Laterallus jamaicensis coturniculus (year-round)	California black rail	–	ST	FP	Inhabits freshwater marshes, wet meadows, and shallow margins of saltwater marshes bordering larger bays. Needs water depths of about 1 inch that do not fluctuate during the year and dense vegetation for nesting habitat.	San Francisco Bay area, the Delta, coastal southern California at Morro Bay and a few other locations, the Salton Sea, and lower Colorado River area.	**No potential to occur;** no suitable habitat (i.e., marshes or wet meadows) in the study area. No records for this species exist within 10 miles of the study area (CDFW 2022b).

Table A-2. Special-Status Wildlife Species with Potential to Occur in the Project Biological Study Area

Scientific Name	Common Name	Regulatory Status[1]			Habitat Requirements	Distribution	Potential for Occurrence[2]
		Federal	State	CDFW			
Melospiza melodia (year-round)	song sparrow – "Modesto" population	–	–	SSC	Moderately dense vegetation to supply cover for nest sites, a source of standing or running water, semi-open canopies to allow light, and exposed ground or leaf litter for foraging. Seems to prefer emergent freshwater marshes dominated by tules and cattails as well as riparian willow thickets.	Restricted to California, where it is locally numerous in the Sacramento Valley, the Delta, and northern San Joaquin Valley.	**Not likely to occur;** marginally suitable habitat exists within the study area (sections of dense vegetation, water source, and semi-open canopy); however, preferred habitats of emergent freshwater marshes and willow thickets are not present. There are only two records of this species within the 9 quadrangles searched, located 8.5 miles and 15 miles southwest of the project area, in 1877 and 2011, respectively (CDFW 2022b).
Progne subis (nesting)	purple martin	–	–	SSC	Inhabits woodlands, low-elevation coniferous forest of Douglas fir, ponderosa pine, and Monterey pine. Nests mainly in old woodpecker cavities, but also in human-made structures. Nests often are in tall, isolated trees/snags.	Eliminated from much of its previous range in California; in the Sacramento area, nests mostly within the city of Sacramento, as well as limited areas in adjacent Placer and Yolo counties.	**No potential to occur;** no suitable habitat (i.e., coniferous forests woodlands) present in the study area. The only records of nesting purple martin in Sacramento County area are from weep (drain) holes in highway and road overpasses (CDFW 2022b).
Riparia (nesting)	bank swallow	–	ST	–	Colonial nester; nests primarily in riparian and other lowland habitats west of the desert. Requires vertical banks/cliffs with fine-textured/sandy soils near streams, rivers, lakes, and the ocean to dig nesting holes.	Riparian and other lowland habitats in California west of the deserts, during the breeding season.	**Not likely to occur;** no suitable habitat (i.e., vertical sandy banks) in the study area.
Vireo bellii pusillus (nesting)	least Bell's vireo	FE	SE	–	Rare, local, summer resident below about 2,000 feet in willows and other low, dense, valley foothill riparian habitat and lower portions of canyons. Nests placed along margins of bushes or on twigs projecting into pathways, usually in willow, *Baccharis*, and mesquite.	Mostly in San Benito and Monterey counties; in coastal southern California from Santa Barbara County south; and along the western edge of the deserts in desert riparian habitat.	**Not likely to occur;** potentially suitable riparian habitat occurs within and adjacent to study area; however, preferred nesting vegetation types (i.e., willow thickets mesquite, and *Baccharis*) are not present in the study area. The species rarely occurs as far north as Sacramento County.

Table A-2. Special-Status Wildlife Species with Potential to Occur in the Project Biological Study Area

Scientific Name	Common Name	Regulatory Status[1]			Habitat Requirements	Distribution	Potential for Occurrence[2]
		Federal	State	CDFW			
Mammals							
Taxidea taxus	American badger	–	–	SSC	Most abundant in drier open stages of most shrub, forest, and herbaceous habitats, with friable soils. Needs sufficient food, friable soils, and open, uncultivated ground. Preys on burrowing rodents. Digs burrows.	Throughout most of the state, except in the northern North Coast area	**Not likely to occur;** Although medium-sized mammal burrows were observed immediately adjacent to and within portions of the study area, these are most likely fox burrows due to their size (6–7 inches in diameter) and shape (round), and the presence of prey remains near the burrow entrance which is a characteristic behavior of red fox. American badger burrow entrances are always D-shaped and measure 7 to 11 inches across. There are no records of this species within 10 miles of the project area (CDFW 2022b).

Notes for Table A-2:

ESU = federal Endangered Species Act

km = kilometer

ppt = parts per thousand

[1] Regulatory Status Definitions:

Federal Status Categories

FE = Listed as endangered under the Federal Endangered Species Act

FT = Listed as threatened under Federal Endangered Species Act

FC = Listed as candidate under Federal Endangered Species Act

California State Status Categories

SE = Listed as endangered under California Endangered Species Act

ST = Listed as threatened under California Endangered Species Act

California Department of Fish and Wildlife (CDFW) Categories

SSC = Species of Special Concern

FP = Fully Protected

WL = Watch List

[2] **Potential for Occurrence:**

Could Occur: No occurrences of the species have been recorded within the study area; however, the study area is within the species' range, and suitable habitat for the species is present and recorded occurrences of the species are generally present in the vicinity (i.e., within 3 miles of the study area).

Not Likely to Occur: No occurrences of the species have been recorded within or near the study area (i.e., within 3 miles), and either habitat for the species is marginal or potentially suitable habitat may occur, but the species' current known range is restricted to areas far from the study area.

No Potential to Occur: The study area is outside the species' range or suitable habitat for the species is absent from the study area and adjacent areas.

Appendix B | Field Observations: Wildlife

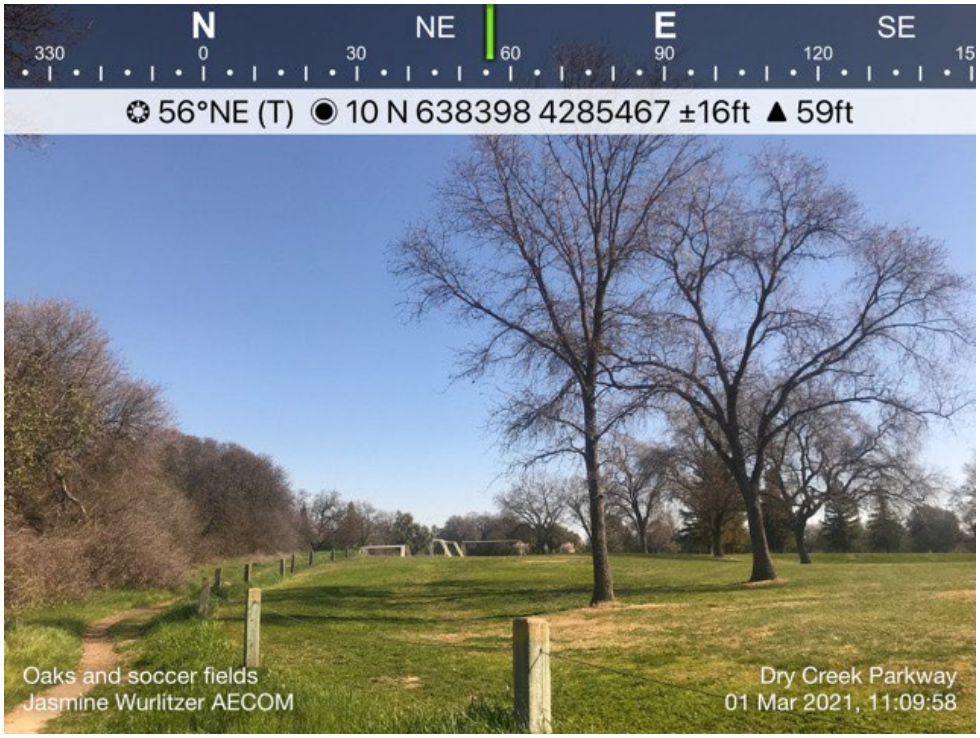
Common Name	***Scientific Name***
Cooper's hawk	*Accipiter cooperii*
Red-winged blackbird	*Agelaius phoeniceus*
Wood duck	*Aix sponsa*
Mallard	*Anas platyrhynchos*
California scrub jay	*Aphelocoma californica*
Great blue heron	*Ardea herodias*
Oak titmouse	*Baeolophus inornatus*
Cedar waxwing	*Bombycilla cedrorum*
Canada goose	*Branta canadensis*
Red-shouldered hawk	*Buteo lineatus*
Green heron	*Butorides virescens*
Anna's hummingbird	*Calypte anna*
Turkey vulture	*Cathartes aura*
Northern flicker	*Colaptes auratus*
Common raven	*Corvus corax*
Nuttall's woodpecker	*Dryobates nuttallii*
White-tailed kite	*Elanus leucurus*
Dark eyed junco	*Junco hyemalis*
Acorn woodpecker	*Melanerpes formicivorus*
Lincoln's sparrow	*Melospiza lincolnii*
California towhee	*Melozone crissalis*
Meadow vole	*Microtus pennsylvanicus*
Northern mockingird	*Mimus polyglottos*
Double-crested Cormorant	*Phalacrocorax auritus*
Spotted towhee	*Pipilo maculatus*
Bushtit	*Psaltriparus minimus*
Ruby-crowned Kinglet	*Regulus calendula*
Black phoebe	*Sayornis nigricans*
Fox squirrel	*Sciurus niger*
Yellow-rumped warbler	*Setophaga coronata*
Western bluebird	*Sialia mexicana*
White-breastednuthatch	*Sitta carolinensis*
Lesser goldfinch	*Spinus psaltria*
Eurasian collared dove	*Streptopelia decaocto*
European starling	*Sturnus vulgaris*
American robin	*Turdus migratorius*
Golden-crowned sparrow	*Zonotrichia atricapilla*
American Mink	*Neovision vison*

Appendix C | Field Observations: Plants

Common Name	***Scientific Name***
box elder	*Acer negundo*
common fiddleneck	*Amsinckia intermedia*
California pipe vine	*Aristolochia californica*
mugwort	*Artemisia douglasiana*
wild oats	*Avena* sp.
field mustard	*Brassica rapa*
red brome	*Bromus madritensis* ssp. *rubens*
ripgut brome	*Bromus diandrus*
shepard's purse	*Capsella bursa-pastoris*
valley sedge	*Carex barbarae*
yellow star thistle	*Centaurea solstitialis*
common chickweed	*Cerastium fontanum*
bull thistle	*Cirsium vulgare*
miner's lettuce	*Claytonia perfoliata*
poison hemlock	*Conium maculatum*
tall cyperus	*Cyperus eragrostis*
fringed willowherb	*Epilobium ciliatum*
willowherb	*Epilobium brachycarpum*
horsetail	*Equisetum hyemale*
filaree	*Erodium* sp.
rattail six weeks fescue	*Festuca myuros*
fennel	*Foeniculum vulgare*
coffee berry	*Frangula californica*
Oregon ash	*Fraxinus latifolia*
cut-leaf geranium	*Geranium dissectum*
dove's foot geranium	*Geranium molle*
pitgland tarweed	*Holocarpha virgata*
foxtail barley	*Hordeum murinum*
common bog rush	*Juncus effusus*
prickly lettuce	*Lactuca serriola*
privet	*Ligustrum* sp.
sweetgum	*Liquidambar styraciflua*
miniature lupine	*Lupinus bicolor*
scarlet pimpernel	*Lysimachia arvensis*
California man-root	*Marah fabacea*
white horehound	*Marrubium vulgare*
sour grass	*Oxalis stricta*
English plantain	*Plantago lanceolata*

Common Name	***Scientific Name***
annual bluegrass	*Poa annua*
almond	*Prunus dulcis*
Callery pear	*Pyrus calleryana*
valley oak	*Quercus lobata*
interior live oak	*Quercus wislizeni*
wild radish	*Raphanus* sp.
black locust	*Robinia pseudoacacia*
California wild rose	*Rosa californica*
Himalayan blackberry	*Rubus armeniacus*
dock	*Rumex* sp.
elderberrry	*Sambucus nigra ssp. caerulea*
milk thistle	*Silybum marianum*
dandelion	*Taraxacum officinale*
field hedge parsley	*Torilis arvensis*
poison oak	*Toxicodendron diversilobum*
white clover	*Trifolium repens*
shore vervain	*Verbena litoralis*
winter vetch	*Vicia villosa* ssp. *varia*
rough cocklebur	*Xanthium strumarium*

Appendix D | Representative Photographs




N NE E SE
0 30 60 90 120 150
83°E (T) 10 N 638959 4285392 ±16ft 48ft
Valley oak riparian
Jasmine Wurlitzer AECOM
Dry Creek Parkway
02 Mar 2021, 10:38:23


NW N NE E
300 330 0 30 60 90
19°N (T) 10 N 638959 4285930 ±16ft 49ft
28th Avenue
Jasmine Wurlitzer AECOM
Dry Creek Parkway
02 Mar 2021, 13:15:10


W NW N NE
270 300 330 0 30 60
343°N (T) 10 N 639246 4287736 ±16ft 49ft
Dry Creek top of bank
Jasmine Wurlitzer AECOM
Dry Creek Parkway
03 Mar 2021, 10:39:48


NW N NE E
300 330 0 30 60 90
19°N (T) 10 N 639261 4287618 ±16ft 57ft
Oak savannah
Jasmine Wurlitzer AECOM
Dry Creek Parkway
03 Mar 2021, 11:26:54


SE
S
SW
W
120
150
180
210
240
270
201°S (T) 10 N 639123 4287078 ±16ft 59ft
Golf course east of trail alignment
Jasmine Wurlitzer AECOM
Dry Creek Parkway
04 Mar 2021, 08:35:27


NE
E
SE
S
30
60
90
120
150
180
116°SE (T) 10 N 639227 4287743 ±16ft 65ft
Proposed bridge crossing
Jasmine Wurlitzer AECOM
Dry Creek Parkway
07 Mar 2021, 12:50:01

AECOM
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Sacramento, CA 95811