

# Appendix C

## **Supporting Biological Resources Information**

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## C. Supporting Biological Resources Information

**Table C–1. Potential Occurrence of Special–Status Plants in the Project Footprint**

Scientific Name	Common Name	Status			Habitat Association	Elevation Range (feet)	Blooming Period	Potential to Occur in Project Footprint
		Federal	State	CRPR				
<i>Amsinckia grandiflora</i> †	large-flowered fiddleneck	FE	CE	1B.1	Grassy slopes in cismontane woodland and valley and foothill grassland.	885–1,805	(Mar) Apr–May	<b>No potential to occur.</b> The project is below the lower elevation range of this species and suitable micro-habitats (grassy slopes) required for this species are not present in the project. There are no records of this species in a 27-quadrangle search radius (CDFW 2019a; CNPS 2019a).
<i>Astragalus tener</i> var. <i>ferrisiae</i>	Ferris’ milk-vetch	–	–	1B.1	Alkaline flats and vernal moist meadows, usually in dry, adobe soil.	5–245	April–May	<b>No potential to occur.</b> No suitable habitat (alkaline flats, vernal meadows, adobe soil) present in the project. There is only one record of this species in a 27-quadrangle search radius, and it is from a historic 1954 collection in Yolo County near the I-80 Causeway (CDFW 2019a).
<i>Astragalus tener</i> var. <i>tener</i> †	alkali milk-vetch	–	–	1B.2	General habitats include alkali playa, valley and foothill grassland, and vernal pools. Microhabitats include alkali flats and flooded lands.	0–195	March–June	<b>No potential to occur.</b> Suitable microhabitats (alkali flats, flooded lands) are not present in the project area. There is only one record of this species in a 27-quadrangle search radius, and it is a historic collection from 1927 along Smith Canal, approximately 2.5 miles southwest of the Stockton footprint; this population is extirpated, and suitable habitat no longer exists (CDFW 2019a).

Scientific Name	Common Name	Status			Habitat Association	Elevation Range (feet)	Blooming Period	Potential to Occur in Project Footprint
		Federal	State	CRPR				
<i>Atriplex cordulata</i> <i>var. cordulata'</i>	Heartscale	–	–	1B.2	Alkaline flats and scalds in the Central Valley, with sandy soils.	0–1,835	April–October	<b>No potential to occur.</b> Suitable microhabitats (alkaline flats/scalds) are not present in the project area. There is only one record of this species in a 27-quadrangle search radius, and it is a historic collection from 1896 near the city of Stockton that is now considered extirpated due to development (CDFW 2019a).
<i>Balsamorhiza macrolepis</i>	big-scale balsamroot	–	–	1B.2	Open grassy or rocky slopes in chaparral, cismontane woodland, and valley and foothill grassland. Sometimes on serpentinite.	145–5,110	March–June	<b>No potential to occur.</b> The project is just below the lower elevation range of this species and suitable micro-habitats (open slopes) required for this species are not present in the project. There is only one record of this species in a 27-quadrangle search radius, and it is from a historic collection near the city of Stockton in the late 1800s (CDFW 2019a).
<i>Blepharizonia plumosa</i>	big tarplant	–	–	1B.1	Dry slopes in annual grassland with clay to clay-loam soils; often in burned areas.	145–5,110	July–October	<b>No potential to occur.</b> The project is just below the lower elevation range of this species and suitable micro-habitats (dry slopes) required for this species are not present in the project or immediate vicinity. There is only one record of this species within a 27-quadrangle search radius from a historic 1896 collection near the City of Stockton (CDFW 2019a).

Scientific Name	Common Name	Status			Habitat Association	Elevation Range (feet)	Blooming Period	Potential to Occur in Project Footprint
		Federal	State	CRPR				
<i>Brasenia schreberi</i>	Watershield	–	–	2B.3	Aquatic; known from natural and artificial water bodies throughout California.	95–7,220	June–September	<b>Could occur.</b> Suitable habitat may be present in aquatic habitats adjacent to the North Elk Grove Station and Track Improvements, Old North Sacramento/Del Paso, and Natomas/Sacramento Airport project footprints. There is one record within 2 miles of the project, west of the Thornton Siding Track footprint in Stone Lake (CDFW 2019a).
<i>Carex comosa</i> †	bristly sedge	–	–	2B.1	Coastal prairie, marshes and swamps along lake margins, and wet places in valley and foothill grassland.	0–2,050	May–September	<b>Could occur.</b> Suitable habitat may be present in cattail marsh and riparian scrub habitats within the project. Species documented within 3 miles of the project in various marsh and riparian habitats (CDFW 2019a).
<i>Castilleja campestris</i> var. <i>succulenta</i> †	fleshy owl's-clover	FT	CE	1B.2	Vernal pools, often in acidic soils.	160–2460	(March) April–May	<b>No potential to occur.</b> The project is outside the elevation range of this species. There is only one record of this species in a 27-quadrangle search radius, and it is from vernal pool grasslands east of the City of Galt (CDFW 2019a).
<i>Centromadia parryi</i> ssp. <i>parryi</i>	pappose tarplant	–	–	1B.2	Chaparral, coastal prairie, meadows and seeps, coastal salt marsh, valley, and foothill grassland in vernal mesic, often alkaline sites.	0–1,380	May–November	<b>Could occur.</b> Suitable micro-habitats (vernally mesic, alkaline soils) may be present in seasonal wetland and nonnative annual grassland habitats within the North Elk Grove Station and Track Improvements footprint. The nearest record of this species is a population on Merritt Island, approximately 5 miles southwest of the North Elk Grove Station footprint, that is considered extirpated due to agricultural development (CDFW 2019).

Scientific Name	Common Name	Status			Habitat Association	Elevation Range (feet)	Blooming Period	Potential to Occur in Project Footprint
		Federal	State	CRPR				
<i>Chloropyron molle</i> ssp. <i>Hispidum</i>	Hispid salty bird's-beak	–	–	1B.1	Meadows and seeps, playas, and valley and foothill grassland in damp alkaline soils, especially in alkaline meadows and alkali sinks with <i>Distichlis</i> .	0–510	June–September	<b>No potential to occur.</b> Suitable microhabitats (saline marshes or flats) required for this species are not present in the project or immediate vicinity. There is only one record of this species in a 27-quadrangle search radius from within a spring-fed alkali meadow northeast of the City of Roseville (CDFW 2019a).
<i>Chloropyron palmatum</i> (a.k.a. <i>Cordylanthus palmatus</i> )	palmate-bracted bird's-beak	FE	CE	1B.1	Chenopod scrub, valley, and foothill grassland; usually on Pescadero silty clay (alkaline soil) with <i>Distichlis</i> and <i>Frankenia</i> .	15–510	May–October	<b>No potential to occur.</b> Suitable microhabitats (chenopod scrub, Pescadero silty clay) associated with this species are not present in the project or immediate vicinity. There is only one record of this species in a 27-quadrangle search radius, and it is a historic collection from near the City of Stockton in 1881 (CDFW 2019a).
<i>Cicuta maculata</i> var. <i>bolanderi</i>	Bolander's water-hemlock	–	–	2B.1	Marshes and swamps with fresh or brackish water.	0–655	July–September	<b>Could occur.</b> Suitable habitat may be present in cattail marsh habitats in the project. Species documented within 2 miles west of the Thornton Siding Track in Delta Meadows River Park (CDFW 2019a).
<i>Cuscuta obtusiflora</i> var. <i>glandulosa</i>	Peruvian dodder	–	–	2B.2	Freshwater marsh. Found on herbs including <i>Alternanthera</i> , <i>Dalea</i> , <i>Lythrum</i> , <i>Polygonum</i> , and <i>Xanthium</i> (Costea & Stefanovic 2012).	45–920	July–October	<b>Could occur.</b> Suitable habitat, including host plants <i>Xanthium</i> , <i>Lythrum</i> , and <i>Polygonum</i> may be present in cattail marsh habitat and ephemeral ditches throughout the project. The only record in the project vicinity is from Laguna Lake in North Elk Grove, approximately 2 miles southeast of the North Elk Grove Station footprint (CDFW 2019a).

Scientific Name	Common Name	Status			Habitat Association	Elevation Range (feet)	Blooming Period	Potential to Occur in Project Footprint
		Federal	State	CRPR				
<i>Delphinium recurvatum</i> †	recurved larkspur	–	–	1B.2	On alkaline soils in chenopod scrub, cismontane woodland, and valley and foothill grassland; often in valley saltbush or valley chenopod scrub.	5–2,590	March–June	<b>Not likely to occur.</b> Marginally suitable habitat (alkaline soils) may be present in nonnative annual grassland habitats within the Lodi and North Elk Grove Station and Track Improvements footprints. However, no valley saltbush scrub is in the project. There is only one record of this species in a 27-quadrangle search radius, and it is from a historic collection in 1891 southeast of the City of Stockton (CDFW 2019a).
<i>Downingia pusilla</i> *	dwarf downingia	–	–	2B.2	Vernal lake and vernal pool margins with a variety of associates.	0–1,460	March–May	<b>Could occur.</b> Suitable habitat (vernal pools) could be present in the project. Species documented in various vernal pool habitats within 5 miles of the project (CDFW 2019a). Considered to have potential to occur in the Bufferlands surrounding the North Elk Grove Station/Elk Grove Siding improvements (Regional San 2000).
<i>Extriplex joaquinana</i>	San Joaquin spearscale	–	–	1B.2	In seasonal alkali wetlands or alkali sink scrub with <i>Distichlis spicata</i> and <i>Frankenia</i> in chenopod scrub, alkali meadow, playas, and alkali plains.	0–2,740	April–October	<b>No potential to occur.</b> No suitable habitats (alkali wetlands, alkali sink scrub, or alkali plains) present in the project area. There is only one record of this species in a 27-quadrangle search radius, and it is a historic occurrence from 1927 in Stockton that is now considered extirpated due to development (CDFW 2019a).

Scientific Name	Common Name	Status			Habitat Association	Elevation Range (feet)	Blooming Period	Potential to Occur in Project Footprint
		Federal	State	CRPR				
<i>Gratiola heterosepala</i> *†	Boggs Lake hedge-hyssop	–	–	1B.2	On clay soils in vernal pools, sometimes on lake margins.	30–7,790	April–August	<b>Could occur.</b> Suitable habitat (vernal pools with clay soils) could be present in the Natomas/Sacramento Airport Station and North Elk Grove/Elk Grove Siding footprints. Species documented within 2 miles of the project in vernal pool habitat northwest of the Natomas/Sacramento Airport Station footprint (CDFW 2019a). Considered to have potential to occur in the Bufferlands surrounding the North Elk Grove Station/Elk Grove Siding improvements (Regional San 2000).
<i>Hibiscus lasiocarpus</i> var. <i>occidentalis</i> †	woolly rose-mallow	–	–	1B.2	Moist, freshwater-soaked river banks and low peat islands in sloughs; can also occur on riprap and levees. In California, known from the Delta watershed.	0–395	June–September	<b>Could occur.</b> Suitable microhabitats (riprap and levees) are present in the project. The nearest records of this species are within 1 mile of the Thornton Siding Track footprint along the banks of the Cosumnes River (CDFW 2019a).
<i>Juncus leiospermus</i> var. <i>ahartii</i> *†	Ahart's dwarf rush	–	–	1B.2	Restricted to the edges of vernal pools in grassland.	95–750	March–May	<b>Could occur.</b> Suitable habitat (vernal pools in grassland) could be present in the Natomas/Sacramento Airport Station and North Elk Grove Station/Elk Grove Siding footprints. There is only one record of this species within a 27-quadrangle search area in vernal pools south of the City of Rancho Cordova (CDFW 2019a). Considered to have the potential to occur in the Bufferlands surrounding the North Elk Grove Station/Elk Grove Siding improvements (Regional San 2000).

Scientific Name	Common Name	Status			Habitat Association	Elevation Range (feet)	Blooming Period	Potential to Occur in Project Footprint
		Federal	State	CRPR				
<i>Juncus leiospermus</i> var. <i>leiospermus</i>	Red Bluff dwarf rush	–	–	1B.1	Vernally mesic sites, sometimes on edges of vernal pools, in chaparral, cismontane woodland, valley and foothill grassland.	110–4,100	March–June	<b>No potential to occur.</b> Species range limited to the portion of Northern California from the northern Sacramento Valley to the Warner Mountains. There is only one record of this species within a 27-quadrangle search area, in vernal pools on Kilaga loam soils near the City of Roseville (CDFW 2019a).
<i>Lathyrus jepsonii</i> var. <i>jepsonii</i> †	Delta tulle pea	–	–	1B.2	In freshwater and brackish marshes, usually along slough edges. Often found with <i>Typha</i> , <i>Aster lentus</i> , <i>Rosa californica</i> , <i>Juncus</i> , <i>Scirpus</i> .	0–15	May–July (August–September)	<b>Not likely to occur.</b> Species range limited to the Sacramento-San Joaquin Delta, where it is found on slough edges. Species documented within 2 miles of the Thornton Siding Track footprint in riparian forest habitat in the Delta (CDFW 2019a).
<i>Legenere limosa</i> * †	legenere	–	–	1B.1	Usually found in beds of vernal pools; also found in other wet areas and ponds (Morin 2012).	0–2,885	April–June	<b>Could occur.</b> Suitable habitats (i.e., wet areas, such as drainage ditches and ponds) are present in the project and immediate vicinity. The nearest record of this species is approximately 0.3 mile west of the North Elk Grove Station footprint, in vernal pools (CDFW 2019a). Considered to have the potential to occur in the Bufferlands surrounding the North Elk Grove Station/Elk Grove Siding improvements (Regional San 2000).



Scientific Name	Common Name	Status			Habitat Association	Elevation Range (feet)	Blooming Period	Potential to Occur in Project Footprint
		Federal	State	CRPR				
<i>Lepidium latipes</i> var. <i>heckardii</i>	Heckard's pepper-grass	-	-	1B.2	Alkaline soils in valley and foothill grassland, and sometimes on vernal pool edges.	5-655	March-May	<b>Could occur.</b> Suitable habitat (alkaline soils) may be present in nonnative annual grassland habitats within the Lodi, Elk Grove, and Old North Sacramento Station footprints. The nearest records of this species to the project are from the Stone Lakes Wildlife Refuge approximately 3 miles west of the Phillips Siding Track footprint (CDFW 2019a).
<i>Lilaeopsis masonii</i> †	Mason's lilaeopsis	-	-	1B.1	In brackish or freshwater marshes and swamps, and riparian scrub. Found in tidal zones in muddy or silty soils.	0-35	April-November	<b>Not likely to occur.</b> Suitable micro-habitats (tidal zones) required for this species are not present within the project or immediate vicinity. Several records of this species are documented within 5 miles of the project in the Delta (CDFW 2019a).
<i>Limosella australis</i> †	Delta mudwort	-	-	2B.1	Riparian scrub, marshes, and swamps; usually on mud banks of the Delta in marshy or scrubby riparian associations, often with <i>Lilaeopsis masonii</i> .	0-10	May-August	<b>Not likely to occur.</b> Species range limited to the Sacramento-San Joaquin Delta. Several records of this species are documented within 5 miles of the project in the Delta (CDFW 2019a).
<i>Navarretia myersii</i> *	pincushion navarretia	-	-	1B.1	Vernal pools, often in acidic soils.	65-1,085	April-May	<b>Could occur.</b> Considered to have the potential to occur in the Bufferlands surrounding the North Elk Grove Station/Elk Grove Siding improvements (Regional San 2000).

Scientific Name	Common Name	Status			Habitat Association	Elevation Range (feet)	Blooming Period	Potential to Occur in Project Footprint
		Federal	State	CRPR				
<i>Orcuttia tenuis</i> *	slender Orcutt grass	FT	CE	1B.1	Vernal pools, often in gravelly substrate.	110–5,775	May–September (October)	<b>Could occur.</b> Suitable habitats (vernal pools) could be present within the project or immediate vicinity. Considered to have the potential to occur in the Bufferlands surrounding the North Elk Grove Station/Elk Grove Siding improvements (Regional San 2000). There are two records of the species within a 27-quadrangle search radius in vernal pool grassland southeast of the City of Sacramento, approximately 10 miles northeast of the North Elk Grove Station footprint (CDFW 2019a).
<i>Orcuttia viscida</i> *	Sacramento Orcutt grass	FE	CE	1B.1	Vernal pools	95–330	April–July (September)	<b>Could occur.</b> Suitable habitat (vernal pools) may be present in the project. Considered to have the potential to occur in the Bufferlands surrounding the North Elk Grove Station/Elk Grove Siding improvements (Regional San 2000). There is only one record of the species within a 27-quadrangle search radius in vernal pool grasslands southeast of the City of Sacramento, approximately 11 miles to the east of the Florin Road footprint (CDFW 2019a).
<i>Potamogeton zosteriformis</i>	eel-grass pondweed	–	–	2B.2	Aquatic; ponds, lakes, and streams.	0–6,100	June–July	<b>Not likely to occur.</b> Although suitable habitat may be present in creeks (e.g., Morrison Creek, Dry Creek, and Steelhead Creek) that cross the Elk Grove, Old North Sacramento/Del Paso, and Natomas/Sacramento Airport project footprints, respectively. There is only one record of the species within a 27-quadrangle search radius, and it is from a historic 1949 collection at Webb Island in the Delta peat lands (CDFW 2019a).

Scientific Name	Common Name	Status			Habitat Association	Elevation Range (feet)	Blooming Period	Potential to Occur in Project Footprint
		Federal	State	CRPR				
<i>Sagittaria sanfordii</i> *†	Sanford's arrowhead	–	–	1B.2	In standing or slow-moving freshwater ponds, marshes, and ditches.	0–2,135	May–October (November)	<b>Known to occur.</b> Species is documented in Arcade Creek where it intersects with the NEMDC beneath the proposed Del Paso Siding Track footprint (CDFW 2019a). Suitable habitat is present in other cattail marsh, pond, and ditch habitats throughout the project area. Several records occur within 2 miles of the project (CDFW 2019a). Considered to have the potential to occur in the Bufferlands surrounding the North Elk Grove Station/Elk Grove Siding improvements (Regional San 2000).
<i>Scutellaria galericulata</i>	marsh skullcap	–	–	2B.2	Swamps and wet places.	0–6,890	June–September	<b>Could occur.</b> Suitable habitat may be present in cattail marsh habitats throughout the project. Species documented within 5 miles west of the Thornton Siding Track footprint in Snodgrass Slough (CDFW 2019a).
<i>Scutellaria lateriflora</i> †	side-flowering skullcap	–	–	2B.2	Wet meadows and marshes. In the Delta, often found on logs.	0–1,640	July–September	<b>Could occur.</b> Suitable habitat may be present in cattail marsh habitat in the project. Species documented within 2 miles west of the Thornton Siding Track footprint on partially fallen logs in Snodgrass Slough (CDFW 2019a).
<i>Symphotrichum lentum</i> †	Suisun Marsh aster	–	–	1B.2	Brackish or freshwater marshes and swamps; most often seen along sloughs with <i>Phragmites</i> , <i>Scirpus</i> , <i>blackberry</i> , <i>Typha</i> .	0–10	(April) May–November	<b>Could occur.</b> Suitable habitat may be present in cattail marsh habitats throughout the project, and in Mosher Slough where it crosses the Hammer Lane Siding footprint. One historic record from 1917 overlaps with the northern portion of the Stockton footprint, but is not verified by field work (CDFW 2019a).

Scientific Name	Common Name	Status			Habitat Association	Elevation Range (feet)	Blooming Period	Potential to Occur in Project Footprint
		Federal	State	CRPR				
<i>Trifolium hydrophilum</i>	saline clover	–	–	1B.2	Marshes and swamps, valley and foothill grassland, vernal pools; mesic, alkaline sites.	0–985	April–June	<b>Could occur.</b> Suitable habitat (mesic, alkaline soils) may be present in seasonal wetland and nonnative annual grassland habitats within the Lodi and Elk Grove footprints. Species documented within 2 miles of the project in seasonal wetlands southwest of the North Elk Grove Station footprint (CDFW 2019a).

**Notes:**

**<sup>1</sup>Listing Status:**  
**Federal—U.S. Fish and Wildlife Service:**  
 FE = endangered  
 FT = threatened  
 – = no status  
**State—California Department of Fish and Wildlife:**  
 SE = endangered  
 SR = rare  
 – = no status

**<sup>2</sup>CRPR = California Rare Plant Ranks:**  
 1B = plant species considered rare, threatened, or endangered in California and elsewhere  
 2B = plant species considered rare, threatened, or endangered in California but are more common elsewhere

**California Rare Plant Rank Extensions:**  
 .1 = seriously endangered in California (>80% of occurrences are threatened and/or have high degree and immediacy of threat)  
 .2 = fairly endangered in California (20–80% of occurrences are threatened)  
 .3 = not very endangered in California

**<sup>3</sup>AMSL = above mean sea level**

**<sup>4</sup>Potential for Occurrence:**  
**No Potential to Occur:** The project area is outside the species' range or suitable habitat for the species is absent from the project area and adjacent areas.  
**Not Likely to Occur:** The project area is within the species' range, no occurrences of the species have been recorded within or immediately adjacent to the project area, and either habitat for the species is marginal or potentially suitable habitat may occur, but the species' current known range is restricted to areas outside of the project area.  
**Could Occur:** The project area is within the species' range, and no occurrences of the species have been recorded within the project area; however, suitable habitat for the species is present and recorded occurrences of the species are generally present in the vicinity.  
**Known to Occur:** The project area is within the species' range, suitable habitat for the species is present, and the species has been recorded from within the project area.

\*Species is designated as a Covered Species under the South Sacramento Habitat Conservation Plan (County of Sacramento, et al. 2018).  
<sup>4</sup>Species is designated as a Covered Species under the San Joaquin County Multi-Species Conservation Plan (County of San Joaquin 2000).

**Table C–2. Potential Occurrence of Special–Status Wildlife in the Project Footprint**

Scientific Name	Common Name	Status			Habitat Association	Distribution	Potential to Occur in Project Footprint
		Federal	State	CDFW			
Invertebrates							
<i>Branchinecta lynchi</i> * †	vernal pool fairy shrimp	FT	–	–	Vernal pools and other seasonal wetlands, typically small but including a wide range of sizes.	Found as far north as Jackson County in Oregon and as far south as the Los Padres National Forest in Ventura County (LPFW 2019).	<b>Could occur.</b> Several CNDDDB occurrences within the project footprint (Natomas/Sacramento Airport Station, Old Sacramento Station, Meadowview to Florin, North Elk Grove Station, and Franklin Blvd.). Specimens collected in pools occurring directly adjacent to railroad tracks in the Regional San Bufferlands, adjacent to the proposed Elk Grove Siding improvements (Regional San 2000). Although no vernal pool invertebrates were observed during the surveys in (November/December 2019) during the species’ dormant period, the potential for the species to be present in the non-dormant spring/summer season is high (CDFW 2019a).
<i>Lepidurus packardii</i> * †	vernal pool tadpole shrimp	FE	–	–	Vernal pools and other seasonal wetlands with relatively long inundation period.	Endemic to the grasslands of the Central Valley, Central Coast mountains, and Southern Coast mountains (CDFW 2019).	<b>Could occur.</b> Several CNDDDB occurrences within the project footprint (Meadowview to Florin and North Elk Station). Several specimens collected in pools and swales occurring directly adjacent to railroad tracks. Specimens collected from pools within 1,000 feet of the proposed Elk Grove Siding Track improvements in the Bufferlands conservation area (Regional San 2000). Although no vernal pool invertebrates were observed during the surveys during the species’ dormant period (November/December 2019), the potential for the species to be present in the non-dormant spring/summer season is high (CDFW 2019a).

Scientific Name	Common Name	Status			Habitat Association	Distribution	Potential to Occur in Project Footprint
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<i>Desmocerus californicus dimorphus</i> *†	valley elderberry longhorn beetle	FT	-	-	Elderberry shrubs, typically in riparian habitats below 3,000 feet in elevation.	Throughout the Central Valley from Shasta County to Fresno County, including the valley floor and lower foothills, usually below 500 feet (amsl) in elevation	<b>Could occur.</b> The Old Sacramento Station portion of the project occurs approximately 0.20 mile west of a 1984 CNDDDB occurrence (CDFW 2019a). Suitable habitat such as elderberry shrubs were observed during the field surveys.
<i>Callophrys mossii bayensis</i>	San Bruno Elfin Butterfly	FE	-	-	Associated with host plant broadleaf stonecrop ( <i>Sedum spathulifolium</i> ), which grows in coastal grassland on thin, rocky soils (Parks Conservancy 2019).	Restricted to San Francisco Bay area. Mainly found in northern San Mateo County, California.	<b>No potential to occur.</b> This species is endemic to northern San Mateo County, which is located 75 miles southwest from the project footprint. No host plants or habitat were observed during the surveys.
<b>Fish</b>							
<i>Archoplites interruptus</i>	Sacramento perch	-	-	<b>SSC</b>	Aquatic; historic habitats were sloughs, slow-moving rivers, and large lakes, including floodplain lakes. Today, only found in reservoirs and small lakes located outside native valley-floor habitats, presumably as the result of introductions (Crain and Moyle 2011).	Most likely extirpated from their native range (Crain and Moyle 2011). Sixteen populations have been established in California outside their native range in six watersheds: Clear Lake Reservoir; Cedar Creek; Walker River; upper Owens River; Mono Lake, and Abbots Lagoon.	<b>No potential to occur.</b> This species' range and habitat preference does not coincide with the project footprint.
<i>Hypomesus transpacificus</i> †	Delta smelt	FT	SE	-	Aquatic; euryhaline species that primarily lives in brackish water, and spawns in shallow, fresh, or slightly brackish water upstream of the mixing zone.	Found only from the Suisun Bay upstream through the Sacramento-San Joaquin River Delta in Contra Costa, Sacramento, San Joaquin, Solano, and Yolo counties.	<b>No potential to occur.</b> This species' range and habitat preference does not coincide with the project footprint.

Scientific Name	Common Name	Status			Habitat Association	Distribution	Potential to Occur in Project Footprint
		Federal	State	CDFW			
<i>Oncorhynchus mykiss irideus</i> pop. 11	Steelhead - Central Valley Distinct Population Segment (DPS)	FT	-	-	Aquatic; cool, clear streams with abundant cover and well-vegetated banks, with relatively stable flows. Pool and riffle complexes and cold gravelly streambeds for spawning.	Populations in the Sacramento and San Joaquin rivers and their tributaries.	<b>Could occur.</b> Steelhead - Central Valley DPS are documented in Dry Creek and the American River to the north and south of the Del Paso Siding and Old North Sacramento Station footprints, respectively (CDFW 2019a). Steelhead Creek in the NEMDC connects these two waterways and could therefore serve as a migratory corridor for the taxon; it is also designated as Critical Habitat for the taxon. Steelhead Creek is west of the Old North Sacramento Station, Del Paso Siding, and Natomas/Sacramento Airport Station footprints and connects to Arcade Creek, which is crossed by the Del Paso Siding footprint.
<i>Oncorhynchus tshawytscha</i> pop. 6	chinook salmon – Central Valley spring-run Evolutionary Significant Unit (ESU)	FT	ST	-	Aquatic; water temperatures greater than 27 degrees Celsius (80.6 degrees Fahrenheit) are lethal to adults. Spring-run Chinook Salmon enter the Sacramento River from late March through September. Adults hold in cool water habitats through the summer, then spawn in the fall from mid-August through early October.	The Sacramento River and its tributaries, including Butte, Mill, Deer, Antelope, and Beegum creeks.	<b>No potential to occur.</b> This species' range and habitat preference does not coincide with the project footprint. Spring-run chinook salmon do not occur in the NEMDC (Steelhead Creek) or the Dry Creek watershed (Yoshiyama, et al. 1998).

Scientific Name	Common Name	Status			Habitat Association	Distribution	Potential to Occur in Project Footprint
		Federal	State	CDFW			
<i>Oncorhynchus tshawytscha</i> pop. 7	chinook salmon - Sacramento River winter-run ESU	FE	SE	-	Aquatic; spawn during summer months. Adult winter-run Chinook salmon immigration and holding through the Delta and into the lower Sacramento River occurs from December through July. Spawning occurs between late-April and mid-August.	Winter-run Chinook salmon primarily spawn in the mainstem Sacramento River between Keswick Dam and the Red Bluff Diversion Dam.	<b>No potential to occur.</b> This species' range and habitat preference does not coincide with the project footprint. Winter-run chinook salmon do not occur in the NEMDC (Steelhead Creek) or the Dry Creek watershed (Yoshiyama, et al. 1998).
<i>Pogonichthys macrolepidotus</i> †	Sacramento splittail	-	-	SSC	Aquatic; slow moving river sections and dead-end sloughs. Requires flooded vegetation for spawning and foraging for young.	Endemic to the lakes and rivers of the Central Valley, but now confined to the Delta, Suisun Bay, and associated marshes.	<b>No potential to occur.</b> This species' range and habitat preference does not coincide with the project footprint.
<i>Spirinchus thaleichthys</i> †	longfin smelt	FC	ST	-	Aquatic; found in open waters of estuaries, mostly in middle or bottom of water column.	Bays and estuaries along the Pacific Northwest, from the San Francisco Bay to Alaska.	<b>No potential to occur.</b> This species' range and habitat preference does not coincide with the project footprint.
<b>Amphibians &amp; Reptiles</b>							
<i>Ambystoma californiense</i> * †	California tiger salamander	FT	ST	WL	Vernal pools and other seasonal wetlands with adequate inundation period and adjacent uplands, primarily grasslands, with burrows and other belowground refugia.	Endemic to California. Occurs from near Petaluma and Sonoma Counties, east through the Central Valley in Yolo and Sacramento counties and south to Tulare County; and from the vicinity of San Francisco Bay south to Santa Barbara County.	<b>No potential to occur.</b> Potential habitat was not observed during the project surveys. There are no CNDDDB occurrences within 5 miles of the project footprint (CDFW 2019a), other than one historic (1923) occurrence south of the Stockton Track project footprint.



Scientific Name	Common Name	Status			Habitat Association	Distribution	Potential to Occur in Project Footprint
		Federal	State	CDFW			
<i>Emys marmorata</i> *†	western pond turtle	-	-	SSC	Closely associated with permanent or nearly permanent water in a variety of aquatic habitats. For foraging, ponds, marshes, slow-moving streams, sloughs, and irrigation/drainage ditches; for nesting, soils in nearby uplands with low, sparse vegetation. Basking sites are required for thermoregulation, such as partially submerged logs, rocks, mats of floating vegetation, or open mud banks. Hibernation may occur in aquatic habitats or in burrows of adjacent uplands, often with duff.	Throughout California west of the Sierra-Cascade crest and absent from desert regions, except in the Mojave Desert along the Mojave River and its tributaries. Elevation range extends from near sea level to 4,690 feet (amsl).	<b>Known to occur.</b> CNDDDB occurrences adjacent to the following project footprints: North Elk Grove Station, Franklin Blvd., Thornton Curve Track 3, and the Stockton Track, all within 2 miles of the project (CDFW 2019a). Notable suitable habitat within the North Elk Grove Station footprint was observed and predated turtle nests were observed in the 500-foot survey buffer. Regional San has documented western pond turtle on their Bufferlands property, which surrounds the North Elk Grove Station footprint (Regional San 2000).
<i>Rana boylei</i> †	foothill yellow-legged frog	-	SCT	SSC	Streams and rivers with rocky substrate and open, sunny banks, in forests, chaparral, and woodlands; sometimes found in isolated pools, vegetated backwaters, and deep, shaded, spring-fed pools. Breeding occurs exclusively in streams and rivers and requires cobble-sized substrate for eggs and minimum 15 weeks of water for larval development.	Occurs in the Coast Ranges from the Oregon border south to the Transverse Mountains in Los Angeles County, in most of northern California west of the Cascade crest, and along the western flank of the Sierra Nevada south to Kern County.	<b>No potential to occur.</b> Habitat preference and geographic range does not coincide with the project footprint.

Scientific Name	Common Name	Status			Habitat Association	Distribution	Potential to Occur in Project Footprint
		Federal	State	CDFW			
<i>Rana draytonii</i> <sup>†</sup>	California red-legged frog	FT	-	-	Requires aquatic and terrestrial habitat components. Terrestrial habitat is nearly any area within 1-2 miles of an aquatic breeding site that stays cool and moist through the summer. Breeding sites are generally deep, still-moving water with a wide range of emergent cover amounts. Also known to breed in stock ponds (USFWS 2019).	Endemic to California and Baja California, Mexico. From Mendocino County to Riverside County along the Coast Range and from Calaveras County to Butte County in the Sierra Nevadas (USFWS 2019).	<b>No potential to occur.</b> No documented CNDDDB occurrences within 5 miles and habitat preference does not coincide with the project footprint.
<i>Spea hammondi</i> <sup>*†</sup>	western spadefoot	-	-	SSC	Occurs primarily in grassland habitats but can be found in valley-foothill hardwood woodlands. Vernal pools are essential for breeding and egg-laying (CDFW 2019).	Endemic to California. Found throughout the Central Valley, adjacent foothills, and in the Coast Ranges, just south of Monterey County to northern Baja California, Mexico (Natomas Basin Conservancy 2019).	<b>No potential to occur.</b> No documented CNDDDB occurrences within 5 miles and habitat preference does not coincide with the project footprint.

Scientific Name	Common Name	Status			Habitat Association	Distribution	Potential to Occur in Project Footprint
		Federal	State	CDFW			
<i>Thamnophis gigas</i> *†	giant garter snake	FT	ST	-	Open water associated with slow-moving streams, sloughs, ponds, marshes, inundated floodplains, rice fields, and irrigation/drainage ditches within the Central Valley; also requires emergent herbaceous wetland vegetation for escape and foraging habitat, grassy banks and openings in waterside vegetation for basking, and higher elevation upland habitat (burrows) for cover and refuge from flooding during the snake's inactive season.	Ranges from Glenn County to the southern edge of the San Francisco Bay Delta, and from Merced County to Fresno County.	<b>Known to occur.</b> Notable suitable habitat in the North Elk Grove Station footprint was observed and several garter snakes were observed basking in rail ballast. Regional San has documented giant garter snake on their Bufferlands property, which surrounds the North Elk Grove Station footprint (Regional San 2000).
<b>Birds*</b>							
<i>Accipiter cooperii</i> *† (nesting)	Cooper's hawk	-	-	WL	Wooded areas, including dense stands of live oak, riparian deciduous, and other forest habitats, typically near water.	Distributed throughout the state of California from sea level to above 9,000 feet in elevation (CDFW 2019).	<b>Known to occur.</b> CNDDDB occurrences within 0.66 miles of the following project footprints: Old Sacramento Station, Midtown Sacramento Station, North Elk Grove Station (CDFW 2019a). Suitable habitat was also observed at these locations during biological surveys.

Scientific Name	Common Name	Status			Habitat Association	Distribution	Potential to Occur in Project Footprint
		Federal	State	CDFW			
<i>Agelaius tricolor</i> <sup>*†</sup> (nesting colony)	tricolored blackbird	-	ST	SSC	Individuals forage in agricultural lands and grasslands, and nest in marshes, riparian scrub, and other areas that support cattails or dense thickets of shrubs or herbs.	Breeding range includes the Central Valley and other lowland areas of California west of the Cascade–Sierra Nevada axis.	<b>Could occur.</b> The project footprints fall within the species' range and suitable nesting habitat (blackberry brambles and cattail marsh) is present in proximity to suitable grassland and agricultural field foraging areas. All nearby CNDDDB records are historic from 1885 (CDFW 2019a). Regional San has documented tricolored blackbird on their Bufferlands property, which surrounds the North Elk Grove Station/Elk Grove Siding Track footprints (Regional San 2000).
<i>Ammodramus savannarum</i> (nesting)	grasshopper sparrow	-	-	SSC	Forages and nests in dense grasslands; favors a mix of native grasses, forbs, and scattered shrubs. Nests in depressions on the ground at the bases of grass clumps.	Occurs across North America and ranges from southern Canada to Ecuador. Primarily occurs in California as a summer resident from March to September (Shuford and Gardali 2008).	<b>Not likely to occur.</b> No CNDDDB occurrences of the species within 5 miles (CDFW 2019a). Marginal grassland habitat was observed; however, the species prefers coastal habitats (PRBO 2020).
<i>Antigone canadensis tabida</i> <sup>*†</sup> (nesting and wintering)	greater sandhill crane	-	CT	FP	Summers in open terrain near shallow lakes or freshwater marshes; winters on plains and in valleys near bodies of fresh water.	Winters in the Central Valley, in southern Imperial County, at Lake Havasu National Wildlife Refuge, and on the Colorado River Indian Reservation. Breeds on the plains east of the Cascade Range and south to Sierra County.	<b>Could occur.</b> Sandhill cranes were observed foraging in agricultural fields near the Phillips Siding Track footprint during 2019 surveys. Regional San has documented greater sandhill crane on their Bufferlands property, which surrounds the North Elk Grove Station/Elk Grove Siding Track footprints (Regional San 2000).

Scientific Name	Common Name	Status			Habitat Association	Distribution	Potential to Occur in Project Footprint
		Federal	State	CDFW			
<i>Aquila chrysaetos</i> † (nesting)	golden eagle	-	-	FP, WL	Nests in rugged, open habitats with canyons and escarpments, typically on cliffs and rock outcroppings; however, will also nest in large trees in open areas, including oaks, sycamores, redwoods, pines, and eucalyptus, overlooking open hunting habitat.	Uncommon permanent resident and migrant throughout California, except in the center of the Central Valley.	<b>Unlikely to occur.</b> No suitable nesting habitat (steep slopes, cliffs, or large trees overlooking hunting areas) present in the project area. There are no CNDDDB occurrences of nesting golden eagles within 5 miles of the project footprints (CDFW 2019a). Potential foraging habitat present, and species may occur as a fly over.
<i>Asio flammeus</i> † (nesting)	short-eared owl	-	-	SSC	Freshwater and salt marshes, lowland meadows, and irrigated alfalfa fields; needs dense tules or tall grass for nesting and for daytime roosting.	Permanent resident along the coast from Del Norte County to Monterey County (very rare in summer north of San Francisco Bay), in the Sierra Nevadas north of Nevada County, on the plains east of the Cascades, and in Mono County. Small, isolated populations nest in the Central Valley.	<b>Could occur.</b> Regional San has documented short-eared owl on their Bufferlands property, which surrounds the North Elk Grove Station/Elk Grove Siding Track footprints (Regional San 2000).

Scientific Name	Common Name	Status			Habitat Association	Distribution	Potential to Occur in Project Footprint
		Federal	State	CDFW			
<i>Athene cunicularia</i> *† (burrow sites and some wintering sites)	burrowing owl	-	-	SSC	For nesting and foraging requires grasslands, agricultural fields, and low scrub habitats, especially where ground squirrel burrows are present; occasionally inhabit artificial structures and small patches of disturbed habitat.	Broadly distributed in western North America; year-round resident throughout much of California.	<b>Known to occur.</b> Suitable nesting and foraging habitat (ground squirrel burrows and grasslands) were observed throughout the project footprint and occurrences of the species have been documented within the following project footprints: Natomas/ Sacramento Airport Station, Old Sacramento Station, City College Station, Meadowview to Florin, North Elk Grove Station, Franklin Blvd., and Stockton Curve 1 (CDFW 2019a). Regional San has documented nesting burrowing owls on their Bufferlands property surrounding the North Elk Grove Station footprint, and in burrows directly adjacent to the UPRR tracks in the Elk Grove Siding Track footprint (Regional San 2000).
<i>Buteo regalis</i> *† (wintering)	ferruginous hawk	-	-	WL	Open grasslands, sagebrush flats, desert scrub, low foothills surrounding valleys, and fringes of pinyon-juniper habitat.	Uncommon winter resident and migrant in the Modoc Plateau, Central Valley, and Coast Ranges; common winter resident in southwestern California.	<b>Could occur.</b> Potential suitable habitat for the species was observed. One 2003 CNDDDB record documented adjacent to the North Elk Grove Station (CNDDDB 2019a). Species considered likely to be in winter in the Regional San Bufferlands surrounding the North Elk Grove/Elk Grove Siding Track footprints (Regional San 2000).

Scientific Name	Common Name	Status			Habitat Association	Distribution	Potential to Occur in Project Footprint
		Federal	State	CDFW			
<i>Buteo swainsoni</i> *† (nesting)	Swainson's hawk	-	ST	-	Typically nests in large, mature trees in open woodlands, woodland margins, in riparian strips along drainage canals, or in isolated trees; typically places nests high in trees; forages in native grasslands and agricultural fields (hay and grain crops, lightly grazed pastures, and some row crops) up to 10 miles or more from nest sites, depending on habitat availability and cropping patterns.	Breeds in California's Central Valley and in the Great Basin area of northeastern California, with a few territories located in Shasta Valley, the Owens Valley, and the Mohave Desert.	<b>Known to occur.</b> Potential suitable habitat was observed within and adjacent to the project footprints. Several CNDDB occurrences have been documented within 0.18 mile of the following project footprints: Natomas/Sacramento Airport Station, Old North Sacramento Station, Midtown Sacramento Station, City College Station, North Elk Grove Station, Franklin Blvd., Thornton Track, Thornton Track Curve 2, and Lodi Station (CDFW 2019a). Species documented within the Regional San Bufferlands surrounding the North Elk Grove/Elk Grove Siding Track footprints (Regional San 2000).
<i>Circus hudsonius</i> *† (nesting)	northern harrier	-	-	SSC	Nests and forages in grasslands, agricultural fields, and marshes. Nests on the ground within patches of dense, often tall vegetation in undisturbed areas.	Breeds from sea level to 5,700 feet (amsl) in the Central Valley and Sierra Nevada, and up to 3,600 feet in northeastern California.	<b>Could occur;</b> the project area is within the breeding range of the species, and suitable nesting and foraging habitat are present. iNaturalist has one occurrence documented within the southern portion of the Stockton Station footprint of the project (iNaturalist 2019). Species documented within the Regional San Bufferlands surrounding the North Elk Grove/Elk Grove Siding Track footprints (Regional San 2000).

Scientific Name	Common Name	Status			Habitat Association	Distribution	Potential to Occur in Project Footprint
		Federal	State	CDFW			
<i>Coccyzus americanus occidentalis</i> † (nesting)	western yellow-billed cuckoo	FT	SE	–	Nests in large blocks of deciduous riparian thickets or forests with dense, low-level or understory foliage adjacent to slow-moving watercourses, backwaters along broad, lower floodplains of larger river systems. Willow and cottonwood are almost always a component of the vegetation. In the Sacramento Valley, also utilizes adjacent walnut orchards.	In California, the western yellow-billed cuckoo's breeding distribution is restricted to isolated sites in the Sacramento, Amargosa, Kern, Santa Ana, and Colorado River Valleys.	<b>Not likely to occur.</b> No suitable habitat. All CNDDDB records in the project vicinity are historic and the species is thought to be extirpated from Sacramento County (CDFW 2019a).
<i>Setophaga petechia</i> † (nesting)	yellow warbler	–	–	SSC	Nests in riparian areas dominated by willows, cottonwoods, sycamores, or alders or in mature chaparral; may also use oaks, conifers, and urban areas near stream courses.	Nests throughout California except the Central Valley, the Mojave Desert region, and at high elevations in the Sierra Nevadas; winters along the Colorado River and in parts of Imperial and Riverside counties; two small permanent populations in San Diego and Santa Barbara counties.	<b>Could occur.</b> Regional San has documented yellow warbler on their Bufferlands property, which surrounds the North Elk Grove Station/Elk Grove Siding Track footprints (Regional San 2000).



Scientific Name	Common Name	Status			Habitat Association	Distribution	Potential to Occur in Project Footprint
		Federal	State	CDFW			
<i>Elanus leucurus</i> ** (nesting)	white-tailed kite	-	-	FP	For nesting, isolated trees, open woodlands, and woodland margins; for foraging, grasslands and agricultural fields.	Yearlong resident in coastal and valley lowlands of California.	<b>Known to occur.</b> Suitable nesting and foraging habitat along the Natomas/Sacramento Airport Station, Old North Sacramento Station, Midtown Sacramento Station, and North Elk Grove Station observed during the field surveys. This species is known to nest along the Sacramento and American River within 0.5 mile of the Midtown Sacramento Station portion of the project (CDFW 2019a). This species has also been documented within 0.5 mile of the North Elk Grove Station, and along the NEMDC adjacent to the Old North Sacramento Station footprint (CDFW 2019a). Species documented within the Regional San Bufferlands surrounding the North Elk Grove/Elk Grove Siding Track footprints (Regional San 2000).
<i>Falco columbarius</i> † (wintering)	merlin	-	-	WL	Uncommon winter migrant from September to May. Frequents coastlines, open grasslands, savannahs, woodlands, lakes, wetlands, edges, and early successional stages. Ranges from annual grasslands to ponderosa pine and montane hardwood-conifer habitat. Breeds mostly in Canada and Alaska.	Occurs in most of the western half of the state below 3,900 feet. A rare winter migrant in the Mojave Desert; a few records from the Channel Islands.	<b>Could occur.</b> Suitable nesting and foraging habitat for the species was observed in the Old North Sacramento Station, Midtown Sacramento Station, North Elk Grove Station, and the Lodi Station portions of the project. One CNDDDB occurrence of a wintering adult from 2004 was recorded approximately 0.5 mile from the North Elk Grove Station (CDFW 2019a). iNaturalist occurrences have been documented within 0.2 mile of North Elk Grove Station and Lodi Station project footprints (iNaturalist 2019). Species documented wintering within the Regional San Bufferlands surrounding the North Elk Grove/Elk Grove Siding Track footprints (Regional San 2000).

Scientific Name	Common Name	Status			Habitat Association	Distribution	Potential to Occur in Project Footprint
		Federal	State	CDFW			
<i>Icteria virens</i> † (nesting)	yellow-breasted chat	-	-	SSC	Nests in dense riparian habitats dominated by willows, alders, Oregon ash, tall weeds, blackberry vines, and California grape.	Uncommon migrant in California; nests in a few locations with appropriate habitat, such as Sweetwater and Weber creeks (El Dorado County), Pit River (Shasta County), Russian River (Sonoma County), Little Lake Valley (Mendocino County), and upper Putah Creek (Yolo County).	<b>Could occur.</b> Regional San has documented yellow-breasted chat on their Bufferlands property, which surrounds the North Elk Grove Station/Elk Grove Siding Track footprints (Regional San 2000).
<i>Lanius ludovicianus</i> * † (nesting)	loggerhead shrike	-	-	SSC	Forages and nests in grasslands, shrublands, and open woodlands. Nests in trees and shrubs.	Lowlands and foothills throughout California.	<b>Could occur.</b> Suitable nesting habitat is present within the project area. However, database searches yielded no results within 5 miles of the project footprints (CDFW 2019a; iNaturalist 2019). Regional San has documented loggerhead shrike on their Bufferlands property, which surrounds the North Elk Grove Station/Elk Grove Siding Track footprints (Regional San 2000).
<i>Laterallus jamaicensis coturniculus</i> † (year-round)	California black rail	-	ST	FP	Freshwater marshes, wet meadows and shallow margins of saltwater marshes bordering larger bays. Needs water depths of about 1 inch that do not fluctuate during the year and dense vegetation for nesting habitat.	San Francisco Bay area, Sacramento-San Joaquin Delta, coastal southern California at Morro Bay and a few other locations, the Salton Sea, and lower Colorado River area.	<b>Not likely to occur.</b> No potential habitat for California black rail observed in project footprints. Nearest records of the species are within 2.5 miles west of the Lodi Station footprint in the White Slough locality (CDFW 2019a).

Scientific Name	Common Name	Status			Habitat Association	Distribution	Potential to Occur in Project Footprint
		Federal	State	CDFW			
<i>Melospiza melodia</i> (year-round)	song sparrow ("Modesto" population)	-	-	SSC	For nesting and foraging, primarily in emergent marsh, riparian scrub, and early successional riparian forest habitats; infrequently in mature riparian forest and sparsely vegetated ditches and levees.	North-central portion of the Central Valley	<b>Could occur.</b> Potential suitable habitat for the species was observed in the North Elk Grove Station, Thornton Track, and Lodi Station project footprints. CNDDDB occurrences from 2009 detected populations fewer than 2 miles from these project footprints (CDFW 2019a). The species has been detected in Morrison Creek 2 miles west of the North Elk Grove Station footprint (CDFW 2019a). CNDDDB records from 2009 document the species along the Cosumnes River-Stone Lakes National Wildlife Refuge, located less than a mile from the Thornton Track portion of the project site (CDFW 2019a). CNDDDB occurrences within 2.5 miles of the Lodi Station portion of the project in the White Slough Wildlife Area have also been documented (CDFW 2019a).
<i>Phalacrocorax auratus</i> <sup>1</sup> (nesting colony)	double-crested cormorant	-	-	WL	Colonial nester on coastal cliffs, offshore islands, and along lake margins in the interior of the state. Nests along the coast on sequestered islets, usually on ground with sloping surface, or in tall trees along lake margins.	Entire coast of California, Salton Sea and Colorado River reservoirs, Central Valley, and coastal slope lowlands.	<b>Could occur.</b> A known rookery for the species occurs approximately 1.4 miles to the west of the North Elk Grove Station footprint (CDFW 2019a).

Scientific Name	Common Name	Status			Habitat Association	Distribution	Potential to Occur in Project Footprint
		Federal	State	CDFW			
<i>Progne subis</i> (nesting)	purple martin	-	-	SSC	Nests in tree cavities, bridges, freeway overpasses, utility poles, lava tubes, and buildings. Forages in foothill and low montane oak and riparian woodlands; less frequently in coniferous forests and open or developed habitats.	Uncommon to rare local summer resident throughout the state; generally absent from higher desert regions and higher slopes of Sierra Nevada.	<b>Known to occur.</b> Suitable habitat for the species was observed and known occurrences have been documented in the weep holes on Sutterville Road bridge over the Pacific Rail Yard west of Highway 99 within the City College Station portion of the project (CDFW 2019a).
<i>Riparia</i> † (nesting)	bank swallow	-	ST	-	Nests in colonies in unvegetated vertical banks or cliffs with fine-textured, sandy soils, typically next to streams, rivers, or lakes, but also can be found in gravel pits and highway cuts.	The state's largest remaining breeding populations are along the Sacramento River from Tehama County to Sacramento County, along the Feather and lower American rivers, and in the Owens Valley.	<b>No potential to occur.</b> No suitable habitat or occurrences near the project footprints. No CNDDDB occurrences have been documented within 5 miles of the project footprints (CDFW 2019a).
<i>Vireo bellii pusillus</i> (nesting)	least Bell's vireo	FE	SE	-	Riparian habitat along rivers and streams; generally early-mid successional riparian scrub/forest that is structurally diverse (USFWS 1998). In willows and other low, dense valley foothill riparian habitat and lower portions of canyons.	Rare, local, summer resident below about 2,000 feet, mostly in San Benito and Monterey counties; in coastal southern California from Santa Barbara County south; and along the western edge of the deserts.	<b>No potential to occur.</b> Species is associated with foothill and canyon habitats that are not present in the project area; species' range is generally restricted to coastal areas and desert regions. No CNDDDB occurrences have been documented within 5 miles of the project footprints (CDFW 2019a).

Scientific Name	Common Name	Status			Habitat Association	Distribution	Potential to Occur in Project Footprint
		Federal	State	CDFW			
<i>Xanthocephalus (nesting)</i>	yellow-headed blackbird	-	-	SSC	Nests in freshwater emergent wetlands with dense vegetation and deep water. Often along the borders of lakes or ponds.	Breeds east of Cascade Range and Sierra Nevada, in Imperial and Colorado River valleys, in the Central Valley, and at selected locations in the coast ranges west of the Central Valley.	<b>Not likely to occur.</b> No CNDDDB occurrences have been documented within 5 miles of the project footprints (CDFW 2019a). Generally a scarce breeder in Sacramento Valley (Shuford and Gardali 2008).
<b>Mammals</b>							
<i>Lasiurus blossevillii</i> *†	western red bat	-	-	SSC, WBWG-H	Forests and woodlands from sea level up to mixed conifer forests. Feeds over a wide variety of habitats, including grasslands, shrublands, open woodlands and forests, and croplands. Roosts in trees in edge habitats near fields or streams.	Shasta County to the Mexican border, west of the Sierra Nevada/Cascade crest and deserts.	<b>Could occur.</b> This species is not very well documented. Known to roost in the foliage of large trees and shrubs such as cottonwoods, sycamores, and walnuts. Suitable habitat for the species was observed along the Natomas/Sacramento Airport Station, North Elk Grove Station, Old North Sacramento Station, and Thornton Track Curve 2.
<i>Lasiurus cinereus</i>	hoary bat	-	-	WBWG-M	Resides in broadleaved upland forest, cismontane woodland, lower montane coniferous forest, and north coast coniferous forest. Prefers open habitats or habitat mosaics, with access to trees for cover and open areas or habitat edges for feeding. Roosts in dense foliage of medium to large trees. Feeds primarily on moths. Requires water.	Most widespread bat in the United States.	<b>Could occur.</b> This species is not very well documented. Known to roost in the foliage and bark of large trees, including in suburban/city areas with old, large trees. Suitable habitat for the species was observed along the Natomas/ Sacramento Airport Station, North Elk Grove Station, Old North Sacramento Station, and Thornton Track Curve 2. One CNDDDB occurrence from 1991 places the species within 2 miles west of the Midtown Sacramento Station footprint (CDFW 2019a).

Scientific Name	Common Name	Status			Habitat Association	Distribution	Potential to Occur in Project Footprint
		Federal	State	CDFW			
<i>Sylvilagus bachmani riparius</i> <sup>t</sup>	riparian brush rabbit	FE	SE	–	Riparian forests with a dense understory shrub layer, including dense thickets of wild rose, willows, and blackberries; brushy clumps smaller than approximately 400 square yards are rarely occupied.	Known only from a limited number of occurrences along the San Joaquin and Stanislaus rivers and in the vicinity of Paradise cut, all in southwestern San Joaquin County.	<b>No potential to occur.</b> No suitable habitat for the species was observed and the nearest CNDDDB occurrence is at a breeding facility for the species 3.5 miles northwest of the Lodi Station portion of the project (CDFW 2019a).
<i>Taxidea taxus</i> <sup>*†</sup>	American badger	–	–	SSC	Most abundant in drier open stages of most shrub, forest, and herbaceous habitats, with friable soils. Needs enough food, friable soils, and open, uncultivated ground. Preys on burrowing rodents. Digs burrows.	Uncommon, permanent resident found throughout most of the state, except in the northern North Coast area.	<b>Not likely to occur.</b> No burrows/dens, signs, or suitable foraging habitat observed in the project footprints. There are no CNDDDB occurrences within 5 miles of the project footprints (CDFW 2019a).

## Note for Table C-2

### Notes:

\*Because the distribution and abundance of individual bird species varies seasonally, the season, or life phase, during which the species is of conservation concern in California is provided in parentheses beneath the bird species' scientific name. There is a potential for any of these bird species to fly over or pass through the project area; however, these species would not be at risk of adverse effects unless nesting on or otherwise residing in the project area during the season or life phase when the species is of conservation concern in California.

### <sup>1</sup>Listing Status:

#### Federal Endangered Species Act:

- = no status
- FC = candidate
- FD = delisted
- FE = endangered
- FT = threatened

#### Federal National Marine Fisheries Service:

- SC = species of concern

#### California State Endangered Species Act:

- = no status
- SCE = candidate endangered
- SCT = candidate threatened
- SD = delisted
- SE = endangered
- SR = rare
- ST = threatened

#### CDFW = California Department of Fish and Wildlife:

- = no status
- FP = fully protected
- SSC = species of special concern
- WL = watch listed

#### WBWG = Western Bat Working Group:

- H = High Priority
- M = Medium Priority

### <sup>2</sup>Potential for Occurrence:

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

**Not Likely to Occur:** The project area is within the species' range, no occurrences of the species have been recorded within or immediately adjacent to the project area, and either habitat for the species is marginal or potentially suitable habitat may occur, but the species' current known range is restricted to areas outside of the project area.

**Could Occur:** The project area is within the species' range, and no occurrences of the species have been recorded within the project area; however, suitable habitat for the species is present and recorded occurrences of the species are generally present in the vicinity.

**Known to Occur:** The project area is within the species' range, suitable habitat for the species is present, and the species has been recorded from within the project area.

\*Species designated as a Covered Species by the South Sacramento Habitat Conservation Plan (County of Sacramento, et al. 2018).

<sup>†</sup>Species designated as a Covered Species by the San Joaquin Multi-Species Conservation Plan (County of San Joaquin 2000).

**Table C–3. Soil Types for each Project Site**

Project Footprint	Soil Type(s)	Drainage Class	Hydric Rating	Soil pH of Ap Horizon <sup>1</sup>
Track Curve Reconstruction Between East March Lane and East Swain Road and Hammer Lane Siding Upgrade	Stockton-Urban land complex, 0 to 2% slopes	Somewhat poorly drained	No	7.8, mildly alkaline
	Jacktone clay, 0 to 2% slopes	Somewhat poorly drained	Yes	7.3, neutral
	Jacktone-Urban land complex, 0 to 2% slopes	Somewhat poorly drained	Yes	7.3, neutral
Lodi Station, Lodi Station South Alternative, and Lodi Siding Variant	Devries sandy loam, drained, 0 to 2% slopes, Major Land Resource Area (MLRA) 16	Somewhat poorly drained	Yes	7.0, neutral
	Tokay fine sandy loam, 0 to 2% slopes	Well drained	No	6.1, slightly acid
	Acampo sandy loam, 0 to 2% slopes	Moderately well drained	No	7.5, slightly alkaline
Thornton Side Upgrade/Extension and Track Curve Reconstruction North of North New Hope Road	Columbia fine sandy loam, drained, 0 to 2% slopes, MLRA 17	Somewhat poorly drained	Yes	6.4, slightly acid
	Sailboat silt loam, drained, 0 to 2% slopes, MLRA 16	Somewhat poorly drained	Yes	6.5, slightly acid
Track Curve Reconstruction South of Desmond Road	Dierssen sandy clay loam, drained, 0 to 2% slopes	Somewhat poorly drained	Yes	7.4, slightly alkaline
	San Joaquin silt loam, leveled, 0 to 1% slopes	Moderately well drained	No	7.3, neutral
Phillips Siding Upgrade/Extension	San Joaquin-Galt complex, 0 to 1% slopes	Moderately well drained	No	7.3 to 6.5, neutral to slightly acid
	Galt clay, leveled, 0 to 1% slopes	Moderately well drained	Yes	6.5, slightly acid
	San Joaquin silt loam, leveled, 0 to 1% slopes	Moderately well drained	No	7.3, neutral
North Elk Grove Station (All Variants, North Elk Grove Siding Variants, and Track Curve Reconstruction North of the North Elk Grove Station)	Galt clay, leveled, 0 to 1% slopes	Moderately well drained	Yes	6.5, slightly acid
	San Joaquin silt loam, 0 to 3% slopes	Moderately well drained	No	7.3, neutral
	San Joaquin silt loam, leveled, 0 to 1% slopes	Moderately well drained	No	7.3, neutral
	San Joaquin-Galt complex, 0 to 3% slopes	Moderately well drained	No	7.3 to 6.5, neutral to slightly acid
	Clear Lake Clay, partially drained, 0 to 2% slopes, frequently flooded	Somewhat poorly drained	Yes	7.0, neutral
	Galt Clay, 0 to 1% slopes, MLRA <sup>2</sup> 17	Somewhat poorly drained	Yes	6.5, slightly acid
	Xerarents-Urban land-San Joaquin complex, 0 to 5% slopes	Well drained	No	7.3, neutral
	Egbert clay, partially drained, 0 to 2% slopes	Poorly drained	Yes	6.5, slightly acid
Clear Lake Clay, hardpan substratum, drained, 0 to 1% slopes	Somewhat poorly drained	Yes	7.0, neutral	



Project Footprint	Soil Type(s)	Drainage Class	Hydric Rating	Soil pH of Ap Horizon <sup>1</sup>
Pollock Siding Upgrade	Galt Clay, 0 to 1% slopes, MLRA 17	Somewhat poorly drained	Yes	6.5, slightly acid
	San Joaquin silt loam, 0 to 3% slopes	Moderately well drained	No	7.3, neutral
	Galt-Urban land complex, 0 to 1% slopes, MLRA 17	Moderately well drained	Yes	6.5, slightly acid
	San Joaquin-Urban land complex, 0 to 2% slopes	Moderately well drained	No	7.3, neutral
	Urban Land	N/A	N/A	N/A
City College Station, South Sacramento Siding, and Crossover Track South of City College Station	Urban Land	N/A	N/A	N/A
	San Joaquin-Urban land complex, 0 to 2% slopes	Moderately well drained	No	7.3, neutral
	San Joaquin-Urban land complex, 0 to 2% slopes	Moderately well drained	No	7.3, neutral
	Kimball-Urban land complex, 0 to 2% slopes	Well drained	No	6.3, slightly acid
	San Joaquin-Xerarents complex, leveled, 0 to 1% slopes	Moderately well drained	No	7.3, neutral
	Cosumnes-Urban land complex, partially drained, 0 to 2% slopes	Somewhat poorly drained	Yes	6.2, slightly acid
Midtown Sacramento Station	Urban Land	N/A	N/A	N/A
	Tinnin-Urban land complex, 2 to 8% slopes	Well drained	No	7.5, mildly alkaline
	Columbia-Urban land complex, drained, 0 to 2% slopes	Somewhat poorly drained	Yes	6.4, slightly acid
Old North Sacramento Station and Del Paso Siding Upgrade/ Extension	Columbia sandy loam, drained, 0 to 2% slopes	Somewhat poorly drained	Yes	6.4, slightly acid
	Laugenour loam, partially drained, 0 to 2% slopes, MLRA 16	Poorly drained	Yes	8.0, moderately alkaline
	San Joaquin-Urban land complex, 0 to 3% slopes	Moderately well drained	No	7.3, neutral
	Dumps	N/A	N/A	N/A
	Columbia-Urban land complex, drained, 0 to 2% slopes	Somewhat poorly drained	Yes	6.4, slightly acid
	Cosumnes silt loam, drained, 0 to 2% slopes	Somewhat poorly drained	Yes	6.2, slightly acid
	San Joaquin fine sandy loam, 0 to 3% slopes	Moderately well drained	No	7.3, neutral
	Dierssen sandy loam, drained, 0 to 2% slopes	Somewhat poorly drained	Yes	7.4, slightly alkaline
	Jacktone clay, drained, 0 to 2% slopes	Somewhat poorly drained	Yes	7.3, neutral
	San Joaquin fine sandy loam, 3 to 8% slopes	Moderately well drained	No	7.3, neutral
	Clear Lake Clay, hardpan substratum, drained, 0 to 1% slopes	Somewhat poorly drained	Yes	7.0, neutral
	Galt-Urban land complex, 0 to 1% slopes, MLRA 17	Moderately well drained	Yes	6.5, slightly acid
	San Joaquin-Galt complex, leveled, 0 to 1% slopes	Moderately well drained	No	7.3 to 6.5, neutral to slightly acid

Project Footprint	Soil Type(s)	Drainage Class	Hydric Rating	Soil pH of Ap Horizon <sup>1</sup>
Natomas/Sacramento Airport Station and Natomas Maintenance and Layover Facility	San Joaquin fine sandy loam, 0 to 3% slopes	Moderately well drained	No	7.3, neutral
	Xerarents-Urban land-San Joaquin complex, 0 to 5% slopes	Well drained	No	7.3, neutral
	San Joaquin fine sandy loam, 3 to 8% slopes	Moderately well drained	No	7.3, neutral
	Clear Lake Clay, hardpan substratum, drained, 0 to 1% slopes	Somewhat poorly drained	Yes	7.0, neutral
	Hedge loam, 0 to 2% slopes	Moderately well drained	No	6.5, slightly acid

<sup>1</sup> The Ap horizon refers to the Ochric epipedon—the zone from the surface to a depth of 6 inches.

<sup>2</sup> MLRA = Major Land Resource Area. Major land resource areas (MLRAs) are geographically associated land resource units that are important in statewide agricultural planning and have value in interstate, regional, and national planning.