Appendix BR-1

Biological Resources Assessment

DRAFT

Biological Resources Assessment

Watt EV Electric Vehicle Charging Project

SEPTEMBER 2023

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Acronyms and Abbreviations

Acronym/Abbreviation	Definition
BSA	Biological Study Area
CCR	California Code of Regulations
CDFW	California Department of Fish and Wildlife
CEQA	California Environmental Quality Act
CESA	California Endangered Species Act
CFR	Code of Federal Regulations
CNDDB	California Natural Diversity Database
CNPS	California Native Plant Society
County	County of Sacramento
CRPR	California Rare Plant Rank
CWA	Clean Water Act
EV	Electric Vehicle
EPA	U.S. Environmental Protection Agency
ESA	Endangered Species Act
IPaC	Information for Planning and Conservation
MBTA	Migratory Bird Treaty Act
RWQCB	Regional Water Quality Control Board
USACE	U.S. Army Corps of Engineers
USFWS	U.S. Fish and Wildlife Service

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1 Environmental Setting

1.1 Site Location

The Biological Study Area (BSA) associated with the Sacramento Electric Vehicle Charging Project (Project), is located near the southwest of the intersection of Power Line Road and Bayou Way in the County of Sacramento, California. The approximately BSA consists of 142.2 acres (Figure 1, Project Location) including five parcels (Assessor's Parcel Numbers 22500100030000, 22500100350000, 22500100360000, 22500100060000, and 22500100090000) as well as selected off-site areas including the frontage of Bayou Way, a linear path for interconnection to a substation, and three intersection areas that would require recontouring of existing disturbed areas to accommodate truck turning movements. The BSA is situated in Township 6 North, Range 4 East, Sections 6 of the 7.5-minute U.S. Geological Survey Taylor Monument quadrangle (Figure 2, Project Site). The approximate center of the BSA corresponds to 38.667122° latitude and -121.582176° longitude.

1.2 Topography and Soils

The BSA is relatively flat, with an approximate elevation of 10 feet above mean sea level. According to the Natural Resources Conservation Service (USDA 2023a), two soil types are mapped on the BSA: Capay clay loam, occasionally flooded, 0-2 percent slopes and Cosumnes silt loam, partially drained, 0-2 percent slopes (Figure 3, Project Soils). The Capay series occur in basin floors and consist of moderately drained soils formed from alluvium. The Cosumnes series is a somewhat poorly drained series found in flood plains, and the series is also formed from alluvium derived from igneous and metamorphic rock. The Cosumnes series is classified as a hydric soil, meaning the soils tend to pond water consistently enough to support the growth of wetland vegetation. Hydric soils are often associated with wetlands or other waters.

1.3 Current and Past Land Use

Based on review of historic aerial images, the agricultural fields of the BSA main parcels have been in continuous dryland crop use for the last two decades (Google Earth 2023).

1.4 Hydrologic Setting

The BSA occurs within the Lower Sacramento watershed (Hydrologic Unit Codes 18020109 (USGS 2023). The primary drainage of the project vicinity is the Sacramento River. Its larger tributaries are the Pit, Feather, Yuba, Bear, and American Rivers to the east; and Cottonwood, Stony, Cache, and Putah Creeks to the west. The remaining inputs come from streams entering from smaller watersheds along the river and from agricultural and storm drain systems (RWQCBCVR 2009).

The U.S. Fish and Wildlife Service (USFWS) National Wetlands Inventory (NWI) identifies one blueline riverine feature, a roadside ditch along Bayou Way, in the BSA (USFWS 2023a). In addition, the BSA is located within the 100-year flood zone according to Federal Emergency Management Agency (FEMA 2023).

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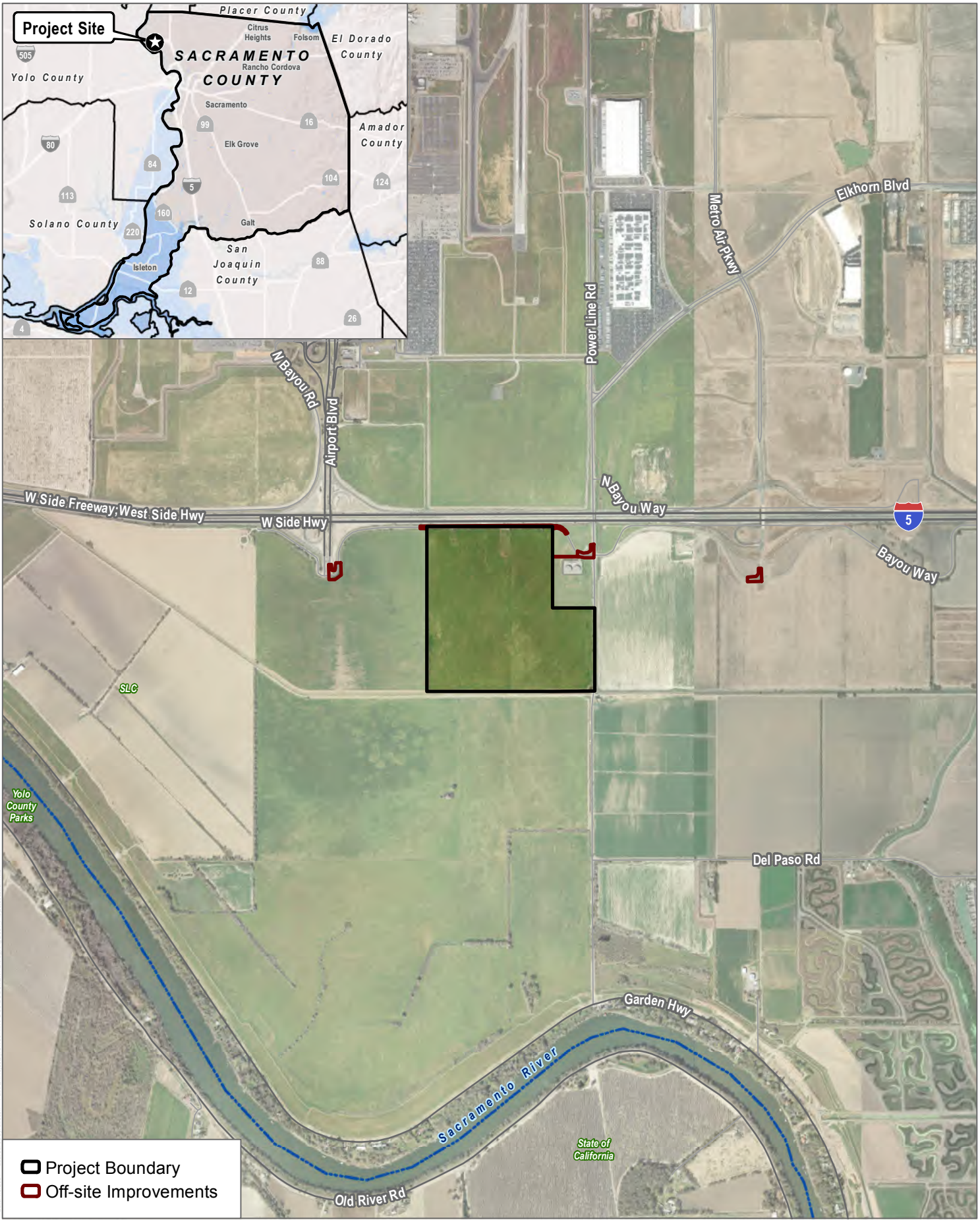

SOURCE: ESRI Imagery 2023, Open Street Map 2019

DUDEK

0 1,000 2,000 Feet

FIGURE 1

Project Location

SMF Watt EV Project

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SOURCE: ESRI Imagery 2023, Open Street Map 2019

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FIGURE 2

Project Site

SMF Watt EV Project

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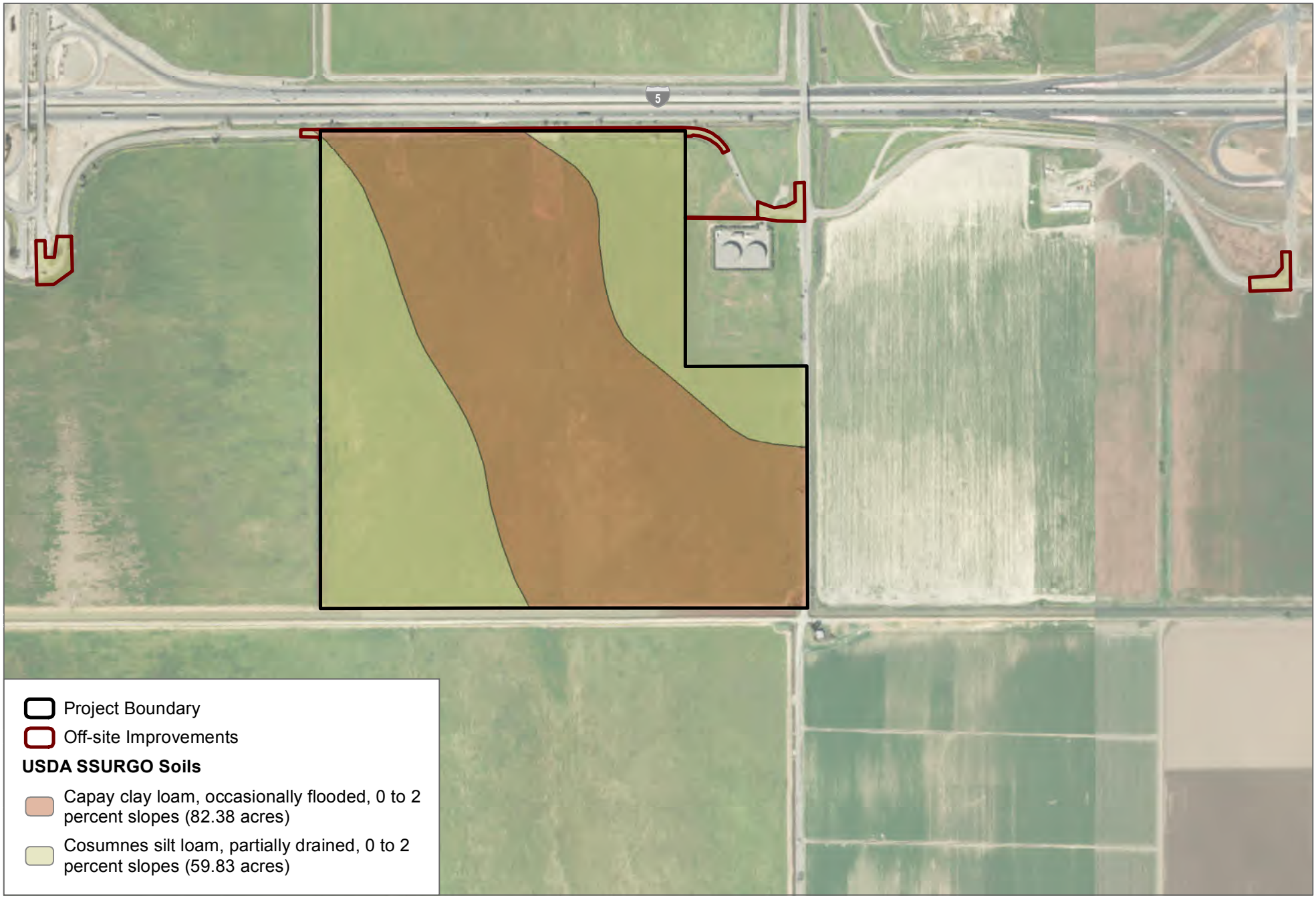

SOURCE: ESRI Imagery 2023, Open Street Map 2019, USDA 2009

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FIGURE 3

Soils

SMF Watt EV Project

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2 Regulatory Setting

2.1 Federal

2.1.1 Federal Endangered Species Act

The federal Endangered Species Act (ESA) of 1973 (16 USC 1531 et seq.), as amended, is administered by the USFWS for most plant and animal species and by the National Oceanic and Atmospheric Administration National Marine Fisheries Service for certain marine species. This legislation is intended to provide a means to conserve the ecosystems upon which endangered and threatened species depend and provide programs for the conservation of those species, thus preventing extinction of plants and wildlife. The ESA defines an endangered species as "any species which is in danger of extinction throughout all or a significant portion of its range." A threatened species is defined as "any species which is likely to become an endangered species within the foreseeable future throughout all or a significant portion of its range." Under the ESA, it is unlawful to take any listed species; the ESA defines "take" as to "harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or to attempt to engage in any such conduct."

The ESA allows for the issuance of incidental take permits for listed species under Section 7, which is generally available for projects that also require other federal agency permits or other approvals, and under Section 10, which provides for the approval of habitat conservation plans on private property without any other federal agency involvement. Upon development of a habitat conservation plan, USFWS can issue incidental take permits for listed species.

2.1.2 Migratory Bird Treaty Act

The Migratory Bird Treaty Act (MBTA) was originally passed in 1918 as four bilateral treaties, or conventions, for the protection of a shared migratory bird resource. The primary motivation for the international negotiations was to stop the "indiscriminate slaughter" of migratory birds by market hunters and others. Each of the treaties protects selected species of birds and provides for closed and open seasons for hunting game birds. The MBTA protects over 800 species of birds and prohibits the take of any migratory bird or any part, nest, or eggs of any such bird. Under the MBTA, "take" is defined as pursuing, hunting, shooting, capturing, collecting, or killing, or attempting to do so (16 USC 703 et seq.). Additionally, Executive Order 13186, Responsibilities of Federal Agencies to Protect Migratory Birds, requires that any project with federal involvement address impacts of federal actions on migratory birds with the purpose of promoting conservation of migratory bird populations (66 FR 3853–3856). The Executive Order requires federal agencies to work with USFWS to develop a memorandum of understanding. USFWS reviews actions that might affect these species.

Two species of eagles that are native to the United States, the bald eagle (*Haliaeetus leucocephalus*) and golden eagle (*Aquila chrysaetos*), were granted additional protection within the United States under the Bald and Golden Eagle Protection Act (16 USC 668–668d) to prevent the species from becoming extinct.

2.1.3 Clean Water Act

The Clean Water Act (CWA) is the major federal legislation governing water quality, providing guidance for the restoration and maintenance of the chemical, physical, and biological integrity of the nation's waters. Section 401 of the CWA requires an applicant for a federal license or permit that may result in a discharge of pollutants into waters of the United States to obtain state certification, thereby ensuring that the discharge will comply with provisions of the CWA. The State Water Resources Control Board and Regional Water Quality Control Boards (RWQCBs) administer the Section 401 certification program in California. Section 402 of the CWA establishes a permitting system for the discharge of any pollutant (except dredged or fill material) into waters of the United States. Section 404 establishes a permit program administered by the U.S. Army Corps of Engineers (USACE) that regulates the discharge of dredged or fill material into waters of the United States, including wetlands. USACE implementing regulations are found in 33 Code of Federal Regulations (CFR) Parts 320 to 332. Guidelines for implementation are referred to as the Section 404(b)(1) Guidelines, which were developed by the U.S. Environmental Protection Agency (EPA) in conjunction with USACE (40 CFR 230). The guidelines allow the discharge of dredged or fill material into the aquatic ecosystem only if there is no practicable alternative that would have less adverse impacts.

Wetlands and Other Waters of the United States

The definition of waters of the United States establishes the geographic scope for authority under Section 404 of the CWA; however, the CWA does not specifically define waters of the United States, leaving the definition open to statutory interpretation and agency rulemaking. The definition of what constitutes "waters of the United States" (provided in 33 CFR Section 328.3(a)) has changed multiple times over the past few decades starting with the *United States v. Riverside Bayview Homes, Inc*. court ruling in 1985. Subsequent court proceedings, rule makings, and congressional acts in 2001 (*Solid Waste Agency of Northern Cook County v. United States Army Corps of Engineers*), 2006 (*Rapanos v. United States*), 2015 (Clean Water Rule), 2018 (suspension of the Clean Water Rule), 2019 (formal repeal of the Clean Water Rule), 2020 (Navigable Waters Protection Rule, NWPR), and 2021 (*Pasqua Tribe et al v. United States Environmental Protection Agency* resulting in remand and vacatur of the NWPR and a return to "the pre-2015 regulatory regime") have attempted to provide greater clarity to the term and its regulatory implementation.

The term "wetlands" (a subset of waters of the United States) is defined in 33 CFR, Section 328.3(c)(16), as "areas that are inundated or saturated by surface or ground water at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions. Wetlands generally include swamps, marshes, bogs, and similar areas." In the absence of wetlands, the limits of USACE jurisdiction in non-tidal waters, such as intermittent streams, extend to the "ordinary high water mark," which is defined in 33 CFR 328.3(c)(7) as "that line on the shore established by the fluctuations of water and indicated by physical characteristics such as a clear, natural line impressed on the bank, shelving, changes in the character of soil, destruction of terrestrial vegetation, the presence of litter and debris, or other appropriate means that consider the characteristics of the surrounding areas."

On May 25, 2023, the Supreme Court issued its long-anticipated decision in *Sackett v. EPA*, in which it rejected the EPA's claim that "waters of the United States," as defined in the CWA, includes wetlands with an ecologically significant nexus to traditional navigable waters. The Supreme Court held that only those wetlands with a continuous surface water connection to traditional navigable waterways would be afforded federal protection under the CWA. Specifically, to assert jurisdiction over an adjacent wetland under the CWA, a party must establish that (1) the adjacent body of water constitutes water[s] of the United States' (i.e., a relatively permanent body of water connected to traditional interstate navigable waters) and (2) the wetland has a continuous surface connection with

that water, making it difficult to determine where the water ends and the wetland begins. A Final Rule was published by the EPA in August 2023 that established consistency with the *Sackett v. EPA* decision.

2.2 State

2.2.1 California Endangered Species Act

The California Department of Fish and Wildlife (CDFW) administers the California Endangered Species Act (CESA), which prohibits the "take" of plant and animal species designated by the California Fish and Game Commission as endangered or threatened in the state of California. Under CESA Section 86, take is defined as "hunt, pursue, catch, capture, or kill, or attempt to hunt, pursue, catch, capture, or kill." CESA Section 2053 stipulates that state agencies may not approve projects that will "jeopardize the continued existence of any endangered species or threatened species or result in the destruction or adverse modification of habitat essential to the continued existence of those species, if there are reasonable and prudent alternatives available consistent with conserving the species or its habitat which would prevent jeopardy."

CESA defines an endangered species as "a native species or subspecies of a bird, mammal, fish, amphibian, reptile, or plant which is in serious danger of becoming extinct throughout all, or a significant portion, of its range due to one or more causes, including loss of habitat, change in habitat, overexploitation, predation, competition, or disease." CESA defines a threatened species as "a native species or subspecies of a bird, mammal, fish, amphibian, reptile, or plant that, although not presently threatened with extinction, is likely to become an endangered species in the foreseeable future in the absence of the special protection and management efforts required by this chapter. Any animal determined by the [California Fish and Game] Commission as rare on or before January 1, 1985, is a threatened species." A candidate species is defined as "a native species or subspecies of a bird, mammal, fish, amphibian, reptile, or plant that the Commission has formally noticed as being under review by the department for addition to either the list of endangered species or the list of threatened species, or a species for which the Commission has published a notice of proposed regulation to add the species to either list." CESA does not list invertebrate species.

CESA authorizes the taking of threatened, endangered, or candidate species if take is incidental to otherwise lawful activity and if specific criteria are met. These provisions also require CDFW to coordinate consultations with USFWS for actions involving federally listed species that are also state-listed species. In certain circumstances, CESA allows CDFW to adopt a CESA incidental take authorization as satisfactory for California Environmental Quality Act (CEQA) purposes based on finding that the federal permit adequately protects the species and is consistent with state law.

A CESA permit may not authorize the take of "fully protected" species that are protected in other provisions of the California Fish and Game Code, discussed further below.

2.2.2 California Fish and Game Code

Under the California Fish and Game Code, CDFW provides protection from "take" for a variety of species, including Sections 3511 (birds), 4700 (mammals), 5050 (reptiles and amphibians), and 5515 (fish) of the California Fish and Game Code provide that designated fully protected species may not be taken or possessed without a permit. Incidental take of these species is not authorized by law. Pursuant to Section 3503.5 of the California Fish and Game Code, it is unlawful to take, possess, or destroy any birds of prey; or to take, possess, or destroy any nest or

eggs of such birds. Birds of prey refer to species in the orders Falconiformes and Strigiformes. Nests of all other birds (except English sparrow [*Passer domesticus*] and European starling [*Sturnus vulgaris*]) are protected under Sections 3503 and 3513 of the California Fish and Game Code.

Under Sections 1600–1616 of the California Fish and Game Code, the CDFW regulates activities that would alter the flow, bed, channel, or bank of streams and lakes. Diversion, obstruction, or changes to the natural flow or bed, channel, or bank of any river, stream, or lake that supports fish or wildlife requires authorization from CDFW by means of entering into an agreement pursuant to Section 1602 of the California Fish and Game Code. The limits of CDFW's jurisdiction are defined in the code as the "bed, channel or bank of any river, stream, or lake designated by the department in which there is at any time an existing fish or wildlife resource or from which these resources derive benefit" (Section 1601). In practice, CDFW usually delineates its jurisdictional limit at the top of the stream or bank, or at the outer edge of the riparian vegetation, whichever is wider.

2.2.3 Porter–Cologne Water Quality Control Act

The Porter–Cologne Water Quality Control Act (Porter–Cologne Act) protects water quality and the beneficial uses of water. It applies to surface water and groundwater. Under this law, the State Water Resources Control Board develops statewide water quality plans, and the RWQCBs develop regional basin plans that identify beneficial uses, water quality objectives, and implementation plans. The RWQCBs have the primary responsibility to implement the provisions of statewide plans and basin plans. Waters regulated under the Porter–Cologne Act include isolated waters that are not regulated by USACE. RWQCBs regulate discharging waste, or proposing to discharge waste, within any region that could affect a "water of the state" (California Water Code, Section 13260[a]). Waters of the state are defined as "any surface water or groundwater, including saline waters, within the boundaries of the state" (California Water Code, Section 13050[e]). Developments with impacts on jurisdictional waters must demonstrate compliance with the goals of the Porter–Cologne Act by developing stormwater pollution prevention plans, standard urban stormwater mitigation plans, and other measures to obtain a CWA Section 401 certification. If a CWA Section 404 permit is not required for the project, the RWQCB may still require a permit (i.e., Waste Discharge Requirement) for impacts to waters of the state under the Porter–Cologne Act.

2.2.4 California Environmental Quality Act

CEQA (California Public Resources Code, Section 21000 et seq.) and the CEQA Guidelines (14 CCR 15000 et seq.) require identification of a project's potentially significant impacts on biological resources and feasible mitigation measures and alternatives that could avoid or reduce significant impacts. CEQA Guidelines Section 15380(b)(1) defines endangered animals or plants as species or subspecies whose "survival and reproduction in the wild are in immediate jeopardy from one or more causes, including loss of habitat, change in habitat, overexploitation, predation, competition, disease, or other factors" (14 CCR 15000 et seq.). A rare animal or plant is defined in CEQA Guidelines Section 15380(b)(2) as a species that, although not currently threatened with extinction, exists "in such small numbers throughout all or a significant portion of its range that it may become endangered if its environment worsens; or…[t]he species is likely to become endangered within the foreseeable future throughout all or a significant portion of its range and may be considered 'threatened' as that term is used in the federal Endangered Species Act." Additionally, an animal or plant may be presumed to be endangered, rare, or threatened if it meets the criteria for listing, as defined further in CEQA Guidelines Section 15380(c). CEQA also requires identification of a project's potentially significant impacts on riparian habitats (such as wetlands, bays, estuaries, and marshes) and other sensitive natural communities, including habitats occupied by endangered, rare, and threatened species.

In Title 14 of the California Code of Regulations (CCR), Section 1.72, CDFW defines a "stream" (including creeks and rivers) as "a body of water that flows at least periodically or intermittently through a bed or channel having banks and supports fish or other aquatic life. This includes watercourses having surface or subsurface flow that supports or has supported riparian vegetation."

In 14 CCR 1.56, CDFW's definition of "lake" includes "natural lakes or man-made reservoirs." Diversion, obstruction, or changes to the natural flow or bed, channel, or bank of any river, stream, or lake that supports fish or wildlife requires authorization from CDFW by means of entering into an agreement pursuant to Section 1602 of the California Fish and Game Code.

CDFW recognizes that all plants with California Rare Plant Rank (CRPR) 1A, 1B, and 2 and some with CRPR 3 of the California Native Plant Society Inventory of Rare and Endangered Plants in California may meet the criteria for listing as threatened or endangered and should be considered under CEQA (CNPS 2023a). Some of the CRPR 3 and 4 plants meet the criteria for determination as "rare" or "endangered" as defined in Section 1901, Chapter 10 (Native Plant Protection Act), Division 2, of the California Fish and Game Code, as well as Section 2062 and Section 2067, Chapter 1.5 (CESA), Division 3. Therefore, consideration under CEQA for these CRPR 3 and 4 species is strongly recommended by the California Native Plant Society (CNPS 2023a).

For purposes of this report, animals considered "rare" under CEQA include endangered or threatened species, Birds of Conservation Concern (USFWS 2021), California Species of Special Concern (CDFW 2023a), and fully protected species.

Section IV, Appendix G (Environmental Checklist Form) of the CEQA Guidelines (14 CCR 15000 et seq.) requires an evaluation of impacts to "any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations, or by the California Department of Fish and Game [now CDFW] or the U.S. Fish and Wildlife Service."

3 Methods

3.1 Literature Review

Prior to conducting the field survey, Dudek reviewed pertinent online and literature sources in August 2023. This review consisted of the following online databases and reports: the USFWS Information, Planning, and Conservation (IPaC) Trust Resource Report, CDFW California Natural Diversity Database (CNDDB), and the California Native Plant Society (CNPS) online Inventory of Rare and Endangered Vascular Plants. The IPaC report was based on a query for the BSA (USFWS 2023b). The CNDDB and CNPS databases were queried for the nine USGS 7.5-minute quadrangles containing and immediately surrounding the BSA (*Sacramento West, Taylor Monument, Rio Linda, Pleasant Grove, Verona, Sacramento East, Knights Landing, Grays Bend and Davis*). Figure 4 provides known occurrence locations of special-status species and database search results within a 2-mile radius of the BSA.

Following a review of the above resources, Dudek biologists determined the potential for special-status plant and wildlife species to occur onsite. Determinations were based on a review of habitat types, soils, and elevation preferences, as well as the known geographic range and nearest occurrence records of each species. No protocol-level surveys for special-status species were conducted; the field survey was focused on evaluating the potential for the BSA to provide habitat for these species. However, Dudek did conduct protocol-level surveys for

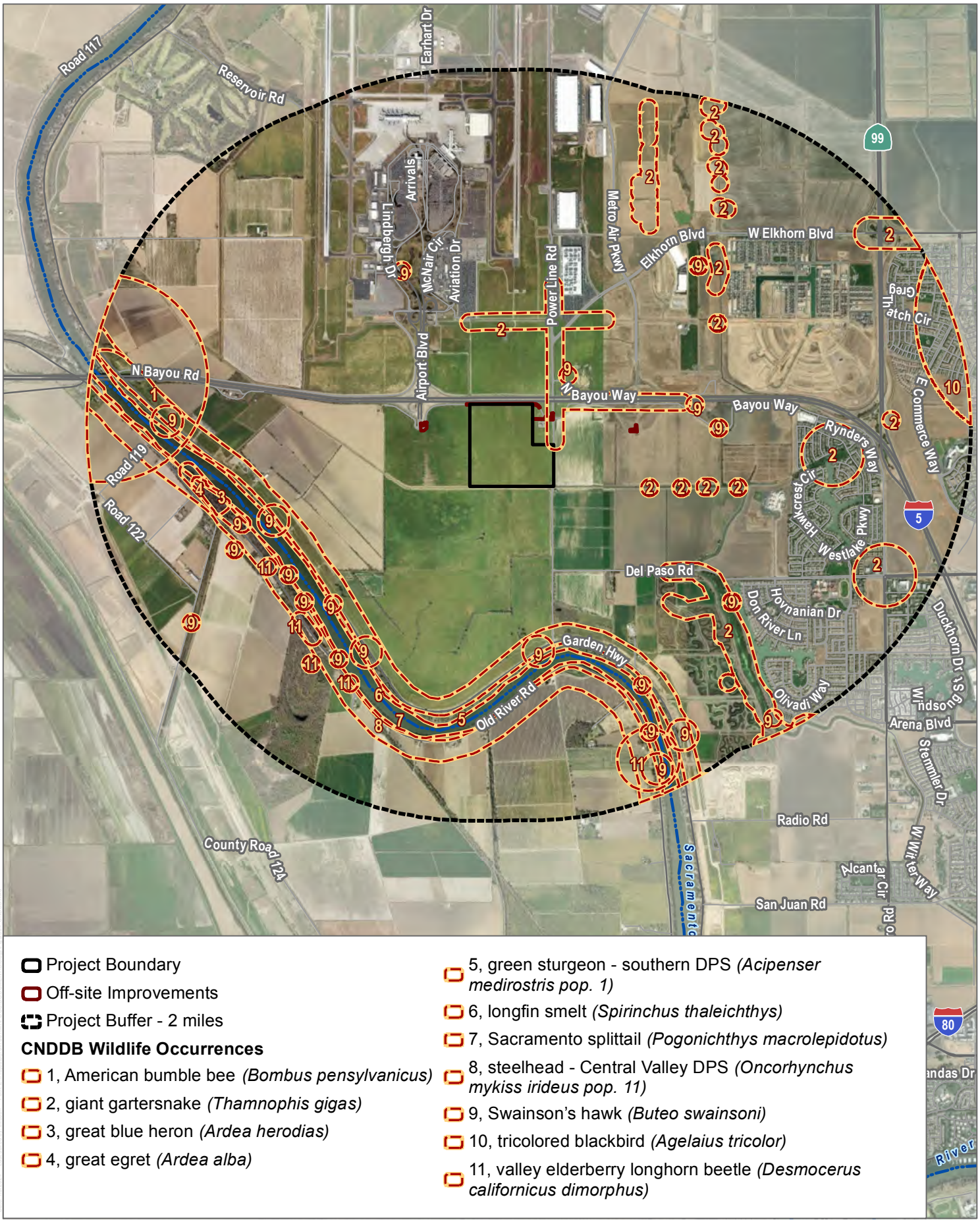
Swainson's hawk (*Buteo swainsoni*) in 2020 as part of another project, and those results are incorporated in this analysis (Dudek 2020, unpublished data). The potential for occurrence of each species was summarized according to the categories listed below.

- **Known to occur:** the species has been documented in the BSA by a reliable source.
- **High potential to occur:** the species has not been documented in the BSA but is known to recently occur in the vicinity and suitable habitat is present.
- **Moderate potential to occur:** the species has not been documented in the BSA or vicinity, but the site is within the known range of the species and suitable habitat for the species is present.
- **Low potential to occur:** the species has not been documented in the BSA or vicinity, but the site is within the known range of the species; however, suitable habitat for the species is of low quality.
- **Not expected to occur:** the BSA is outside the known geographic or elevational range of the species and/or does not support suitable habitat for the species.

For this report, special-status plant and wildlife species are defined as those that are (1) listed, proposed for listing, or candidates for listing as Threatened or Endangered under the federal Endangered Species Act; (2) listed or candidates as Threatened or Endangered for listing under the California Endangered Species Act; (3) a state fully protected species; (4) a CDFW Species of Special Concern; or (5) a species listed on the CNPS Inventory of Rare and Endangered Plants with a California Rare Plant Rank (CRPR) of 1 or 2.

3.2 Field Reconnaissance

Dudek biologist Paul Keating performed a field survey of the BSA main parcels and vicinity on August 14, 2023. The survey was conducted on foot to visually cover the entire BSA. Field notes, an aerial photograph with an overlay of the property boundary, and a GPS unit were used to map vegetation communities and record any sensitive biological resources within the BSA. Because the field visit was conducted outside of the blooming season for special-status plants and the breeding season for wildlife species known to occur in the Project region, no protocol-level or focused surveys for special-status species were conducted. As such, the focus of the field visit was to assess overall habitat suitability for the target species identified as a result of the literature and database review described in Section 3.1. Wildlife species detected during the field survey by sight, calls, tracks, scat, or other signs were recorded directly into a field notebook.



- Project Boundary
- Off-site Improvements
- Project Buffer - 2 miles

CNDDB Wildlife Occurrences

- 1, American bumble bee *(Bombus pensylvanicus)*
- 2, giant gartersnake *(Thamnophis gigas)*
- 3, great blue heron *(Ardea herodias)*
- 4, great egret *(Ardea alba)*
- 5, green sturgeon - southern DPS *(Acipenser medirostris pop. 1)*
- 6, longfin smelt *(Spirinchus thaleichthys)*
- 7, Sacramento splittail *(Pogonichthys macrolepidotus)*
- 8, steelhead - Central Valley DPS *(Oncorhynchus mykiss irideus pop. 11)*
- 9, Swainson's hawk *(Buteo swainsoni)*
- 10, tricolored blackbird *(Agelaius tricolor)*
- 11, valley elderberry longhorn beetle *(Desmocerus californicus dimorphus)*

SOURCE: ESRI Imagery 2023, CDFW 2023, Open Street Map 2019

DUDEK

0 2,000 4,000 Feet

FIGURE 4

CNDDB Occurrences

SMF Watt EV Project

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4 Results

4.1 Vegetation Communities and Land Cover Types

Land cover in the BSA consists of terrestrial non-vegetative land covers and natural vegetation communities. The vegetation communities and land covers have been adapted from the Manual of California Vegetation, Online Edition (CNPS 2023b). Two vegetation communities and four land cover types were documented in the BSA (Table 1; Figure 5, Vegetation Communities and Land Cover Types).

Table 1. Vegetation Communities and Land Cover Types in the BSA

CDFW Alliance Code	Vegetation Community or Land Cover Type	Rarity Rank		Acreage
		Global	State	
Vegetation Communities				
61.130.08	Rubus armeniacus	GNA	SNA	0.23
42.027.00	California annual grassland	GNA	SNA	2.04
Land Cover Types				
N/A	General Agriculture	N/A	N/A	134.02
N/A	Disturbed	N/A	N/A	1.89
N/A	Urban/Developed	N/A	N/A	3.89
N/A	Open Water	N/A	N/A	0.16
			Total:	**142.21**

Notes: N/A = Not applicable. State ranks: SNA = not applicable. Global ranks: GNA = not applicable.

Rubus Armeniacus. This community includes common fig (*Ficus carica*), Himalayan blackberry (*Rubus armeniacus*) *or Rattlebox (Sesbania punicea)* as dominant or co-dominant in the substory with minimal emergent tree cover. Himalayan blackberry has intermittent to continuous cover in the shrub layer less than 10 meters in height (CNPS 2023b). This community occurs in patches along Bayou Way and the western irrigation canal.

California Annual Grassland. This community is dominated by non-native grasses of European origin including but not limited to wild oats (*Avena* spp.), bromes (*Bromus* spp., wild barley (*Hordeum spontaneum*), and foxtail fescue (*Festuca* spp.). This community occurs within off-site locations including the Bayou Road frontage and the intersection improvement area of Airport Boulevard.

General Agriculture. General agricultural land cover is comprised of areas actively cultivated for food crops. These areas are typically subject to annual soil disturbance through disking, tilling, and harvesting, and may also receive supplemental irrigation. The agricultural farming method utilized within the BSA consists of dryland farming. Dryland farming typically includes grain or livestock feed crops such as barley, oats, or other grains. Dryland crop areas are typically tilled and harvested annually, with some areas remaining fallow for a year or more. General Agriculture is the dominant landcover covering the majority of the BSA.

Disturbed Habitat. Disturbed habitat refers to areas where soil has been recently or repeatedly disturbed by grading, compaction, or clearing of vegetation. Structures are typically not present within disturbed habitats, and these areas

provide relatively low value for most plant and wildlife species. When vegetated, disturbed habitat supports predominantly non-native plant species such as ornamentals or ruderal exotic species that take advantage of disturbance. Disturbed habitat occurs along the southern portion of the BSA abutting the adjacent irrigation canal and in portions of the off-site improvement areas.

Urban/Developed. Urban/developed land covers refer to those where structures, roads, and other human development are constructed. These land covers provide little to no habitat value for native plants or animal species. Urban/developed land covers within the BSA are limited to the off-site improvement areas along Bayou Road, intersection improvement areas, and the road frontage along the eastern edge of the main parcels.

Open Water. Open water is described as ponded bodies of water persisting year-round that consist of less than 10% vegetative cover. Open water may support submerged aquatic communities and can contain various substrate compositions, largely determined by the surrounding environment. Areas mapped as open water include the irrigation canals present around the southern and western border of the BSA.

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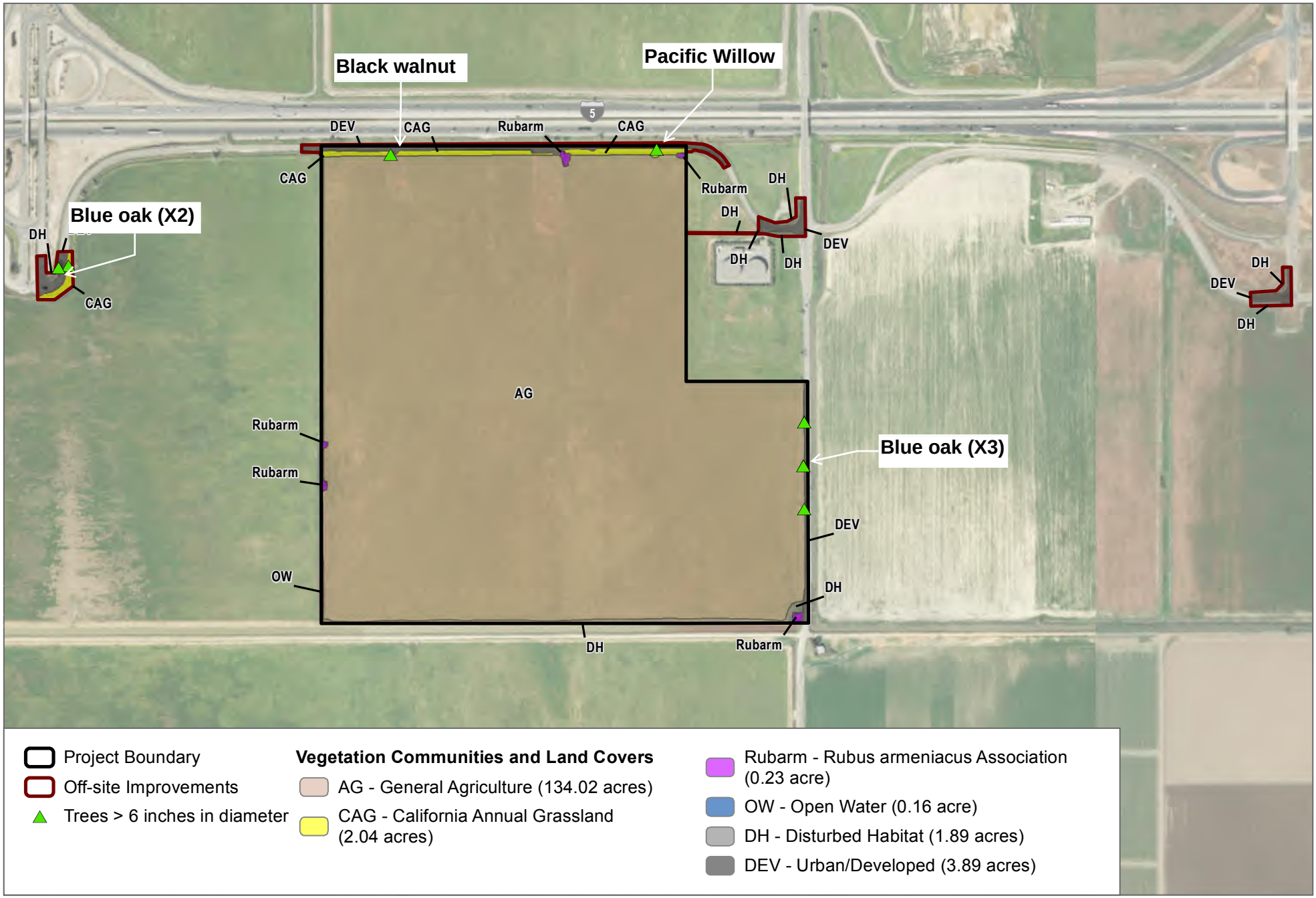

SOURCE: ESRI Imagery 2023, Open Street Map 2019, EDAW 2007

DUDEK

0 355 710 Feet

FIGURE 5

Vegetation Communities and Land Cover Types

SMF Watt EV Project

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4.2 Flora

A total of 23 native or naturalized plant species, 6 native (26%) and 17 non-native (74%), were recorded in the site during the 2023 field survey. A list of all plant species observed in the site during the survey is presented in Appendix A.

4.3 Fauna

Three wildlife species were recorded in the site during the field survey (Appendix B). All were birds observed perched near Bayou Way or flying overhead and included turkey vulture (*Cathartes aura*), northern mockingbird (*Mimus polyglottos*), and Eurasian collared-dove (*Streptopelia decaocto*).

4.4 Special-Status Biological Resources

4.4.1 Sensitive Vegetation Communities

The CNDDB database query of the nine USGS 7.5-minute quadrangles containing and immediately surrounding the BSA identified five sensitive natural communities[1]: Elderberry Savanna, Great Valley cottonwood riparian forest, Great Valley mixed riparian forest, northern claypan vernal pool, and northern hardpan vernal pool. No sensitive vegetation communities were identified within the BSA. In addition to the sensitive natural communities identified in the CNDDB database, the BSA was evaluated for other special-status habitats that are considered rare within the region, or support special-status plants or animals. Disturbed habitat, non-native herbaceous, shrub, and agricultural lands are not special-status or sensitive natural communities.

4.4.2 Potential Jurisdictional Aquatic Resources

A formal jurisdictional delineation of the BSA was not conducted during the August field survey. However, a comprehensive jurisdictional delineation of the Sacramento International Airport and vicinity was conducted by Dudek biologists in 2016 which included the BSA main parcels and Bayou Way road frontage (Dudek 2017 unpublished data, Figure 6). That delineation identified several drainage ditches along the Bayou Way frontage and along the west and southern edges of the BSA main parcels. At the time, those features were considered potentially subject to USACE jurisdiction due to potential connectivity to other jurisdictional waters. However, based on the August 2023 EPA Final Rule, these waters would not be considered USACE jurisdictional. Regardless, they would likely be jurisdictional waters for the Regional Water Quality Control Board under the Porter-Cologne Water Quality Control Act. No areas containing an obvious dominance of wetland plants within the BSA main parcels were observed during the 2016 wetland delineation or during the 2023 reconnaissance survey.

[1] "Sensitive Natural Communities" are those that are listed by the CDFW due to the rarity of the community in the California. These communities have a State Rarity Ranking of S3 or lower.

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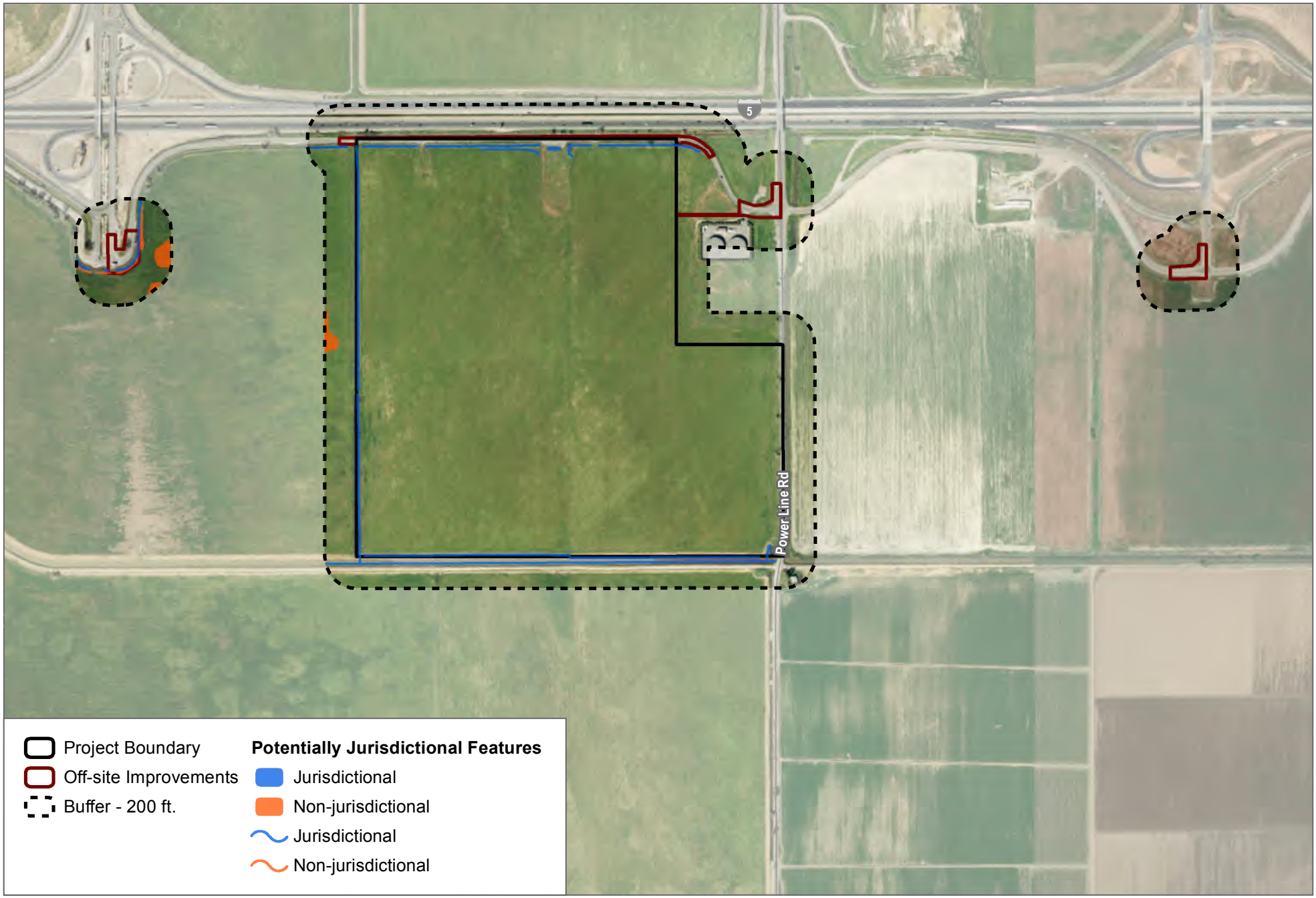


SOURCE: ESRI Imagery 2023, SMF 2020, Open Street Map 2019

DUDEK

0 405 810 Feet

FIGURE 6

Aquatic Resources - 2016 Delineation Including BSA Main Parcel

SMF Watt EV Project

4.4.3 Special-Status Plants

Sixteen special status plants have been documented in the BSA vicinity (see Appendix C). All are considered unlikely to occur due to lack of suitable habitat within or adjacent to the BSA, ongoing agricultural disturbance of the BSA main parcels, no known occurrences within 2 miles of the BSA, and/or the BSA being outside of the species' known geographic or elevation range. These species are identified in Appendix C, but not addressed further in this report.

4.4.4 Special-Status Wildlife

Results of the USFWS and CNDDB database searches revealed 40 special-status wildlife species that are known to occur in the BSA region. Of the 40 species, 32 of these species were determined to have a low potential to occur or are not expected to occur due to the lack of suitable habitat or the presence of very low-quality habitat within or adjacent to the BSA, the lack of documented occurrences near the BSA, or due to the BSA being outside of the species' known geographic or elevation range. There species are identified in Appendix D, but not addressed further in this report. The remaining 8 species are either known to occur or have high to moderate potential to occur in the BSA and are discussed further below.

Amphibians and Reptiles

Northwestern Pond Turtle (*Emys marmorata*). Northwestern pond turtle is a CDFW Species of Special Concern typically found in open water such as lakes, streams, ponds, reservoirs, estuaries, and brackish waters throughout California, and is a candidate for listing under the federal ESA. This species prefers areas with cover from predators, such as vegetation and algae, as well as basking sites for thermoregulation. Adults tend to favor deeper, slow-moving water, whereas hatchlings search for slow and shallow water that is slightly warmer. Northwestern pond turtles spend most of the warmer months (April through September) in aquatic habitats that provide favorable environments for foraging, mating, basking, and predator avoidance (CDFW 2023d; Germano and Rathbun 2008).

Northwestern pond turtles use terrestrial habitats for nesting and overwintering. They normally lay their eggs near water; however, females may climb hillsides along foothill streams, sometimes traveling over 330 feet to find a suitable nest site. Generally, 3 to 11 eggs are laid from March to August depending on local conditions and are incubated for approximately 73 to 80 days. Although nesting sites should contain deep soils (at least 4 inches deep), the type of soil can vary from sandy to very hard (CDFW 2022d).

The BSA is within the species' known geographic range and the nearest occurrence record is 3 miles to the northwest within Teal Bend Golf Club. The agricultural fields provide terrestrial habitat and the adjacent canals along the southern boundary of the site provide suitable habitat. The canals provide marginal habitat, lacking cover and basking sites. No northwestern pond turtles were observed during the field survey.

Giant Gartersnake (*Thamnophis gigas*). Giant gartersnake is listed as threatened under the federal ESA. No critical habitat has been designated for this species; however, a draft recovery plan was prepared in 1999 and finalized in September 2017 (USFWS 2017).

This species is primarily aquatic and prefers marshes, sloughs, wetlands, agricultural ditches, rice fields, and other slow moving or still waters with emergent vegetation that is necessary for cover and foraging, and upland habitat consisting of grassy banks and openings for basking and aestivation in the summer and torpor in the winter (Hansen 1988). Essential habitat components consist of (1) adequate water during the snake's active period (i.e., early

spring through mid-fall) to provide a prey base and cover; (2) emergent, herbaceous wetland vegetation, such as cattails and bulrushes, for escape cover and foraging habitat; (3) upland habitat for basking, cover, and retreat sites; and (4) high-elevation uplands for cover and refuge from flood waters. Giant gartersnake are typically absent from larger rivers and other water bodies that support introduced populations of large, predatory fish, and from wetlands with sand, gravel, or rock substrates. Riparian woodlands do not provide habitat because of excessive shade, lack of basking sites, and absence of prey populations (USFWS 2017). Giant gartersnakes do not typically travel far into dry upland habitats, In their *Programmatic Consultation with the U.S. Army Corps of Engineers for 404 Permitted Projects with Relatively Small Effects on the Giant Garter Snake within Butte, Colusa, Glenn, Fresno, Merced, Sacramento, San Joaquin, Solano, Stanislaus, Sutter and Yolo Counties, California*, the USFWS specified that construction projects could avoid habitat disturbance to giant gartersnake by maintaining a 200 foot buffer from the banks of potential aquatic habitat.

The BSA is within the known geographic range of the species and the canals abutting the BSA to the west and south provide marginal aquatic habitat. The agricultural land has been in dryland crop rotation for over a decade and is not suitable aquatic habit; however, it does provide potential upland habitat in the form of basking or winter shelter if suitable burrows were present. Burrowing activity by fossorial mammals (e.g., ground squirrels) was not detected at the time of the reconnaissance survey but cannot be ruled out. The nearest giant gartersnake occurrences are within 0.5 miles east of the BSA in a series of adjacent irrigation canals east of Power Line Road and north of Interstate 5 within airport property (Figure 4). These records include detections from 1976 through 2006 in various locations of that canal complex. Other nearby giant gartersnake occurrences are in the irrigation canal east/southeast of the BSA, where giant gartersnake were trapped in 2005 and 2006; however, none were trapped during surveys in 2016 (CDFW 2023c). No culvert is present beneath Power Line Road that would provide aquatic connectivity between those canals with recorded occurrences and the one south of the BSA. Figure 7 shows the previous giant gartersnake habitat suitability modeling conducted within the BSA.

Power Line Road presents a barrier between the BSA and canals east of the BSA. The canal to the east of Power Line Road has aquatic vegetation present and the banks have more vegetative cover (Himalayan blackberry predominantly) and some armored rock, whereas the canal adjacent to the BSA has simple earthen banks with sparse vegetation and no aquatic vegetation. Based on these factors, it is unlikely that giant gartersnake occupying the canals east of Power Line Road would regularly traverse the roadway to reach the marginal aquatic habitat of the canal west of Power Line Road.

Nesting Birds and Raptors

The BSA contains potentially suitable habitat for 6 special-status bird species, including 2 federally and/or state-listed species. Additional information on the status, habitat requirements, and occurrences in or near the BSA for listed bird species is provided below.

Tricolored blackbird (*Agelaius tricolor*). Tricolored blackbird is a state-listed threatened species with protections focused on its nesting colonies. It typically nests in freshwater marshes with dense growths of emergent vegetation dominated by cattails or bulrushes (*Schoenoplectus* spp.), but has also established colonies in willows, blackberries (*Rubus* spp.), and a variety of other types of dense vegetation, such as thistles (*Cirsium* and *Centaurea* spp.), nettles (*Urtica* sp.), mustard (*Brassica* sp.), mallow (*Malva* sp.), wild rose (*Rosa* sp.), tamarisk (*Tamarix* sp.), and giant cane (*Arundo donax*). Tricolored blackbirds forage in a variety of habitats, such as grasslands, woodlands, and croplands, where high densities of suitable insect prey are found. Foraging habitat may be located up to four miles from the nesting site (CDFW 2023d).

Potentially suitable nesting habitat for tricolored blackbird was mapped in the BSA in Himalayan blackberry brambles along the margins of the BSA. There are no historic records of tricolored blackbirds occurring in this location, and no tricolored blackbirds were observed during surveys. but this species could occur within the BSA or surrounding areas due to the presence of potentially suitable nesting and foraging habitat. The closest occurrence of this species was documented in willow trees along an irrigation ditch approximately 2.0 miles east of the BSA from 1992. This occurrence record was updated in 2018 that the habitat was likely removed due to development (CDFW 2023c).

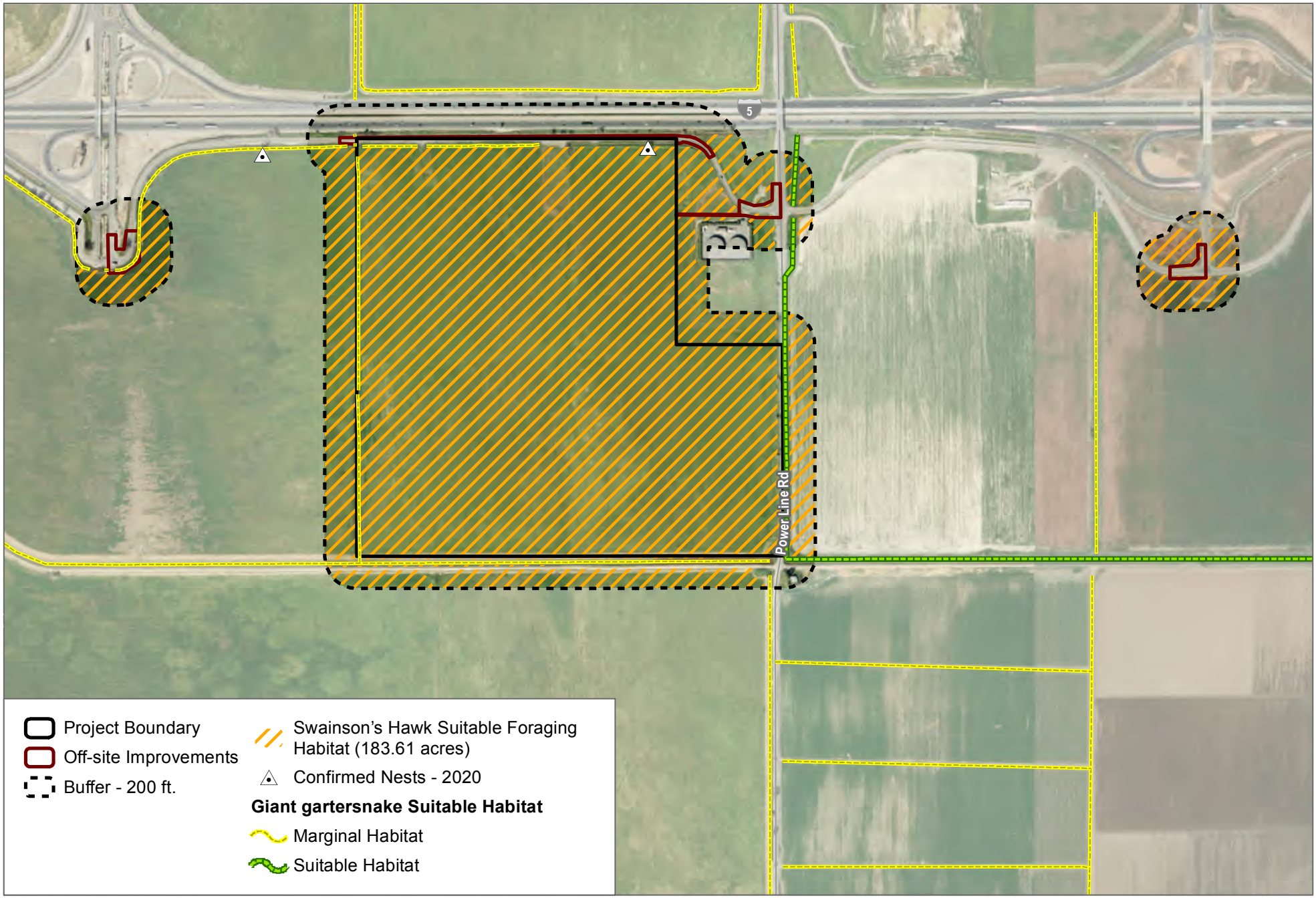
Swainson's Hawk (*Buteo swainsoni*) Swainson's hawk is a state-listed Threatened species under the California ESA. It nests in California in the Central Valley and smaller adjacent valleys, the Klamath Basin, the Northeastern Plateau, Lassen County, and the Mojave Desert. It breeds in riparian areas, stands of trees in agricultural environments, oak savannah, Joshua trees (*Yucca brevifolia*) in the Mojave Desert, and juniper-sage flats. In the Central Valley, it nests in riparian areas and in isolated tree clusters, often near rural residences or other areas with some human disturbance. Alfalfa fields are the favored foraging areas of Swainson's hawk in the Central Valley, but the species also forages in undisturbed grasslands, fallow agricultural fields, and some row crops (CDFW 2023d).

Swainson's hawk has high potential to occur. The BSA is within the known geographic range of the species and contains suitable foraging habitat (Figure 6) and suitable nest trees exist along Bayou Way. Protocol-level Swainson's hawk surveys conducted by Dudek in 2020 for another project located Swainson's hawk actively nesting in two trees along Bayou Way. One nest was along the Bayou Way frontage of the BSA, and another was just west of the BSA. These trees were surveyed again in August 2023 during the reconnaissance survey, and their location is shown in Figure 7. No Swainson's hawk, adults, or fledglings were observed in or near these trees during surveys. No remnant stick nests were located in these trees; however, trees were at full foliage during the 2023 survey making a positive determination difficult. Photos taken from the same angle in 2020 and 2023 of the tree abutting the northern part of the BSA are compared in Appendix E (Photo Log). The CNDDB lists many nearby occurrence records (CDFW 2023c). Additionally, there are multiple citizen science records of Swainson's hawk on and in the vicinity of the BSA (eBird 2023). No Swainson's hawks were observed during the field surveys in August 2023 and no large suitable nests were observed in any trees present within the BSA main parcels or a 0.25-mile buffer.

Other Nesting Birds and Raptors. Grasslands, trees, and shrubs in the BSA provide nesting habitat for native bird species protected under the federal MBTA and Section 1503 of the California Fish and Game Code, as well as State fully protected and watch list species. These species are listed below.

- Loggerhead shrike (*Lanius ludovicianus*); State Species of Special Concern
- Northern harrier (*Circus hudsonius*); State Species of Special Concern, USFWS Bird of Conservation Concern
- Burrowing owl (*Athene cunicularia*); State Species of Special Concern, USFWS Bird of Conservation Concern
- White-tailed kite (*Elanus leucurus*); State Fully Protected

Neither these species nor their sign were detected in the BSA during the reconnaissance survey, and there are no CNDDB records of these species occurring in the BSA.



SOURCE: ESRI Imagery 2023, Open Street Map 2019, EDAW 2007

DUDEK

0 405 810 Feet

FIGURE 7

Swainson's Hawk and Giant Garter Snake Habitats

SMF Watt EV Project

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4.5 Wildlife Corridors and Habitat Linkages

Wildlife movement corridors have been recognized by federal agencies and the state as important habitats worthy of conservation. Habitat linkages are small patches that join larger blocks of habitat and help reduce the adverse effects of habitat fragmentation; they may be continuous habitat or discrete habitat islands that function as steppingstones for wildlife dispersal. Wildlife corridors provide migration channels seasonally (i.e., between winter and summer habitats), and provide non-migrant wildlife the opportunity to move within their home range for food, cover, reproduction, and refuge. The agricultural area provides does provide linkage to the Sacramento River corridor. While the BSA is within the Pacific flyway, the Sacramento International Airport facility is subject to intensive wildlife control to prevent airplane-wildlife collision, and Interstate 5 immediately north of the BSA presents a substantial barrier to wildlife movement. Furthermore, dryland agricultural practices within the BSA do not attract waterfowl, so the BSA does not likely function as a wildlife corridor. Some bird species could use the BSA as a habitat linkage, but the habitat type available in the BSA remains regionally abundant.

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Appendix A
List of Observed Plant Species

VASCULAR SPECIES

EUDICOTS

ASTERACEAE—Sunflower Family

Centaurea solstitialis—yellow star-thistle*

Dittrichia graveolens—stinkwort*

Helminthotheca echioides—bristly oxtongue*

Taraxacum officinale—common dandelion*

CARYOPHYLLACEAE—Pink Family

Spergularia macrotheca—sticky sandspurry

Spergularia rubra—red sandspurry*

CONVOLVULACEAE—Morning-glory Family

Convolvulus arvensis—field bindweed*

FABACEAE—Legume Family

Lotus corniculatus—bird's-foot trefoil*

FAGACEAE—Oak Family

Quercus douglasii—blue oak

JUGLANDACEAE—Walnut Family

Juglans hindsii—Northern California black walnut

MALVACEAE—Mallow Family

Malvella leprosa—alkali mallow

PLANTAGINACEAE—Plantain Family

Plantago lanceolata—narrowleaf plantain*

POLYGONACEAE—Buckwheat Family

Polygonum aviculare—prostrate knotweed*

Rumex crispus—curly dock*

ROSACEAE—Rose Family

Rubus armeniacus—Himalayan blackberry*

SALICACEAE—Willow Family

Salix lasiolepis—arroyo willow

MONOCOTS

CYPERACEAE—Sedge Family

Cyperus eragrostis—tall flatsedge

POACEAE—Grass Family

Avena barbata—slender oat*

Bromus hordeaceus—soft brome*

Cynodon dactylon—Bermudagrass*

Festuca perennis—perennial rye grass*

Phalaris aquatica—Harding grass*

Stipa miliacea—no common name*

* signifies introduced (non-native) species

Appendix B
List of Observed Wildlife Species

BIRDS

MOCKINGBIRDS AND THRASHERS

MIMIDAE—MOCKINGBIRDS AND THRASHERS

Mimus polyglottos—northern mockingbird

NEW WORLD VULTURES

CATHARTIDAE—NEW WORLD VULTURES

Cathartes aura—turkey vulture

PIGEONS AND DOVES

COLUMBIDAE—PIGEONS AND DOVES

Streptopelia decaocto—Eurasian collared-dove*

* signifies introduced (non-native) species

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Appendix C
Plant Potential to Occur

Scientific Name	Common Name	Status (Federal/State/CRPR)	Primary Habitat Associations/ Life Form/ Blooming Period/ Elevation Range (feet)	Potential to Occur
Astragalus tener var. *ferrisiae*	Ferris' milk-vetch	None/ None/ 1B.1	Meadows and seeps (vernally mesic), Valley and foothill grassland (subalkaline flats)/ annual herb/ Apr–May/ 5–245	**Not expected to occur.** The BSA does not contain subalkaline flats, meadows or seeps. There are no known species within two miles of the BSA.
Astragalus tener var. *tener*	alkali milk-vetch	None/ None/ 1B.2	Playas, Valley and foothill grassland (adobe clay), Vernal pools; alkaline/ annual herb/ Mar–June/ 0–195	**Not expected to occur.** The BSA does not contain adobe clay or alkaline soils or vernal pool habitat. There are no known occurrences within two miles of the BSA.
Atriplex cordulata var. cordulata	heartscale	None/ None/ 1B.2	Chenopod scrub, Meadows and seeps, Valley and foothill grassland (sandy); saline or alkaline/ annual herb/ Apr–Oct/ 0–1,835	**Not expected to occur.** Suitable saline or alkaline habitat for this species is absent from the BSA. There are no known occurrences of this species within two miles of the BSA.
Atriplex depressa	brittlescale	None/ None/ 1B.2	Chenopod scrub, Meadows and seeps, Playas, Valley and foothill grassland, Vernal pools; alkaline, clay/ annual herb/ Apr–Oct/ 0–1,045	**Not expected to occur.** Suitable alkaline clay soil substrates are absent from the BSA. There are no known occurrences within two miles of the BSA.
Centromadia parryi ssp. *parryi*	pappose tarplant	None/ None/ 1B.2	Chaparral, Coastal prairie, Meadows and seeps, Marshes and swamps (coastal salt), Valley and foothill grassland (vernally mesic); often alkaline/ annual herb/ May–Nov/ 0–1,375	**Not expected to occur.** No suitable prairie, chaparral, coastal salt marsh, or alkaline grassland present in the BSA. There are no known occurrences within two miles of the BSA.
Chloropyron palmatum	palmate-bracted bird's-beak	FE/ SE/ 1B.1	Chenopod scrub, Valley and foothill grassland; alkaline/ annual herb (hemiparasitic)/ May–Oct/ 15–510	**Not expected to occur.** No suitable alkaline soil substrates present in the BSA. There are no known occurrences within two miles of the BSA.
Downingia pusilla	dwarf downingia	None/ None/ 2B.2	Valley and foothill grassland (mesic), Vernal pools/ annual herb/ Mar–May/ 0–1,455	**Not expected to occur.** No suitable vernal pool habitat present in the BSA. There are no known occurrences within two miles of the BSA. The closest occurrence of this species was documented approximately 3 miles east of the BSA in 1993 (CDFW 2020a).

Scientific Name	Common Name	Status (Federal/State/CRPR)	Primary Habitat Associations/ Life Form/ Blooming Period/ Elevation Range (feet)	Potential to Occur
Extriplex joaquinana	San Joaquin spearscale	None/ None/ 1B.2	Chenopod scrub, Meadows and seeps, Playas, Valley and foothill grassland; alkaline/ annual herb/ Apr–Oct/ 0–2,735	**Not expected to occur.** No suitable alkaline soil substrates present in the BSA. There are no known occurrences within two miles of the BSA.
Gratiola heterosepala	Boggs Lake hedge-hyssop	None/ SE/ 1B.2	Marshes and swamps (lake margins), Vernal pools; clay/ annual herb/ Apr–Aug/ 30–7,790	**Not expected to occur.** Suitable vernal pool habitat for this species in absent from the BSA. Moreover, the BSA is at the lowest elevational limits for this species. There are no known occurrences of this species within two miles of the BSA.
Hibiscus lasiocarpos var. *occidentalis*	woolly rose-mallow	None/ None/ 1B.2	Marshes and swamps (freshwater); Often in riprap on sides of levees/ perennial rhizomatous herb (emergent)/ June–Sep/ 0–395	**Not expected to occur.** Suitable habitat, such as riprap along canals and ditches, is not present within the BSA. There are no known occurrences within two miles of the BSA.
Legenere limosa	legenere	None/ None/ 1B.1	Vernal pools/ annual herb/ Apr–June/ 0–2,885	**Not expected to occur.** Suitable vernal pool habitat is absent from the BSA. There are no known occurrences of this species within two miles of the BSA.
Lepidium latipes var. *heckardii*	Heckard's pepper-grass	None/ None/ 1B.2	Valley and foothill grassland (alkaline flats)/ Mar-May/ 5-660	**Not expected to occur.** No suitable alkaline flats are present in the BSA. There are no known occurrences of this species within two miles of the BSA.
Puccinellia simplex	California alkali grass	None/ None/ 1B.2	Chenopod scrub, Meadows and seeps, Valley and foothill grassland, Vernal pools; Alkaline, vernally mesic; sinks, flats, and lake margins/ annual herb/ Mar–May/ 5–3,050	**Not expected to occur.** Suitable alkaline soil substrates are absent from the BSA. There are no known occurrences of this species within two miles of the BSA.
Sagittaria sanfordii	Sanford's arrowhead	None/ None/ 1B.2	Marshes and swamps (assorted shallow freshwater)/ perennial rhizomatous herb (emergent)/ May–Oct(Nov)/ 0–2,130	**Low potential to occur.** Suitable habitat is not present within the canals/ditches of the BSA. There are no known occurrences of this species within two miles of the BSA.

Scientific Name	Common Name	Status (Federal/State/CRPR)	Primary Habitat Associations/ Life Form/ Blooming Period/ Elevation Range (feet)	Potential to Occur
Symphyotrichum lentum	Suisun Marsh aster	None/ None/ 1B.2	Marshes and swamps (brackish and freshwater)/ perennial rhizomatous herb/ (Apr)May–Nov/ 0–10	**Not expected to occur.** The BSA does not contain suitable marsh riparian habitat for this species. There are no known occurrences within two miles of the BSA.
Trifolium hydrophilum	saline clover	None/ None/ 1B.2	Marshes and swamps, Valley and foothill grassland (mesic, alkaline), Vernal pools/ annual herb/ Apr–June/ 0–985	**Not expected to occur.** Suitable alkaline soil substrates are absent from the BSA. There are no known occurrences of this species within two miles of the BSA.

Status Legend
Federal
FE: Federally listed as endangered
FT: Federally listed as threatened
State
SE: State listed as endangered
ST: State listed as threatened
SR: State listed as rare
CRPR: California Rare Plant Rank
1A: Plants presumed extirpated in California and either rare or extinct elsewhere
1B: Plants rare, threatened, or endangered in California and elsewhere
2B: Plants rare, threatened, or endangered in California, but more common elsewhere
Threat Rank
0.1 – Seriously threatened in California (over 80% of occurrences threatened/high degree and immediacy of threat)
0.2 – Moderately threatened in California (20%–80% occurrences threatened/moderate degree and immediacy of threat)
0.3 – Not very threatened in California (less than 20% of occurrences threatened/low degree and immediacy of threat or no current threats known)

Appendix D
Wildlife Potential to Occur

Scientific Name	Common Name	Status (Federal/State)	Habitat	Potential to Occur
Amphibians				
Ambystoma californiense	California tiger salamander	FT/ST, WL	Annual grassland, valley–foothill hardwood, and valley–foothill riparian habitats; vernal pools, other ephemeral pools, and (uncommonly) along stream courses and man-made pools if predatory fishes are absent.	**Not Expected to Occur.** Suitable habitat for this species is absent from the BSA. There are no known occurrences of this species within the nine-quad search area (CDFW 2023a). This species is not known from this area of Sacramento County, and there are no occurrences of this species within the nine-quad search area (CDFW 2023a).
Rana draytonii	California red-legged frog	FT/SSC	Lowland streams, wetlands, riparian woodlands, livestock ponds; dense, shrubby, or emergent vegetation associated with deep, still or slow-moving water; uses adjacent uplands.	**Not Expected to Occur.** The BSA does not contain suitable habitat for this species. There are no current records of this species occurring in Sacramento County.
Spea hammondii	western spadefoot	None/SSC	Primarily grassland and vernal pools, but also in ephemeral wetlands that persist at least 3 weeks in chaparral, coastal scrub, valley–foothill woodlands, pastures, and other agriculture.	**Low Potential to Occur.** The BSA does not contain typical suitable habitat for this species, such as standing ephemeral wetlands. There are no known occurrences within two miles of the BSA.
Reptiles				
Actinemys marmorata	northwestern pond turtle	None/SSC	Slow-moving permanent or intermittent streams, ponds, small lakes, and reservoirs with emergent basking sites; adjacent uplands used for nesting and during winter.	**Moderate Potential to Occur.** Upland habitat for this species is present within the BSA and suitable aquatic habitat is immediately adjacent. This species has been documented 3 miles to the northwest (CDFW 2023a).
Thamnophis gigas	giant gartersnake	FT/ST	Freshwater marsh habitat and low-gradient streams; also uses canals and irrigation ditches and flooded rice fields. Upland habitat adjacent to aquatic habitat includes burrows above floodplain for winter refuge.	**Moderate Potential to Occur.** Upland habitat for this species is present within the BSA and marginal aquatic habitat is immediately adjacent to the south and west. Multiple occurrences are within two miles of the BSA (CDFW 2023a).

Scientific Name	Common Name	Status (Federal/State)	Habitat	Potential to Occur
Birds				
Agelaius tricolor	tricolored blackbird	BCC/SSC, ST	Nests near freshwater, emergent wetland with cattails or tules, but also in Himalayan blackberry; forages in grasslands, woodland, and agriculture.	**Moderate Potential to Occur.** Suitable nesting and foraging habitat for this species is present within the BSA. The BSA is in the known range for this species, although there are no known occurrences within two miles of the BSA.
Ammodramus savannarum (nesting)	grasshopper sparrow	None/SSC	Nests and forages in moderately open grassland with tall forbs or scattered shrubs used for perches.	**Low Potential to Occur.** The project site is within the species' range, and there is habitat present along the north side of the site. No Occurrence records within 10 miles of the BSA.
Asio otus (nesting)	long-eared owl	BCC/SSC	Nests in riparian habitat, live oak thickets, other dense stands of trees, edges of coniferous forest; forages in nearby open habitats.	**Not Expected to Occur.** Suitable pond nesting habitat is absent from the BSA. There are no known occurrences within ten miles of the BSA.
Athene cunicularia	burrowing owl	BCC/SSC	Nests and forages in grassland, open scrub, and agriculture, particularly with ground squirrel burrows.	**Moderate Potential to Occur.** No burrows were observed during the field survey. The BSA is in the known range for this species, although there are no known occurrences within two miles of the BSA. No burrows or ground squirrels were observed during reconnaissance survey.
Buteo swainsoni	Swainson's hawk	BCC/ST	Nests in open woodland and savanna, riparian, and in isolated large trees; forages in nearby grasslands and agricultural areas such as wheat and alfalfa fields and pasture.	**High Potential to Occur.** Nesting and foraging habitat for this species is present within and adjacent to the BSA. Multiple CNNDB occurrences within two miles of the BSA (CDFW 2023a). Potential nest trees are located within the BSA along the Bayou Way frontage. Nesting pairs have been documented in one of these trees during previous field surveys in 2020.
Charadrius alexandrinus	western snowy plover	FT, BCC/SSC	On coasts nests on sandy marine and estuarine shores; in the interior nests on	**Not Expected to Occur.** Suitable pond nesting habitat is absent from the BSA.

Scientific Name	Common Name	Status (Federal/State)	Habitat	Potential to Occur
nivosus (nesting)			sandy, barren or sparsely vegetated flats near saline or alkaline lakes, reservoirs, and ponds	There are no known occurrences within two miles of the BSA.
Charadrius montanus (wintering)	mountain plover	BCC/SSC	Winters in shortgrass prairies, plowed fields, open sagebrush, and sandy deserts.	**Not Expected To Occur.** Known wintering sites are absent from the BSA.
Circus hudsonius (nesting)	northern harrier	BCC/SSC	Nests in open wetlands (marshy meadows, wet lightly-grazed pastures, old fields, freshwater and brackish marshes); also in drier habitats (grassland and grain fields); forages in grassland, scrubs, rangelands, emergent wetlands, and other open habitats.	**Moderate Potential to Occur.** The BSA has suitable nesting and foraging habitat. The BSA is in the known range for this species, although there are no known occurrences within two miles of the BSA.
Coccyzus americanus occidentalis	western yellow-billed cuckoo	FT, BCC/SE	Nests in dense, wide riparian woodlands and forest with well-developed understories.	**Not Expected to Occur.** This species has been documented in the region and the BSA is within the known range of the species. The BSA has no riparian habitat.
Elanus leucurus	white-tailed kite	None/FP	Nests in woodland, riparian, and individual trees near open lands; forages opportunistically in grassland, meadows, scrubs, agriculture, emergent wetland, savanna, and disturbed lands.	**Moderate Potential to Occur.** The BSA has open grasslands and disturbed lands for foraging but lacks riparian trees for nesting. The BSA is in the known range for this species, although there are no known occurrences within two miles of the BSA.
Falco mexicanus (nesting)	prairie falcon	None/WL	Forages in grassland, savanna, rangeland, agriculture, desert scrub, alpine meadows; nest on cliffs or bluffs.	**Low Potential to Occur.** The BSA has suitable foraging habitat, but not nesting habitat. The BSA is in the known range for this species, although there are no known occurrences within two miles of the BSA.
Ixobrychus exilis (nesting)	least bittern	None/SSC	Nests in freshwater and brackish marshes with dense, tall growth of aquatic and semi-aquatic vegetation.	**Not Expected to Occur.** This species has been documented in the region and the BSA is within the known range of the species. The BSA has no suitable habitat

Scientific Name	Common Name	Status (Federal/State)	Habitat	Potential to Occur
Lanius ludovicianus (nesting)	loggerhead shrike	None/SSC	Nests and forages in open habitats with scattered shrubs, trees, or other perches	**Moderate Potential to Occur.** The BSA has suitable nesting and foraging habitat. The BSA is in the known range for this species, although there are no known occurrences within two miles of the BSA.
Laterallus jamaicensis coturniculus	California black rail	BCC/FP, ST	Tidal marshes, shallow freshwater margins, wet meadows, and flooded grassy vegetation; suitable habitats are often supplied by canal leakage in Sierra Nevada foothill populations	**Not Expected to Occur.** The BSA has no suitable habitat and is outside of the known range of the species.
Melospiza melodia ("Modesto" population)	song sparrow ("Modesto" population)	None/SSC	Nests and forages in emergent freshwater marsh, riparian forest, vegetated irrigation canals and levees, and newly planted valley oak (Quercus lobata) restoration sites	**Not Expected to Occur.** This species has been documented in the region and the BSA is within the known range of the species. The BSA does not contain suitable habitat. Canals adjacent to the BSA are sparsely vegetated. There are no known occurrences within two miles of the BSA (CDFW 2023a).
Progne subis	purple martin	None/SSC	Nests and forages in woodland habitats including riparian, coniferous, and valley foothill and montane woodlands; in the Sacramento region often nests in weep holes under elevated freeways	**Not Expected to Occur.** The BSA has no riparian habitat potentially suitable for nesting and foraging by this species. There are several known nesting areas within the City of Sacramento, although there are no known occurrences within two miles of the BSA (CDFW 2023a).
Riparia riparia	bank swallow	None/ST	Nests in riparian, lacustrine, and coastal areas with vertical banks, bluffs, and cliffs with sandy soils; open country and water during migration	**Not Expected to Occur.** The BSA lacks suitable nesting and foraging habitat. There are several documented nesting occurrences along the Sacramento and Feather Rivers upstream of the BSA (CDFW 2023a).
Setophaga petechia (nesting)	yellow warbler	None/SSC	Nests and forages in riparian and oak woodlands, montane chaparral, open ponderosa pine, and mixed-conifer habitats	**Not Expected to Occur.** The BSA has no suitable habitat and is outside of the known range of the species.

Scientific Name	Common Name	Status (Federal/State)	Habitat	Potential to Occur
Vireo bellii pusillus (nesting)	least Bell's vireo	FE/SE	Nests and forages in low, dense riparian thickets along water or along dry parts of intermittent streams; forages in riparian and adjacent shrubland late in nesting season	**Not Expected to Occur.** The BSA is outside of the current known range of this species. The closet occurrence is a specimen collected in 1877 (CDFW 2023a).
Fishes				
Archoplites interruptus (within native range only)	Sacramento perch	None/SSC	Historically found in the sloughs, slow-moving rivers, and lakes of the Central Valley	**Not Expected to Occur**. The BSA does not contain suitable habitat for this species.
Hypomesus transpacificus	Delta smelt	FT/SE	Sacramento–San Joaquin Delta; seasonally in Suisun Bay, Carquinez Strait, and San Pablo Bay	**Not Expected to Occur**. The BSA does not contain suitable habitat for this species.
Oncorhynchus mykiss irideus pop. 11	steelhead - Central Valley DPS	FT/None	Coastal basins from Redwood Creek south to the Gualala River, inclusive; does not include summer-run steelhead	**Not Expected to Occur**. The BSA does not contain suitable habitat for this species.
Oncorhynchus tshawytscha pop. 6	Chinook salmon – Central Valley spring-run ESU	FT/ST	Federal listing refers to populations spawning in Sacramento River and tributaries. Adult numbers depend on pool depth and volume, amount of cover, and proximity to gravel. Water temps >27 C are lethal to adults.	**Not Expected to Occur**. The BSA does not contain suitable habitat for this species.
Oncorhynchus tshawytscha pop. 6	Chinook salmon – Sacramento River winter-run ESU	FE/SE	Spawns in the Sacramento River below Keswick Dam, but not in tributary streams. Requires clean, cold water over gravel beds with water temperatures between 6 and 14 C for spawning.	**Not Expected to Occur**. The BSA does not contain suitable habitat for this species.
Pogonichthys macrolepidotus	Sacramento splittail	None/SSC	Endemic to the lakes and rivers of the Central Valley, but now confined to the Delta, Suisun Bay, and associated marshes	**Not Expected to Occur**. The BSA does not contain suitable habitat for this species.
Spirinchus thaleichthys	longfin smelt	FC/ST	Aquatic, estuary	**Not Expected to Occur**. The BSA does not contain suitable habitat for this species.
Thaleichthys pacificus	eulachon	FT	Found in Klamath River, Mad River, Redwood Creek, and in small numbers in Smith River and Humboldt Bay estuaries.	**Not Expected to Occur**. The BSA does not contain suitable habitat for this species.

Scientific Name	Common Name	Status (Federal/State)	Habitat	Potential to Occur
Mammals				
Antrozous pallidus	pallid bat	None/SSC	Grasslands, shrublands, woodlands, forests; most common in open, dry habitats with rocky outcrops for roosting, but also roosts in man-made structures and trees	**Low Potential to Occur.** Potentially suitable roosting trees are present adjacent to the BSA but are sparse. There are no documented occurrences within two miles of the BSA.
Lasiurus blossevillii	western red bat	None/SSC	Forest, woodland, riparian, mesquite bosque, and orchards, including fig, apricot, peach, pear, almond, walnut, and orange; roosts in tree canopy	**Low Potential to Occur.** Potentially suitable roosting trees are present adjacent to the BSA but are sparse. There are no documented occurrences within two miles of the BSA.
Taxidea taxus	American badger	None/SSC	Dry, open, treeless areas; grasslands, coastal scrub, agriculture, and pastures, especially with friable soils	**Low Potential to Occur.** The BSA provides marginal habitat, and no burrows showing sign of badger presence were detected during the field assessments. There are no documented occurrences within two miles of the BSA.
Invertebrates				
Bombus crotchii	Crotch's bumble bee	None/PSE	Open grassland and scrub communities supporting suitable floral resources.	**Low Potential to Occur.** Floristic resources are marginal and limited to the margins of BSA. There are no documented occurrences within two miles of the BSA.
Bombus occidentalis	western bumble bee	None/PSE	Once common and widespread, species has declined precipitously from central California to southern British Columbia, perhaps from disease	**Low Potential to Occur.** Floristic resources are marginal and limited to the margins of BSA. There are no documented occurrences within two miles of the BSA.
Branchinecta lynchi	vernal pool fairy shrimp	FT/None	Vernal pools, seasonally ponded areas within vernal swales, and ephemeral freshwater habitats	**Not Expected to Occur.** No ephemeral freshwater habitats, vernal pools, or swales present in the BSA. No known occurrences within two miles of the BSA.
Desmocerus californicus dimorphus	valley elderberry longhorn beetle	FT/None	Occurs only in the Central Valley of California, in association with blue elderberry (Sambucus nigra ssp. caerulea)	**Not Expected to Occur.** No suitable elderberry trees are present within the BSA. This species has been documented

Scientific Name	Common Name	Status (Federal/State)	Habitat	Potential to Occur
				south of the BSA within the riparian corridor of the Sacramento River.
Lepidurus packardi	vernal pool tadpole shrimp	FE/None	Ephemeral freshwater habitats including alkaline pools, clay flats, vernal lakes, vernal pools, and vernal swales	**Not Expected to Occur.** No vernal pools or other suitable habitat present in the BSA. No known occurrences within two miles of the BSA.

Status Legend
Federal
BCC: USFWS—Birds of Conservation Concern
FC: Candidate for federal listing as threatened or endangered
FE: Federally listed as endangered
FT: Federally listed as threatened
State
FP: CDFW Fully Protected species
SCE: State candidate for listing as endangered
SE: State listed as endangered
SSC: California Species of Special Concern
ST: State listed as threatened
WL: CDFW Watch List species

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Appendix E
Photo Log

Photo 1. View of General Agricultural landcover with recent harvest of dryland farming crops. Photo facing north from the northern/central portion of the site.

Photo 2. View of General Agricultural landcover facing south from the northern/central portion of the site.

Photo 3. View of *Rubus armeniacus* vegetation community facing west along the Bayou Way drainage ditch in the BSA frontage.

Photo 4. View of suitable raptor nest trees facing east along Bayou Way BSA frontage.

Photo 5. View facing northwest into the BSA from the southern side of irrigation canal with marginal GGS habitat.

Photo 6. View facing north along Power Line Road of irrigation canal with suitable GGS habitat east of the BSA.

Photo 7. View of SWHA actively nesting in tree on the Bayou Way frontage of the BSA from 2020 surveys.

Photo 8. View of the SWHA nest tree in 2023. Remnant nest stick was unable to be located. Nest may have broken down or was unable to be located due to increased foliage at the time of survey.