15 October 2020

VIA EMAIL TRANSMISSION

Subject: **Biological Assessment of Mendota Valley Agricultural Holdings Project, Mendota, Fresno County, California**

Greetings,

This technical memorandum presents the methodologies and describes the results and conclusions of a data review and site reconnaissance survey for the Mendota Valley Agricultural Holdings Project (Project).

1.0 PROJECT UNDERSTANDING AND PURPOSE

Valley Agriculture Holdings, LLC is proposing the development of an approximate 59-acre cannabis cultivation facility. Wood Environment & Infrastructure Solutions, Inc. (Wood) has been contracted by the City of Mendota (City) to provide a California Environmental Quality Act (CEQA) compliant Initial Study/Mitigated Negative Declaration (IS/MND) for the Project (Project). As part of the technical studies to support this document, a biological resources assessment to evaluate the potential for special-status species and sensitive habitats to occur on or adjacent to the site and potential impacts associated with the proposed development was conducted by Wood biologists.

2.0 PROJECT LOCATION AND DESCRIPTION

The Project is located on approximately 59 acres of a 114-acre City-owned parcel at the end of West Belmont Avenue, approximately 0.5 mile north of Guillan Park Drive (Figure 1). Approximate geographic coordinates for the center of the Project are 36.759328° North, 120.360824° West. The parcel lies within section 32, Township 13 South Range 15 East, Mt. Diablo principal meridian of the Public Land Survey System and can be found on the Mendota Dam 7.5-minute United States Geological Survey quadrangle. Topography of the site is flat varying between about 151 to 153 feet above mean sea level.

The Project site (Figure 2) is vegetated largely with non-native annual grasses and other weedy non-native species, with similar undeveloped habitat occurring north of the Project. Soils on the site are Tachi clays, a valley bottom floodplain alluvium derived from igneous or sedimentary parent materials. The Project is bounded to the east by parcels owned by River Ranch LLC and include agricultural, vehicular travel, and fallow land or undeveloped land uses; an 80-acre recharge basin is currently under construction in this area. The Fresno Slough also lies

approximately a half mile to the east, though no wetlands are mapped on the Project in the National Wetlands Inventory. A City-owned solar photovoltaic facility lies immediately to the west of the project and is associated with the City's wastewater treatment system, as are a series of ponds to the northwest of the project. The San Luis Drain lies just west of the solar farm. Unincorporated lands belonging to Fresno County lie to the south of the Project; these appear to be subject to periodic flooding and have a more saline-sodic clay soil.

Climate in the region is semi-arid, averaging less than 8 inches of precipitation per year, with most falling in winter to early spring (November to March). Summers are warm, with average maximum temperatures peaking in July at about 98° Fahrenheit (° F), and winter lows in December and January averaging at about 35° F.

3.0 METHODOLOGIES

3.1 Literature Review

Wood performed literature and data reviews to identify potential and historically occurring sensitive biological resources within the Project area. This included a review of aerial photographs, U.S. Geological Survey (USGS) topographic maps, and U.S. Department of Agriculture (USDA) soil survey maps, and the National Wetlands Inventory. Database sources such as the California Natural Diversity Database (CNDDB), U.S. Fish and Wildlife Service (USFWS) IPaC, Calflora, Consortium of California Herbaria database, and the California Native Plant Society Rare Plant Inventory among others were utilized to identify recorded occurrences of sensitive natural communities, plant species, and wildlife species within the region.

3.2 Site Reconnaissance

A site reconnaissance survey was conducted by Wood senior biologist Dr. Tim Chumley on December 18 and 19, 2019.The survey area (Figure 2) includes the proposed project site, a 500-foot burrowing owl (*Athene cunicularia;* BUOW) survey buffer, and proposed access routes on the west and north side of the adjacent solar farm. Linear transects were walked at a maximum width of 30-feet for the entire survey area, with closer inspection of potential nest trees and shrubs, and scans of the surrounding habitat with binoculars. Areas of dense weedy vegetation were not traversed, however, and some of the buffer area on surrounding private lands were walked when possible or scanned using binoculars. Potential nesting trees for Swainson's hawk (*Buteo swainsoni*) were investigated out to 0.5 miles from the site.

4.0 RESULTS

4.1 Special-Status Species Literature Review and Habitat Assessment

Special-status plant and wildlife species documented by database searches within 0.5 mile of the site are shown on Figure 2 and no designated Critical Habitat for federally listed species was found to occur in proximity to the Project.

A review of database records suggests a total of 11 sensitive plant species occur within the region around the Project site (Table 1). These all have specific habitat or substrate requirements that are not expected on the Project site (*i.e*., at least seasonally wet or flooded conditions, and/or saline or alkali soils). Only 4 of these are known to occur within 5 miles of the Project site (Lost Hills crownscale [*Atriplex coronata* var. *vallicola*], heartscale [*A. cordulata* var. *cordulata*], Sanford's arrowhead [*Sagittaria sanfordii*], and recurved larkspur [*Delphinium recurvatum*]. Sanford's arrowhead is an emergent aquatic, and the shallow freshwater habitats it inhabits are not present onsite, though these may be present in treatment ponds and canals adjacent to the site. Larkspur, crownscale, and heartscale all require alkali soils which are not present onsite, though alkali seasonal wetlands preferred by the larkspur may be present on County lands south of the Project. These are only known in the immediate area from CNDDB historical records (> 20 years, with no recent observations or collections).

Table 1. Potential Sensitive Plant Taxa

Species Name	Common Name	Federal Status	State Status	CRPR	Potential to Occur
Cordylanthus palmatus	palmate-bracted bird's-beak	E	E	1B.1	Not Expected
Sagittaria sanfordii	Sanford's arrowhead	-	-	1B.2	Not Expected
Layia munzii	Munz's tidy-tips	-	-	1B.2	Not Expected
Atriplex cordulata var. *cordulata*	heartscale	-	-	1B.2	Not Expected
Atriplex coronata var. *vallicola*	Lost Hills crownscale	-	-	1B.2	Not Expected
Atriplex depressa	brittlescale	-	-	1B.2	Not Expected
Atriplex subtilis	subtle orache	-	-	1B.2	Not Expected
Atriplex minuscula	lesser saltscale	-	-	1B.1	Not Expected
Eriastrum hooveri	Hoover's eriastrum	-	-	4.2	Not Expected
Delphinium recurvatum†	recurved larkspur	-	-	1B.2	Not Expected
Monolopia congdonii†	San Joaquin woollythread	E	-	1B.2	Not Expected

CALIFORNIA RARE PLANT RANK

1B = Plants rare, threatened, or endangered in California and elsewhere

4 = Plants of limited distribution

0.1 = Seriously Threatened in California = Over 80% of occurrences threatened/high degree and immediacy of threat

0.2 = Fairly Threatened in California = 20%- 80% occurrences threatened/high degree and immediacy of threat

Wildlife species that may occur in the region around the site area listed in Table 2 and discussed in further detail below.

Table 2. Potential Sensitive Wildlife

Species Name	Common Name	Federal Status	State Status	Potential to Occur
Birds				
Riparia riparia	bank swallow	-	T	Low (Foraging)
Athene cunicularia	burrowing owl	-	SSC	High
Lanius ludovicianus	loggerhead shrike	-	SSC	Moderate (Forage)
Falco columbarius	merlin	-	WL	Low
Charadrius montanus	mountain plover	PT	SSC	Low
Circus hudsonius	northern harrier	-	SSC	Moderate
Buteo swainsoni	Swainson's hawk	-	T	Moderate
Agelaius tricolor	tricolored blackbird	-	SSC	Low
Coccyzus americanus occidentalis	western yellow-billed cuckoo	C	E	Not Present
Plegadis chihi	white-faced ibis	-	WL	Not Present
Herpetofauna				
Gambelia sila	blunt-nosed leopard lizard	E	E	Not Expected
Phrynosoma blainvillii	coast horned lizard	-	SSC	Not Expected
Thamnophis gigas	giant garter snake	T	T	Not Expected on site; Moderate in buffer zone
Masticophis flagellum ruddocki	San Joaquin whipsnake	-	SSC	Low
Anniella pulchra pulchra	silvery legless lizard	-	SSC	Not Expected
Thamnophis hammondii	two-striped garter snake	-	SSC	Low
Emys marmorata	western pond turtle	-	SSC	Low
Spea hammondii	western spadefoot	-	SSC	Not Expected
Mammals				
Taxidea taxus	American badger	-	SSC	Moderate
Dipodomys nitratoides exilis	Fresno kangaroo rat	E	E	Low
Ammospermophilus nelsoni	Nelson's antelope squirrel	-	T	Not Expected
Vulpes macrotis mutica	San Joaquin kit fox	E	T	Not Expected
Perognathus inornatus inornatus	San Joaquin pocket mouse	-	SA	Not Expected
Eumops perotis californicus	western mastiff bat	-	SSC	Moderate (Foraging)

Lasiurus blossevillii	western red bat	-	SSC	Moderate (Foraging)
Myotis yumanensis	Yuma myotis	-	SA	Moderate (Foraging)

FEDERAL STATUS

E = Endangered = Danger of extinction throughout range
T = Threatened = Likely to become endangered in foreseeable future throughout range
C = Candidate = In process for listing or recommended for listing but currently precluded
PT = Potentially Threatened = A species or subspecies whose survival may potentially be subject to a threat

STATE STATUS

E = Endangered = Applies to a species whose survival and reproduction in the wild are in immediate jeopardy from one or more causes, including loss of habitat, change in habitat, overexploitation, predation, competition, disease, or other factors

T = Threatened = Applies to a species that is existing in such small numbers throughout all or a significant portion of its range that it may become endangered if its environment worsens

SSC = CDFW Species of Special Concern = Species with declining population levels, limited ranges, and/or continuing threats which have made them vulnerable to extinction

WL = Watch List = Species that 1) are not on the current Special Concern list but were on previous lists and they have not been state listed under CESA; 2) were previously state or federally listed and now are on neither list; or 3) are on the list of "Fully Protected" species.

SA = California Special Animal = Species that are uncommon and tracked by the CDFW in the California Natural Diversity Database

Birds

Bank swallows (*Riparia riparia*) are state listed as Threatened and nest in sand, dirt or gravel burrows in tops of banks, often near streams and forage over lakes, ponds, streams and rivers, bogs, meadows and fields or rarely over woodlands or forests. Bank swallows could forage over the grasslands of the Project or over waterways in the area, and might find the banks of the adjacent wastewater treatment ponds or agricultural ditches to be suitable for breeding, though they have been documented rarely in the region and not in the immediate vicinity. They have a low potential to occur mostly as foraging species over the Project site.

Burrowing owls (*Athene cunicularia hypugaea*) are a CDFW Species of Special Concern (SSC). They inhabit desert and grassland habitats, are common in agricultural lands and can be found in open urban habitats. These are typically flat, open areas with low dry vegetation inhabited by other burrowing animals, such as the California ground squirrel (*Otospermophilus beecheyi*). The open grassland of the site could be ideal habitat, and they are known from the immediate region, and thus have a high potential to occur.

Loggerhead shrikes (*Lanius ludovicianus*) are birds of open areas with shorter vegetation such as pastures, grasslands, or deserts that provide elevated lookout perches from which to hunt, and scattered shrubs or trees that provide dense, often thorny cover for nesting. The grasslands of the site could provide forage space if perches are nearby (such as the adjacent solar farm), but adequate nesting sites are not present on site. They have a moderate potential to occur as a foraging species, but with no nesting sites available on the site.

The merlin (*Falco columbarius*) is a CDFW watchlist species that winters in California grasslands, woodlands, and open areas in concentrated in the Central Valley and coastal areas but found statewide. One was documented nearby in 2007, and while the grassland of the Project could provide forage habitat, the site provides no trees for potential perches. It thus has a low potential to occur, though as a foraging species.

Like the merlin, the CDFW SSC mountain plover (*Charadrius montanus*) is a winter visitor to California in flat, often bare shortgrass prairie of similar habitats. They have been observed within the region, but no records are within 5 miles of the Project. The grassland habitat of the Project has some potential but may be denser or higher than preferred by the species. It has a low probability of occurrence in or near the Project.

The northern harrier or marsh hawk (*Circus hudsonius*) is a CDFW SSC and a year-round resident. It inhabits marshes or drier open terrain such as grasslands, where it can be seen cruising at low altitude. It nests on the ground in areas that provide good, dense cover. It is known from the area, and the grassland habitat of the Project, depending on density of vegetation, could serve as nesting as well as forage habitat. It is considered to have a moderate probability of occurrence.

Swainson's hawk (*Buteo swainsoni*) is a state-listed Threatened species. It migrates from South or Central America arriving in late February to March and departs for winter range in September. In the Central Valley, it nests in trees adjacent to large open forage habitats such as agricultural fields and native grasslands. Nesting trees may be solitary, in groves or on the edges of larger woodlands or riparian forest. It is known as a regular visitor and nesting species in the area, but the Project site offers no potential nesting habitat but could be utilized for forage. The closest CNDDB record is about 0.7 miles southwest of the site along North San Benito Avenue, and dates from 2017. As nest trees are lacking, it is not expected on site but has a moderate chance of occurrence as a foraging species.

Tricolored blackbirds (*Agelaius tricolor*) inhabit coastal areas of central and southern California and the Central Valley and are associated with freshwater marshes that support emergent vegetation. They are a CDFW SSC. Breeding sites generally require access to water, suitable nesting substrates, and nearby foraging areas. The grassland of the site does not provide nesting habitat but could be utilized for forage space, though if suitable vegetation is present, the adjacent wastewater treatment ponds or canal could provide the former. It is known from the region and has a low potential of occurrence.

The yellow-billed cuckoo (*Coccyzus americanus occidentalis*) is a California Endangered species, with a very narrow habitat preference – large stands of cottonwood-willow riparian forest or woodland. This habitat type is not present in or near the Project, and the cuckoo is known only historically from the region. The cuckoo is thus not expected to be present.

The white-faced ibis (*Plegadis chichi*) is a CDFW watchlist species of freshwater marshes. This habitat does not occur onsite, though neighboring wastewater treatment ponds could support some of this vegetation type. However, it is unlikely that the species would occur onsite.

Herpetofauna

The blunt-nosed leopard lizard (*Gambelia sila*) is a federal and state-listed Endangered species (and California Fully Protected Species) typically found in open, sparsely vegetated alkali sink scrub, saltbush scrub or grasslands of the Central Valley and foothills in areas with low relief. It utilizes small rodent to shelter from predators and weather extremes. It is known from the region at a distance of 7 to 20 miles from the Project (mostly to the north in Madera County), but in the immediate area it is known from a 1979 CNDDB record, and a 2003 observation about 5 miles to the southeast. The grasslands of the site have limited burrows and shelter opportunities. Micro-topography and geographic relief is lacking from the site and buffer zone. No extant populations are known from adjacent lands, thus this species is not expected to occur on site.

The coast horned lizard (*Phrynosoma blainvillii*) is a CDFW SSC that occupies a variety of habitats including grasslands with loose sandy soils and scattered, low shrub cover and open areas for basking. It is known from the region, but suitable habitat in and around the Project does not seem suitable as it is lacking in native shrub vegetation and sandy soils, and it is not expected to occur.

The giant garter snake (*Thamnophis gigas*) is a federal and state-listed Threatened species that is endemic to Central Valley wetlands, where it inhabits marshes, sloughs, ponds, lakes, low gradient streams, rice fields and agricultural drains and irrigation canals. It uses adjacent upland habitats that have sufficient cover for basking and overwintering. It is known from the area though largely to the south of the Project in waterways associated with the Fresno Slough. Though aquatic habitat is lacking from the site, adjacent wastewater treatment ponds and canals could provide habitat, with the canal possibly allowing connectivity to waterways around the Slough. Small mammal burrows are abundant in the survey buffer. Thus, the giant garter snake has a moderate chance of occurring in suitable upland habitats near the site. However, refugia opportunities on the Project site are lacking and occurrence on the on site itself is not expected. The two-striped garter snake (*T. hammondii*) inhabits similar freshwater habitats with a preference for rocky streambeds bordered by willows or other vegetation. Its principal, current distribution is in coastal California, and it is known only historically from the region. Thus, it has a very low probability of occurrence.

San Joaquin whipsnake (*Masticophis flagellum ruddocki*) is a CDFW SSC that is endemic to California. It is found in dry, treeless areas such as grassland or saltbush scrub; in the area a single observation based on a shed skin was made at the Alkali Sink Ecological Reserve, and similar habitat is not present in or around the site. Grassland habitats on site would be considered marginal; thus, it is considered to have a low potential to occur in or around the site.

The silvery legless lizard (*Anniella pulchra pulchra*) is a snake-like lizard that is considered a CDFW SSC. It inhabits areas with loose sandy soils and a mature leaf litter that can help retain moisture. It is known in the region from a single occurrence in a riparian zone. Suitable habitat in and around the Project is not present as trees to provide the essential leaf litter habitat are lacking; thus, it is not expected to occur.

The western pond turtle (*Emys marmorata*) is a CDFW SSC that inhabits slow moving rivers and streams, lakes, reservoirs, stock ponds, sewage treatment plants and ephemeral and permanent wetlands, preferring habitat with refugia (*e.g.*, undercut banks or submerged vegetation). It requires emergent basking sites such as mud banks, rocks, logs, or root wads. It utilizes upland habitats for nesting, preferring those sparsely vegetated on south or west aspects with dry, hard-packed sand, silt, or clay soils. It is known in the region from one historic record. Although the adjacent wastewater treatment ponds and irrigation canal may provide suitable aquatic habitat, the flat grassland of the Project site is considered marginal terrestrial habitat for nesting given the density of the vegetation and distance to potential aquatic habitat, and thus it has a low probability of occurrence.

The western spadefoot toad (*Spea hammondii*) is a CDFW SSC that inhabits dry terrestrial lowlands such as washes, floodplains, alluvial fans, playas, and alkali flats with open vegetation and sandy or gravelly soils. In the region it is known from more alkaline areas, and the clay soils of the Project grassland are not friable enough to provide suitable habitat. Thus, it is not expected to occur.

Mammals

The American badger (*Taxidea taxus*) is widespread throughout North America but is somewhat uncommon in California and is a CDFW SSC. It is a habitat generalist, but requires friable soils, typically bare or with little vegetation, to dig burrows. Its diet is anything it can catch, *e.g.*, insects, scorpions, snakes, lizards, birds, and rodents. The single historical record in region occurred in alkali sink habitat. Suitable grassland habitat is present on site, but lack of recent documented observations put this species at moderate probability of occurrence.

Fresno kangaroo rat (*Dipodomys nitratoides exilis*) is a federal and state-listed Endangered subspecies of the San Joaquin kangaroo rat. It inhabits sandy and saline soils in chenopod scrub and annual grasslands of the Central Valley. It is not known from the immediate area. Habitat with suitable soil and vegetation is not present, and therefore the species is not expected to occur on the site.

Nelson's antelope squirrel (*Ammospermophilus nelsoni*) is a California Threatened species that lives in sparsely vegetated plains and foothills in minimally disturbed grasslands and sparse shrub communities. It is not commonly found in communities that lack shrub cover. It also requires friable soils that are not subject to flooding, and these are typically loam or sandy loams. It is known only

historically in the region and suitable undisturbed habitat is lacking from the site; thus, it is not expected to occur.

San Joaquin kit fox (*Vulpes macrotis mutica*) is a federal and state-listed Endangered species. It is known only historically from the area and region, where it was last recorded in 1947 from near the town of Mendota; the most recent CNDDB records in the region are from Firebaugh and adjacent southwestern Madera County within 10 to 15 miles of the Project, but all date from 1990. It inhabits grasslands and scrublands and a variety of human-altered environments but is generally absent or scarce in areas with shallow soils and high water tables. The potentially high water table of the site (due to the proximity of exposed water features) would thus limit the probability of occurrence. It is not expected to occur.

San Joaquin pocket mouse (*Perognathus inornatus inornatus*) is a CNDDB tracked species and has been documented only historically in the area. It inhabits arid annual grasslands, savanna, and desert scrub with sandy substrates or fine-textured soils. The annual grassland of the site is on clay soils; therefore, the pocket mouse is not expected to occur.

Three bat species of conservation concern, the Yuma myotis (*Myotis yumaensis*), western red bat (*Lasiurus blossevillii*) and western mastiff bat (*Eumops perotis californicus*) have potential to occur in the Project area. However, these may utilize the grassland of the site for foraging, as potential large roost trees are present only at distance from the Project, with the closest being a few scattered trees (cottonwoods) surrounding a dry stock pond or a detention basin 0.3 miles to the west. They have a moderate potential as foraging species in the Project area.

The Project site provides little to no breeding habitat for most these wildlife species, although the non-native grassland does provide potential forage for raptors, other birds, and bats. The buffer areas provide more potential habitat for a variety of species, especially with regard to aquatic features and taller vegetation (see Section 4.2 below for more details).

4.2 Site Conditions

Vegetation on the Project site is a non-native annual grassland. This appears to be mowed or perhaps grazed to maintain a short grass aspect of about a foot or less, while surrounding unimproved areas to the north and east have dense populations of ruderal herb species such as mustard or ox-tongue. The solar farm to the west of the site and the defunct power plant to the southwest represent developed lands, while properties to the east can be classified as disturbed/ruderal due to construction disturbance and dense ruderal vegetation (mustard). County lands south of the Project appear to be seasonally flooded and hosts a variety of common wetland species such as alkali sacoton, California kochia, purselane, and cattail.

Weather conditions during the survey are noted below in Table 1. Temperatures were cold early but warming by the afternoon. Conditions were partly cloudy to clear, with light to moderate winds developing by afternoon.

Table 3. Weather Conditions During Survey

Date	Start/End Time	Min. Temp (°F)	Max Temp (°F)	Wind (mph)	Cloud (%)
12/18/2019	0715-1600	46	59	3-9	40-15
12/19/2019	0700-1100	36	61	0-3	5

Timing of the survey was not within bird nesting season or within the growth windows for sensitive plant species.

4.3 Sensitive Plant and Wildlife Observations

As expected, no sensitive plant species were observed and are presumed absent from the site. Several sensitive avian species were observed in buffer areas around the Project or foraging within the Project site.

A western burrowing owl was observed in the buffer area at a burrow along the roadway south of the Project and later sheltering along the canal to the southwest (Figure 3). This appeared to be the same individual at both locations, looking to be a first-year juvenile. While only a very few burrows suitable for occupation by a burrowing owl were found onsite, the buffer area supports a large population of California ground squirrels whose burrows can be taken over by burrowing owls (Figure 3). The north buffer area has a large concrete rubble field that is inhabited by many ground squirrels and would be an ideal location for burrowing owls. The proposed access route between the solar farm and the wastewater treatment ponds also supports a substantial population of squirrels, as do the banks of the San Joaquin Drain to the west. The project site provides good foraging area for owls.

Loggerhead shrikes were observed on the northeast fence corner of the solar farm immediately adjacent to the Project, and in buffer areas perched on power lines south of the project and in trees at a detention pond west of the solar farm (Figure 3). No potential nesting sites for this species occur onsite, with the closest potential sites being west of the San Joaquin Drain or south of the Project.

Northern harriers were observed occasionally foraging over the Project grassland. No potential nesting sites are within the Project, as it lacks dense grassland vegetation.

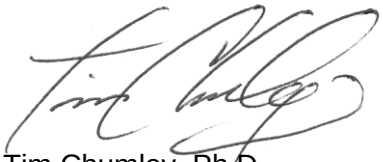
Potential raptor nesting sites include the defunct power plant to the southwest of the Project, where a pair of red-tailed hawks was observed repeatedly. Potential nesting trees for species such as Swainson's hawk within a half mile of the Project are located to the west of the Project in cottonwoods occurring in the San Joaquin Drain and an adjacent dry stock or detention pond approximately 0.3 miles to the west, and a stand of pine trees about 0.7 miles southwest of the site just off Guillan Road.

5.0 CONCLUSIONS

The timing of the site visit was not appropriate for detection of sensitive plant species known from the region, but based upon known habitat conditions, it is unlikely that any may occur. The site was observed to provide forage space for CDFW Species of Special Concern such as burrowing owls, loggerhead shrikes, and northern harriers, and may similarly provide forage space for other raptors and bird species as well as bats. No burrowing owls were observed on the site, and there were only a relative few suitable burrows or burrow complexes present. Within the survey buffer of the Project site, however, a single burrowing owl was observed at a burrow in the south buffer area, and a large California ground squirrel population exists to the north of the site in a rubble field and to the east along the proposed access route, especially on the embankment of the wastewater treatment pond. No evidence consistent with burrow occupation by American badger was noted, and large trees suitable for nesting or roosting by Swainson's hawk, merlin, or various bat species are at a distance., The closest are within 0.3 miles of the site, however, and should be surveyed for nesting Swainson's hawk during the breeding season. The aquatic features lying within the buffer around the site may provide potential habitat for giant garter snake, western pond turtle and to a lesser degree western spadefoot toad, tricolored blackbird, or white-faced ibis. These species were not observed during the site visit, though it is important to note that the timing of the visit may not have been optimal for observing some. Common ground nesting avian species (i.e. western meadowlark, killdeer, etc.) have the potential to nest within grassland vegetation that characterizes the majority of the site. These species are protected by CDFW Code and the Migratory Bird Treaty Act. Pre-construction surveys, worker awareness training, and avoidance measures for species with a moderate to high potential to inhabit or nest on site (or adjacent to the site) are recommended, including:

- Nesting birds
- Burrowing owl
- Swainson's hawk
- American badger
- Giant garter snake
- Western pond turtle

Respectfully submitted,



Tim Chumley, Ph.D.
Senior Biologist

Wood Environment & Infrastructure Solutions, Inc.

Reviewed by:
Angie Harbin-Ireland, Biology Group Manager.

FIGURES

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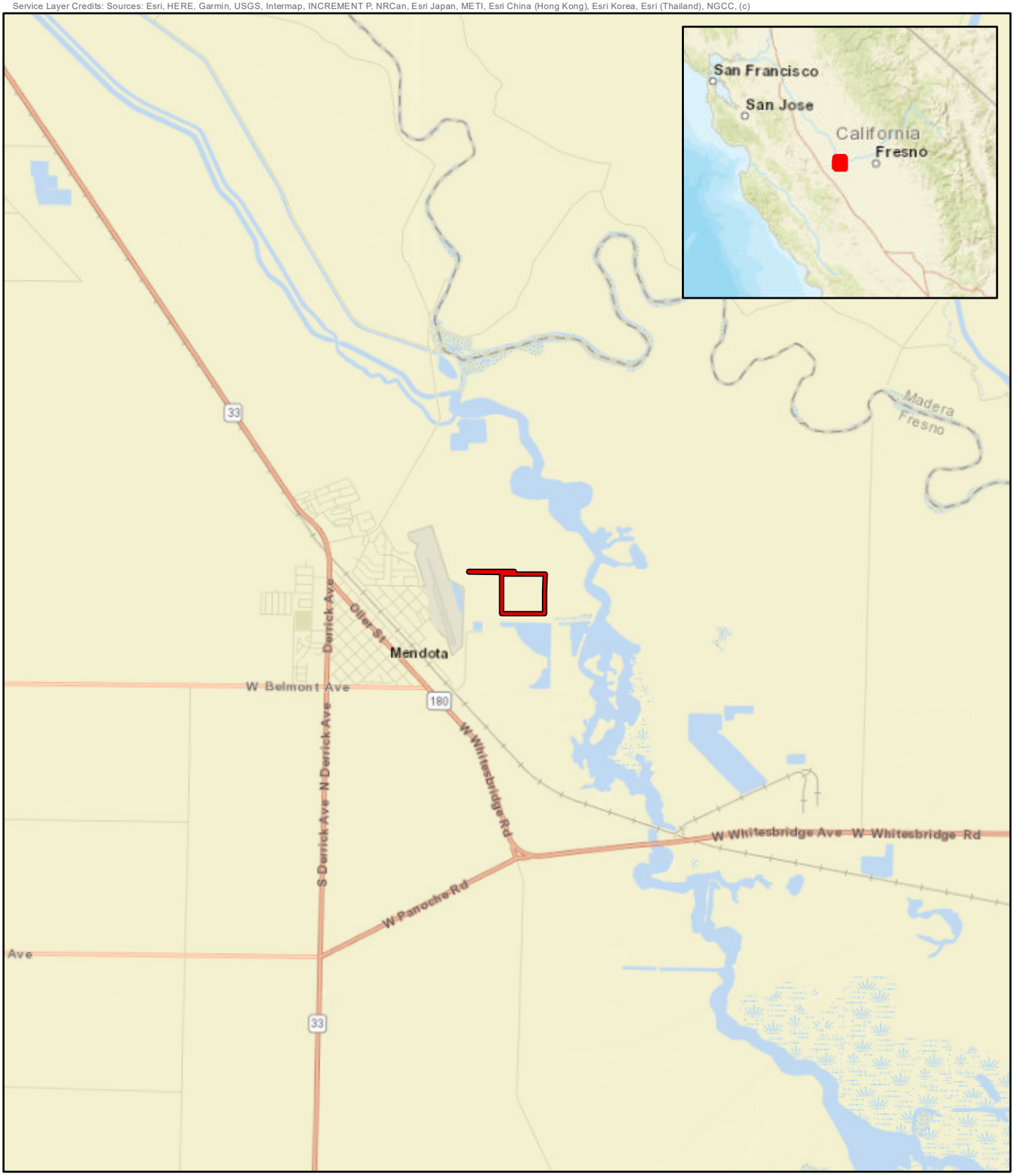

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1 inch = 1 miles
0 0.5 1 Miles

wood.

Project Boundary

FIGURE 1

Regional Location
Biological Assessment
Mendota Farm Project
Mendota, CA

San Joaquin Pocket Mouse

recurved larkspur

San Joaquin kit fox

western mastiff bat

Lost Hills crownscale

San Joaquin Pocket Mouse

blunt-nosed leopard lizard

giant gartersnake

Nelson's antelope squirrel

Project Boundary

Swainson's Hawk Survey Area

Burrowing Owl Survey Area

CNDDB Observations

Blunt-Nosed Leopard Lizard

Giant Gartersnake

Lost Hills Crownscale, San Joaquin Kit Fox, and Western Mastiff Bat

Nelson's Antelope Squirrel

San Joaquin Pocket Mouse

Recurved Larkspur

1 inch = 800 feet

0 800 Feet

FIGURE 2

Survey Area and CNDDB Observations
Biological Assessment
Mendota Farm Project
Mendota, CA

wood.

Service Layer Credits: Source: Esri, Maxar, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community
Sources: Esri, HERE, Garmin, USGS, Intermap, INCREMENT P,

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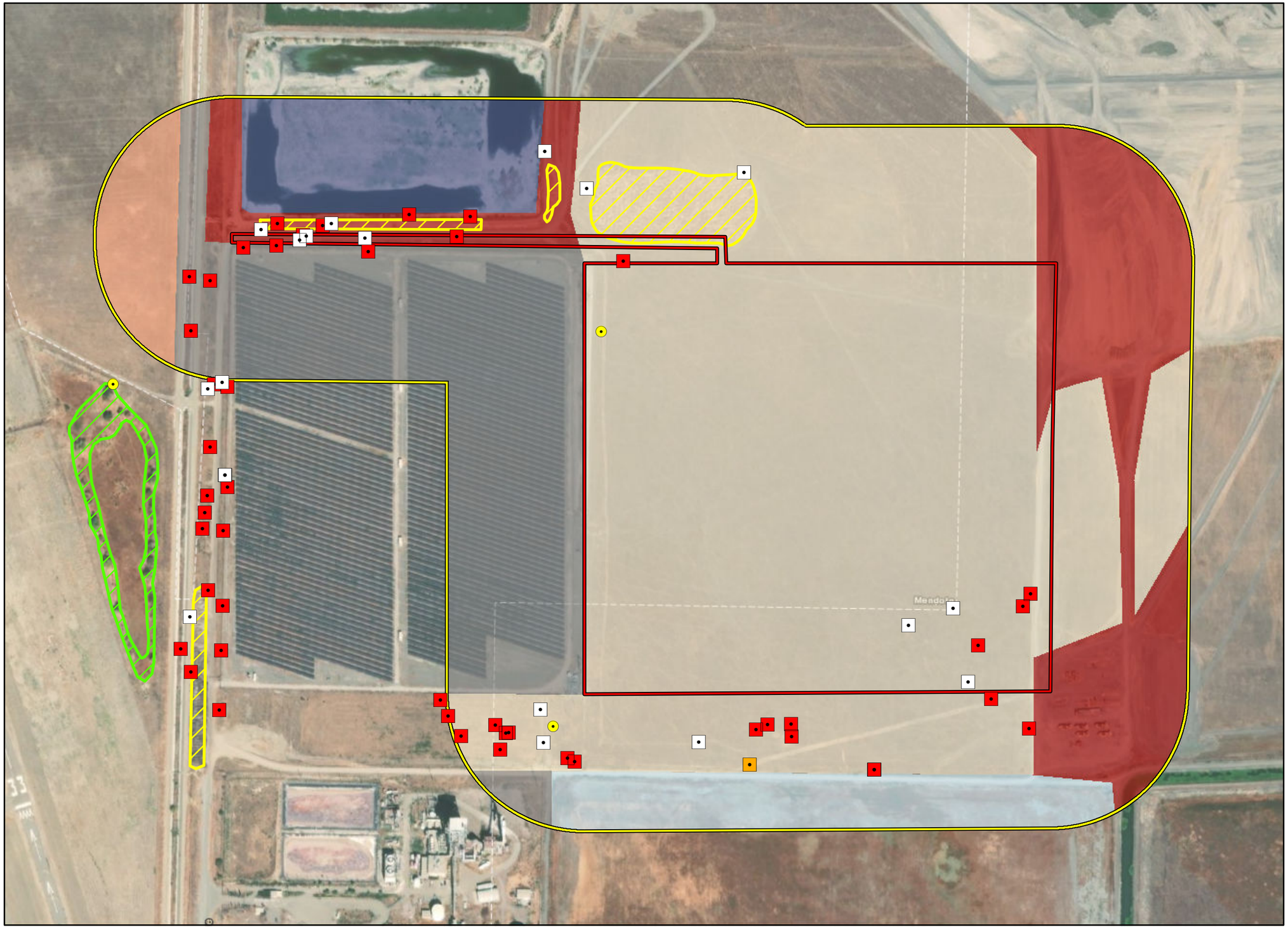

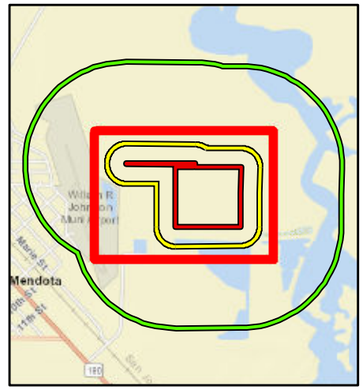

- Project Boundary
- Loggerhead Shrike Observation
- Occupied Burrowing Owl Burrow
- Potential Burrowing Owl Burrow
- Potential Burrowing Owl Burrow Complex
- Swainson's Hawk Survey Area
- Potential Swainson's Hawk Nesting Habitat
- Burrowing Owl Survey
- Potential Burrowing Owl Habitat

Vegetation Communities

- Agricultural Field
- Developed
- Disturbed
- Disturbed Seasonal Wetland
- Non-Native Annual
- Wastewater Treatment Pond

1 inch = 350 feet

0 350 Feet

FIGURE 3

Survey Results
Biological Assessment
Mendota Farm Project
Mendota, CA

wood.

Service Layer Credits: Source: Esri, Maxar, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community
Sources: Esri, HERE, Garmin, USGS, Intermap, INCREMENT P,

Path: Q:\3554_NaturalResources\Mendota\MXD\ReportFigures\Bio\Fig3_SurveyResults.mxd, chris.nixon, 10/16/2020

ATTACHMENT A

OBSERVED SPECIES

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Attachment A. Species Observed During Survey
December 18-19, 2019
Mendota Valley Agricultural Holdings Project, Mendota, Fresno County, California

	PLANTS	
	Monocots	
Poaceae		
**	*Avena barbata*	slim oat
**	*Bromus diandrus*	ripgut brome
**	*Bromus madritensis* ssp. *rubens*	foxtail brome
**	*Festuca myuros*	rattail sixweeks grass
**	*Hordeum murinum*	foxtail barley
	Sporobolus airoides	alkali sacaton
Typhaceae		
	Typha domingensis	cattail
	Eudicots	
Aizoaceae		
	Sesuvium verrucosum	western sea purslane
Asteraceae		
	Erigeron canadensis	Canada horseweed
	Xanthium strumarium	cocklebur
Boraginaceae		
	Cryptantha sp.	cryptantha
	Heliotropium curassavicum var. oculatum	seaside heliotrope
Brassicaceae		
**	*Hirschfeldia incana*	mustard
**	*Sisymbrium irio*	London rocket
Chenopodiaceae		
**	*Atriplex semibaccata*	Australian saltbush
	Kochia californica	Mojave red sage
**	*Salsola tragus*	Russian thistle
	Suaeda nigra	bush seepweed
Geraniaceae		
**	*Erodium cicutarium*	coastal heron's bill
Malvaceae		
	Malvella leprosa	alkali mallow
Pontederiaceae		
**	*Eichhornia crassipes*	water hyacinth
Salicaceae		
	Populus fremontii	Fremont cottonwood
	Salix gooddingii	Gooding's willow
Tamaricaceae		
**	*Tamarix ramosissima*	tamarisk
	WILDLIFE	
	AVES	
	Accipitriformes	
Accipitridae		

	Buteo jamaicensis	red-tailed hawk
+	*Circus hudsonius*	northern harrier
	Anseriformes	
Anatidae		
	Anas platyrhynchos	mallard
	Branta canadensis	Canada goose
	Cygnus columbianus	tundra swan
	Spatula clypeata	northern shoveler
	Charadriiformes	
Charadriidae		
	Charadrius vociferus	killdeer
Laridae		
	Larus californicus	California gull
	Larus delawarensis	ring-billed gull
Recurvirostridae		
	Himantopus mexicanus	black-necked stilt
	Columbiformes	
Columbidae		
	Columba livia	rock pigeon
	Zenaida macroura	mourning dove
	Gruiformes	
Rallidae		
	Fulica americana	American coot
	Passeriformes	
Corvidae		
	Corvus brachyrhynchos	American crow
Fringillidae		
	Haemorhous mexicanus	house finch
Hirundinidae		
	Tachycineta bicolor	tree swallow
Icteridae		
	Agelaius phoeniceus	red-winged blackbird
	Euphagus cyanocephalus	Brewer's blackbird
	Sturnella neglecta	western meadowlark
Laniidae		
+	*Lanius ludovicianus*	loggerhead shrike
Motacillidae		
	Anthus rubescens	American pipit
Parulidae		
	Setophaga coronata	yellow-rumped warbler
Passerellidae		
	Melospiza melodia	song sparrow
	Zonotrichia leucophrys	white-crowned sparrow
Sturnidae		
*	*Sturnus vulgaris*	European starling
Tyrannidae		
	Sayornis nigricans	black phoebe

	Sayornis saya	Say's phoebe
	Pelecaniformes	
Ardeidae		
	Ardea alba	great egret
Pelecanidae		
	Pelecanus erythrorhynchos	American white pelican
	Strigiformes	
Strigidae		
+	*Athene cunicularia*	burrowing owl
	Suliformes	
Phalacrocoracidae		
	Phalacrocorax auritus	double-crested cormorant
	Mammalia	
	Canivora	
Canidae		
	Canis latrans	coyote
	Canis familiaris	domestic dog (wild pack)
	Lagomorpha	
Leporidae		
	Lepus californicus	black-tailed jackrabbit
	Sylvilagus audubonii	desert cottontail
	Rodentia	
Echimyidae		
*	*Myocastor coypus*	nutria (old skull)
Sciuridae		
	Otospermophilus beecheyi	California ground squirrel

* non-native species

** invasive non-native species

\+ species of conservation concern

ATTACHMENT B

PHOTOGRAPHIC LOG

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Photograph 1. Looking northeast at Project site from near southwest corner.

Photograph 2. Old power plant off southwest corner of site.

Photograph 3. Monitoring well on east side of site.

Photograph 4. Looking south at western boundary of site from northwest corner.

Photograph 5. Looking west at proposed access route on north side of solar farm.

Photograph 6. Looking east at concrete rubble field north of project site. Abundant ground squirrels make this good potential habitat for burrowing owls.

Photograph 7. Burrows of suitable size for use by burrowing owls on north side of site; no sign was observed.

Photograph 8. Burrow complex on south side of site with burrows potentially suitable for burrowing owl. No sign was observed.

Photograph 9. Looking west from southeast side of site

Photograph 10. Looking north along northeast edge of site.

Photograph 11. Access road south of site, looking west.

Photograph 12. Burrow with owl pellet being utilized by young burrowing owl.

Photograph 13. Burrow location on access road south of site, looking east.

Photograph 14. State lands south of access road, looking south.

Photograph 15. Wastewater treatment pond northwest of site, looking northwest.

Photograph 16. Looking south at small concrete rubble pile on berm of wastewater treatment pond.

Photograph 17. Looking south along west side of solar farm.

Photograph 18. Looking southwest across drain at cottonwoods/willows on banks of old stock pond, potential nest trees for Swainson's hawk.

Photograph 19. Old asphalt stockpiles on west side of solar farm with abundant ground squirrel colony, providing potential burrows for burrowing owl.

Photograph 20. Looking east at proposed access route north of solar farm. Ground squirrels are abundant here in flats and on berm of wastewater treatment pond.

Photograph 21. Water hyacinth covering surface of canal southeast of site, looking east.

Photograph 22. Looking west at state lands south of the Project.