4.4 BIOLOGICAL RESOURCES

4.4.1 INTRODUCTION

The Biological Resources chapter of the EIR evaluates the biological resources known to occur or potentially occur within the proposed project site. The Biological Resources chapter describes potential impacts to those resources and identifies measures to eliminate or substantially reduce those impacts to a less-than-significant level. Existing plant communities, wetlands, wildlife habitats, and potential for special-status species and communities are discussed for the project area. The information contained in the analysis is primarily based on the Biological Resources Assessment (see Appendix E) prepared by Teichert Materials[1] and revised with an errata prepared by EcoSynthesis, Scientific & Regulatory Services, Inc. (EcoSynthesis), the Biological Resources Assessment Peer Review prepared by Live Oak Associates, Inc. (LOA) (see Appendix E),[2] a Wetland Delineation for the project site prepared by ECORP Consulting, Inc. (ECORP) (see Appendix F),[3] an Aquatic Resources Delineation prepared for the project site by EcoSynthesis (see Appendix F),[4] and the Reclamation Plan prepared for the proposed project by Teichert Materials (see Appendix C).[5] Further information was sourced from the Yolo County General Plan[6], the Yolo County General Plan EIR,[7] and the Cache Creek Area Plan (CCAP) Update EIR.[8]

In response to the NOP, the County received comments related to biological resources from a number of residents in the area. These commenters expressed that the Draft EIR should consider the following:

- The presence of listed rare, threatened, endangered, locally unique, and special-status species (California Department of Fish and Wildlife);
- Potential impacts to wildlife habitat on the project site (California Department of Fish and Wildlife);
- Potential impacts to rivers, streams, lakes, or other waterways in the area (California Department of Fish and Wildlife);
- Potential impacts to migratory birds and birds of prey that may be present in the project area (California Department of Fish and Wildlife);
- Impacts to wildlife movement corridors and migratory species (Resident); and
- Negative impacts to Cache Creek Nature Conservancy (Resident).

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1 Teichert Materials. *Biological Resources Assessment, Teichert Shifler Mining Project*. January 2020.
2 Live Oak Associates, Inc. *Biological Resources Assessment Peer Review for the Shifler project, located in Yolo County, California (PN 2338-01).* October 17, 2019.
3 ECORP Consulting, Inc. *Wetland Delineation for Shifler Property.* May 18, 2012.
4 EcoSynthesis, Scientific & Regulatory Services, Inc. *Memorandum: Shifler Project Site Aquatic Resources Delineation*. July 5, 2020.
EcoSynthesis, Scientific & Regulatory Services, Inc. *Teichert Shifler Project Determination of Waters of the U.S.* December 5, 2019.
5 Teichert Materials. *Shifler Mining and Reclamation Plan, Yolo County, California*. June 2018.
6 Yolo County. *2030 Countywide General Plan.* November 10, 2009.
7 Yolo County. *Yolo County 2030 Countywide General Plan Environmental Impact Report. SCH# 2008102034.* April 2009.
8 Yolo County. *Cache Creek Area Plan Update Project, Final Environmental Impact Report. SCH# 2017052069.* December 2019.

The CEQA Guidelines note that comments received during the NOP scoping process can be helpful in "identifying the range of actions, alternatives, mitigation measures, and significant effects to be analyzed in depth in an EIR and in eliminating from detailed study issues found not to be important." (CEQA Guidelines Section 15083.) Neither the CEQA Guidelines or Statutes require a lead agency to respond directly to comments received in response to the NOP, but they do require they be considered. Consistent with these requirements, these comments have been carefully reviewed and considered by Yolo County and is reflected in the analysis of impacts in this chapter. Appendix B includes all NOP comments received.

Concepts and Terminology

The following terms are used throughout this section and have important bearing upon properly evaluating biological resources within the context of the CEQA. As a result, this section begins by providing definitions of key terms, as follows:

"Habitat" refers to the environment that supports an animal or plant. Factors that affect the habitat of an animal or plan include biotic factors such as the other plants and animals present in the habitat, and abiotic factors, such as the average temperature and presence or absence of surface water.

"Riparian" is a term used to describe something, often habitat, that is situated on the banks of a river. For instance, a riparian forest would be a forest that grows along the banks of a river and is heavily influenced by the presence of the river.

"Special-status species" are species that have been listed as "threatened" or "endangered" under the Federal Endangered Species Act (FESA), California Endangered Species Act (CESA), or are of special concern to federal resource agencies, the State, or private conservation organizations. A species may be considered special-status due to declining populations, vulnerability to habitat change, or restricted distributions.

A description of the criteria and laws pertaining to special-status classifications is described below. Special-status plant species may meet one or more of the following criteria:

- Plants listed or proposed for listing as threatened or endangered under the FESA (50 CFR 17.12 for listed plants and various notices in the Federal Register for proposed species);
- Plants that are candidates for possible future listing as threatened or endangered under the FESA (64 FR 205, October 25, 1999; 57533-57547);
- Plants listed or proposed for listing by the State of California as threatened or endangered under the CESA (14 California Code of Regulations [CCR] 670.5);
- Plants that meet the definitions of rare or endangered species under the California Environmental Quality Act (CEQA) (CEQA Guidelines, Section 15380); or
- Plants considered by the California Native Plant Society (CNPS) to be "rare, threatened, or endangered" in California (Lists 1A, 1B, 2A, 2B, and 3 species in CNPS [2001]).

Special-status wildlife species may meet one or more of the following criteria:

- Wildlife listed as threatened or endangered, or proposed or candidates for listing by the United State Fish and Wildlife Service (USFWS) or National Marine Fisheries Service (NMFS) under the FESA (50 CFR 17.11 for listed wildlife and various notices in the Federal Register for proposed species);

- Wildlife listed or proposed for listing by the State of California as threatened and endangered under the CESA (14 CCR 670.5);
- Wildlife that meet the definitions of rare or endangered species under the California Environmental Quality Act (CEQA Guidelines, Section 15380);
- Wildlife identified as Medium or High priority species by the Western Bat Working Group (WBWG);
- Wildlife species of special concern (SSC) to the California Department of Fish and Wildlife (CDFW) (Remsen [1978] for birds; Williams [1986] for mammals); and/or
- Wildlife species that are fully protected in California (California Fish and Game Code, Section 3511 [birds], 4700 [mammals], and 5050 [reptiles and amphibians]).

Several species of plants and animals within California have low populations, limited distributions, or both. Such species may be considered "rare" and are vulnerable to extirpation as the State's human population grows and the habitats these species occupy are converted to agricultural and urban uses. As described below, State and federal laws have provided the CDFW and the USFWS with a mechanism for conserving and protecting the diversity of plant and animal species native to the State. A number of native plants and animals have been formally designated as threatened or endangered under State and federal endangered species legislation. Others have been designated as "candidates" for such listing. Still others have been designated as "species of special concern" by the CDFW. In addition, the CNPS has developed a set of lists of native plants considered rare, threatened, or endangered. Collectively, these plants and animals are referred to as "special-status species."

"Take" is a specifically defined term by both the CESA and FESA. FESA defines take as removing, harming, killing, or harassing any listed species, while CESA does not include the terms harm or harass.

"Waters of the U.S." As described in the Wetland Delineation prepared for the Shifler site, potential waters of the U.S., including wetlands, which may be regulated by the United States Army Corps of Engineers (USACE) under Section 404 of the Clean Water Act. Wetlands are "those areas that are inundated or saturated by surface or groundwater 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" [33 Code of Federal Regulations (CFR) 328.3(b), 51 FR 41250, November 13, 1986]. Wetlands can be perennial or intermittent, and isolated or adjacent to other waters.

"Other waters" are non-tidal, perennial, and intermittent watercourses and tributaries to such watercourses [33 CFR 328.3(a), 51 FR 41250, November 13, 1986]. The limit of USACE jurisdiction for non-tidal watercourses (without adjacent wetlands) is defined in 33 CFR 328.4(c)(1) as the "ordinary high water mark". The ordinary high water mark is defined as the "line on the shore established by the fluctuations of water and indicated by physical characteristics such as 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" [33 CFR 328.3(e), 51 FR 41250, November 13, 1986]. The bank-to-bank extent of the channel that contains the water-flow during a normal rainfall year generally serves as a good first approximation of the lateral limit of USACE jurisdiction. The upstream limits of other waters are defined as the point where the ordinary high water mark is no longer perceptible.

4.4.2 EXISTING ENVIRONMENTAL SETTING

The following setting information provides an overview of the existing conditions of the project site and surrounding area in relation to biological resources.

Description of Regional Environment

The project region is characterized primarily by continuous agricultural lands within a broad, alluvial valley surrounded by distant rolling hills. Cache Creek generally meanders west to east and runs into the Sacramento Valley, ending in a settling basin east of Woodland, eventually flowing into the Sacramento River. Regional topography is generally flat. Vegetation, other than agricultural crops, is primarily limited to grasslands, ornamental landscaping, and scattered native vegetation.

The region is rural and sparsely populated, with urban development being primarily concentrated within small towns such as Capay, Esparto, and Madison. Rural residences, farm dwellings with various accessory and agricultural structures, and commercial uses sparsely dot the landscape. Roads provide interconnections between agricultural properties having various crops, such as row crops, orchards, and vineyards. Telephone and electricity poles frequently parallel the roadways throughout the region. Aggregate mining operations, inclusive of above-ground structures and equipment, are prevalent throughout the region, in particular, along the banks of Cache Creek, within the CCAP boundaries.

As a part of California's Central Valley, the area experiences a Mediterranean climate characterized by hot, dry summers and cool, relatively wet winters. Average temperatures range from a low of 39 degrees Fahrenheit (°F) in December to a high of 94°F in July and August. Average annual precipitation is approximately 21.38 inches, with the greatest amount of precipitation typically occurring in January.

Description of Local Environment

The central and southern portions of the project site consist primarily of actively managed agricultural land. Crops planted at the site over the past decade have included wheat, alfalfa, tomatoes, cucumbers, canola, sunflower, and safflower. The northeastern portion of the site previously contained a ranch headquarters (Stevens Ranch); however, the structures that comprised the headquarters were burned down as part of a fire department training exercise in the late 1970s or early 1980s. Currently, structures do not exist at the location and the area is currently overgrown by low-lying brush. The northern portion of the site consists of 52 scattered oak trees and ruderal grassland vegetation.

Moore Canal, a concrete-lined water conveyance structure owned and operated by the Yolo County Flood Control and Water Conservation District (YCFCWCD), bisects the central portion of the site from west to east. Magnolia Canal is an unlined water conveyance structure owned and operated by the YCFCWCD that intersects the Moore Canal on the northeastern portion of the project site. A small oak woodland stand is located north of where the Moore Canal meets the Magnolia Canal, with additional scattered oaks occurring along the northern portion of the project site. An existing groundwater well used for agricultural purposes is located along the western site boundary. In addition, a domestic water supply well is located at the location of the former ranch headquarters. The northern portion of the site also includes an electric conveyor and associated gravel road formerly used to transport mined aggregate from the Teichert Woodland Storz mining site to the Woodland Plant located north of the project site.

Ruderal/annual grassland vegetation is present along agricultural borders and roads and along the northern portion of the project site paralleling Cache Creek. As discussed in greater detail further below, aquatic resources are also present on the site. Site topography is relatively flat, with surface elevations ranging from approximately 98 to 112 feet above mean sea level (MSL). The predominant soil type within the project site is Yolo silt loam, which is a fine-silty series of Mollic Xerofluvents. Other soil types include Loam alluvial land; Brentwood silty clay, 0 to 2 percent slopes; and Sehorn-Balcom complex, 2 to 15 percent slopes. All such soil types are classified as well drained and non-hydric. The soils are non-saline, though some may be very slightly saline at their most extreme.[9]

The environment of the immediate vicinity is dominated by aggregate mining operations to the north; a golf course (Yolo Fliers Club), rural residential, airport (Watts-Woodland), and farm dwellings to the west/southwest; rural residential and cemetery (Monument Hill Memorial Park cemetery) to the south; and farm dwellings to the east. The aggregate mining operations to the north consist of Teichert's Storz mining site to the northwest and Teichert's Woodland Plant site to the northeast, beyond which is Teichert's Schwarzgruber mining site. The Teichert-Woodland Plant has been in continuous operation for over 50 years.

Aggregate produced at the proposed mine would be processed at the nearby existing Woodland Plant, and the proposed project would include relocation of processing equipment from the Esparto Plant to the Woodland Plant. The Woodland Plant is currently used as an active plant site and, thus, is heavily disturbed. In addition, the project would not alter the type of processing operations at the Woodland Plant from what currently occurs. Thus, the existing setting described below focuses on the proposed mine site and does not specifically address existing conditions at the Woodland Plant.

California Wildlife Habitats and Terrestrial Plant Communities

Below is a summary of the habitat communities and vegetation types present on-site, based on the land cover and natural communities classes provided in Chapter 2 of the Yolo Habitat Conservation Plan/Natural Community Conservation Plan (HCP/NCCP) (see Figure 4.4-1).

Cultivated Land

The majority of the project site consists of agricultural land (i.e., cultivated land), totaling approximately 282.993 acres.[10] Crops planted at the site over the past decade have included grain/hay crops (e.g., wheat), alfalfa, truck/berry crops (e.g., tomatoes, and cucumbers), canola, field crops (e.g., sunflowers), and safflower. Ruderal plants are common along agricultural borders and roads, including pigweed (*Amaranthus albus*, *A. blitoides*, and *A. retroflexus*), lamb's quarters (*Chenopodium album*), mallow (*Malva parviflora* and *M. leprosa*), bindweed (*Convolvulus arvensis*), devil's claw (*Proboscidea louisianica* and *P. lutea*), puncture vine (*Tribulus terrestris*), common knotweed (*Polygonum aviculare* subsp. *depressum*), bermuda grass (*Cynodon dactylon*), and Johnson grass (*Sorghum halepense*).

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9 U.S. Department of Agriculture, Natural Resource Conservation Service, Regents of the University of California (Agricultural Experiment Station). *Soil Survey of Yolo County, California.* 1972.

10 The exact area considered agricultural land in this chapter differs slightly from the area considered Farmland in other chapters of this EIR, for instance Chapter 4.2, Agricultural Resources, for several reasons. The principal difference is that field surveys and detailed aerial imagery was used to delineate the habitat types present. Mapping of Farmland uses a large scale that is not dependent on small variations within a given area. Mapping of habitat types would include differentiation of a small drainage ditch or outcropping of oaks from the overall cultivated land habitat type.

Grassland

The northern portion of the project site paralleling Cache Creek supports approximately 9.894 acres of grassland. The majority of the grasslands are separated from the agricultural area by a conveyor system and access/maintenance road. The remainder of the grasslands are south of the conveyer in incidental areas left fallow. Common grassland species include filaree (*Erodium botrys*, *E. cicutarium*, and *E. moschatum*), common fiddleneck (*Amsinckia intermedia*), ripgut brome (*Bromus diandrus*), soft-chess (*Bromus hordeaceus*), wild oat (*Avena barbata* and *A. fatua*), hare wall barley (*Hordeum murinum*), and six-weeks fescue (*Festuca myuros*). Disturbed areas also support dense stands of ruderal vegetation, including milk thistle (*Silybum marianum*), Italian thistle (*Carduus pycnocephalus*), yellow star-thistle (*Centaurea solstitialis*), mallow, and perennial mustard (*Hirschfeldia incana*).

Valley Oak Woodland

Approximately 1.671 acres projecting south from the northeastern portion of the project site supports a valley oak woodland stand. Most of the oaks are associated with a segment of the earthen-lined Magnolia Canal just north of the Moore Canal. Common understory vegetation includes poison oak, horehound (*Marrubium vulgare*), Italian thistle, and ripgut brome.

Wetlands and Potential Waters of the U.S./State

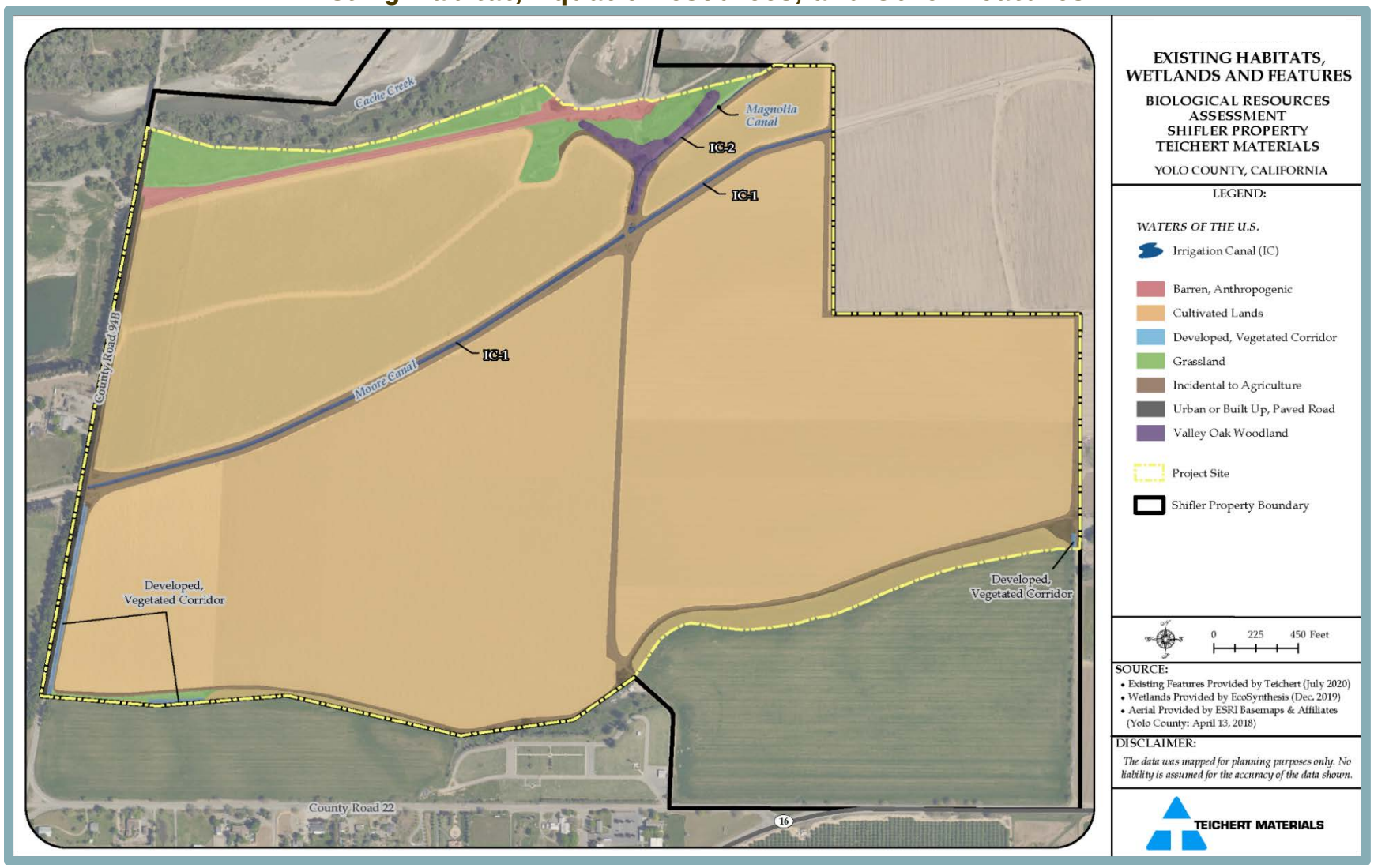
A delineation of wetlands and other waters of the U.S. was prepared for the project site by ECORP. The USACE issued a preliminary jurisdictional determination (PJD) in July 2012. Subsequent to the USACE PJD, EcoSynthesis provided a new wetland delineation of the Shifler site using up-to-date methodologies and equipment. EcoSynthesis submitted the findings of the updated wetland delineation to the USACE, which issued a PJD on June 3, 2020 concurring with the findings of EcoSynthesis. Based on the updated delineation efforts prepared for the project, the project site contains a total of 2.205 acres of potentially jurisdictional waters of the U.S. – which would also be considered waters of the State. The potentially jurisdictional waters on-site consist of Moore Canal and Magnolia Canal (see Figure 4.4-1).

Previous wetland delineations prepared by ECORP for the project site identified other features on-site that were considered potentially jurisdictional at the time ECORP prepared the site delineation. As further explained in the Aquatic Resources Delineation memorandum prepared by EcoSynthesis on July 5, 2020, all potential aquatic resources within the site other than Moore Canal and Magnolia Canal have been determined not to be aquatic resources. In addition, the USACE confirmed to EcoSynthesis that the on-site irrigation ditches (such as the Moore Canal and Magnolia Canal) are not considered jurisdictional. The USACE's PJD issued on June 3, 2020 is considered the definitive determination of potentially jurisdictional features on-site. Given the conclusions of the USACE, the project site does not contain any aquatic features that would be considered jurisdictional waters by the USACE.

Moore Canal and Magnolia Canal

Both the Moore Canal and Magnolia Canal, collectively totaling 2.205 acres, appear on the USGS 7.5-minute series "Woodland, California" quadrangle as a dashed blue line feature. The Moore Canal is an approximately 19.8-foot-wide concrete-lined irrigation water conveyance system operated by the YCFCWCD. Moore Canal enters the project site from underneath County Road 94B and flows in a west to east direction. A gate structure exists near the northeastern portion of the project site, which allows water from the Moore Canal to be diverted into the Magnolia Canal.

Figure 4.4-1
Existing Habitat, Aquatic Resources, and Other Features



Source: Teichert Materials, 2020.

The Magnolia Canal is an approximately six-foot-wide earthen-lined canal that starts at the gate structure and flows in a northeasterly direction.

Both canals are continuously maintained, and vegetation is usually absent. The earthen-lined Magnolia Canal supports some vegetation, which can vary between years depending on the availability of water allocations. When the canal is operating and flowing, predominant vegetation includes nutsedge (*Cyperus esculentus* var. *leptostachyus* and *C. eragrostis*), Bermuda grass, rye grass (*Festuca perennis*), bearded sprangletop (*Leptochloa fusca* subsp. *fascicularis*), common barnyard grass (*Echinochloa crus-galli*), and Johnson grass (*Sorghum halepense*). In drought years when the canal is not operating, vegetation generally consists of ruderal plants including milk thistle, perennial mustard, orach (*Atriplex* sp.), Bermuda grass, and rye grass.

The USACE confirmed that both Moore Canal and Magnolia Canal meet the CFR's definition of irrigation ditches. Per the Section 404(f) exemption found in 33 CFR 323.4(a)(3), permits from USACE are not required for construction and maintenance of irrigation ditches as irrigation ditches are not considered waters of the U.S. Nevertheless, the irrigation ditches may be considered to be waters of the State.

Other Disturbed Areas

Other areas within the site include an existing conveyor system and associated graveled maintenance road (approximately 3.564 acres) along the northern portion of the project site, which transports aggregate material from Teichert's adjacent Storz site to the west to the Woodland Plant to the northeast. Features incidental to agriculture (approximately 15.927 acres) are present throughout the project site. Landscape plantings consisting of oleanders (*Nerium oleander*) are present along County Road 94B and the southeastern portion of the project site (approximately 0.782 acres).

Special-Status Species

A comprehensive literature review, based on the professional experience of contributing biologists within the region and elsewhere in California, was conducted to identify special-status plant and wildlife species known to occur in the project region. Sources consulted included the CNDDB; the USFWS official list of federal candidate, proposed, threatened, and endangered species; the CNPS Online Inventory of Rare and Endangered Plants of California; the eBird online bird database, and Appendix A: Covered Species Accounts of the Yolo HCP/NCCP. In addition, multiple field surveys were conducted between June 18, 2012 and July 2016. Surveys focused on rare plants and existing habitats, but also included incidental observations of wildlife use and nesting species. During follow-up site visits conducted in September 2019, LOA confirmed that the site conditions described in the 2012 and 2016 surveys remained valid. An additional protocol-level rare plant survey was conducted in 2018.

The study area was extended beyond the project site boundary to ensure all areas within 165 feet (50 meters) of the proposed limits of disturbance were examined to address potential indirect impacts to other biological resources (i.e., elderberry shrubs), consistent with Yolo HCP/NCCP guidelines. The survey area is referred to hereafter as the "study area". The study area is generally inclusive of the project site, with the exception of a narrow strip along the northern project site boundary. The strip of land along the northern project site boundary was excluded after careful review of the plan to relocate Moore Canal, the mining plan, and the reclamation plan. Because none of the foregoing plans depicted disturbance north of the existing conveyor, survey and analysis of the area along the northern boundary of the project site was not deemed necessary

or essential to the analysis of potential impacts resulting from project implementation. The study area also does not include the Woodland Plant site, as the site is currently used as an active processing plant and is heavily disturbed as a result. The proposed project would include pumping of groundwater from the proposed mining area to the adjacent Woodland Plant, which would require installation of new water pipe infrastructure alongside the existing conveyor belt alignment. However, installation of the pipe would not require trenching in areas that have not already been subject to substantial prior disturbance associated with the conveyor belt. Thus, the portion of the proposed pipe alignment lying outside of the project site and within the existing alignment of the conveyor was not included in the study area.

The potential for special-status plants and animals, as well as other bird species protected under the Migratory Bird Treaty Act (MBTA), depends largely on the presence of specific habitat types on the project site. Habitat types identified in previous documents and recent field assessments were evaluated with known habitat requirements for each species with potential to occur in the regional area. The potential for each species to occur on the project site was assessed and ranked as one of the following:

- Known to Occur – Taxon was observed at the project site during recent surveys.
- Likely to Occur – Taxon previously reported within or immediately adjacent to the site or otherwise expected to occur due to neighboring occurrences and substantial habitat on the project site.
- Could Occur – Suitable habitat is available at the site; however, other indicators that the taxon might be present are minimal or nonexistent.
- Unlikely to Occur – Taxon is unlikely to be present due to poor habitat quality or known restricted current distribution that does not include the project area.
- No Habitat Present – Taxon's distribution is within or close to the project site; however, taxon requires specific habitat type not present in project area.

Table 4.4-2, presented at the end of this Chapter, provides a summary of all special-status species known or potentially known to occur in the project region, along with specific information for each of the species, including federal and State designations, biological and distribution information, survey (blooming or activity) period, and likelihood of occurrence on the project site. In addition, the table includes select species that are not considered special-status but are protected under the MBTA.

Special-Status Plants

As shown in Table 4.4-2, of the 24 special-status plant species known to occur in the project region, 23 have habitat requirements that are not met on the project site. Only one species, Sanford's arrowhead (*Sagittaria sanfordii*), has the potential to occur on the project site based on habitat requirements.

Sanford's Arrowhead (Sagittaria sanfordii)

Sanford's arrowhead is not listed pursuant to either the FESA or CESA, nor is the species covered by the Yolo HCP/NCCP; however, the species is listed as a California Rare Plant Rank (CRPR) 1B.2 species by the CNPS. Sanford's arrowhead is a rhizomatous, herbaceous perennial associated with the shallow margins of small lakes and ponds and slow-moving sloughs, creeks, rivers, and canals. Numerous populations have also naturalized in ditches associated with irrigation and other drainage systems. Little is known regarding the biology or ecology of the

species, although it appears to tolerate a wide range of freshwater marsh environments. Flowering typically occurs between May and August.

The species is widely distributed throughout the Central Valley between zero and 2,200 feet in elevation. Sanford's arrowhead is documented from 93 occurrences and is presently known from Shasta to Tulare County, with the majority of records occurring in Sacramento County. A disjunct population also occurs near Crescent City in Del Norte County. The species is presumed to have been extirpated from much of its historic range in southern California (Orange and Ventura counties). The nearest documented occurrence of Sanford's arrowhead is approximately 20 miles east of the project site (CNDDB Occurrence Number 73) in Sacramento County.

Field surveys for Sanford's Arrowhead were conducted within the study area over five years, between 2012 and 2016, along with a focused rare plant survey in 2018. Individuals of Sanford's arrowhead were not found in or immediately adjacent to the project site. Therefore, Sanford's arrowhead is not expected to occur at the project site.

Special-Status Wildlife and Protected Birds

The sections below further describe wildlife species with potential to occur on the project site based on the presence of suitable habitat and the results of field surveys conducted within the study area. The sections below do not discuss species included in Table 4.4-2 which do not have any significant potential to occur on-site for lack of suitable habitat. For example, California tiger salamander (*Ambystoma californiense*) is a federal and State listed species but is restricted to vernal pools, which do not occur on-site, and therefore the salamander is not discussed below. Similarly, special-status fish are also not discussed below, as the habitat provided by the Moore and Magnolia canals is not suitable for any of the special-status fish included in Table 4.4-2, and Cache Creek is outside of the limits of proposed disturbance.

Valley Elderberry Longhorn Beetle

The valley elderberry longhorn beetle (VELB) is listed as threatened by the FESA. The species is also a covered species under the Yolo HCP/NCCP. The VELB is entirely dependent upon its host plant, elderberry (*Sambucus* spp.). The elderberry shrub is primarily associated with riparian areas, but also occurs in grasslands, dredge tailings, and as isolated roadside shrubs. Most records indicate that the VELB occupies elderberry shrubs in association with other riparian vegetation. Figure 4.4-2 presents the existing VELB shrubs in the vicinity of the project site.

The Yolo HCP/NCCP does not identify the project site as modeled habitat for VELB; however, modeled riparian habitat is located immediately north of the project site. The nearest occurrence record for the species is approximately 0.25-mile (1320 feet) northwest of the project site (CNDDB Element Occurrence Number 81), described as being located on elderberry shrubs within riparian habitat along the south bank of Cache Creek, just west of County Road 94B (see Figure 4.4-3). In addition, numerous exit holes associated with VELB have been documented just north of Cache Creek as part of the Haller VELB mitigation area and mine reclamation site. Numerous elderberry shrubs were observed within the Cache Creek riparian corridor just north of the project site, in addition to shrubs with exit holes. Some of the shrubs occur within the project site, but all are located beyond 165 feet (50 meters) from the limits of disturbance and, therefore, are considered avoided by the project under both the Yolo HCP/NCCP and current USFWS Guidance.

Figure 4.4-2
Location of Existing Elderberry Shrubs

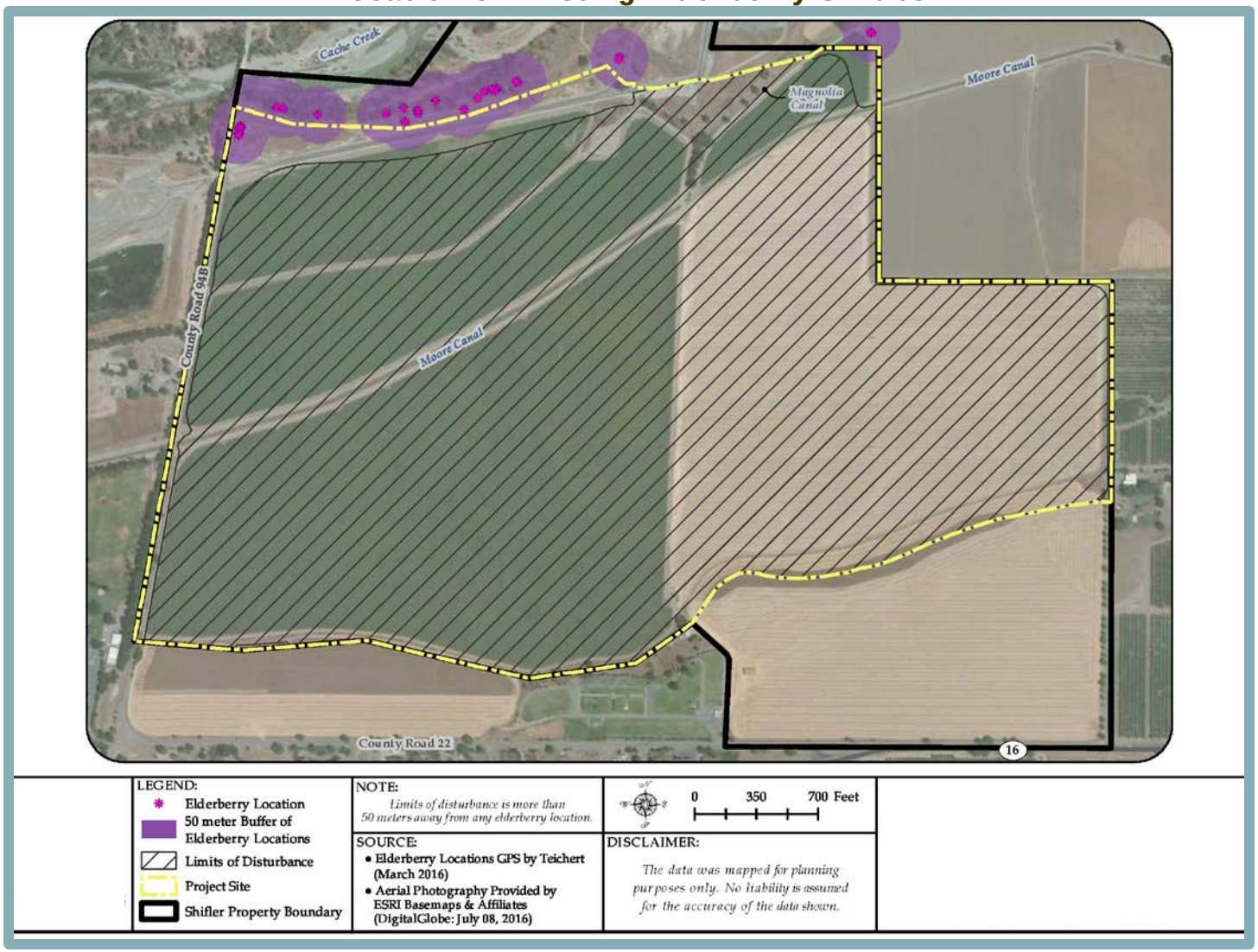
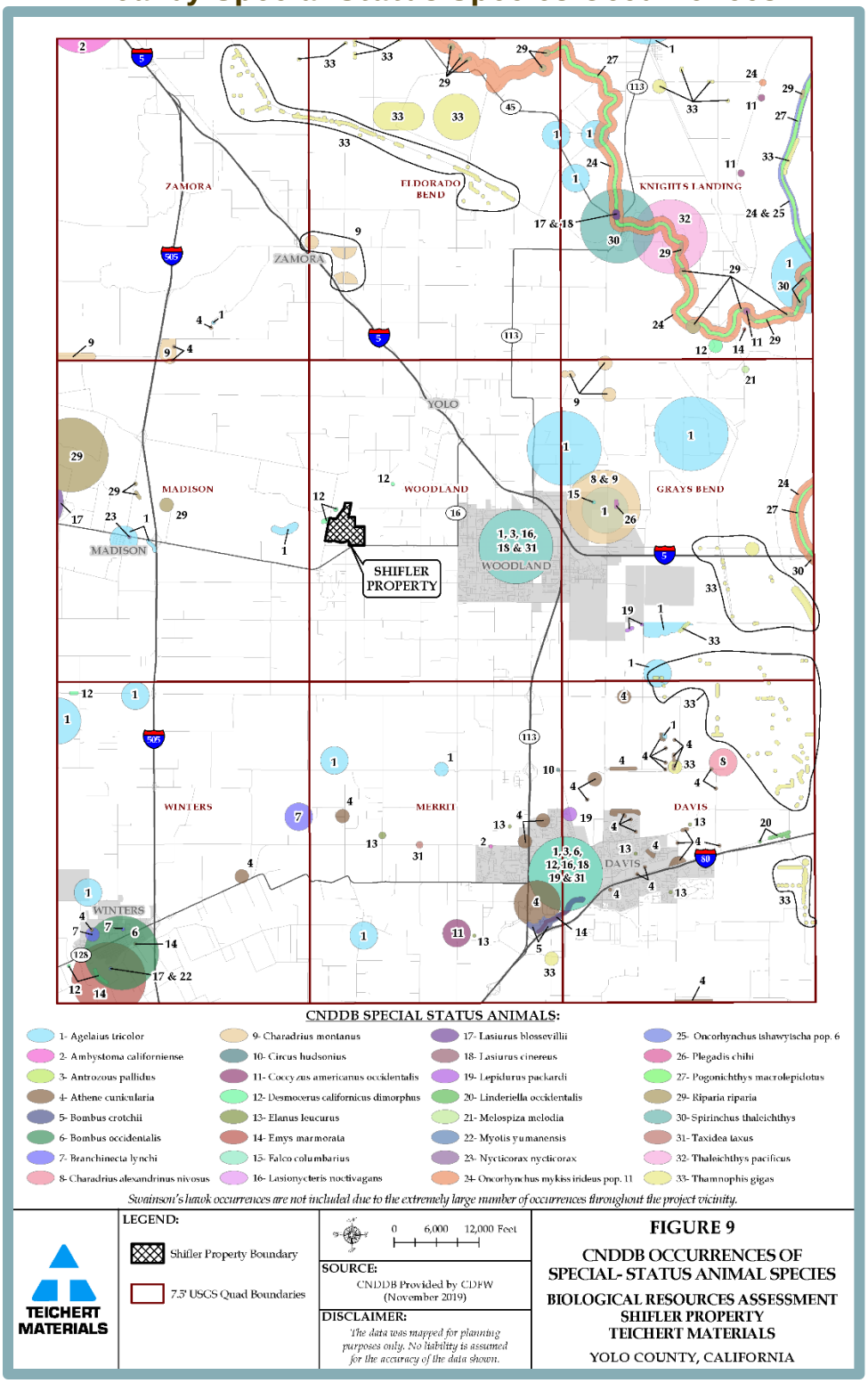


Figure 4.4-3
Nearby Special Status Species Occurrences



Note: Nearest VELB occurrence located to the northwest of the project site.

Western Pond Turtle

Western pond turtle is not listed pursuant to either the FESA or CESA, but is designated by the CDFW as a California Species of Special Concern and is a covered species under the Yolo HCP/NCCP. The species occurs in a variety of fresh and brackish water habitats including marshes, lakes, ponds, and slow-moving streams. Western pond turtles are typically active between March and November. Mating generally occurs from late April to early May and eggs are deposited between late April and early August (Jennings and Hayes 1994).

Eggs are deposited within excavated nests in upland areas, within substrates that typically have high clay or silt fractions, usually in the vicinity of aquatic habitats. The majority of nesting sites are located within 650 feet of the aquatic habitat. However, sites have been documented as far as 1,310 feet from aquatic habitat. Nests are typically located on a slope that is unshaded and at least partly south-facing. The slope of nest sites ranges up to 60 feet, but is typically less than 25 feet.

Western pond turtle is discontinuously distributed from western Washington State south to northwestern Baja California, but exists at numerous localities in the Central Valley of California. The nearest known occurrences for the species are approximately 12 miles south of the project site: one in Putah Creek near the City of Winters and the other in Putah Creek in the City of Davis (CNDDB Occurrence Numbers 441 and 362). Although occurrences of the species are not recorded in the CNDDB for the vicinity of the project site, the species has been regularly observed at locations in the upper reaches of Cache Creek (i.e., above Rumsey) and occasionally in the lower reaches of Cache Creek, including the Cache Creek Nature Preserve. Individuals could occur in the Moore and Magnolia canals given the canals' proximity to Cache Creek. While the Yolo HCP/NCCP identifies Moore Canal as modeled aquatic habitat for Western pond turtle, the Yolo HCP/NCCP also states that the model overestimates the extent of aquatic habitat provided by agricultural waterways which often do not provide suitable habitat. The Yolo HCP/NCCP does not identify any modeled "nesting and overwintering habitat" for Western pond turtle on the project site. Most of the upland habitat within the proposed limits of disturbance is unsuitable for nesting or overwintering, given that such land is in active agricultural use each year. However, the narrow strip of ruderal vegetation north of the conveyor belt could be used for nesting. Therefore, Western pond turtle could potentially occur within the study area.

Tricolored Blackbirds

Following an assessment guided by Appendix 1: Survey Protocol Provided to Volunteers of Results of the Tricolored Blackbird 2008 Census and AMM 21 of the Yolo HCP/NCCP, tricolored blackbirds were classified as "unlikely to occur" in Table A-1. Despite being considered "unlikely to occur," Tricolored blackbird is discussed herein because the species is a covered species under the Yolo HCP/NCCP, is the subject of a statewide census, and has a complex life-history which warrants in-depth analysis.

Tricolored blackbird (*Agelaius tricolor*) is listed as a threatened species under the CESA. The breeding season for the species generally extends from mid-April into late July. Prospecting (i.e., searching for and visiting potential nest sites) typically occurs between early April and early June in the Sacramento area. Nesting colonies vary in size from about 50 nests to over 20,000 nests. Historically, tricolored blackbirds were found nesting in large to very large colonies (some estimated at over 100,000 nests) in areas with cattail or tule marsh habitats. However, with the decline of such habitats, the species now also nests in other vegetation including Himalayan blackberry, grain fields (i.e. triticale), especially when weedy or associated with dairies, and

flooded woody riparian vegetation. Foraging habitats are generally associated with open grassland, fields, and farm lands that provide high densities of prey species, such as grasshoppers and butterfly larvae, during the nesting season. Such foraging habitats are typically within three miles or less of the nesting colony.

The nearest recorded CNDDB occurrence of tricolored blackbird, nesting or otherwise, is over 20 years old, located over 5,000 feet from the project site, and was destroyed by flooding in 1995 (CNDDB Element Occurrence Number 303). Many nearby CNDDB records are "Extirpated" or "Possibly Extirpated". Other CNDDB records are "Presumed Extant", yet known to be inactive through the results of the triennial statewide surveys for tricolored blackbird (e.g. Occurrence Numbers 303, 495, 498, 997). The Yolo HCP/NCCP does not identify the project site as containing modeled nesting habitat for tricolored blackbird. The nearest modeled nesting habitat, approximately 2,750 feet from the project site, is a marsh within the Cache Creek Nature Preserve. While parts of the marsh are dominated by tule and cattail, the marsh has never attracted tricolored blackbirds.

The absence of tricolored blackbirds from the project site and surrounding areas is well documented through the results of the triennial statewide surveys, the CNDDB, and local knowledge. Though tricolored blackbirds may forage in field and row crops and could use the site for nesting during years when certain grain crops are being grown, such foraging has never occurred and local conditions have not changed substantially to become more attractive for tricolored blackbird. As such, while the site represents potential foraging habitat for tricolored blackbird, the species is considered unlikely to occur in the study area.

Short-eared Owl

Short-eared owl is not listed in accordance with either the FESA or the CESA, and is not covered by the Yolo HCP/NCCP. However, the short-eared owl is designated as a California species of special concern by the CDFW (when nesting). Easier to see than most owls, the species lives in open terrain with limited numbers of scattered trees. However, the species requires dense cover (e.g., prairie, grasslands, vegetated dunes, meadows, irrigated pasture, and fresh or saltwater marsh) for roosting or nesting. The species nests on the ground in a depression concealed by vegetation. Nesting occurs from early March through late July.

Occurrences of the species have not been reported in the CNDDB for Yolo County. However, multiple eBird records exist documenting the presence of short-eared owls in Yolo County, approximately 3.75 miles from the project site, in January 2018. The species has only been confirmed as an occasional nesting species at the Hunt Wesson Hawk and Owl Reserve north of Davis. Individuals have been observed during the peak nesting season (i.e., June to July) at the Conaway Ranch and Yolo Basin Wildlife Preserve as recent as 2013. Consequently, the species is considered to have some potential, albeit low, to occur at the project site.

Ferruginous Hawk

Wintering ferruginous hawk is not listed in accordance with either the FESA or the CESA, but is currently tracked by the CNDDB. Ferruginous hawk is not covered by the Yolo HCP/NCCP.

Ferruginous hawks begin to migrate into California in August or September and return to their breeding habitat in late February or early March. Expansive, open grassland is the primary wintering habitat of the species. The nearest known CNDDB occurrence is located is 24.8 miles southeast from the study area (CNDDB Element Occurrence Number 7) near the Sacramento

Regional County Sanitation District Bufferlands. Though ferruginous hawks have not been reported within the project vicinity, multiple winter eBird occurrences for the species have been documented in Yolo County. Consequently, the species is considered to have potential to winter at the project site.

Swainson's Hawk

Swainson's hawk is listed as a threatened species pursuant to the CESA, and is a covered species under the Yolo HCP/NCCP. Swainson's hawk prefer open to semi-open habitats throughout much its range. In California, the nesting season for Swainson's hawk ranges from mid-March to late August. In the Central Valley, Swainson's hawks are known to nest within tall trees in a variety of wooded communities including, but not limited to, riparian, oak woodland, roadside landscape corridors, urban areas, and agricultural areas.

Foraging habitat includes open grassland, savannah, low-cover row and field crops, and livestock pastures. The species is an opportunistic forager and will readily forage in association with agricultural mowing, harvesting, disking, and irrigating. According to recent studies (Swolgaard, et al. [2008] as well as Fleishman et al. [2016][11]), the most frequently used foraging habitats within the Sacramento-San Joaquin Delta region are irrigated hay fields, ruderal areas, and dryland grain fields, with the heaviest usage immediately after mowing, likely due to a temporary increase in prey availability due to the loss of vegetative cover. The least frequently used habitats were oak woodland, irrigated field crops, urban environments, and riparian and lacustrine areas.

The majority of Central Valley nest sites for Swainson's hawk occur in Sacramento, Yolo, and San Joaquin counties. The Yolo HCP/NCCP identifies the project site as containing modeled Agricultural Foraging habitat for Swainson's hawk. Swainson's hawks have been observed on-site (flyover/foraging) during rare plant surveys conducted between 2012 and 2015. Though Swainson's hawk nests have not been documented on-site, nine nests have been reported to the CNDDB within two miles of the project site (Figure 4.4-4).

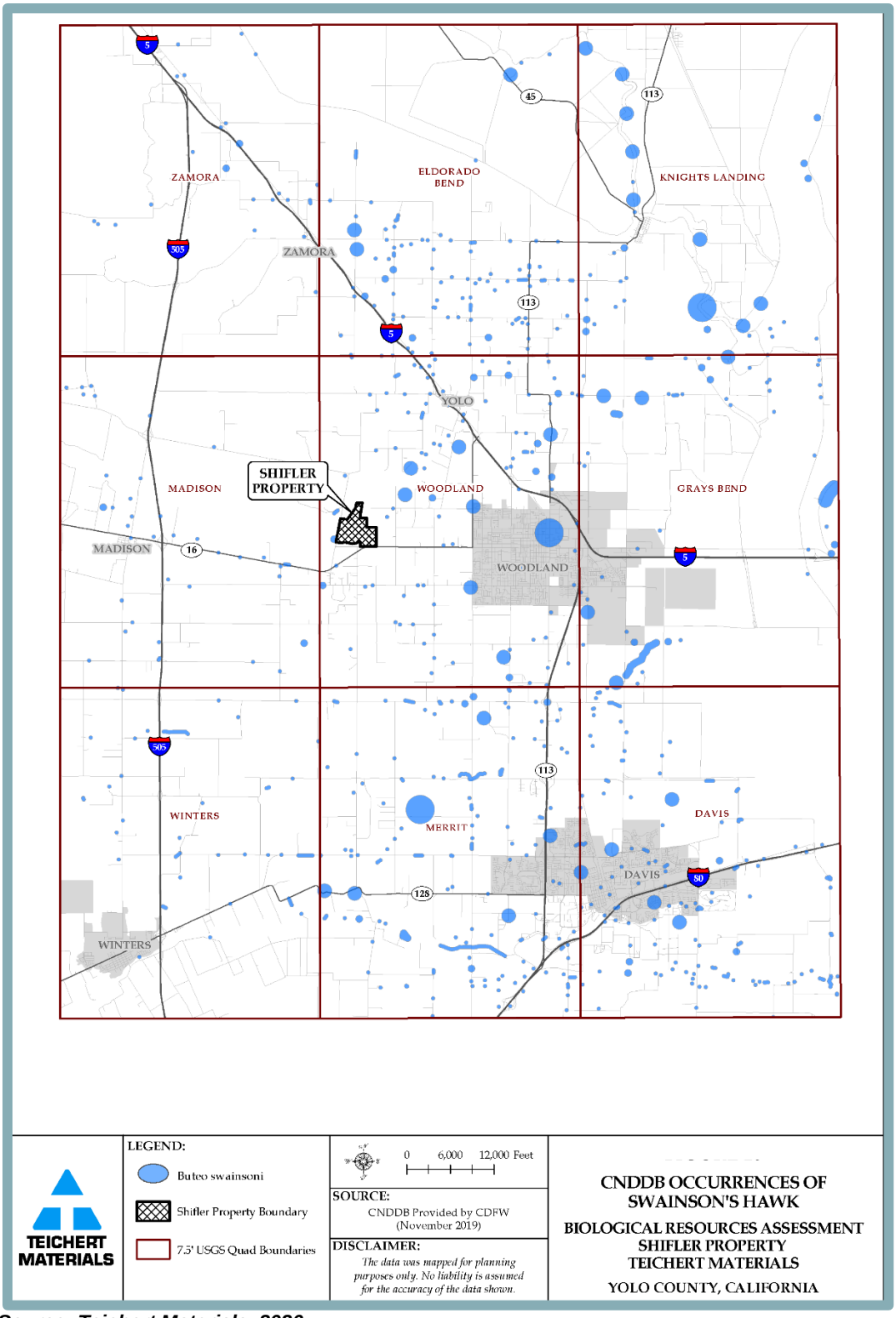
A pair of Swainson's hawk was observed nesting in a eucalyptus tree at Teichert's Woodland Plant site approximately 0.5 mile to the northeast in 2007 and 2008. Although the Yolo HCP/NCCP does not identify the project site as containing modeled nesting habitat for Swainson's hawk, tall trees (i.e., oaks, cottonwoods) along the northern boundary of the project site provide potential nesting habitat for the species, while the annual grassland/ruderal vegetation and agricultural land currently provide potential foraging habitat. Therefore, the species is likely to occur within or immediately adjacent to the project site.

Northern Harrier

Northern harrier is not listed in accordance with either the FESA or CESA, nor is the species covered by the Yolo HCP/NCCP. However, Northern harrier is designated as a California Species of Special Concern by the CDFW (when nesting). The species occurs in open habitats, including Arctic tundra, grasslands, open rangelands, desert flats, and marshes. Nesting usually occurs from April to September with peak activity occurring June through July. Nests are typically located on the ground in grassland, weedy fields, grain fields, or marshes.

[11] Fleishman, E., Anderson, J., Dickson, B. G., Krolick, D., Estep, J. A., Anderson, R. L., Bell, D. A. *Space Use by Swainson's Hawk (Buteo swainsoni) in the Natomas Basin, California*. 2016. Available at: http://doi.org/10.1525/collabra.35. Accessed June 2020.

Figure 4.4-4
CNDDB Occurrences of Swainson's Hawk



Source: Teichert Materials, 2020.

An occurrence of nesting Northern harrier in Yolo County was documented in the CNDDB in 2015. The species is known to regularly nest in small numbers throughout the lower elevation portions of Yolo County. The nearest eBird record during peak nesting season (i.e., June to July) is from 2019, approximately 1 mile west of the project site in Wild Wings Park. The species has also been observed foraging at the site on numerous occasions. Consequently, the species could potentially occur within the study area.

White-tailed Kite

White-tailed kite is not listed in accordance with either the FESA or CESA. However, the species is fully protected pursuant to Section 3511 of the California Fish and Game Code. The white-tailed kite is also a covered species under the Yolo HCP/NCCP. The species is commonly found in savanna, open woodlands, desert grassland, marshlands, and cultivated fields. In northern California, white-tailed kites typically nest from March through June. Nesting occurs in large, dense-topped trees within riparian, oak woodland, savannah, and agricultural communities that are near suitable foraging areas.

White-tailed kite has been observed regularly throughout the lower elevation portions of Yolo County, including the riparian areas adjacent to the project site. The Yolo HCP/NCCP identifies the project site as containing modeled “Secondary Foraging” habitat for white-tailed kite. The nearest occurrence of the species reported in the CNDDB is approximately 8.5 miles south of the project site, in a line of pine and eucalyptus trees bordered by fallow fields (CNDDB Occurrence Number 43).

The nearest eBird records are from immediately west of County Road 94B along Cache Creek at the Cache Creek Nature Preserve. Therefore, white-tailed kite is considered to have potential for nesting in trees within or immediately adjacent to the study area.

Merlin

Merlin is not listed in either the FESA or CESA, nor is the species covered by the Yolo HCP/NCCP, but the wintering distribution of this species is currently tracked by the CNDDB. The species breeds in rugged terrain that provides both trees for nests and open areas for hunting. In winter, suitable foraging habitat includes a wide range of open environments such as sea coast estuaries, desert, open grasslands, and semi-open woodlands within which the species can hunt from low perches. Consequently, annual grassland and ruderal vegetation and fallow agricultural land provide potential winter foraging habitat for the species.

The nearest CNDDB occurrence is reported approximately seven miles east of the project site, in a bare field in the northeast corner of the City of Woodland (CNDDB Element Occurrence Number 26). The species has occasionally been observed foraging in rangeland or agricultural fields throughout the lower elevation portions of Yolo County. The nearest eBird records are from immediately west of County Road 94B, along Cache Creek, at the Cache Creek Nature Preserve in 2014 and two sightings, one in 2017 and one in 2018, approximately one mile away from the project site at the YCFCWCD building. Therefore, the species is considered to have potential for wintering within the project site.

Loggerhead Shrike

The loggerhead shrike is not listed pursuant to either the FESA or CESA, nor is the species covered by the Yolo HCP/NCCP. The species is considered a California Species of Special Concern by the CDFW (when nesting). The species generally occurs in a variety of open

grassland, oak savannah, shrubland, and other similar habitats where it feeds primarily on large insects (e.g., grasshoppers). The species nests in small trees and shrubs in open country with short vegetation such as pastures, old orchards, mowed roadsides, cemeteries, golf courses, agricultural fields, riparian areas, and open woodlands. In addition, the species has been observed nesting in cattails. Nesting typically occurs during March to June, with young becoming independent during July or August. The nest is generally well-concealed on a stable branch in a densely-foliaged shrub or tree.

The nearest CNDDB record for the species is in Alameda County. Though nesting occurrences of loggerhead shrike have not been reported within the vicinity of the project site, the species has occasionally been observed in rangeland or agricultural fields throughout the lower elevation portions of Yolo County. The nearest eBird record is on the County Road 94B bridge, immediately northwest of the project site, in 2018. Additional eBird records exist immediately west of County Road 94B, along Cache Creek at the Cache Creek Nature Preserve, in 2014, and at Wild Wings Park, in 2015. Therefore, the species is considered to potentially nest within the project site.

Raptors and Nesting Migratory Birds

Raptors and nesting migratory birds, including species that are not considered special-status species, are protected under Section 3503.5 of the California Fish and Game Code, which provides protection to the nests, eggs, and individuals of raptor species. Raptor and migratory bird species that are not considered special-status species by CDFW but are known to occur in the vicinity of the project site include, but are not limited to, American kestrel (*Falco sparverius*), red-tailed hawk (*Buteo jamaicensis*), and red-shouldered hawk (*Buteo lineatus*) in the order Falconiformes; great-horned owl (*Bubo virginianus*), western screech owl (*Otus kennicottii*), and barn owl (*Tyto alba*) in the order Strigiformes; and yellow-billed magpie (*Pica nuttalli)*. American kestrel, western screech owl, and barn owl are cavity or crevice nesters, whereas the other aforementioned raptor species build stick nests. Nonetheless, suitable nesting locations for each of the species are limited to the larger trees in and immediately adjacent to the project site, typically with a diameter at breast height (DBH) of larger than 15 inches. A barn owl was observed nesting in a barn owl box mounted to an oak tree near the northern portion of the project site. Furthermore, a large stick nest in a snag was also observed. Focused surveys for nesting raptors and migratory birds have not been conducted at the project site. However, given the presence of suitable nesting structures within and immediately adjacent to the project site and known occurrences of other nesting raptors within the site vicinity, raptor nesting migratory bird species are considered to have potential to nest at the site.

Silver-Haired Bat

The silver-haired bat is not listed pursuant to either the FESA or CESA, nor is the species covered by the Yolo HCP/NCCP. However, the species is currently tracked by the CNDDB. The silver-haired bat feeds primarily on insects in forested areas near streams and ponds, and roosts in tree and shrub foliage (i.e., snags, cavities, crevices, and exfoliating bark) as well as rock crevices, caves, mines, and buildings.

The nearest known CNDDB occurrence is located is 4.1 miles east from the study area (CNDDB Element Occurrence Number 89). The stand of oak trees located within and immediately adjacent to the northern project boundary may provide roosting habitat for the silver-haired bat. Therefore, the species is considered to have potential to occur within the project site.

Western Red Bat

Western red bat is not listed pursuant to either the FESA or CESA, nor is the species covered by the Yolo HCP/NCCP. The species is designated by the CDFW as a California Species of Special Concern. Western red bat prefers forest and woodland habitat with open spaces for foraging. The western red bat almost exclusively roosts in large trees (cottonwoods, sycamores, walnuts, and willows) and occasionally shrubs. The species breeds in August and September, and young are born in May through July.

Multiple occurrences of the western red bat have been documented in Yolo County. The closest to the project site is approximately nine miles to the west of the site, in a fig orchard near the town of Esparto (CNDDB Occurrence Number 92). The stand of oak trees located within and immediately adjacent to the northern project site boundary may provide roosting habitat for the western red bat along the Cache Creek riparian corridor. Therefore, the species is considered to have potential to occur within the project site.

Hoary Bat

The hoary bat is not listed pursuant to either the FESA or CESA, nor is the species covered by the Yolo HCP/NCCP. However, the species is currently tracked by the CNDDB. Preferred habitats are forests and woodlands along habitat edges or adjacent to riparian areas with large riparian trees species such as cottonwoods and willows. The species may also be found roosting in nut and fruit orchard trees and to a lesser extent caves or rock ledges.

Scattered occurrences have been recorded by CNDDB throughout Yolo County. The nearest known CNDDB occurrence is located is 4.1 miles east of the project site. The stand of oak trees located within and immediately adjacent to the northern project boundary may provide roosting habitat for the hoary bat. Therefore, the species is considered to have potential to occur within the project site.

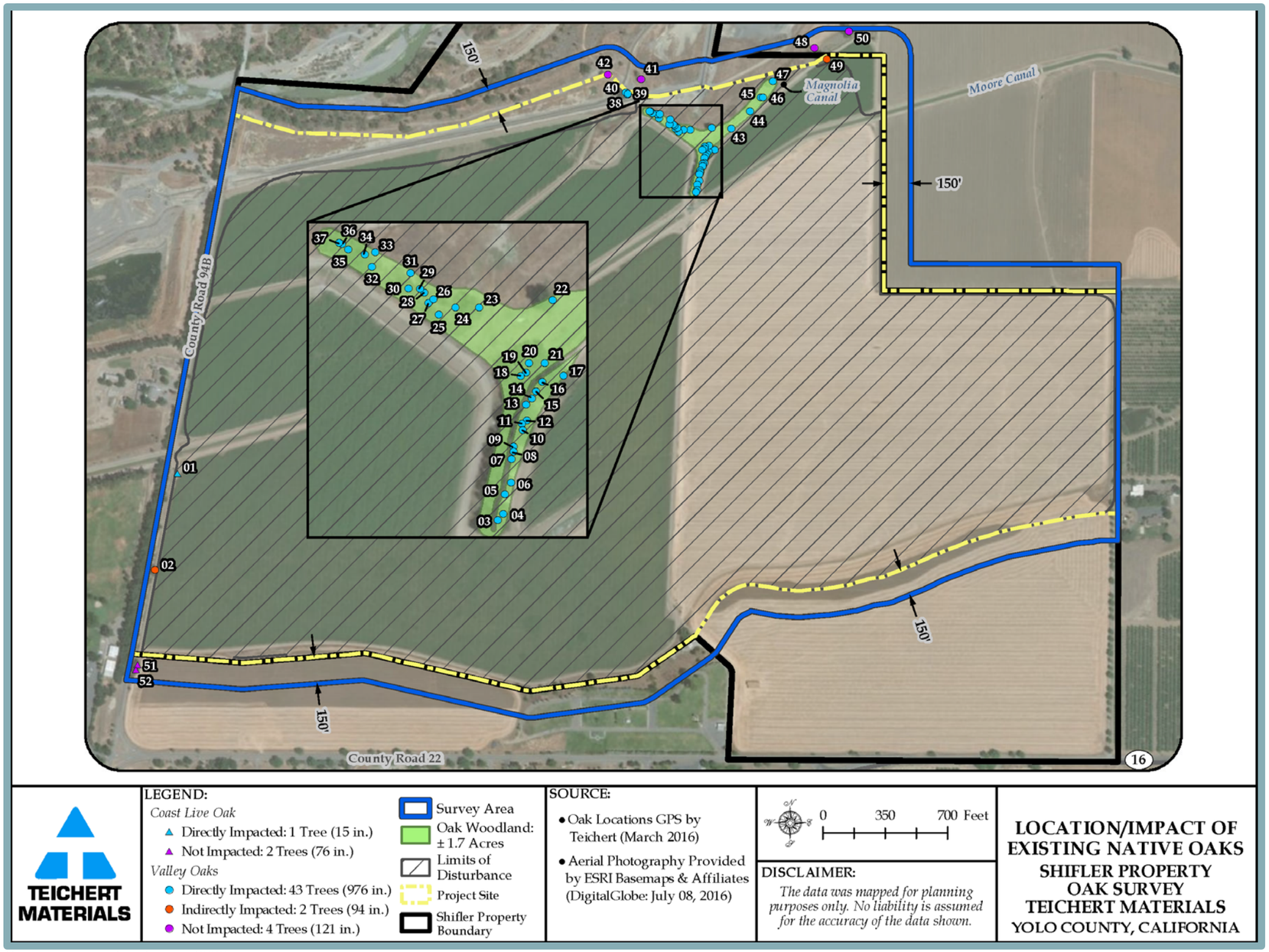
Wildlife Movement

The project site is bounded by County Road 22 to the south and County Road 94B to the west. Such roadways limit the unrestricted movement of terrestrial wildlife through the project site. In addition, the project site is currently used for agricultural production. Thus, the project site does not constitute a substantial established wildlife corridor or wildlife nursery site. However, wildlife may use Cache Creek to the north of the site as a movement corridor.

Trees

An initial tree survey within the study area was prepared on June 20, 2012. A follow-up tree survey was conducted on February 18 and March 22, 2016 in order to account for growth in interim years. Tree surveys consisted of identifying, measuring, and mapping all trees larger than six inches DBH within and immediately adjacent to the study area (i.e., within 100 feet of the project boundaries). The tree surveys identified a total of 52 trees within the survey area, including 49 valley oaks and three coast live oaks (see Figure 4.4-5). Six of the 52 trees were included in the survey area, but are located outside of the project site boundaries. During follow-up site visits conducted in September 2019, LOA confirmed that the site conditions described in the 2012 and 2016 surveys remained valid.

Figure 4.4-5
Tree Locations



Source: Teichert Materials, 2020.

The majority of trees were located along the banks of the Magnolia Canal. The concrete-lined Moore Canal, in contrast, was found to be virtually devoid of vegetation. Remaining mature oaks were found just north of the project site boundaries near the Cache Creek riparian corridor, or along the frontage to County Road 94B. Several smaller valley oak trees measuring less than six inches DBH (saplings) were observed in the understory of existing oaks along Magnolia Canal or within riparian vegetation along the Cache Creek bank, but were not recorded.

Most oak trees were determined to be mature, mid-sized, and in fair to good condition. A number of individuals were multi-trunked, contributing to sizable aggregate diameter measurements. Only one tree was recorded as a snag (#27). Due to the clustered nature of trees along Magnolia Canal, many exhibited poor structure as a result of competition for sunlight.

4.4.3 REGULATORY CONTEXT

The following is a description of federal, State, and local environmental laws and policies that are relevant to the review of biological resources under the CEQA process.

Federal Regulations

The following federal regulations are relevant to biological resources.

Federal Endangered Species Act

The FESA protects plants and animals that are listed as endangered or threatened by the National Marine Fisheries Service (NMFS) and USFWS. In general, NMFS is responsible for the protection of listed marine species and anadromous fish species, while other listed species are under USFWS jurisdiction.

Section 9 of the FESA prohibits the taking of threatened or endangered wildlife, except as provided in Sections 6(g)(2) and 10 of FESA, where "take" is defined as "harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, collect, or attempt to engage in such conduct" (50 CFR 17.3). Under Section 7 of the FESA, federal agencies are required to enter into formal consultation with the USFWS and/or NMFS on proposed federal actions (i.e., actions authorized, funded, or carried out by federal agencies) if their actions could adversely affect a listed (or proposed) species or its critical habitat. Through consultation and the issuance of a biological opinion, the USFWS may issue an incidental take statement allowing take of the species that is incidental to an otherwise authorized activity, provided the activity will not jeopardize the continued existence of the species.

Section 10 of the FESA provides for issuance of incidental take permits where no other federal actions are necessary provided a Habitat Conservation Plan (HCP) is developed. The FESA prohibitions and requirements are different, however, for federally threatened or endangered plant species. For plants, the FESA prohibits the taking of threatened or endangered plants only from areas within federal jurisdiction, or if such take would result in a "knowing violation of any [State law or regulation]" (16 USC 1538). Therefore, in the absence of a federal nexus, a project does not require an incidental take permit pursuant to FESA for impacts to listed plants on private lands.

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

species. The Yolo HCP/NCCP effective January 2019 authorizes incidental take for five federally listed species. See discussion below under Local Regulations.

Migratory Bird Treaty Act

The MBTA implements international treaties between the U.S. and other nations devised to protect migratory birds. The MBTA makes it unlawful to take any of their parts, eggs, and nests as a result of activities such as hunting, pursuing, capturing, killing, selling, and shipping, unless expressly authorized in the regulations or by permit (i.e., rehabilitation, scientific collecting, etc.). The list of migratory birds (50 CFR 10.13) includes nearly all bird species native to the U.S.. The Migratory Bird Treaty Reform Act of 2004 further defined species protected under the act and excluded all non-native species. The Yolo HCP/NCCP authorizes incidental take for seven migratory bird species. See discussion below under Local Regulations.

Clean Water Act

The USACE regulates discharge of dredged or fill material into waters of the United States under Section 404 of the Clean Water Act (CWA). "Discharge of fill material" is defined as the addition of fill material into Waters of the U.S., including but not limited to the following: placement of fill that is necessary for the construction of any structure, or impoundment requiring rock, sand, dirt, or other material for the construction; site-development fills for recreational, industrial, commercial, residential, and other uses; causeways or road fills; and fill for intake and outfall pipes and sub-aqueous utility lines (33 C.F.R. §328.2[f]). In addition, Section 401 of the CWA (33 U.S.C. 1341) requires any applicant for a federal license or permit to conduct any activity that may result in a discharge of a pollutant into waters of the U.S. to obtain a certification that the discharge will comply with the applicable effluent limitations and water quality standards.

As defined in Title 40, Section 120.2 of the C.F.R. waters of the U.S. include a range of wet environments such as territorial seas including waters that are subject to the ebb and flow of the tied, waters currently or previously used in interstate or foreign commerce; tributaries; lakes, ponds, and impoundments of jurisdictional waters, and adjacent wetlands. Wetlands are defined as "those areas that are inundated or saturated by surface or groundwater at a frequency and duration sufficient to support and under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions" (33 C.F.R. §328.3[b]). Furthermore, jurisdictional waters of the U.S. can be defined by exhibiting a defined bed and bank and ordinary high water mark (OHWM). The OHWM is defined by the USACE as "that line on shore established by the fluctuations of water and indicated by physical character of the soil, destruction of terrestrial vegetation, the presence of litter and debris, or other appropriate means that consider the characteristics of the surrounding areas" (33 C.F.R. §328.3[e]).

As part of its wetland delineation and verification process, the USACE determines whether wetlands and other features on a project site are considered waters of the U.S., and therefore regulated under Section 404 of the CWA. If a project would require the discharge of dredged or fill material into Waters of the U.S., the proponent must seek a permit from the USACE. The USACE can issue an individual permit (for projects resulting in substantial impacts) or a general permit (i.e., Nationwide Permit [for those that result in only minimal individual or cumulative adverse effects]). Pursuant to Section 404 (c) of the CWA, the EPA may "veto" or override a USACE permit if it finds that the proposed discharge will have unacceptable adverse effects on municipal water supplies, shellfish beds and fishery areas, wildlife or recreational areas.

Section 401 of the CWA requires any applicant seeking a Section 404 permit for activities resulting in a discharge into waters of the U.S. to obtain a water quality certification from the Regional Water Quality Control Board (RWQCB). The goal of this program is to protect waters of the U.S. by ensuring that waste discharged into these features meets state water quality standards. Because the water quality certification program is triggered by the need for a Section 404 permit and because both programs are a part of the CWA, the definition of "Waters of the U.S." under Section 401 is identical to the definition used by USACE under Section 404 (above).

Executive Order 11990—Protection of Wetlands (May 24, 1977)

Executive Order 11990 provides for the protection of wetlands. The administering agency for the order is the USACE.

State Regulations

The following are the State regulations relevant to biological resources.

California Endangered Species Act

The CESA (California Fish and Game Code Sections 2050-2116) generally parallels the main provisions of the FESA, but unlike the federal counterpart, CESA pertains to State-listed endangered and threatened species. Section 2080 of the California Fish and Game Code prohibits the taking, possession, purchase, sale, and import or export of endangered, threatened, or candidate species, unless otherwise authorized by permit or in the regulations. Take is defined in Section 86 of the Fish and Game Code as "hunt, pursue, catch, capture, or kill, or attempt to hunt, pursue, catch, capture, or kill."

CESA requires state agencies to consult with the CDFW to ensure that any action they undertake is not likely to jeopardize the continued existence of any endangered, threatened or candidate species, or result in destruction or adverse modification of essential habitat. CESA allows CDFW to authorize exceptions to the State's prohibition against "take" of a listed species if the "take" of a listed species is incidental to carrying out an otherwise lawful project or activity (Fish and Game Code Section 2081). The Yolo HCP/NCCP authorizes incidental take for seven state listed or candidate plant and wildlife species. See discussion below under Local Regulations.

Native Plant Protection Act

The Native Plant Protection Act (NPPA) prohibits the taking, possession, or sale within the state of any rare, threatened, or endangered plants as defined by the CDFW. The NPPA is administered by the CDFW and set forth in California Fish and Game Code Sections 1900-1913. The CESA (Fish and Game Code Sections 2050-2116) provided further protection for rare and endangered plant species, but the NPPA remains part of the Fish and Game Code. The Yolo HCP/NCCP authorizes incidental take for one state listed plant species. See discussion below under Local Regulations.

Natural Community Conservation Planning Act

The Natural Community Conservation Planning Act allows for the identification and provision of measures necessary to conserve and manage natural biological diversity within the plan area while allowing compatible use of the land. The purpose of natural community conservation planning is to sustain and restore those species and their habitat identified by CDFW that are necessary to maintain the continued viability of biological communities impacted by human changes to the landscape. A number of Natural Community Conservation Plans (NCCPs), which

function as an HCP, and more, have been established in various areas of the State. The Yolo HCP/NCCP became effective January 2019. See discussion below under Local Regulations.

California Species Preservation Act of 1970

The California Species Preservation Act (CFGC Sections 900-903) includes provisions for the protection and enhancement of the birds, mammals, fish, amphibians, and reptiles of California. The administering agency for the California Species Preservation Act is the CDFW.

California Fish and Game Code Section 1600 et seq.

Section 1602 of the Fish and Game Code requires a Streambed Alteration Agreement (SAA) be submitted to CDFW for "any activity that may substantially divert or obstruct the natural flow or substantially change the bed, channel, or bank of any river, stream, or lake." CDFW must be notified prior to any such activities and will review the proposed action(s). If necessary, the CDFW will propose measures to protect affected fish and wildlife resources. The SAA is comprised of the final mitigation measure(s) and condition(s) mutually agreed-upon by the CDFW and the Applicant. Often, projects that require a SAA also require a permit from the USACE under Section 404 of the CWA. In such instances, the conditions of the Section 404 permit and the SAA may overlap.

California Fish and Game Code Sections 1800–1802

Sections 1800 through 1802 of the California Fish and Game Code, administered by the CDFW, mandate that the "department has jurisdiction over the conservation, protection, and management of fish, wildlife, native plants, and habitat necessary for biologically sustainable populations of those species. The department, as trustee for fish and wildlife resources, shall consult with lead and responsible agencies and shall provide, as available, the requisite biological expertise to review and comment upon environmental documents and impacts arising from project activities, as those terms are used in the California Environmental Quality Act (CEQA)."

California Fish and Game Code Section 3503

Section 3503 of the California Fish and Game Code prohibits the take, possession, or needless destruction of the nests or eggs of any bird, except as provided by this code or any regulation made pursuant thereto. Additionally, Subsection 3503.5 protects all birds-of-prey (raptors) and their eggs and nests. Such stipulations are similar to the federal MBTA and serve to protect nesting native birds. Section 3513 specifically prohibits the take or possession of any migratory nongame bird as designated in the MBTA.

California Fish and Game Code Sections 3511 and 5050

Sections 3511 and 5050 of the California Fish and Game Code prohibit the taking or possessing of birds, reptiles, or amphibians listed as "fully protected." The administering agency is the CDFW.

Surface Mining and Reclamation Act of 1975

Acceptable practices and performance standards have been developed as part of Surface Mining and Reclamation Act (SMARA) while providing protection to wildlife and the successful revegetation of mined lands. Per Section 2712 (b), "The production and conservation of minerals are encouraged, while giving consideration to values relating to recreation, watershed, wildlife, range and forage, and aesthetic enjoyment." An additional 12 standards in the SMARA provide principles for the protection and restoration of wildlife habitats. The relationship of the SMARA to the Cache Creek Area Plan (CCAP) is discussed in Section 1.3 of the OCMP. For more detail, see Impact 4.9-2 of Chapter 4.9, Land Use and Planning, of this EIR.

Porter-Cologne Water Quality Act

The State Water Resources Control Board (SWRCB) and the local RWQCB have jurisdiction over "waters of the State" pursuant to the Porter-Cologne Water Quality Act (Porter-Cologne). "Waters of the State" are defined as "any surface water or groundwater, including saline waters, within the boundaries of the state" (Water Code 13050 [e]).

Porter-Cologne requires any person discharging waste, or proposing to discharge waste, that could affect the quality of waters of the State to file a Report of Waste Discharge with the RWQCB (Water Code 13260[a]). The RWQCB will either issue, or waive the issuance of, Waste Discharge Requirements (WDRs) for the proposed discharge which will include conditions on the discharge to ensure the protection of water quality. Through the WDR program, the RWQCB also regulates discharges to "isolated" water features which are not considered waters of the U.S. under the federal CWA.

Under the Porter-Cologne Water Quality Control Act (Cal. Water Code Section 13000-14920), the RWQCB is authorized to regulate the discharge of waste that could affect the quality of the State's waters. Therefore, even if a project does not require a federal permit (i.e., a Nationwide Permit from the USACE), the project may still require review and approval by the RWQCB, in light of the approval of new NWPs on March 9, 2000 and the Supreme Court's decision in the case of the Solid Waste Agency of Northern Cook County (SWANCC) vs. USACE. The RWQCB in response to the above case, issued guidance for regulation of discharges to "isolated" water on June 25, 2004. The guidance states:

> Discharges subject to Clean Water Act section 404 receive a level of regulatory review and protection by the USACE and are also subject to streambed alteration agreements issued by the CDFW; whereas discharges to waters of the State subject to SWANCC receive no federal oversight and usually fall out of CDFW jurisdiction. Absent of RWQCB attention, such discharges will generally go entirely unregulated. Therefore, to the extent that staffing constraints require the RWQCB to regulate some dredge and fill discharges of similar extent, severity, and permanence to federally-protected waters of similar value. Dredging, filling, or excavation of "isolated" waters constitutes a discharge of waste to waters of the State, and prospective dischargers are required to submit a report of waste discharge to the RWQCB and comply with other requirements of Porter-Cologne.

When reviewing applications, the RWQCB focuses on ensuring that projects do not adversely affect the "beneficial uses" associated with waters of the State. Generally, the RWQCB defines beneficial uses to include all of the resources, services and qualities of aquatic ecosystems and underground aquifers that benefit the State. In most cases, the RWQCB seeks to protect the beneficial uses by requiring the integration of water quality control measures into projects that will result in discharge into waters of the State. For most construction projects, RWQCB requires the use of construction and post-construction Best Management Practices (BMPs). In many cases, proper use of BMPs will speed project approval from RWQCB. Development setbacks from creeks are also requested by RWQCB as they often lead to less creek-related impacts in the future.

Local Regulations

The following are the regulatory agencies and regulations pertinent to the proposed project on a local level.

Yolo County 2030 General Plan

The relevant goals and policies from the Yolo County General Plan related to biological resources presented below:

Policy CO-1.22 Emphasize the use of native grasses, shrubs and trees as the primary focus of landscaping and restoration work within resource parks and other open spaces.

Goal CC-4 Project Design. Require project design that incorporates "smart growth" planning principles and "green" building standards that reflect the County's commitment to sustainable development (see also Goal CO-7).

Policy CC-4.32 Emphasize the use of regionally native drought tolerant plants for landscaping where appropriate.

Goal CI-4 Environmental Impacts. Minimize environmental impacts caused by transportation.

Policy CI-4.5 Roads and road-related structures (bridges, culverts, retaining walls, abutments, etc.) located in or near watercourses shall be placed, designed, built, and landscaped so as to minimize the impact to riparian corridors, including reducing erosion during and after construction, accommodating flood flows, and minimizing grading on slopes greater than 20 percent.

Goal CO-2 Biological Resources. Protect and enhance biological resources through the conservation, maintenance, and restoration of key habitat areas and corresponding connections that represent the diverse geography, topography, biological communities, and ecological integrity of the landscape.

Policy CO-2.9 Protect riparian areas to maintain and balance wildlife values.

Policy CO-2.10 Encourage the restoration of native habitat.

Policy CO-2.14 Ensure no net loss of oak woodlands, alkali sinks, rare soils, vernal pools or geological substrates that support rare endemic species. The limited loss of blue oak woodland and grasslands may be acceptable, where the fragmentation of large forests exceeding 10 acres is avoided and losses are mitigated to the extent feasible.

Policy CO-2.17 Emphasize and encourage the use of wildlife-friendly farming practices within the County's Agricultural Districts and with private landowners including:

- Establishing native shrub hedgerows and/or tree rows along field borders.
- Protecting remnant valley oak trees.
- Planting tree rows along roadsides, field borders, and rural driveways.
- Creating and/or maintaining berms.

- Winter flooding of fields.
- Restoring field margins (filter strips), ponds, and woodlands in non-farmed areas.
- Using native species and grassland restoration in marginal areas.
- Managing and maintaining irrigation and drainage canals to provide habitat, support native species, and serve as wildlife movement corridors.
- Managing winter stubble to provide foraging habitat.
- Discouraging the conversion of open ditches to underground pipes, which could adversely affect giant garter snakes and other wildlife that rely on open waters.
- Widening watercourses, including the use of setback levees.

Policy CO-2.29 Promote native perennial grass habitat restoration and controlled fire management in grazing lands to reduce invasive species cover and enhance rangeland forage.

Policy CO-2.30 Promote native perennial grass habitat restoration and controlled fire management in grazing lands to reduce invasive species cover and enhance rangeland forage.

Policy CO-2.32 Protect wetland ecosystems by minimizing erosion and pollution from grading, especially during grading and construction projects.

Policy CO-2.34 Recognize, protect and enhance the habitat value and role of wildlife migration corridors for the Sacramento River, Putah Creek, Willow Slough, the Blue Ridge, the Capay Hills, the Dunnigan Hills and Cache Creek.

Policy CO-2.41 Require that impacts to species listed under the State or federal Endangered Species Acts, or species identified as special-status by the resource agencies, be avoided to the greatest feasible extent. If avoidance is not possible, fully mitigate impacts consistent with applicable local, State, and Federal requirements.

Policy CO-2.42 Projects that would impact Swainson's hawk foraging habitat shall participate in the Agreement Regarding Mitigation for Impacts to Swainson's Hawk Foraging Habitat in Yolo County entered into by the CDFG and the Yolo County HIP/NCCP Joint Powers Agency, or satisfy other subsequent adopted mitigation requirements consistent with applicable local, State, and federal requirements.

Policy CO-3.1 Encourage the production and conservation of mineral resources, balanced by the consideration of important social

values, including recreation, water, wildlife, agriculture, aesthetics, flood control, and other environmental factors.

Policy CO-5.8 Support efforts to reduce the accumulation of methyl mercury in fish tissue in Cache Creek and the Delta, as well as the consumption of fish with high levels of methyl mercury.

Off-Channel Mining Plan

The following goal and actions from the Biological Resources Element of the adopted Yolo County Off-Channel Mining Plan (OCMP) are applicable to the proposed project:

Goal 6.2-1 Provide for a diverse, native ecosystem within the OCMP area that is self-sustaining and capable of supporting native wildlife and invertebrate species.

Action 6.4-2 Provide for the development of shallow areas along reclaimed off-channel excavations that extend below the groundwater level, to create wetland and riparian habitat. (See Section 10-5.529 of the Reclamation Ordinance.)

Action 6.4-3 Mitigate for short-term and long-term loss of agricultural land and habitat pursuant to applicable County requirements and CEQA. Comply with the Yolo HCP/NCCP for species covered by that Plan. For non-covered species for which impacts may occur, ensure compliance with appropriate measures in site-specific biological assessments required under the OCMP and CCRMP, in compliance with the State Fish and Wildlife Code, Migratory Bird Treaty Act, and other applicable regulations, plans and programs, as appropriate.

Action 6.4-5 Include provisions to enhance habitat for special-status species in restoration components of reclamation plans, where feasible. (See Section 10-5.523 of the Reclamation Ordinance.)

Action 6.4-7 Restore riparian habitat throughout the planning area, wherever appropriate. However, re-vegetative efforts should be primarily focused on implementing recommendations described in the Technical Studies and the subsequent Restoration Recommendations incorporated into the CCRMP. Integrate off-channel and in-channel revegetation plans with the goal of reducing fragmentation by expanding and connecting existing habitat patches, optimizing restoration planning in alignment with the Parkway Plan, and supporting future funding proposals. Ensure that elements such as soils, drainage, slopes, and habitat types complement one another in a coordinated effort.

Action 6.4-8 Include native-planted hedgerows and other vegetated buffers between restored habitat areas and adjoining farmland, in order to minimize the potential for riparian areas to serve as harbors for predators and insect pests. These buffers will also reduce the noise, dust, and spraying generated by agricultural

operations, in addition to providing valuable pollinator resources that in turn could enhance agricultural production.

Yolo County Off-Channel Surface Mining Ordinance

Section 10-4.418 of the Yolo County Off-Channel Surface Mining Ordinance (OCSMO) states the following regarding compliance with the Yolo HCP/NCCP:

> ### Section 10-4.418. Habitat Conservation Plan Compliance
> All surface mining operations shall be consistent with applicable components of the Yolo Habitat Conservation Plan/ Natural Community Conservation Plan (HCP/NCCP).

Section 10-4.429(f) of the Yolo County OCSMO states the following regarding setbacks from riparian vegetation:

> ### Section 10-4.429(f). Setbacks
> (f) Off-channel excavations shall be set back a minimum of twenty-five (25) feet from riparian vegetation.

Section 10-4.436 of the Yolo County OCSMO states the following regarding protection of existing vegetation:

> ### Section 10-4.436. Vegetation Protection
> Existing vegetation and habitat to be retained shall be enclosed by temporary fencing to restrict access, protect against damage and/or provide buffers to reduce the impact of dust. Temporary fencing shall be a minimum of four (4) feet high. The disturbance of riparian forest or oak woodland vegetation, including identified off-channel vegetation, should be avoided if possible. Replacement habitat and plantings shall be established where complete avoidance is not possible, according to a habitat restoration plan prepared by a qualified biologist, consistent with the goals of this plan.

Section 10-4.440 of the Yolo County OCSMO states the following regarding preservation of wildlife habitat:

> ### Section 10-4.440. Wildlife Habitat
> Avoid disturbance to important wildlife habitat features such as bird nesting trees, colonial breeding locations, elderberry host plants for Valley Elderberry Longhorn Beetle, and mature riparian forest and oak woodland habitat. This shall include sensitive siting of haul roads, trails, and recreational facilities away from these features. Suitable habitat for special-status species shall be protected and enhanced, or replaced as a part of mitigation plans prepared by a qualified biologist where necessary, and through compliance with the Yolo HCP/NCCP for special-status species covered by that Plan. Mining and reclamation activities shall be performed in accordance with the State Fish and Wildlife Code, Migratory Bird Treaty Act, and other applicable regulations to protect bird nests when in active use.
>
> Native-planted hedgerows and/or other vegetated buffers shall be included between restored habitat areas and adjoining farmland, in order to minimize the potential for riparian areas to serve as harbors for predators and insect pests. These buffers will also reduce the noise, dust, and spraying generated by agricultural operations, in addition to providing valuable pollinator resources that in turn could enhance agricultural production.

Section 10-4.502(b)(1) of the Yolo County OCSMO states the following regarding requirements applicable to the Biological Resources Assessment prepared for the proposed project.:

> Section 10-4.502(b)(1)
> A biological inventory and analysis to evaluate the on-site habitat value of the proposed mined area, as well as the potential impacts to special-status species and sensitive natural communities, both on-site and within the immediate area. The analysis shall propose appropriate measures to reduce any potential adverse impacts to special-status species or significant suitable habitat, and shall ensure compliance with the Yolo HCP/NCCP, California Fish and Game Code, Migratory Bird Treaty Act, and other applicable regulations, plans and programs. The analysis shall also include a wetland delineation study for any potential on-site wetlands, and shall provide adequate mitigation and appropriate authorizations from regulatory agencies, where required. If landscaping is proposed to screen the surface mining operations from adjoining public rights-of-way or public and private lands, the biological analysis shall include an evaluation of the feasibility of the species, weed control, and irrigation methods to be used;

Yolo County Surface Mining Reclamation Ordinance

Section 10-5.514 of the Yolo County Surface Mining Reclamation Ordinance (SMRO) states the following regarding compliance with the Yolo HCP/NCCP:

> Section 10-5.514. Habitat Conservation Plan Compliance
> All reclamation plans shall be consistent with applicable components of the Yolo Habitat Conservation Plan/Natural Community Conservation Plan (HCP/NCCP).

Section 10-5.515 of the Yolo County SMRO states the following regarding habitat restoration and mitigation plans:

> Section 10-5.515. Habitat Plan Referral
> Proposed habitat restoration or mitigation plans for lands within the OCMP area shall be sent to the California Department of Fish and Wildlife, U.S. Fish and Wildlife Service, the U.S. Army Corps of Engineers, and other interested parties for review and comment through the CEQA process as applicable, to ensure that the projects do not conflict with other existing habitat enhancement efforts.

Section 10-5.523 of the Yolo County SMRO states the following regarding plantings proposed as part of site reclamation:

> Section 10-5.523. Planting Plans
> Site-specific planting plans shall be developed by a qualified biologist for proposed habitat reclamation projects. Restoration components of reclamation plans shall include provisions to enhance habitat for special-status species, where feasible.
>
> Native-planted hedgerows and other vegetated buffers shall be included between restored habitat areas and adjoining farmland, in order to minimize the potential for riparian areas to serve as harbors for predators and insect pests. These buffers will also reduce the noise, dust, and spraying generated by agricultural operations, in addition to providing valuable pollinator resources that in turn could enhance agricultural production.

Section 10-5.533 of the Yolo County SMRO states the following regarding reclamation to riparian and wetland habitat:

> Section 10-5.533. Wetland Habitat
> Off-channel excavations that are proposed to be reclaimed to permanent lakes shall include riparian and/or wetland habitat. The creation of riparian and or wetland habitat along the perimeter of permanent lakes shall include appropriate features such as: scalloped basin perimeters with extended peninsulas, islands, and stepped benches of various widths at approximately three (3) foot vertical intervals both above and below the groundwater level. Where wetlands are not proposed, either grassland and/or woodland habitat, or agricultural fields separated from the lake by a berm, shall be established using only native species in order to provide continuous habitat value around the permanent lakes.

Project consistency with the SMRO is discussed under Impact 4.4-14 below.

Yolo County Oak Woodland Conservation and Enhancement Plan

The Yolo County Oak Woodland Conservation and Enhancement Plan was prepared in 2007 by the Yolo County Parks and Natural Resource Division. The Plan is designed to promote the conservation and enhancement of the County oak woodlands through voluntary efforts of private land owners and public agencies, focusing on oak woodlands that cover one acre or more. The Plan also includes oak woodland conservation policy recommendations for the General Plan. The plan also includes a checklist to help determine the resource value of existing oak woodlands. A completed checklist for the valley oak (Quercus lobata) woodlands on-site is included as Attachment D to the Biological Resources Assessment (see Appendix E to this EIR).

Yolo Habitat Conservation Plan/Natural Community Conservation Plan

The Yolo HCP/NCCP is a 50-year countywide conservation plan that became effective in January of 2019. The HCP/NCCP protects endangered species and natural resources while allowing for orderly development in Yolo County consistent with local General Plans. The Yolo HCP/NCCP provides coverage for 12 special-status animal and plant species, as well as riparian and other wetland sensitive natural community types.

The process for participating in the Yolo HCP/NCCP includes a pre-application phase to confirm that the project is a covered activity, followed by a preliminary evaluation, and then a formal application. The formal application and coverage under the Yolo HCP/NCCP involves planning level surveys, payment of applicable fees based on quantified temporary or permanent impacts to land cover types for a particular site, and requires compliance with applicable preconstruction surveys and construction-related avoidance and impact minimization measures. An applicant can provide conservation land in lieu of paying a portion of the land cover fee or purchase mitigation credits from an approved mitigation bank in lieu of paying a portion of the fee.

4.4.4 IMPACTS AND MITIGATION MEASURES

The following section describes the standards of significance and methodology used to analyze and determine the proposed project's potential impacts related to biological resources. A discussion of the project's impacts, as well as mitigation measures where necessary, are also presented.

Standards of Significance

The significance criteria used for this analysis were developed from Appendix G of the CEQA Guidelines, and applicable policies and regulations of Yolo County. A biological resources impact is considered significant if the proposed project would:

- Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special-status species in local or regional plans, policies, or regulations, or by the CDFW or USFWS;
- Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by the CDFW or USFWS;
- Have a substantial adverse effect on State or Federally protected wetlands (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means;
- Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites;
- Conflict with the provisions of an adopted HCP, NCCP, or other approved local, regional, or State habitat conservation plan;
- The project has the potential to substantially degrade the quality of the environment; substantially reduce the habitat of a fish or wildlife species; cause a fish or wildlife population to drop below self-sustaining levels; threaten to eliminate a plant or animal community; or substantially reduce the number or restrict the range of an endangered, rare or threatened species; or
- Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance;
- Cause a significant environmental impact due to a conflict with any land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect.

Impacts Found Less-than-Significant in Initial Study

The Initial Study prepared for the proposed project (see Appendix A) did not identify any less-than-significant impacts related to biological resources.

Method of Analysis

The information contained in the analysis is primarily based on the Biological Resources Assessment prepared by Teichert Materials. The Biological Resources Assessment was subsequently peer-reviewed by LOA, and an errata was separately prepared by EcoSynthesis. The Biological Resources Assessment, peer review, and errata are included in Appendix E of this EIR. Information regarding aquatic resources and specific acreages of on-site habitats were provided by EcoSynthesis, which updates previous Wetland Delineation and habitat mapping efforts completed by ECORP.

Biological Resource Assessment

A comprehensive literature review, based on the professional experience of contributing biologists within the region and elsewhere in California, has been conducted for the project site in order to develop the most accurate list of potentially-occurring special-status plant and animal species. In addition, using the Rarefind 5.2 software program, a standard nine-quadrangle CNDDB report was generated for the study area. The CNDDB contains extensive records for special-status

species, as well as sensitive natural communities, which have been reported to the CDFW by a variety of sources, including researchers, landowners, field biologists and the public. Furthermore, because the CNDDB does not provide a comprehensive inventory of all sensitive species statewide, other sources of information on special-status species in California were also reviewed to determine if any special-status species not identified in the Rarefind 5.2 report have the potential to occur on the project site. Additional sources included the following:

- USFWS, Sacramento Field Office website – Official list of federal candidate, proposed, threatened, and endangered species having the potential to occur in the study area; generated on April 7, 2014; April 20, 2017; and December 5, 2019.
- CNPS Online Inventory of Rare and Endangered Plants of California – List of special-status species that may occur in the study area; generated on various dates between April 2014 and April 2018 and November and December 2019.
- eBird Database (http://ebird.org) – Online database of bird distribution and abundance, accessed between April 14 and April 20, 2017 and November and December 2019. The eBird database accepts species occurrence submittals from the general public.
- Yolo HCP/NCCP Appendix A: Covered Species Accounts – Accounts of the life history, ecology, population trends, and other data for each species covered under the Yolo HCP/NCCP. The Appendix also includes modeled habitat for the covered species within the boundaries of the HCP/NCCP.

EcoSynthesis prepared an errata to the Biological Resources Assessment, which corrects information related to wetland delineations performed for the project site. The errata is included in Appendix E along with the Biological Resources Assessment. Further information regarding the updated wetland delineation that the errata is based on is provided in the Wetland Delineation section below.

Surveys

Field surveys were conducted to document existing conditions on-site and assess the potential for habitats on-site to support special-status species. Surveys focused on rare plants and existing habitats, but also included incidental observations of wildlife use and nesting species. Specific survey dates were June 18, June 20, and August 6, 2012; July 18, 2013; August 19, 2014; June 25 and August 5, 2015; and February 18 and July 21, 2016. Most survey dates were established to focus on the range of flowering and identification periods for rare plants. Over the course of the five-year survey period, Teichert Materials thoroughly surveyed all habitats present within the study area in order to properly inventory and document habitats and any potential occurrences of special-status species, including wildlife. In addition, a rare plant survey report was prepared for the project site in 2018. The survey consisted of identifying all habitat types and vegetation communities, conducting protocol-level rare plant surveys, and compiling an inventory of all plant species observed at the site. As discussed further below, the findings of the surveys listed above were confirmed by a reconnaissance-level site visit conducted by LOA on September 26, 2019.

Arborist Report

Oak tree surveys were completed in June 2012, February 18 and March 22, 2016 by Teichert biologists as part of a biological assessment of the site. The February 2016 survey was conducted in order to reassess potential project impacts due to minor changes in the proposed mining boundary, as well as to account for possible tree growth since the initial survey. The survey area generally included the project boundary and areas within 150 feet of the boundary. Trees in

adjacent private properties were determined to be well outside of potential impacts and were thus not inventoried.

An aerial photo of the site was used to determine potential tree locations and to develop field survey maps. Trees were then surveyed on foot to verify and map all trees located within the survey area. All native oak trees with trunks equal to or greater than six inches in diameter were then inventoried and mapped using a Trimble® Juno global positioning system (GPS) unit with sub-meter accuracy. All recorded trees were closely examined to determine species type and diameter at breast height (DBH). In addition, dripline radius was assessed based upon the measurement from the trunk to the end of the longest lateral limb, which defines the root protection zone of the tree.

Data collected at the time of the survey for each tree include: a unique identifying number, species identification, coordinate-based location, trunk DBH measurement, visual estimate of dripline radius, and visual assessment for health and structural condition using a 0 to 4 scale. Vigor consists of a combined assessment of the health and structure of a tree. The health rating (on a scale of 0 to 4) component considers factors such as the size, color, and density of the foliage; the amount of deadwood within the canopy; bud viability; evidence of wound closure; and the presence or evidence of stress, disease, nutrient deficiency, and/or insect infestation. The structural rating component reflects the trunk and branch configuration; canopy balance; the presence of included bark and other structural defects such as decay; and the potential for structural failure.

Peer Review

As part of the peer review of the Biological Resources Assessment, LOA conducted a reconnaissance-level site visit on September 26, 2019 to evaluate existing conditions of the site. During the site visit, habitats present on the site were verified, including potentially suitable habitat for any special status plant or animal species that are known to occur, or once to have occurred, regionally. The extent of potentially jurisdictional habitats present was also evaluated. In addition, LOA completed an appropriate background review of sources of information relevant to the proposed project, the project site, and the site vicinity, including the project site plans, aerial photographs of the project site, USFWS National Wetlands Inventory Maps, and the CNDDB Rarefind 5 database.

Wetland Delineation

ECORP prepared a wetland delineation of the entire project site in 2012. Since preparation of the ECORP delineation, EcoSynthesis has prepared an additional wetland delineation of the project site. The wetland delineation prepared by EcoSynthesis is considered to be the definitive determination of wetlands within the project site; accordingly, the following section presents the methods used in preparing the EcoSynthesis Report.

Background Information

Preliminary wetland mapping was obtained from the US Fish and Wildlife Service National Wetlands Inventory (NWI) via the on-line Wetlands Mapper application. Information on soils was obtained from the Web Soil Survey on-line application. Climatic information was obtained from the Western Regional Climate Center and from the National Oceanic and Atmospheric Administration.

Other wetland reporting was examined but not relied upon except to identify locations that merited field study.

Field Methods

Field work was carried out according to the 1987 USACE Wetlands Delineation Manual and Regional Supplement for the Arid West Region, Version 2.0.

The EcoSynthesis study was informed by several previous visits to the site in different seasons in 2014 through 2018, specifically including the study of 19 soil pits that were excavated to depths varying from 5 to 14 feet to provide information related to the feasibility of post-mining reclamation. Notably, redoximorphic features and/or hydric soils were not observed in any near-surface strata in any of the pits.

Wetland determination data points were studied on July 12 and November 13, 2019. In two areas with codominance by hydrophytic species (one being an apparent irrigation tailwater detention basin; the other being subject to leakage from an adjacent property), EcoSynthesis studied data points at the wettest feasible spots. Upon finding that wetland criteria were not met at the data points, further "outside" data points were not studied because further points were drier and less likely to meet wetland criteria.

Specific field methods that were applied to the determination of each of the criteria within the study area are described below.

Vegetation

Plant species were identified on sight or with reference to keys and nomenclature of The Jepson Manual, 2nd edition. Determinations of plant cover were visual estimates, aided where necessary by cover percentage diagrams.

Wetland indicator status assignments were made according to current National Wetland Plant List.

Soils

In addition to the soil profiles studied for other purposes, wetland determination soils test pits were excavated by hand tools to depths of 12-20 inches. Determination of the presence or absence of hydric soils field indicators was made on the basis of Field Indicators of Hydric Soils in the United States and the Arid West Regional Supplement. Due to updates in the names and numbers of hydric soils indicators, there are minor discrepancies between the indicators in NRCS and those listed on the Arid West data form, but the discrepancies did not impair the hydric soils determination.

Hydrology

Determinations of wetland hydrology or absence thereof were made by means of field indicators.

Boundaries

The limits of delineated waters of the U.S. were determined at the apparent ordinary high water mark (OHWM) as described in Lichvar and McColley (2008) and documented in OHWM data sheets in Appendix C of the EcoSynthesis Determination of Waters of the U.S. report.

Survey and Mapping Technology

Boundaries and data point locations were surveyed with a Trimble GeoXH 6000 GNSS ("GPS") unit. The resulting data were then differentially post-processed using publicly available base station data. Given the open terrain (generally without woody overstory), satellite reception was excellent and the post-processed points were overwhelmingly determined by the Trimble Pathfinder Office software to be within the 15-30 cm accuracy range. Field work was exported in California State Plan zone 2, US survey feet, and reprojected to WGS 1984 for the contents of the Determination of Waters of the U.S. report.

Wetland Determination

On May 20, 2020 a request for confirmation of Aquatic Resource Delineation was submitted to the USACE, and the USACE responded on June 3, 2020.[12] The request for confirmation of Aquatic Resource Delineation was prepared by EcoSynthesis and was based on mapping prepared December 5, 2019.[13]

Project-Specific Impacts and Mitigation Measures

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

Aggregate produced at the proposed mine would be processed at the nearby Woodland Plant, and the proposed project would include relocation of processing equipment from the Esparto Plant to the Woodland Plant. However, the Woodland Plant is currently used as an active plant site and, thus, is heavily disturbed. In addition, the project would not alter the type of processing operations at the Woodland Plant from what currently occurs. Any potential ground-disturbing activities required at the Woodland Plant as part of the project would be limited to areas that have already been disturbed and do not contain any sensitive biological resources. Thus, the impact analysis below focuses on the project site only.

4.4-1 Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special-status species in local or regional plans, policies, or regulations, or by the CDFW or USFWS. The impact would be *significant*.

The following sections present a discussion of the special status plants and wildlife species that may be present within the project site. In particular, potential impacts to special-status plants; VELB; Western pond turtle; Northern harrier and short-eared owl; Swainson's hawk and white-tailed kite; loggerhead shrike; other nesting raptors protected under the MBTA; other nesting birds protected under the MBTA; foraging habitat for tricolored blackbird, Swainson's hawk, and white-tailed kite, and winter foraging habitat for ferruginous hawk and merlin; and silver-haired bat, Western red bat, and hoary bat.

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12 Travis Morse, Senior Project Manager, USACE, CO West Section. Personal communication [letter] with Baba, Barry, Habitat Resource Manager, Teichert Materials. June 3, 2020.

13 EcoSynthesis Scientific & Regulatory Services, Inc. *Teichert Shifler Project Determination of Waters of the U.S.* December 5, 2019.

Special-Status Plants

Of the 24 special-status plant species known to occur in the project region, 23 have habitat requirements that are not met on the project site. Only one species, Sanford's arrowhead, has the potential to occur on the project site based on habitat requirements. However, individuals of Sanford's arrowhead or other special-status plants were not found in or immediately adjacent to the project site during the field surveys or the focused plant surveys conducted as part of the Biological Resources Assessment. Suitable habitat for the species includes canals, such as those located on-site. However, both Moore Canal and Magnolia Canal are regularly maintained, which includes vegetation suppression. Therefore, relocation of the canals associated with the proposed project would not result in substantial adverse effects to any special-status plant species, and a less-than-significant impact would occur.

VELB

The VELB is listed as threatened by the FESA. The species is also a covered species under the Yolo HCP/NCCP.

Numerous elderberry shrubs, which are the host plant for VELB, were observed within the Cache Creek riparian corridor just north of the project site, as well as within the project site boundaries. However, all elderberry shrubs identified as part of the Biological Resources Assessment are located over 165 feet from the proposed limits of disturbance (see Figure 4.4-2). All elderberry shrubs would be protected from disturbance during the proposed mining and reclamation activities in accordance with USFWS conservation guidelines, which assumes complete avoidance when a 165-foot (or wider) buffer is established and maintained around elderberry plants containing stems measuring 1.0 inch or greater in diameter at ground level. The Yolo HCP/NCCP assumes complete avoidance of impacts to shrubs when a 100-foot (or wider) buffer is established and maintained around elderberry plants containing stems measuring 1.0 inch or greater in diameter at ground level.

Based on the above, the proposed ground-disturbing activities not anticipated to result in adverse effects to VELB. However, given that elderberry shrubs are located within the project site, compliance with AMM-12 in the Yolo HCP/NCCP would be necessary. AMM-12 in the Yolo HCP/NCCP requires the minimization of effects to VELB habitat through identification of existing habitat, protection of such habitat, or replacement of habitat if removal is unavoidable. If removal of elderberry bushes is unavoidable, project proponents are responsible for transplanting elderberry shrubs to suitable habitat or monitor any shrubs left in place to ensure continued survival over a five-year period. Mitigation would be necessary to ensure compliance with the requirements of the Yolo HCP/NCCP.

Western Pond Turtle

Western pond turtle is not listed pursuant to either the FESA or CESA, but is designated by the CDFW as a California Species of Special Concern and is a covered species under the Yolo HCP/NCCP.

Moore and Magnolia Canal may provide habitat for Western pond turtles; specifically, the species is likely to use the canals primarily as movement corridors, if at all. The project would include relocation and modification of Moore Canal and Magnolia Canal,

respectively. The new channels for the canals would be constructed and put into operation prior to destruction of the existing channels. Consequently, the existing channel habitat would be fully replaced prior to removal of the existing channel habitat. Construction of the new canals in this manner would allow any Western pond turtles that happen to be in the existing canals to exit the existing canals prior to demolition of the canals. Thus, potential impacts during relocation and modification of the canals would be avoided. While implementation of the project would not result in the loss of existing aquatic habitat for the species, the proposed reclamation activities would result in the creation of approximately 112.9 acres of lake and shoreline habitat on the project site, increasing future habitat for the Western pond turtle.

The Yolo HCP/NCCP does not identify any modeled "nesting and overwintering habitat" for Western pond turtle on the project site. Most of the upland habitat within the proposed limits of disturbance is unsuitable for nesting or overwintering, given that such land is in active agricultural use each year. However, the narrow strip of grassland vegetation along the northern boundary of the project site, near Cache Creek (see Figure 4.4-1), could be used for nesting habitat by Western pond turtle. While the proposed project would not include any ground-disturbing activities to the north of the existing conveyor belt, compliance with the buffer zones established in the Yolo HCP/NCCP would be necessary in order to ensure that nests are not disturbed. In particular, the project must comply with AMM-14 of the Yolo HCP/NCCP. AMM-14 requires protection of a 100-foot (minimum) permanent buffer zone from the canopy drip-line of any valley foothill riparian, lacustrine, and riverine natural communities. Furthermore, if modeled upland habitat would be impacted, a qualified biologist must be present to assess the likelihood of Western pond turtle nests being present in the area to be disturbed. The qualified biologist should be retained if a nest is determined to be moderately or highly likely to occur in the area of disturbance, and that biologist may physically move any Western pond turtles disturbed as a result of the project. Moreover, the remote possibility exists that individual Western pond turtles could become stranded within the portions of Moore Canal and Magnolia Canal during the re-routing of canal flows into the newly constructed canal channels. Based on the above, the proposed project could result in a significant impact to Western pond turtle.

Northern Harrier and Short-Eared Owl

Neither Northern harrier nor short-eared owl are covered under the Yolo HCP/NCCP. However, both species are designated as California species of special concern by the CDFW (when nesting).

According to the Biological Resources Assessment, Northern harrier and short-eared owl may nest in the patch of ruderal habitat located along the northern boundary of the Project site. The patch of ruderal habitat is small and unlikely to be occupied, but the species cannot be completely discounted from nesting at this location. Consequently, should project-related vegetation removal or earthmoving associated with the proposed project occur during the nesting season of the species (i.e., mid-February to late August), the project could result in the loss of eggs or juveniles. In addition, nearby project-related vegetation removal or earthmoving could result in noise and visual changes that distract individuals from being properly attentive to eggs or juveniles. As such, limited potential exists for nesting pairs to be sufficiently disturbed such that eggs or juveniles are abandoned or otherwise lost. Based on the above, although the

proposed project is not anticipated to result in impacts to Northern harrier or short-eared owl, disturbance of active nesting locations, should they occur at the site, would result in a significant impact to the two species.

Swainson's Hawk and White-Tailed Kite

Swainson's hawk is listed as a threatened species pursuant to the CESA, and is a covered species under the Yolo HCP/NCCP. White-tailed kite is not listed in accordance with either the FESA or CESA. However, the species is fully protected pursuant to Section 3511 of the California Fish and Game Code. The white-tailed kite is also a covered species under the Yolo HCP/NCCP.

According to the Biological Resources Assessment, the potential exists for Swainson's hawk and white-tailed kite to nest in the existing trees on and adjacent to the project site. With implementation of the proposed project, 46 of the existing on-site trees would require removal, or would otherwise by impacted, to accommodate the proposed mining and reclamation activities. Consequently, in the event that tree removal is required during the nesting season for the species (mid-march to late August), the proposed project could result in the loss of Swainson's hawk or white-tailed kite eggs or juveniles. In addition, nesting pairs located within up to 0.25-mile (1,320 feet) of the project site could be adversely affected during mining-related vegetation removal or earthmoving associated with the proposed project, for the duration of the proposed mining and reclamation activities. Such adverse effects are typically associated with noise and visual changes that distract individuals from being properly attentive to eggs or juveniles. Thus, compliance with AMM-16 in the Yolo HCP/NCCP would be necessary. AMM-16 requires the identification and avoidance of nesting habitat and active nests during the specified nesting season. Daily monitoring by a biologist may be required if disturbance within a 1,320-foot buffer of any active nests is unavoidable. AMM-16 also contains strict limitations on tree pruning and nest tree removal. Based on the above, a significant impact to Swainson's hawk and white-tailed kite could occur.

Loggerhead Shrike

The loggerhead shrike is not listed pursuant to either the FESA or CESA, nor is the species covered by the Yolo HCP/NCCP. The species is considered a California Species of Special Concern by the CDFW (when nesting).

Per the Biological Resources Assessment, loggerhead shrike is considered to have potential to occur on the project site. Adults are unlikely to be substantially disturbed from ground disturbing activities associated with the project at any time other than the nesting season. However, during the nesting season, eggs or juveniles could be abandoned or otherwise lost due to adjacent disturbances associated with project activities. Thus, a significant impact to nesting loggerhead shrike could occur.

Other Nesting Raptors Protected Under the MBTA

Common raptors, including species not designated as special-status species and not covered under the Yolo HCP/NCCP, that are known to nest near the project site include red-tailed hawk, red- shouldered hawk, American kestrel, great-horned owl, and barn owl. Such species are protected under the MBTA. Most of the species nest in larger tree stands in the project vicinity; however, some individuals, especially red-

tailed hawk and great-horned owl, may occasionally nest in "stand alone" trees. Because the proposed project would include removal of 46 of the on-site trees, should tree removal occur during the nesting season of such species (i.e., mid- February to late August), the project could result in the loss of eggs or juveniles during the removal activities.

In addition, nearby mining activities could result in noise and visual changes that distract individuals from being properly attentive to eggs or juveniles. Though noise and visual disturbance from existing mining and agricultural activities in the project vicinity suggest that individuals nesting near the project site can tolerate such disturbance, the potential exists, while unlikely, for nesting pairs to be sufficiently disturbed that eggs or juveniles are abandoned or otherwise lost. Thus, a significant impact to nesting raptors protected by the MBTA could occur.

Other Nesting Birds Protected Under the MBTA

Migratory nesting birds, including species not designated as special-status species and not covered under the Yolo HCP/NCCP, such as yellow-billed magpie, have the potential to nest in trees, shrubs, and groundcover located on and adjacent to the project site. Migratory bird species, with the exception of introduced species, are afforded protection under the MBTA and the California Fish and Game Code, particularly while nesting. Because the proposed project would include removal of 46 of the on-site trees, should tree removal occur during the nesting season of such species (i.e., mid- February to late August), the project could result in the loss of eggs or juveniles during the removal activities. In addition, nearby mining activities could result in noise and visual changes that distract individuals from being properly attentive to eggs or juveniles. Thus, the potential exists for nesting pairs to be sufficiently disturbed that eggs or juveniles are abandoned or otherwise lost.

Based on the above, a significant impact to migratory birds protected by the MBTA could occur.

Foraging Habitat for Tricolored Blackbirds, Swainson's Hawk, and White-Tailed Kite and Winter Foraging Habitat for Ferruginous Hawk and Merlin

Swainson's hawk, white-tailed kite, and tricolored blackbirds are known to nest in the vicinity of the study area. Consequently, foraging habitat associated with nearby nest territories for such species may include the project site. Most of the study area is considered suitable foraging habitat for the species, though some of this suitability is temporal. In addition, ferruginous hawk and merlin are known to winter throughout the Central Valley, including in the vicinity of the study area. The loss of winter-fallowed agricultural land associated with the project site would result in a net decrease in the local foraging habitat for the species. Foraging habitat for covered species is protected under the Yolo HCP/NCCP.

The proposed mining activities would include the removal of up to 283.05 acres of cultivated land from agricultural production, as well as up to 11.9 acres of other habitat suitable as foraging habitat (e.g., ruderal vegetation/annual grassland) for a total loss of 294.95 acres. After mining has ceased on the project site, approximately 116.7 acres of the mining area would be reclaimed to agricultural use, 112.9 acres would be

reclaimed to a lake, and 23.9 acres would be reclaimed to riparian woodland and wetland habitats, while 21.3 acres would be reclaimed as grasslands. The aforementioned species use agricultural and grassland habitat for foraging, but do not use riparian woodland, or lake habitats for foraging. Therefore, a total of 138 acres of suitable foraging habitat would be restored at the project site, resulting in a permanent net loss of 156.95 acres of foraging habitat (294.95 existing acres – 138 reclaimed acres = 156.95 acres lost). Although the project would include reclamation of 138 acres of suitable foraging habitat, because 30 years would pass prior to reclamation of the full project site, the reclaimed habitat would not be recognized under the Yolo HCP/NCCP, and the entire 294.95 acres of existing suitable habitat would be considered impacted. Thus, a significant impact to foraging habitat for tricolored blackbird, Swainson's hawk, white-tailed kite, ferruginous hawk, and merlin could occur.

Silver-Haired Bat, Western Red Bat, and Hoary Bat

The silver-haired bat, Western red bat, and hoary bat are not listed pursuant to either the FESA or CESA, nor are the species covered by the Yolo HCP/NCCP. However, all three species are currently tracked by the CNDDB. In addition, Western red bat is designated by the CDFW as a California Species of Special Concern.

Per the Biological Resources Assessment, all three bat species have the potential to nest within the stand of oak trees located within and immediately adjacent to the northern project boundary. According to a survey of the project site for special-status bat species, four trees were considered to exhibit features suitable for use by bats.[14] The four identified trees are shown in Figure 4.4-6.

With implementation of the proposed project, 46 of the existing on-site trees, including the stand of oak trees at the northern project boundary where the bat habitat has been identified, would require removal, or would otherwise by impacted, to accommodate the proposed mining and reclamation activities. Consequently, in the event that tree removal associated with the proposed project is required during the maternity roosting season of such species (i.e., between April 15 and August 15), the project could result in the destruction of potential maternity roosting sites during the removal activities. A significant impact to silver-haired bat, Western red bat, and hoary bat could occur.

Conclusion

Implementation of the proposed project has the potential to result in adverse effects, either directly or through habitat modifications to the following special-status species: VELB, Western Pond Turtle, Northern Harrier and Short-Eared Owl, Swainson's Hawk and White-Tailed Kite, Loggerhead Shrike, tricolored blackbirds, ferruginous hawks, merlin, other nesting birds and raptors protected under the MBTA, silver-haired bat, Western red bat, and hoary bat. Consequently, the impact would be ***significant***.

[14] Wyatt, David. *Memorandum: Preconstruction Chiroptera (Bat) Survey*. April 8, 2016.

Figure 4.4-6
Location of Suitable Bat Habitat

Mitigation Measure(s)

Implementation of the following mitigation measures would reduce the above impact to a *less-than-significant* level.

VELB

4.4-1(a) *Prior to initiation of any ground-disturbing activities at the project site, the project applicant shall obtain coverage under the Yolo HCP/NCCP, remit payment of any applicable Yolo HCP/NCCP fees, and implement all applicable Yolo HCP/NCCP Avoidance and Minimization Measures (AMMs). Proof of payment of HCP/NCCP coverage and fee payment shall be submitted to the County. This requirement may be satisfied by the execution of an agreement with the Yolo Habitat Conservancy, which could include, at the discretion of the YHC, phased payment of fees consistent with phased project approvals.*

4.4-1(b) *The project applicant shall implement Yolo HCP/NCCP AMM-12 (Minimize Take and Adverse Effects on Habitat of Valley Elderberry Longhorn Beetle) to the satisfaction of the County and the YHC.*

Western Pond Turtle

4.4-1(c) *Implement Mitigation Measure 4.4-1(a), which mitigates for the loss of habitat for the Western Pond Turtle by funding the acquisition of suitable habitat easements through the Yolo HCP/NCCP.*

4.4-1(d) *The project applicant shall implement Yolo HCP/NCCP AMM-14 (Minimize Take and Adverse Effects on Habitat of Western Pond Turtle) to the satisfaction of the County and the YHC. In addition, prior to demolition and grading activities associated with the existing alignment of Moore Canal and Magnolia Canal, the existing on-site sections of each canal that are to be abandoned or disturbed shall be surveyed in order to confirm that no Western pond turtles have become stranded. Should Western pond turtles be found within the portions of Moore Canal or Magnolia Canal that are to be abandoned or disturbed, the turtles shall be physically moved by a qualified biologist in compliance with the guidance provided in AMM-14.*

Northern Harrier and Short-Eared Owl

4.4-1(e) *The project applicant shall not initiate project-related vegetation removal or earthmoving within 500 feet of the nearest potential nesting tree during the nesting season (February 15 through August 31). All initial project-related vegetation removal and earthmoving removal shall occur between September 1 and February 14 to the maximum extent feasible.*

Alternatively, if project-related vegetation removal or earthmoving is required within 500 feet of the nearest potential nesting tree between February 15 and August 31, a qualified biologist shall conduct a survey for northern harrier and short-eared owl in suitable nesting habitat within and out to 500 feet from the area proposed for disturbance. Any

surveys conducted outside the project site shall occur to the extent practicable from publicly accessible areas. The survey(s) shall be conducted no more than 14 days prior to initiation of each phase of project-related vegetation removal or earthmoving on the project site. A written summary of the survey results shall be submitted to the County within 14 days of survey completion. If nesting individuals are not identified, further mitigation is not required for that phase.

4.4-1(f) *If nesting individuals are found prior to initiation of project-related vegetation removal or earthmoving in the year of the survey, a project exclusion zone shall be established within 500 feet of the active nest(s) until a qualified biologist determines that the young-of-the-year are no longer reliant upon the nest. All exclusion zones shall be demarcated by security fencing.*

Alternatively, the project applicant may retain a qualified biologist to monitor on a weekly basis active nests that are within 500 feet or less from project-related vegetation removal or earthmoving to determine if the individuals are exhibiting any behaviors that would suggest that nest failure could occur. If the qualified biologist determines that disturbance is sufficient to cause nest failure, all activities within 500 feet of the nest will be terminated until the young-of-the-year are no longer reliant upon the nest. Project-related vegetation removal or earthmoving shall not be initiated within 200 feet of an active nest once nesting has begun, under any circumstances. The project applicant shall establish a 500-foot protective buffer around active Northern harrier or short-eared owl nests if nesting is initiated after active mining has begun. The biologist shall submit a written summary of the monitoring results to the County.

Swainson's Hawk and White-Tailed Kite

4.4-1(g) *Implement Mitigation Measure 4.4-1(a), which mitigates for the loss of habitat for the Swainson's Hawk and White-Tailed Kite by funding the acquisition of suitable habitat easements through the Yolo HCP/NCCP.*

4.4-1(h) *The project applicant shall implement Yolo HCP/NCCP AMM-16 (Minimize Take and Adverse Effects on Habitat of Swainson's Hawk and White-Tailed Kite) to the satisfaction of the County and the YHC. Any surveys outside the project site conducted pursuant to AMM-16 shall occur to the extent practicable from publicly accessible areas. In addition to implementing AMM-16, the project applicant shall establish a 500-foot protective buffer around active Swainson's hawk/white-tailed kite nests on or near the project site if nesting is initiated after active mining has begun.*

Loggerhead Shrike

4.4-1(i) *The project applicant shall not initiate project-related vegetation removal or earthmoving within 200 feet of the nearest potential nesting tree during the loggerhead shrike/migratory bird nesting season*

(February 15 through August 31). All initial project-related vegetation removal and earthmoving removal shall occur between September 1 and February 14 to the maximum extent feasible.

Alternatively, if project-related vegetation removal or earthmoving is required within 200 feet of the nearest potential nesting tree between February 15 and August 31, a survey shall be conducted for non-special-status nesting raptors in suitable nesting habitat within and out to 200 feet from the area proposed for disturbance. Any surveys conducted outside the project site shall occur to the extent practicable from publicly accessible areas. The survey(s) shall be conducted by a qualified biologist within 14 days prior to initiation of each phase of project-related vegetation removal or earthmoving on the project site. This survey may be conducted concurrently with the survey required per Mitigation Measure 4.4-4(a). A written summary of the survey results shall be submitted to the County within 14 days of survey completion. If nesting individuals are not identified, further mitigation is not required for that phase.

4.4-1(j) *If nesting loggerhead shrike individuals or other nesting migratory birds are found prior to initiation of project-related vegetation removal or earthmoving in the year of the survey, a project exclusion zone shall be established within 200 feet of the active nest(s) until a qualified biologist determines that the young-of-the-year are no longer reliant upon the nest. All exclusion zones shall be demarcated by security fencing.*

Alternatively, the project applicant may retain a qualified biologist to monitor any active nests that are within 200 feet or less from project-related vegetation removal or earthmoving to determine if the individuals are exhibiting any behaviors that would suggest that nest failure could occur. If the qualified biologist determines that disturbance is sufficient to cause nest failure, all activities within 200 feet of the nest will be terminated until the young-of-the-year are no longer reliant upon the nest. Project-related vegetation removal or earthmoving shall not be initiated within 100 feet of an active nest once nesting has begun, under any circumstances. The project applicant shall establish a 200-foot protective buffer around active nests if nesting is initiated after active mining has begun. The biologist shall submit a written summary of the monitoring results to the County.

Other Nesting Raptors Protected Under the MBTA

4.4-1(k) *The project applicant shall not initiate project-related vegetation removal or earthmoving within 300 feet of the nearest potential nesting tree during the raptor nesting season (February 15 through August 31). All initial project-related vegetation removal and earthmoving removal shall occur between September 1 and February 14 to the maximum extent feasible.*

Alternatively, if project-related vegetation removal or earthmoving is required within 500 feet of the nearest potential nesting tree between February 15 and August 31, a survey shall be conducted for non-special-status nesting raptors in suitable nesting habitat within and out to 500 feet from the area proposed for disturbance. Any surveys conducted outside the project site shall occur to the extent practicable from publicly accessible areas. The survey(s) shall be conducted by a qualified biologist within 14 days prior to initiation of each phase of project-related vegetation removal or earthmoving on the project site. This survey may be conducted concurrently with the survey required per Mitigation Measure 4.4-4(a). A written summary of the survey results shall be submitted to the County within 14 days of survey completion. If nesting individuals are not identified, further mitigation is not required for that phase.

4.4-1(l) *If nesting raptor individuals are found prior to initiation of project-related vegetation removal or earthmoving in the year of the survey, a project exclusion zone shall be established within 300 feet of the active nest(s) until a qualified biologist determines that the young-of-the-year are no longer reliant upon the nest. All exclusion zones shall be demarcated by security fencing.*

Alternatively, the project applicant may retain a qualified biologist to monitor any active nests that are within 300 feet or less from project-related vegetation removal or earthmoving to determine if the individuals are exhibiting any behaviors that would suggest that nest failure could occur. If the qualified biologist determines that disturbance is sufficient to cause nest failure, all activities within 300 feet of the nest will be terminated until the young-of-the-year are no longer reliant upon the nest. Project-related vegetation removal or earthmoving shall not be initiated within 200 feet of an active nest once nesting has begun, under any circumstances. The project applicant shall establish a 300-foot protective buffer around active raptor nests if nesting is initiated after active mining has begun. The biologist shall submit a written summary of the monitoring results to the County.

Other Nesting Birds Protected Under the MBTA

4.4-1(m) *Implement Mitigation Measures 4.4-1(i) and (j).*

Foraging Habitat for Tricolored Blackbirds, Swainson's Hawk, and White-Tailed Kite and Winter Foraging Habitat for Ferruginous Hawk and Merlin

4.4-1(n) *Implement Mitigation Measures 4.4-1(a), which mitigates for the loss of habitat for the Tricolored Blackbirds, Swainson's Hawk, and White-Tailed Kite and Winter Foraging Habitat for Ferruginous Hawk and Merlin by funding the acquisition of suitable habitat easements through the Yolo HCP/NCCP.*

Silver-Haired Bat, Western Red Bat, and Hoary Bat

4.4-1(o) *Removal of the four trees identified as potential special-status bat species habitat in Figure 4.4-6 of this EIR shall occur either prior to formation of maternity bat colonies (April 15) or after young are capable of flight (August 15). Disturbance-free buffer zones, as determined by a qualified biologist, shall be observed for maternity roosts or hibernacula found during the maternity roost season (i.e., April 15 through August 15).*

Tree removal activities shall take place over a minimum of two days, with the first day consisting of trimming to open the roosting area up to airflow. Final tree removal shall only occur after at least one night has passed since trimming has been completed, to allow bats to wake from torpor and leave during darkness. The biologist shall submit a written summary of the tree removal activities, including any bat individuals observed, to the County within 14 days of completion of tree removal.

4.4-2 Have a substantial adverse effect on riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by the CDFW or USFWS. The impact would be *less than significant*.

As shown on Figure 4.4-1 the project site does not contain any riparian habitat. Land disturbance and vegetation removal associated with the proposed project would be limited to the project site, and a previously disturbed area, which does not contain riparian habitat, for the alignment of a new water line. Moreover, the proposed project would not result in any disturbance to Cache Creek or the Cache Creek Nature Preserve located to the north and northwest of the project site. Further discussion of potential impacts to other types of protected habitat are discussed in Impact 4.4-1 and 4.4-3 of this Chapter.

Consequently, implementation of the proposed project would not have the potential to result in substantial adverse effects on riparian habitat or other sensitive natural communities identified in local or regional plans, policies, regulations, or by the CDFW or USFWS, and ***less-than-significant*** impact would result.

Mitigation Measure(s)

None required.

4.4-3 Have a substantial adverse effect on State or federally protected wetlands (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means. The impact would be *significant*.

On June 3, 2020, the USACE provided confirmation that the project site does not contain jurisdictional features, and that permitting from the USACE would not be required. Accordingly, the following discussion focuses on the potential for the project

to result in impacts to waters of the State or wetland features that are otherwise protected (for instance by the CDFW or RWQCB).

A total of 2.205 acres of waters of the State have been delineated within the project site (see Figure 4.4-1 above). All such features would be affected by the proposed project. Specifically, the segment of the Moore Canal within the project site, as well as a section of the Magnolia Canal, would be relocated to follow the western and northern boundary of the site. In addition, Section 1602 of the Fish and Game Code requires an SSA to be submitted to CDFW for "any activity that may substantially divert or obstruct the natural flow or substantially change the bed, channel, or bank of any river, stream, or lake", which would include the proposed relocation of the Moore and Magnolia canals. Therefore, the project would have the potential to involve the disturbance, removal, fill or hydrologic interruption of 2.205 acres of waters of the State regulated by the RWQCB and/or the CDFW. Given the nature of the proposed project, neither Moore Canal nor Magnolia Canal can be avoided.

After mining has ceased on the project site, approximately 117 acres of the mining area would be reclaimed to agricultural use, 113 acres would be reclaimed to a lake, and 23.9 acres would be reclaimed to riparian woodland habitats. Thus, the proposed project would result in a net increase in on-site wetlands and waters of the State once reclamation is complete. The net increase in on-site wetlands following project implementation is important because the CDFW and RWQCB pursue a "no-net-loss" approach to wetland conservation. Typically, project applicants are required, either by the foregoing state agencies or the USACE, to purchase credits at mitigation banks to off-set the on-site loss of wetlands. In the case of the proposed project, the on-site aquatic features, which are related to existing irrigation ditches, would be retained through construction of relocated and modified irrigation ditch channels. The proposed alignment of Moore Canal would allow for the removal of approximately 1,200 feet of the existing alignment of Magnolia Canal. The removal of 1,200 feet of Magnolia Canal and loss of on-site irrigation ditch aquatic resource area would be substantially, if not completely, off-set through the increased length of Moore Canal, which would take a longer and more circuitous route following the northern and western boundary of the site. In addition to the increased length of Moore Canal serving to off-set most if not all of the removed area of Magnolia Canal, following reclamation of the project site, the small amount of aquatic features lost during mining activities would be replaced with a permanent lake that would greatly expand the aquatic resources and wetland habitat available on-site. Consequently, the project would comply with the "no-net-loss" approach to wetland conservation over the life of the project.

The Yolo HCP/NCCP requires payment of fees to offset loss of wetlands. In Addition, the Yolo HCP/NCCP contains two AMMs addressing impacts to wetlands: AMM 9 and AMM 10. AMM 9 requires the establishment of buffers around certain wetlands that will be avoided by a project. AMM 10 provides that project proponents must comply with any requirements imposed by applicable National Pollutant Discharge Elimination System (NPDES) permits, as well as applicable requirements of other agencies with jurisdiction of the impacted features. Because the waters on the project site cannot be avoided, AMM 9 is not applicable to the proposed project.

Other than requirements for buffers, minimizing project footprints, and species-specific measures for wetland-dependent covered species, the Yolo HCP/NCCP does not

include specific BMPs for protecting wetlands and waters, because such BMPs would have the potential to conflict with measures required by the RWQCB, and the CDFW.

Based on the above, implementation of the proposed project could have a substantial adverse effect on sensitive natural communities and/or have a substantial adverse effect on State protected aquatic resources (including, but not limited to, marsh, vernal pool, coastal, etc.), through direct removal, filling, hydrological interruption, or other means. While the proposed reclamation activities would ultimately result in a net increase in the total acreage of on-site wetlands and waters of the State, a temporary ***significant*** impact could occur.

Mitigation Measure(s)

Implementation of the following mitigation measures would reduce the above impact to a *less-than-significant* level.

4.4-3(a) *Implement Mitigation Measure 4.4-1(a), which mitigates for the loss of aquatic resources by funding the acquisition of aquatic habitat easements through the Yolo HCP/NCCP.*

4.4-3(b) *Prior to disturbance associated with relocation of the Moore and/or Magnolia Canal, the applicant shall secure a Section 1602 Lake or Streambed Alteration Agreement from CDFW, for the relocation of the Moore/Magnolia Canal and any other activities affecting the bed, bank, or associated riparian vegetation of the canals. The information provided in the application(s) shall include a description of all of the activities associated with the proposed project, and shall not be limited to those associated solely with the drainages and/or riparian vegetation. Impacts shall be outlined in the application and shall be substantially consistent with the impacts to biological resources outlined in this EIR. If this is not the case, the County shall be immediately notified to determine an appropriate response pursuant to CEQA. Impacts for each activity shall be broken down by temporary and permanent, and a description of the proposed mitigation for biological resource impacts shall be outlined per activity and as temporary or permanent. Information regarding project-specific drainage and hydrology changes resulting from project implementation shall be provided as well as a description of storm water treatment methods. Mitigation may include restoration or enhancement of resources on- or off-site, purchase habitat credits from an agency-approved mitigation/conservation bank, off-site, working with a local land trust to preserve land, or any other method acceptable to CDFW. Written verification of the Section 1600 Lake or Streambed Alteration Agreement shall be submitted to the County.*

4.4-4 Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites. The impact would be *less than significant*.

The project site is bounded by County Road 22 to the south and County Road 94B to the west. Such roadways limit the unrestricted movement of terrestrial wildlife through the project site. In addition, the project site is currently used for agricultural production, thereby precluding use of the site as a native wildlife nursery site. Per the Biological Resources Assessment, the habitat provided by the Moore and Magnolia canals is not suitable for any migratory fish species. Thus, the project site does not constitute a substantial established wildlife corridor or wildlife nursery site. Therefore, the proposed mining and reclamation activities would not interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites. In addition, wildlife would continue to be able to use Cache Creek as a movement corridor throughout project implementation. Therefore, a ***less-than-significant*** impact would result.

Mitigation Measure(s)

None required.

4.4-5 Conflict with the provisions of an adopted HCP, NCCP, or other approved local, regional, or State habitat conservation plan. The impact would be *less than significant*

The Yolo HCP/NCCP protects individual species as well as habitats within the Yolo HCP/NCCP area. Potential impacts to individual species are discussed in Impact 4.4-1 while impacts to habitats are discussed in impacts 4.4-1 through 4.4-3. As discussed in the aforementioned impact discussions, following implementation of mitigation, the proposed project would result in less-than-significant impacts to individual species and habitats. The CCAP Update FEIR determined that because components of the CCAP included measure that would ensure compliance with the Yolo HCP/NCCP, and that the Yolo HCP/NCCP relies on mining fees and habitat restoration activities that would occur as part of the CCAP, implementation of the CCAP would not conflict with the Yolo HCP/NCCP. The proposed project was anticipated to occur under the CCAP; thus, consistent with the conclusions of the CCAP Update FEIR, and based on the project specific analysis presented in impacts 4.4-1 through 4.4-3, the proposed project would not be anticipated to result in a conflict with the Yolo HCP/NCCP and a ***less-than-significant*** impact would result.

Mitigation Measure(s)

None required.

4.4-6 The project has the potential to substantially degrade the quality of the environment; substantially reduce the habitat of a fish or wildlife species; cause a fish or wildlife population to drop below self-sustaining levels; threaten to eliminate a plant or animal community; or substantially reduce the number or restrict the range of an endangered, rare or threatened species. The impact would be *less than significant*.

Fish and wildlife populations that are in danger of dropping below self-sustaining levels are typically those species that have been previously identified as special-stats species or listed under the FESA or CESA. Impact 4.4-1 analyzes the potential for the proposed project to result in impacts to special-status species due to implementation of the proposed project. As discussed in Impact 4.4-1, although the project site may be used by special-status species, implementation of mitigation measure 4.4-1(a) through 4.4-1(o) would provide compensatory habitat (through payment of Yolo HCP/NCCP fees, which would be used to purchase and protect reserve land), and require that steps be taken to avoid impacts to individual animals. implementation of mitigation measure 4.4-1(a) through 4.4-1(o) would minimize potential impacts resulting from the proposed project, and avoid direct reductions in wildlife populations, to the maximum extent feasible.

In order for a project to result in substantial reductions in wildlife populations, elimination of plant or animal communities, or substantial reductions in the range of a listed species, the project site must contain high value and unique habitat, such as a wildlife nursery site, or a unique habitat community. The project site is predominantly agricultural land, with only small areas of valley oak woodland, and grassland. Aquatic resources within the project site are comprised of manmade irrigation ditches, and are considered relatively low quality habitat. Although the project site is not currently considered high quality habitat, reclamation of the project site as part of the proposed project would result in creation of a lake and riparian woodlands on-site, as well as expansion of on-site grassland habitat and continued agricultural activities. The habitats available on-site following reclamation of the site would allow for future use of the site by special-status species suited to such habitats. Considering the types of habitat present within the project site and the types of habitats that would occur following reclamation of the site, implementation of the project would not have the potential to result in the elimination of a plant or animal community, nor would the project substantially restrict the range of a listed species.

With respect to the properties proposed for dedication, future recreation, trails, and public open space uses and activities would not occur on lands currently providing habitat with the possible exception of the 123-acre Shifler In-Channel property. This property contains in-channel area of the creek, some areas of existing native woodland and other habitat, and a number of trails and unpaved roadways. Mitigation Measures 4.8-4(a through c) require construction of bank reinforcement and habitat enhancement on an approximately six-acre primarily barren portion of this property containing non-native ruderal species, as identified in Figure 4.8-1. Dedication of the Shifler In-Channel property would involve change of ownership but no other specific land use changes or improvements beyond the improvements identified under Mitigation Measure 4.8-4(a through c). Recreational, parkway, and open space use

would rely primarily on existing trails and roads on the property, avoiding existing vegetation, and specifically native species, on the site.

Based on the above, implementation of the project would not substantially degrade the quality of the environment; substantially reduce the habitat of a fish or wildlife species; cause a fish or wildlife population to drop below self-sustaining levels; threaten to eliminate a plant or animal community; or substantially reduce the number or restrict the range of an endangered, rare or threatened species; and a ***less-than-significant*** impact would occur.

Mitigation Measure(s)
None required.

4.4-7 Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance. The impact would be *less than significant*.

The proposed project would include the removal of 46 of the 52 existing oak trees identified within the site vicinity. Yolo County does not have an established tree preservation ordinance or policy. However, given that the proposed project would include removal of native oak trees, the project would be required to comply with the applicable provisions of the Yolo County Oak Woodland Conservation and Enhancement Plan. The proposed project would not include any tree removal activities at the Woodland Plant site.

In general, the proposed project is in accord with the Yolo County Oak Woodland Conservation and Enhancement Plan; as a result of the proposed reclamation activities, approximately 10.9 acres of the site would be reclaimed as “upper riparian woodland” and an additional 13.0 acres would be reclaimed as “lower riparian woodland”. Per the proposed reclamation plan, the upper riparian woodland habitat would be planted with approximately 50 valley oak seedlings per acre, along with other native species. The proposed density of planting could result in a maximum of 545 oak trees on-site. The lower riparian woodland would be planted with non-oak native species at densities ranging from 30 to 10 seedlings per acre, depending on the species. Thus, the project would ultimately increase the acreage of oak woodland habitat on-site, consistent with Goals 7 and 8 of the Yolo County Oak Woodland Conservation and Enhancement Plan. Respectively, the two goals call for projects to “Increase the area covered by valley oak and other oak species that are now uncommon in Yolo County because they have been cleared from much of their historical range in the county” and “Maximize the total amount of oak woodland canopy cover to achieve erosion, flood, and air quality protection benefits, while recognizing the importance of including a variety of canopy cover levels within conserved and restored woodlands to provide habitat diversity”.

In addition, as required per SMRO Section 10-5.601, native seeds, plants and cuttings used for reclamation and restoration activities would be ecotypes of Cache Creek watershed genetic origin, including areas outside of Yolo County, and of Yolo County genetic origin when materials are used that originate from outside of the Cache Creek watershed. Thus, the proposed reclamation activities would be completed consistent

with Policy 9, which calls for projects to "Use only oaks of local genetic stock for plantings located in and near native oak stands to conserve the genetic integrity of local oak populations. Local trees are adapted to local conditions, so conserving genetic integrity is an important part of sustaining local oak populations".

Based on the above, implementation of the project would result in the temporary loss of oak woodland habitat on-site during the 30-year mining period. The nature of the proposed mining activities renders protection of the existing oak woodlands impossible, and replacement plantings cannot be undertaken until the cessation of mining activity and the initiation of reclamation activity. Although the project would result in a loss of trees over the 30-year mining period, the net effect of the project would be a gain of on-site woodlands, resulting in an increase of 499 oak trees on-site (545 proposed trees – 46 oak trees removed = 499 net oak trees).

Accordingly, the proposed project would not conflict with local policies protecting biological resources, including tree resources. Therefore, a ***less-than-significant*** impact could occur.

Mitigation Measure(s)
None required.

4.4-8 Cause a significant environmental impact due to a conflict with applicable plans, policies, or regulations adopted for the purpose of avoiding or mitigating impacts to biological resources. The impact would be *less than significant*.

Table 4.4-1 below provides an analysis of the proposed project's consistency with applicable policies and regulations that have been adopted for the purpose of avoiding or mitigating environmental effects related to biological resources.

As shown in the table, the proposed project would be generally consistent with applicable standards related to biological resources. Thus, a ***less-than-significant impact*** would occur.

Mitigation Measure(s)
None required.

Table 4.4-1
Consistency with Applicable Standards

Policy / Regulation	Consistency Discussion
Yolo County General Plan	
Policy CC-4.32 Emphasize the use of regionally native drought tolerant plants for landscaping where appropriate.	Per the proposed Reclamation Plan and consistent with the requirements of Section 10-5.601 of the SMRO, landscaping elements included in the proposed project would be native species, and would be selected based on watering requirements. Thus, the proposed project would be consistent with this policy.

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Table 4.4-1
Consistency with Applicable Standards

Policy / Regulation	Consistency Discussion
Policy CI-4.5 Roads and road-related structures (bridges, culverts, retaining walls, abutments, etc.) located in or near watercourses shall be placed, designed, built, and landscaped so as to minimize the impact to riparian corridors, including reducing erosion during and after construction, accommodating flood flows, and minimizing grading on slopes greater than 20 percent.	Issues related to erosion and flood flows are discussed in in Chapter 4.8, Hydrology and Water Quality, of this EIR.
Policy CO-1.22 Emphasize the use of native grasses, shrubs and trees as the primary focus of landscaping and restoration work within resource parks and other open spaces.	See discussion above of compliance with General Plan Policy CC-4.32.
Policy CO-2.9 Protect riparian corridors to maintain and balance wildlife values.	The proposed project would not adversely affect the existing riparian vegetation to the north of the site, along Cache Creek. Thus, the proposed project would be consistent with this policy.
Policy CO-2.10 Encourage the restoration of native habitat.	As discussed under Impact 4.4-7, oak woodland removed as part of the proposed mining activities would be mitigated through the planting of new native oak seedlings. The resulting mitigation planting area would be required to meet or exceed the acreage removed. Thus, the proposed project would be consistent with this policy.
Policy CO-2.14 Ensure no net loss of oak woodlands, alkali sinks, rare soils, vernal pools or geological substrates that support rare endemic species. The limited loss of blue oak woodland and grasslands may be acceptable, where the fragmentation of large forests exceeding 10 acres is avoided and losses are mitigated to the extent feasible.	See discussion above of compliance with General Plan Policy CO-2.10.
Policy CO-2.17 Emphasize and encourage the use of wildlife-friendly farming practices within the County's Agricultural Districts and with private landowners, including: • Establishing native shrub hedgerows and/or tree rows along field borders. • Protecting remnant valley oak trees. • Planting tree rows along roadsides, field borders, and rural driveways. • Creating and/or maintaining berms. • Winter flooding of fields. • Restoring field margins (filter strips), ponds, and woodlands in non-farmed areas.	The applicant proposes to reclaim the approximately 277-acre proposed mining area to agriculture and habitat uses. Approximately 116 acres of the mining area would be reclaimed to agricultural use, while the remainder of the mining area would be reclaimed to a lake with riparian woodland along the fringes/shoreline. Slopes would be reclaimed to grassland. The reclaimed agricultural land would comply with the wildlife-friendly practices established by this policy, as applicable. Therefore, the proposed project would be consistent with this policy.

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Table 4.4-1
Consistency with Applicable Standards

Policy / Regulation	Consistency Discussion
• Using native species and grassland restoration in marginal areas. • Managing and maintaining irrigation and drainage canals to provide habitat, support native species, and serve as wildlife movement corridors. • Managing winter stubble to provide foraging habitat. • Discouraging the conversion of open ditches to underground pipes, which could adversely affect giant garter snakes and other wildlife that rely on open waters. • Widening watercourses, including the use of setback levees.	
Policy CO-2.29 Promote native perennial grass habitat restoration and controlled fire management in grazing lands to reduce invasive species cover and enhance rangeland forage.	The project site does not include any grazing land. The proposed reclamation activities would include planting of native vegetation within areas proposed to be reclaimed to grassland uses. Thus, the proposed project would be consistent with this policy.
Policy CO-2.30 Promote native perennial grass habitat restoration and controlled fire management in grazing lands to reduce invasive species cover and enhance rangeland forage.	After mining has ceased on the project site, approximately 116 acres of the mining area would be reclaimed to agricultural use, 112.9 acres would be reclaimed to a lake, and 23.9 acres would be reclaimed to riparian woodland and wetland habitats. Other areas, totaling approximately 21.3 acres, would be restored to grasslands. Thus, the proposed project would be consistent with this policy.
Policy CO-2.32 Protect wetland ecosystems by minimizing erosion and pollution from grading, especially during grading and construction projects.	Issues related to erosion and water pollution are discussed in in Chapter 4.8, Hydrology and Water Quality, of this EIR.
Policy CO-2.34 Recognize, protect and enhance the habitat value and role of wildlife migration corridors for the Sacramento River, Putah Creek, Willow Slough, the Blue Ridge, the Capay Hills, the Dunnigan Hills and Cache Creek.	The proposed mining and reclamation activities would not interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites. All proposed off-channel excavations would be located 200 feet or further from Cache Creek. Thus, the proposed project would be consistent with this policy.
Policy CO-2.41 Require that impacts to species listed under the State or federal Endangered Species Acts, or species identified as special-status by the resource agencies, be avoided to the greatest feasible extent. If avoidance is not possible, fully mitigate	See Impact 4.4-1. This EIR includes mitigation to reduce potential impacts to special-status species. The proposed project would comply with this policy.

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Table 4.4-1
Consistency with Applicable Standards

Policy / Regulation	Consistency Discussion
impacts consistent with applicable local, State, and Federal requirements.	
Policy CO-2.42 Projects that would impact Swainson's hawk foraging habitat shall participate in the Agreement Regarding Mitigation for Impacts to Swainson's Hawk Foraging Habitat in Yolo County entered into by the CDFG and the Yolo County HIP/NCCP Joint Powers Agency, or satisfy other subsequent adopted mitigation requirements consistent with applicable local, State, and federal requirements.	See Impact 4.4-1. The proposed project would satisfy all mitigation requirements consistent with the Yolo HCP/NCCP. Therefore, the proposed project would be consistent with this policy.
Policy CO-3.1 Encourage the production and conservation of mineral resources, balanced by the consideration of important social values, including recreation, water, wildlife, agriculture, aesthetics, flood control, and other environmental factors.	This EIR includes mitigation measures to ensure that impacts to wildlife and other environmental factors are reduced to the maximum extent feasible. Thus, the proposed project would be consistent with this policy.
Policy CO-5.8 Support efforts to reduce the accumulation of methyl mercury in fish tissue in Cache Creek and the Delta, as well as the consumption of fish with high levels of methyl mercury.	Conditions of approval would be included to require the proposed project to comply with all applicable water quality monitoring and reporting requirements established by SMRO Section 10-5.517, which includes standards related to bioaccumulation of mercury. Therefore, the proposed project would be consistent with this regulation.
Off-Channel Mining Plan	
Action 6.4-2 Provide for the development of shallow areas along reclaimed off-channel excavations that extend below the groundwater level, to create wetland and riparian habitat. (See Section 10-5.529 of the Reclamation Ordinance.)	See discussion above of compliance with General Plan Policy CO-2.30.
Section 10-4.429(f) **(**f) Off-channel excavations shall be set back a minimum of twenty-five (25) feet from riparian vegetation.	The proposed off-channel excavations would be setback approximately 200 feet from the nearest riparian vegetation. This, the proposed project would comply with this regulation
Action 6.4-3 Mitigate for short-term and long-term loss of agricultural land and habitat pursuant to applicable County requirements and CEQA. Comply with the Yolo HCP/NCCP for species covered by that Plan. For non-covered species for which impacts may occur, ensure compliance with appropriate measures in site-specific biological assessments required under the OCMP and CCRMP, in compliance with the State Fish and Wildlife Code, Migratory Bird Treaty Act, and other applicable regulations, plans and programs, as appropriate.	Mitigation Measure 4.4-1(a) requires the project applicant to obtain coverage under the Yolo HCP/NCCP and pay all applicable HCP/NCCP fees. Such fees are used to mitigate for the loss of habitat for covered species. For all plant and wildlife species potentially affected by the proposed project, including non-covered species, this EIR includes mitigation to ensure that impacts are reduced to less-than-significant levels. Therefore, the proposed project would be consistent with this action.

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Table 4.4-1
Consistency with Applicable Standards

Policy / Regulation	Consistency Discussion
	Discussion of short-term and long-term loss of agricultural land is discussed in Chapter 4.2 of this EIR.
Action 6.4-5 Include provisions to enhance habitat for special-status species in restoration components of reclamation plans, where feasible. (See Section 10-5.523 of the Reclamation Ordinance.)	See discussion above of compliance with General Plan Policy CO-2.30.
Action 6.4-7 Restore riparian habitat throughout the planning area, wherever appropriate. However, re-vegetative efforts should be primarily focused on implementing recommendations described in the Technical Studies and the subsequent Restoration Recommendations incorporated into the CCRMP. Integrate off-channel and in-channel revegetation plans with the goal of reducing fragmentation by expanding and connecting existing habitat patches, optimizing restoration planning in alignment with the Parkway Plan, and supporting future funding proposals. Ensure that elements such as soils, drainage, slopes, and habitat types complement one another in a coordinated effort.	The proposed project would not require plantings within or directly adjacent to the Cache Creek channel. However, the proposed reclamation activities would include provision of new pond, riparian woodland, and wetland habitats within the project site upon completion of mining activities. Therefore, the proposed project would be consistent with this action.
Action 6.4-8 Include native-planted hedgerows and other vegetated buffers between restored habitat areas and adjoining farmland, in order to minimize the potential for riparian areas to serve as harbors for predators and insect pests. These buffers will also reduce the noise, dust, and spraying generated by agricultural operations, in addition to providing valuable pollinator resources that in turn could enhance agricultural production.	The proposed reclamation activities would maintain the existing unpaved access road along the eastern site boundary. In addition, grassland slopes and riparian woodland would be planted to the west of the road, between the proposed reclaimed pond and the neighboring agricultural uses to the east of the project site. Therefore, the proposed project would be consistent with this action.
Off-Channel Surface Mining Ordinance	
Section 10-4.418 All surface mining operations shall be consistent with applicable components of the Yolo Habitat Conservation Plan/ Natural Community Conservation Plan (HCP/NCCP).	The mitigation measures provided within this chapter would ensure compliance with all applicable components of the Yolo HCP/NCCP. Therefore, the proposed project would comply with this regulation.
Section 10-4.436 Existing vegetation and habitat to be retained shall be enclosed by temporary fencing to restrict access, protect against damage and/or provide buffers to reduce the impact of dust. Temporary fencing shall be a minimum of four (4) feet high. The disturbance of riparian forest or oak woodland vegetation, including identified off-channel vegetation, should be avoided if possible. Replacement habitat and plantings shall be established where complete avoidance is not	Please see discussion of impacts above. The project site does not contain riparian forest; however, limited oak woodland habitat does exist within the project site. Although the project would involve removal of the existing oak woodland during mining activity, reclamation of the project site would include planting of 23.9 acres of woodland habitat (upper and lower riparian woodland), which would comply with the replacement provisions of this section. The project would comply with all applicable requirements related to fencing of

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Table 4.4-1
Consistency with Applicable Standards

Policy / Regulation	Consistency Discussion
possible, according to a habitat restoration plan prepared by a qualified biologist, consistent with the goals of this plan.	existing vegetation and habitat located outside of the proposed disturbance area. Therefore, the proposed project would comply with this regulation.
Section 10-4.440 Avoid disturbance to important wildlife habitat features such as bird nesting trees, colonial breeding locations, elderberry host plants for Valley Elderberry Longhorn Beetle, and mature riparian forest and oak woodland habitat. This shall include sensitive siting of haul roads, trails, and recreational facilities away from these features. Suitable habitat for special-status species shall be protected and enhanced, or replaced as a part of mitigation plans prepared by a qualified biologist where necessary, and through compliance with the Yolo HCP/NCCP for special-status species covered by that Plan. Mining and reclamation activities shall be performed in accordance with the State Fish and Wildlife Code, Migratory Bird Treaty Act, and other applicable regulations to protect bird nests when in active use. Native-planted hedgerows and/or other vegetated buffers shall be included between restored habitat areas and adjoining farmland, in order to minimize the potential for riparian areas to serve as harbors for predators and insect pests. These buffers will also reduce the noise, dust, and spraying generated by agricultural operations, in addition to providing valuable pollinator resources that in turn could enhance agricultural production.	The proposed project would not include removal or disturbance of any existing elderberry plants. In addition, the project would preserve the existing trees and riparian habitat to the north of the project site along Cache Creek. While the project would require removal of the stand of oak trees within the northeastern portion of the project site, reclamation of the project site would include planting of 23.9 acres of woodland habitat (upper and lower riparian woodland), which would represent a net gain of woodlands on-site. In addition, this chapter contains mitigation measures to ensure that impacts to special-status species, species covered by the Yolo HCP/NCCP, and species protected under the MBTA are reduced to less-than-significant levels. With regard to provision of buffers, see discussion above of compliance with CCAP Action 6.4-8.
Section 10-4.502(b)(1) A biological inventory and analysis to evaluate the on-site habitat value of the proposed mined area, as well as the potential impacts to special-status species and sensitive natural communities, both on-site and within the immediate area. The analysis shall propose appropriate measures to reduce any potential adverse impacts to special-status species or significant suitable habitat, and shall ensure compliance with the Yolo HCP/NCCP, California Fish and Game Code, Migratory Bird Treaty Act, and other applicable regulations, plans and programs. The analysis shall also include a wetland delineation study for any potential on-site wetlands, and shall provide adequate mitigation and appropriate authorizations from regulatory agencies, where required. If landscaping is proposed to screen the surface mining operations from adjoining public rights-of-way or public and private lands, the biological analysis shall include	The Biological Resources Assessment prepared for the proposed project is consistent with the requirements of this regulation.

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Table 4.4-1
Consistency with Applicable Standards

Policy / Regulation	Consistency Discussion
an evaluation of the feasibility of the species, weed control, and irrigation methods to be used;	
Surface Mining Reclamation Ordination	
Section 10-5.514 All reclamation plans shall be consistent with applicable components of the Yolo Habitat Conservation Plan/Natural Community Conservation Plan (HCP/NCCP).	The proposed Reclamation Plan would not conflict with the Yolo HCP/NCCP. Thus, the project would be consistent with this regulation.
Section 10-5.515 Proposed habitat restoration or mitigation plans for lands within the OCMP area shall be sent to the California Department of Fish and Wildlife, U.S. Fish and Wildlife Service, the U.S. Army Corps of Engineers, and other interested parties for review and comment through the CEQA process as applicable, to ensure that the projects do not conflict with other existing habitat enhancement efforts.	The proposed Reclamation Plan is summarized in Chapter 3, Project Description, of this EIR, and is included as Appendix C. Thus, the Reclamation Plan will be available for review by the CDFW, the USFWS, and the USACE during the public review period for the EIR, and the project would be consistent with this regulation.
Section 10-5.523 Site-specific planting plans shall be developed by a qualified biologist for proposed habitat reclamation projects. Restoration components of reclamation plans shall include provisions to enhance habitat for special-status species, where feasible. Native-planted hedgerows and other vegetated buffers shall be included between restored habitat areas and adjoining farmland, in order to minimize the potential for riparian areas to serve as harbors for predators and insect pests. These buffers will also reduce the noise, dust, and spraying generated by agricultural operations, in addition to providing valuable pollinator resources that in turn could enhance agricultural production.	See CCAP Action 6.4-8.
Section 10-5.533 Off-channel excavations that are proposed to be reclaimed to permanent lakes shall include riparian and/or wetland habitat. The creation of riparian and or wetland habitat along the perimeter of permanent lakes shall include appropriate features such as: scalloped basin perimeters with extended peninsulas, islands, and stepped benches of various widths at approximately three (3) foot vertical intervals both above and below the groundwater level. Where wetlands are not proposed, either grassland and/or woodland habitat, or agricultural fields separated from the lake by a berm, shall be established using only native species in order to provide continuous habitat value around the permanent lakes.	In addition to the 112.9 acres that would be reclaimed to a pond, the project would reclaim 23.9 acres of the project site to riparian woodland and wetland habitats. Other areas, totaling approximately 21.3 acres, would be restored to grasslands. Each habitat community is designed to have a diversity of plants and conditions that will complement each other and provide a diverse habitat for wildlife. As shown in Figure 3-30 through Figure 3-36 of this EIR, the finished grades surrounding the pond area would comply with the standards established in SMRO Section 10-5.533. Thus, the proposed project would be consistent with this policy.

Table 4.4-2
Special-Status Species and Other Protected Species with Potential to Occur within the Project Site

Scientific Name (Common Name)	Status (Fed / State / Other)	Habitat and Distribution	Survey Period	Potential for Occurrence
Plants				
FERRIS' MILKVETCH *Astragalus tener* var. *ferrisiae*	— / — / 1B	Vernally moist meadows, alkaline flats and fallow rice fields. Scattered throughout the Sacramento Valley region from Butte County south to Solano County. Elevation: < 250 feet.	April to May	No Habitat Present
ALKALI MILKVETCH *Astragalus tener* var. *tener*	— / — / 1B	Alkali meadows, vernal pools and playas, edges of salt marshes, and moist grassy flats. Western portion of Central Valley and San Francisco Bay area from Yolo County south to Merced, San Benito and Monterey counties. Elevation: < 200 feet.	March to June	No Habitat Present
HEARTSCALE *Atriplex cordulata* var. *cordulata*	— / — / 1B	Generally alkali grassland, alkali meadow and alkali scrub. Occasional on margins of alkali pools. Western Central Valley from Glenn County south to Tulare and San Luis Obispo counties. Elevation: < 660 feet.	April to Oct	No Habitat Present
BRITTLESCALE *Atriplex depressa*	— / — / 1B	Alkali flats, alkali scrub, alkali grassland and playas. Mostly western regions of Sacramento Valley from Glenn and Butte counties. south throughout the San Joaquin Valley (Kern County). Elevation: < 1,050 feet.	May to Oct	No Habitat Present
SAN JOAQUIN SALTBUSH *Extriplex joaquinana*	— / — / 1B	Alkali flats, alkali scrub, alkali grassland and playas. Western Central Valley and Inner South Coast Range from Glenn County south to San Luis Obispo County. Elevation: < 2,740 feet.	April to Oct	No Habitat Present
VERNAL POOL SMALLSCALE *Atriplex persistens*	— / — / 1B	Deeper portions of large, alkaline vernal pools. Central Valley from Glenn County south to Tulare County Most occurrences in San Joaquin Valley. Elevation: < 380 feet.	June to Oct	No Habitat Present
ROUND-LEAVED FILAREE *California microphylla*	— / — / 1B	Clay soils in open cismontane woodland and valley/foothill grasslands. Central western California, southern coast, and northern Channel Islands. Elevation: < 3,940 feet.	March to July	Unlikely to Occur

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Table 4.4-2
Special-Status Species and Other Protected Species with Potential to Occur within the Project Site

Scientific Name (Common Name)	Status (Fed / State / Other)	Habitat and Distribution	Survey Period	Potential for Occurrence
PALMATE BIRD'S-BEAK *Chloropyron palmatum*	FE / SE / 1B, YHCP	Saline alkali flats, alkali scrub and alkali grassland. Scattered locations in the Central Valley from Glenn County south to Fresno County. Also Livermore Valley in Alameda County. Elevation: < 490 feet.	May to Oct	No Habitat Present
HISPID BIRD'S-BEAK *Cordylanthus mollis* ssp. *hispidus*	— / — / 1B	Saline marshes, alkali flats and alkali vernal pools. Scattered locations throughout San Joaquin Valley. Also Solano and Alameda counties. and near Rocklin in Placer County. Elevation: < 490 feet.	June to Sept	No Habitat Present
DWARF DOWNINGIA *Downingia pusilla*	— / — / 2B	Vernal pools and swales, ephemeral drainages and margins of other seasonal wetlands. Central Valley from Tehama County south to Fresno County. Also in valleys north of S.F. in Napa and Sonoma counties. Elevation: < 1,480 feet.	March to May	No Habitat Present
TUOLUMNE BUTTON-CELERY *Eryngium pinnatisectum*	— / — / 1B	Swales, vernal pools, moist flats and ephemeral drainages. North-central Sierra Nevada Foothill and adjacent valley from Sacramento County south to Tuolumne County. Elevation: 230-2,950 feet.	May to Aug	No Habitat Present
BOGGS LAKE HEDGE-HYSSOP *Gratiola heterosepala*	— / SE / 1B	Marshy lake margins, cattle ponds and in vernal pools. Central Valley and foothills from Shasta to Tulare County. Also occurs in Lake County, Modoc Plateau, and Oregon. Elevation: < 3,940 feet.	April to Aug	No Habitat Present
HOGWALLOW STARFISH *Hesperevax caulescens*	— / — / 4	Vernal pools and seasonally saturated clay flats. Central Valley and adjacent foothills from Tehama County south to Kern County. Also reported in San Luis Obispo County. Elevation: < 1,640 feet.	March to June	No Habitat Present
WOOLY ROSE MALLOW *Hibiscus lasiocarpos* var. *occidentalis*	— / — / 1B	Freshwater marshes and swamps. Scattered locations from Butte, Contra Costa, Colusa, Glenn, Sacramento, San Joaquin, Solano, Sutter, and Yolo counties. Elevation: < 3,280 feet.	June to Sept	Unlikely to Occur

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Table 4.4-2
Special-Status Species and Other Protected Species with Potential to Occur within the Project Site

Scientific Name (Common Name)	Status (Fed / State / Other)	Habitat and Distribution	Survey Period	Potential for Occurrence
LEGENERE *Legenere limosa*	— / — / 1B	Vernal pools, seasonal wetlands, drainages, and along margins of cattle ponds. Northern Central Valley (Shasta to San Joaquin County) and Inland Coast Range (Sonoma to Santa Clara County). Elevation: < 2,890 feet.	April to June	No Habitat Present
HECKARD'S PEPPERGRASS *Lepidium latipes* var. *heckardii*	— / — / 1B	Alkali flats and alkali grassland near the margins of vernal pools. Western Sacramento Valley from Glenn County south to Solano County. Elevation: < 660 feet.	March to May	No Habitat Present
TEHAMA NAVARRETIA *Navarretia heterandra*	— / — / 4	Typically growing heavy soils, vernal pools, and drying flats. Scattered throughout northern California and southern Oregon. Elevation: 100-3,280 feet.	April to June	No Habitat Present
BAKER'S NAVARRETIA *Navarretia leucocephala* ssp. *bakeri*	— / — / 1B	Vernal pools and ephemeral drainages. Western Sacramento Valley and northern Inland Coast Range from Glenn and Mendocino counties. to Solano County. Elevation: < 5,580 feet.	April to July	No Habitat Present
MYER'S PINCUSHION NAVARRETIA *Navarretia myersii* ssp. *myersii*	— / — / 1B	Vernal pools, usually with acidic soils. E. Central Valley and adjacent Sierra Nevada Foothill from Placer County south to Merced County. Elevation: 70-1,080 feet.	April to May	No Habitat Present
ADOBE NAVARRETIA *Navarretia nigelliformis* ssp. *nigelliformis*	— / — / 4	Vernal pools and vernally moist swales. Scattered locations from the Sierra Nevada Foothills, Central Valley and Inner South Coast Range. Elevation: 300-3,280 feet.	April to June	No Habitat Present
SLENDER ORCUTT GRASS *Orcuttia tenuis*	FT / SE / 1B	Generally restricted to deeper vernal pools and other ephemeral wetlands with clay soils. Scattered from the Sacramento Valley north to the Modoc Plateau area. Also occurs in Lake County. Elevation: 100-5,580 feet.	May to Oct	No Habitat Present
CALIFORNIA ALKALIGRASS *Puccinellia simplex*	— / — / 1B	Generally restricted to saline and alkaline habitats, often associated with springs, seeps, vernal pools. Elevation: below 9,840 feet.	March to May	No Habitat Present

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Table 4.4-2
Special-Status Species and Other Protected Species with Potential to Occur within the Project Site

Scientific Name (Common Name)	Status (Fed / State / Other)	Habitat and Distribution	Survey Period	Potential for Occurrence
SANFORD'S ARROWHEAD *Sagittaria sanfordii*	— / — / 1B	Margins of small lakes and ponds and slow-moving sloughs, creeks, rivers, ditches, and canals. Widely distributed throughout the Central Valley from Shasta County to Kern County. Elevation: < 2,130 feet.	May to Aug	Could Occur
SALINE CLOVER *Trifolium hydrophilum*	— / — / 1B	Salt marshes, alkali meadows, and vernal pools. Central Western California (Sonoma County to San Luis Obispo County) and southwestern Sacramento Valley. Elevation: < 980 feet.	April to June	No Habitat Present
Invertebrates				
BLENNOSPERMA VERNAL POOL ANDRENID BEE *Andrena blennospermatis*	— /—/CNDDB	Bee is oligolectic on Blennosperma. Occurs in vernal pool grassland habitats where Blennosperma is found. Records include scattered locations along the edges of the Central Valley in Yolo, Solano, El Dorado, Sacramento and Tehama counties.	Late Feb to April	No Habitat Present
WESTERN BUMBLEBEE *Bombus occidentalis occidentalis*	FC /—/CNDDB	Generalist pollinator found from southern British Columbia to central California, northern Arizona, Northern New Mexico. In California, it occupies subalpine sites in the Sierra Nevada and areas along the northern coast.	March to July	Unlikely to Occur
CROTCH'S BUMBLEBEE *Bombus crotchii*	FC /—/CNDDB	Common to grassland and scrub habitats, Crotch's bumblebee is not a specialist and commonly nests underground. Distribution includes portions of California, Nevada, and Mexico. Recent observations are primarily restricted to coastal southern California.	March to July	Unlikely to Occur
CONSERVANCY FAIRY SHRIMP *Branchinecta conservatio*	FE/ — / —	Alkaline pools, vernal lakes and vernal pools that are typically large and/or relatively deep and moderately turbid. Known from several disjunct locations in the Central Valley from Tehama County south to Ventura County.	Nov to May	No Habitat Present

(Continued on next page)

Table 4.4-2
Special-Status Species and Other Protected Species with Potential to Occur within the Project Site

Scientific Name (Common Name)	Status (Fed/State/Other)	Habitat and Distribution	Survey Period	Potential for Occurrence
VERNAL POOL FAIRY SHRIMP *Branchinecta lynchi*	FT/—/—	Vernal pools and swales from Jackson County near Medford, Oregon, throughout the Central Valley, and west to the central Coast Ranges.	Nov to May	No Habitat Present
MID-VALLEY FAIRY SHRIMP *Branchinecta mesovallensis*	— /—/CNDDB	Vernal pools, swales, and other ephemeral freshwater habitats throughout southeastern Sacramento, Southern Sierra Foothill, San Joaquin, and Solano-Colusa regions.	Nov to May	No Habitat Present
VALLEY ELDERBERRY LONGHORN BEETLE *Desmocerus californicus dimorphus*	FT/—/YHCP	The subspecies occurs at scattered locations in the Central Valley and adjacent foothills of the Sierra Nevada and Coast Ranges. The subspecies is entirely dependent upon its host plant (i.e., Sambucus spp.) and is only found where this shrub occurs (typically in riparian vegetation associations, but occasionally in isolated shrubs or stands of the plant). Known to occur within the Cache Creek corridor, and observed within 1 mile of project site. Host plant with exit holes present in proposed project site but is at least 160 feet (50 meters) outside of limit of disturbance and therefore entirely avoided (USFWS 2017).	Year-round (exit holes)	Known to Occur
HAIRY WATER FLEA *Dumontia oregonensis*	—/—/CNDDB	First described in 2003 from three pools in Oregon, this species has since been reported from southern Sacramento County, as well as from Solano County. Little information exists regarding the species' habitat or life history requirements.	Nov to May	No Habitat Present
RICKSECKER'S HYDROCHARA *Hydrochara rickseckeri*	—/—/CNDDB	Known historically from pond habitats around the San Francisco Bay area. Vernal pools and other large seasonally inundated wetlands.	Nov to May	No Habitat Present
VERNAL POOL TADPOLE SHRIMP *Lepidurus packardi*	FE/—/—	Vernal pools, swales, and other ephemeral freshwater habitats from Shasta to Merced County, with the majority of populations occurring in the Sacramento Valley.	Nov to May	No Habitat Present

(Continued on next page)

Table 4.4-2
Special-Status Species and Other Protected Species with Potential to Occur within the Project Site

Scientific Name (Common Name)	Status (Fed / State / Other)	Habitat and Distribution	Survey Period	Potential for Occurrence
CALIFORNIA LINDERIELLA *Linderiella occidentalis*	—/—/CNDDB	Vernal pools, swales, and other ephemeral freshwater habitats from Shasta County south to Fresno County, across the Central Valley and some of the coast ranges.	Nov to May	No Habitat Present
Amphibians				
CALIFORNIA TIGER SALAMANDER *Ambystoma californiense*	FT / ST /YHCP	Found mostly in the Central Valley of California and is restricted to large vernal pools, seasonal ponds, or stock ponds that hold water for at least 4 months during spring for breeding and larval development. Adult non-breeding habitat is generally grasslands and oak savannah.	March to May	No Habitat Present
CALIFORNIA RED-LEGGED FROG *Rana draytonii*	FT/—/ SSC	Found mainly near ponds in humid forests, woodlands, grasslands, coastal scrub, and stream-sides with plant cover. Most common in lowlands or foothills along the California coast and surrounding the Central Valley. Only a handful of scattered populations within the Central Valley.	Jan to Feb	No Habitat Present
WESTERN SPADEFOOT *Spea hammondii*	—/—/ SSC	Restricted to vernal pools, seasonal wetlands, stock ponds, and quiet in-channel pools for breeding and larval development. Adult non-breeding habitat is generally grasslands. Known to occur within the Central Valley and surrounding foothills from Colusa County to Tulare County.	March to May	No Habitat Present
Reptiles				
WESTERN POND TURTLE *Emys marmorata*	—/—/ SSC, YHCP	Found in ponds, reservoirs, or other slow-moving perennial aquatic habitats (e.g., sloughs, streams, and rivers) along the west coast of the U.S. and Mexico. Prefers loose soils in adjacent banks, grasslands, and open woodland for nesting. Known to occur along Cache Creek.	March to Oct	Could Occur

(Continued on next page)

Table 4.4-2
Special-Status Species and Other Protected Species with Potential to Occur within the Project Site

Scientific Name (Common Name)	Status (Fed / State / Other)	Habitat and Distribution	Survey Period	Potential for Occurrence
GIANT GARTER SNAKE *Thamnophis gigas*	FT / ST / YHCP	Found in marshes, low gradient streams and adjacent rice fields supported by perennial fresh water in the Central Valley.	April to Sept	Unlikely to Occur
Birds				
COOPER'S HAWK *Accipiter cooperii* (nesting)	—/—/CNDDB	Nests in dense riparian or oak woodland. Hunts and winters in wide variety of woodland and forest vegetation communities. Distributed from Southern Canada to Northern Mexico. Most nesting occurrences in Yolo County are associated with riparian habitat along the larger rivers or large urban stands of trees.	May to July	Unlikely to Occur
SHARP-SHINNED HAWK *Accipiter striatus* (nesting)	—/—/ CNDDB	Nests in dense pole and small-tree stands of riparian and coniferous forest near water. Hunts and winters in wide variety of woodland and shrub vegetation communities. Occurs throughout much of North America.	May to July	Unlikely to Occur
GRASSHOPPER SPARROW *Ammodramus savannarum* (nesting)	—/—/ SSC	Nests in dense, dry, expansive grasslands (sometimes with scattered shrubs). Forages in similar habitat. Species exhibits extreme site fidelity.	April to July	Unlikely to Occur
TRICOLORED BLACKBIRD *Agelaius tricolor* (nesting)	—/ SE / YHCP	Nests in dense stands of emergent freshwater marsh, willow, blackberry, thistle, nettles, or certain crops. Forages in grassland or rangeland providing an abundant source of food (e.g., grasshoppers or butterfly larvae) - often within three miles of the nest colony. Almost the entire population occurs year-round in cismontane California, with the Central Valley supporting the largest populations.	April to July	Unlikely to Occur. However, potential foraging habitat present.
GOLDEN EAGLE *Aquila chrysaeto* (nesting and wintering)	—/—/ CFP	Nests on secluded cliffs, but may also use large, isolated trees. Hunts widely over open areas. Occurs throughout much of North America. Most records in Yolo County are winter occurrences.	Year-round	Unlikely to Occur

(Continued on next page)

Table 4.4-2
Special-Status Species and Other Protected Species with Potential to Occur within the Project Site

Scientific Name (Common Name)	Status (Fed/State/Other)	Habitat and Distribution	Survey Period	Potential for Occurrence
GREAT EGRET *Ardea alba* (nesting colony)	—/—/ CNDDB	Scattered throughout the U.S. and Mexico. Nesting colonies are located in large trees adjacent to bodies of water, such as lakes, ponds, marshes and estuaries. Foraging habitat includes a variety of wetland habitats. Frequently found roosting with great blue herons.	April to May	Unlikely to Occur
GREAT BLUE HERON *Ardea herodias* (nesting colony)	—/—/ CNDDB	Breeding colonies are located in trees near isolated swamps or on islands, or near lakes and ponds bordered by forests throughout the U.S. and southern Canada. Foraging habitat includes freshwater and saltwater wetlands/water bodies, as well as grasslands and agricultural fields. Frequently found roosting with great egrets.	March to May	Unlikely to Occur
SHORT-EARED OWL *Asio flammeus* (nesting)	—/—/ SSC	Suitable nesting habitat is provided by freshwater and coastal marshes, coastal prairie and dunes, wet meadows, and dense grasslands. Most nesting occurs within Canada and the north-central portion of the U.S.	April to July	Could Occur
LONG-EARED OWL *Asio otus* (nesting)	—/—/ SSC	Species requires grassland or other open spaces for foraging, as well as dense tall shrubs/trees for nesting and roosting. Occurs throughout much of the U.S. and Canada. Scattered populations exist in the mountain and coastal regions of California.	Feb to July	Unlikely to Occur
BURROWING OWL *Athene cunicularia* (burrow sites and some wintering sites)	—/—/ SSC, YHCP	Occurs in western North America south to Mexico. Generally a resident species in California. Nests and winters in low open grassland or other low, open habitats with abundant small mammal burrows. Nest sites are in ground burrows, usually surrounded by bare soil or short grass. Forages in similar habitats.	Feb to Aug (Breeding) Dec to Jan (Non-breeding)	Unlikely to Occur

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Table 4.4-2
Special-Status Species and Other Protected Species with Potential to Occur within the Project Site

Scientific Name (Common Name)	Status (Fed / State / Other)	Habitat and Distribution	Survey Period	Potential for Occurrence
FERRUGINOUS HAWK *Buteo regalis* (wintering)	—/—/ CNDDB	Nests are usually built in tall trees along streams or rivers, or in junipers with a view of surrounding grassland. Cliffs, hills, boulders, and man-made structures are occasionally used as nest sites. Nests primarily within the interior portions of North America. Hunts in expansive, open vegetation communities.	Oct to April	Could Occur (Winter)
SWAINSON'S HAWK *Buteo swainsoni* (nesting)	— /ST / YHCP	Nests in large trees in riparian and oak woodland (sometimes single large oaks) adjacent to large open areas for hunting. Occurs throughout much of western North America. Previously observed foraging at project site and adjacent areas.	April to Sept	Likely to Occur
WESTERN SNOWY PLOVER *Charadrius alexandrinus nivosus*	FT/—/ SSC	Western snowy plover nests on bare ground, typically in beaches or other coastal habitats with friable soils and little or no vegetation. Less typical nesting sites include river bars, sandy shores, salt pans, and dredge material disposal sites.	March to Sep	Unlikely to Occur
MOUNTAIN PLOVER *Charadrius montanus* (wintering)	—/—/ SSC	Found patchily distributed as a wintering species in California where it occurs on relatively level lands with short grass, plowed or burned agricultural fields, and sprouting grain or alfalfa fields.	Oct to March	Unlikely to Occur
NORTHERN HARRIER *Circus hudsonius* Previously *Circus cyaneus* (nesting)	—/—/ SSC	Nests throughout much of North America in tall grasses, marshes, and grain fields. Forages in open vegetation communities. Previously observed foraging at project site and adjacent areas.	Year-round	Known to Occur
WESTERN YELLOW-BILLED CUCKOO *Coccyzus americanus occidentalis* (nesting)	FT / SE / YHCP	Species is restricted to cottonwood and willow-dominated riparian forests along large rivers. In California, the majority of breeding population currently concentrated along upper Sacramento River.	June to Aug	Unlikely to Occur

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Table 4.4-2
Special-Status Species and Other Protected Species with Potential to Occur within the Project Site

Scientific Name (Common Name)	Status (Fed / State / Other)	Habitat and Distribution	Survey Period	Potential for Occurrence
WHITE-TAILED KITE *Elanus leucurus* (nesting)	—/—/ CFP, YHCP	Found throughout the lower elevation portions of California in low rolling grasslands with scattered oaks and river bottomlands or marshes adjacent to deciduous woodland. Requires grasslands, meadows, or marshes (for foraging) located near dense-topped trees (for nesting and roosting). Previously observed foraging at project site and adjacent areas.	Year-round	Could Occur
WILLOW FLYCATCHER *Empidonax traillii* (nesting)	— / SE / —	Breeds from southern British Columbia, Alberta, North Dakota, New York, and Maine south to central California, Nevada, Arkansas, and Virginia. Nests in riparian brush dominated by deciduous willows/shrubs. Nesting season records for the state limited to the Sierra Nevada and Cascades.	May to Aug	Unlikely to Occur
MERLIN *Falco columbarius* (wintering)	—/—/ CNDDB	Occurs in a variety of low elevation, relatively flat habitats that include wooded areas, coastlines, open grasslands, savannah, and the periphery of lakes. The species is less often found in open desert. Merlin typically requires dense stands of trees for cover and roosting, and is most often found where there are substantial populations of small birds (the primary prey item). Merlin is a regular winter visitor to much of the U.S.	Oct to March	Could Occur
PRAIRIE FALCON *Falco mexicanus* (nesting)	—/—/ SSC	Generally year-round bird from south Canada, western U.S. and Mexico. Nests on secluded cliffs, bluffs, or rock outcrops (particularly with southeastern exposure). Hunts in open terrain (grassland, oak savannah, and early succession stages of shrub and woodland habitats). Most records in Yolo County are winter occurrences.	April to Aug	Unlikely to Occur

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Table 4.4-2
Special-Status Species and Other Protected Species with Potential to Occur within the Project Site

Scientific Name (Common Name)	Status (Fed / State / Other)	Habitat and Distribution	Survey Period	Potential for Occurrence
AMERICAN PEREGRINE FALCON *Falco peregrinus anatum* (nesting)	FD/ SD / CFP	Species occurs all over the world; in North America, breeds in open landscapes with cliffs (or skyscrapers) for nest sites. Can be found nesting at elevations up to 12,000 feet, as well as along rivers, coastlines, or in cities. Known from mountain and coastal regions throughout the State. No records for this species from the Central or Sacramento Valleys.	March to Aug	Unlikely to Occur
BALD EAGLE *Haliaeetus leucocephalus* (nesting and wintering)	FD/ SE / CFP	Nests near large lakes, reservoirs, and rivers. Wintering occurs near these latter habitats as well as in rangelands and coastal wetlands. Occurs throughout much of North America. Occasional winter visitor in Yolo County.	Oct to March	Unlikely to Occur
LEAST BITTERN *Ixobrychus exilis* (nesting)	—/—/ SSC	Breeds in tall emergent vegetation in marshes, primarily freshwater, less commonly in coastal brackish marshes and mangrove swamps. Breeding populations known from throughout California, including the Central Valley.	May to July	Unlikely to Occur
LOGGERHEAD SHRIKE *Lanius ludovicianus* (nesting)	—/—/ SSC	Endemic to North America, from southern Canada south through the U.S. and Mexico. Utilizes shrubs and other dense, woody vegetation for nesting. Uses adjacent open vegetation communities for foraging.	April to July	Could Occur
CALIFORNIA GULL *Larus californicus* (nesting colony)	—/—/ CNDDB	Mostly western North America. Breeds on islands in lakes or rivers in the Sierra Nevada and Cascade Ranges, and on the coast. Forages in a variety of habitats, from parking lots to farm fields to the open ocean. No nesting season records exist for this species in the Central or Sacramento Valleys.	May to July	Unlikely to Occur

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Table 4.4-2
Special-Status Species and Other Protected Species with Potential to Occur within the Project Site

Scientific Name (Common Name)	Status (Fed/State/Other)	Habitat and Distribution	Survey Period	Potential for Occurrence
SONG SPARROW (MODESTO POPULATION) *Melospiza melodia* "Modesto" (nesting)	—/—/ SSC	The Modesto Song Sparrow is found in areas containing extensive wetlands, such as the Sacramento-San Joaquin Delta. Prefers freshwater marsh and riparian forest habitats with available water, open areas for foraging and moderately dense vegetation cover for nesting.	March to Aug	Unlikely to Occur
BLACK-CROWNED NIGHT HERON *Nycticorax nycticorax*	—/—/ CNDDB	The black-crowned night heron is a medium-sized, carnivorous wading bird. It is associated with wetlands and riparian areas. This species forms communal rookeries but often forage as individuals.	April to Aug	Unlikely to Occur
AMERICAN WHITE PELICAN *Pelecanus erythrorhynchos* (nesting colony)	—/—/ SSC	California's nesting pelicans have been confined mainly to the Klamath Basin, within Siskiyou, Modoc and Lassen counties. Historic breeding range includes the Central Valley, prior to large-scale urban and agricultural development.	March to July	Unlikely to Occur
DOUBLE-CRESTED CORMORANT *Phalacrocorax auritus* (nesting colony)	—/—/ CNDDB	This species is widely distributed throughout North America. Breeding colonies are typically formed in clusters of large trees near water. Require aquatic bodies (lakes, ponds) large enough to support a mostly fish diet.	April to Aug	Unlikely to Occur
YELLOW-BILLED MAGPIE *Pica nuttalli* (nesting and communal roosts)	—/—/ CNDDB	Found as a resident and wintering species throughout the lower elevation portions of California in grasslands, saltbush scrub, chaparral, oak savannah, and other open woodland types near water (generally where there are large trees with dense cover for nesting and roosts). Also common in residential areas.	Year-round	Could Occur
WHITE-FACED IBIS *Plegadis chihi* (nesting colony)	—/—/ CNDDB	This species nests at scattered locations in the Central Valley as well as elsewhere in California where there are dense, freshwater emergent wetlands.	May to July	Unlikely to Occur

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Table 4.4-2
Special-Status Species and Other Protected Species with Potential to Occur within the Project Site

Scientific Name (Common Name)	Status (Fed/State/Other)	Habitat and Distribution	Survey Period	Potential for Occurrence
PURPLE MARTIN *Progne subis* (nesting)	—/—/ SSC	Extremely localized and limited distribution along Central to North Coast, Sierra Nevada and Cascades, southern California mountains, and Sacramento. Nests mostly in old woodpecker cavities in tall, old, isolated trees or snags.	April to Sept	Unlikely to Occur
BANK SWALLOW *Riparia riparia* (nesting)	— / ST / YHCP	Formerly found as a summer nesting species within a larger California distribution along the coast and adjacent to larger streams and rivers. Range is now concentrated along Central Valley streams and rivers. Species nests in vertical banks and cliffs with fine-textured sandy soils. No existing nesting habitat for the species occurs on the project site. Species may intermittently use areas (i.e., stockpiles, vertical mine faces, etc.) during mining phases.	April to July	Unlikely to Occur
Mammals				
PALLID BAT *Antrozous pallidus*	—/—/ SSC	Found as a resident in all desert, grassland, shrub, woodland, and forest habitats from sea level to approximately 6,000 feet. Day roosts are typically found in buildings, bridges, rocky outcrops, mines, caves, and trees. Night roosts are generally provided by bridges, mines, and caves.	April to Sept	Unlikely to Occur
SILVER-HAIRED BAT *Lasionycieris noctivagans*	—/—/ CNDDB	Found in coastal and montane coniferous forests, valley foothill woodlands, pinyon-juniper woodlands, and valley foothill and montane riparian habitats from the Oregon border south along the coast to San Francisco Bay, and in the Sierra Nevada and Great Basin regions to Inyo County. The species also occurs in southern California from Ventura and San Bernardino counties south to Mexico and on some of the Channel Islands. It roosts in hollow trees, snags, buildings, rock crevices, caves, and under bark.	April to Sept	Could Occur

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Table 4.4-2
Special-Status Species and Other Protected Species with Potential to Occur within the Project Site

Scientific Name (Common Name)	Status (Fed / State / Other)	Habitat and Distribution	Survey Period	Potential for Occurrence
WESTERN RED BAT *Lasiurus blossevillii*	—/—/ SSC	Occurs at scattered locations throughout the lowland portions of California west of the Sierra Nevada crest and desert regions (typically in riparian forest or orchards). Roosting sites are found in tree or shrub foliage between two- and 40-feet above ground (typically in large cottonwoods, sycamores, walnuts, and willows).	April to Sept	Could Occur
HOARY BAT *Lasiurus cinereus*	—/—/ CNDDB	Hoary bat occurs throughout California, although its distribution is patchy in the southeastern deserts. Hoary bat is a common, solitary species that typically occurs in woodlands and forests with undisturbed, medium to large-size trees and dense foliage up to 13,200 feet in elevation. The species winters along the coast and in southern California.	April to Sept	Could Occur
YUMA MYOTIS *Myotis yumanensis*	—/—/ CNDDB	Found in a variety of habitats (including coastal vegetation communities and urban areas) with nearby sources of water over which the species forages. Day roosts are found in caves, mines, buildings, or crevices. Night roosts are typically associated with bridges, buildings, and other man-made structures.	April to Sept	Unlikely to Occur
AMERICAN BADGER *Taxidea taxus*	—/—/ SSC	Found as a resident species at scattered localities throughout California (except in the coastal redwood region). Generally occurs in extensive, open habitats in the vicinity of abundant rodent populations.	Year-round	Unlikely to Occur
Fishes				
STEELHEAD – CENTRAL VALLEY DPS *Oncoryhnchus mykiss irideus* pop. 11	FT /—/ —	Anadromous salmonid fish. This population is local to the Sacramento and San Joaquin rivers and their tributaries. Males display plastic and diverse reproductive strategies.	Dec to April	No Habitat Present

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Table 4.4-2
Special-Status Species and Other Protected Species with Potential to Occur within the Project Site

Scientific Name (Common Name)	Status (Fed/State/Other)	Habitat and Distribution	Survey Period	Potential for Occurrence
CENTRAL VALLEY CHINOOK SALMON *Oncoryhnchus tshawytscha* pop. 6	—/—/ SSC	Anadromous salmonid fish which is largely restricted to the Sacramento River. Errant fishes have been observed spawning in other rivers.	Dec to April	No Habitat Present
SACRAMENTO SPLITTAIL *Pogonichthys macrolepidotus*	—/—/ SSC	Endemic to California's Central Valley with a migratory life history. Found in the Delta, Suisun Bay, Suisun Marsh, Napa River, Petaluma River, and the San Francisco Estuary. Relies on both brackish and freshwater habitats.	Nov to April	No Habitat Present
LONGFIN SMELT *Spirinchus thaleichthys*	—/ST/ —	An anadromous species which can be found in the San Francisco Estuary, Sacramento-San Joaquin Delta, Humboldt Bay, and the estuaries of the Eel and Klamath Rivers. The Longfin smelt can tolerate saline and fresh waters. Longfin smelt is typically found in lower portions of freshwater streams.	Dec to Feb	No Habitat Present

Status Codes:

FE	Federally listed as Endangered
FT	Federally listed as Threatened
FPE	Federally proposed as Endangered
FPT	Federally proposed as Threatened
FC	Federal Candidate Species (former Category 1 candidates)
FD	Federally Delisted
SE	State listed as Endangered
ST	State listed as Threatened
SR	State listed as Rare
SD	State Delisted
CFP	CDFW designated "Fully Protected"
SSC	CDFW designated "Species of Special Concern"
1A	California Rare Plant Rank - Presumed extinct
1B	California Rare Plant Rank - Rare or Endangered in California and elsewhere
2A	California Rare Plant Rank - Presumed extirpated in California, more common elsewhere
2B	California Rare Plant Rank - Rare or Endangered in California, more common elsewhere
3	California Rare Plant Rank - Plants About Which More Information is Needed, A Review List
4	California Rare Plant Rank - Plants of Limited Distribution, A Watch List
CNDDB	Species is tracked by the CNDDB

Table 4.4-2
Special-Status Species and Other Protected Species with Potential to Occur within the Project Site

Scientific Name (Common Name)	Status (Fed / State / Other)	Habitat and Distribution	Survey Period	Potential for Occurrence
YHCP	Species is covered by the Yolo HCP/NCCP			

Source: Teichert Materials, 2020.