

APPENDIX B

MOORE BIOLOGICAL CONSULTANTS

January 20, 2020

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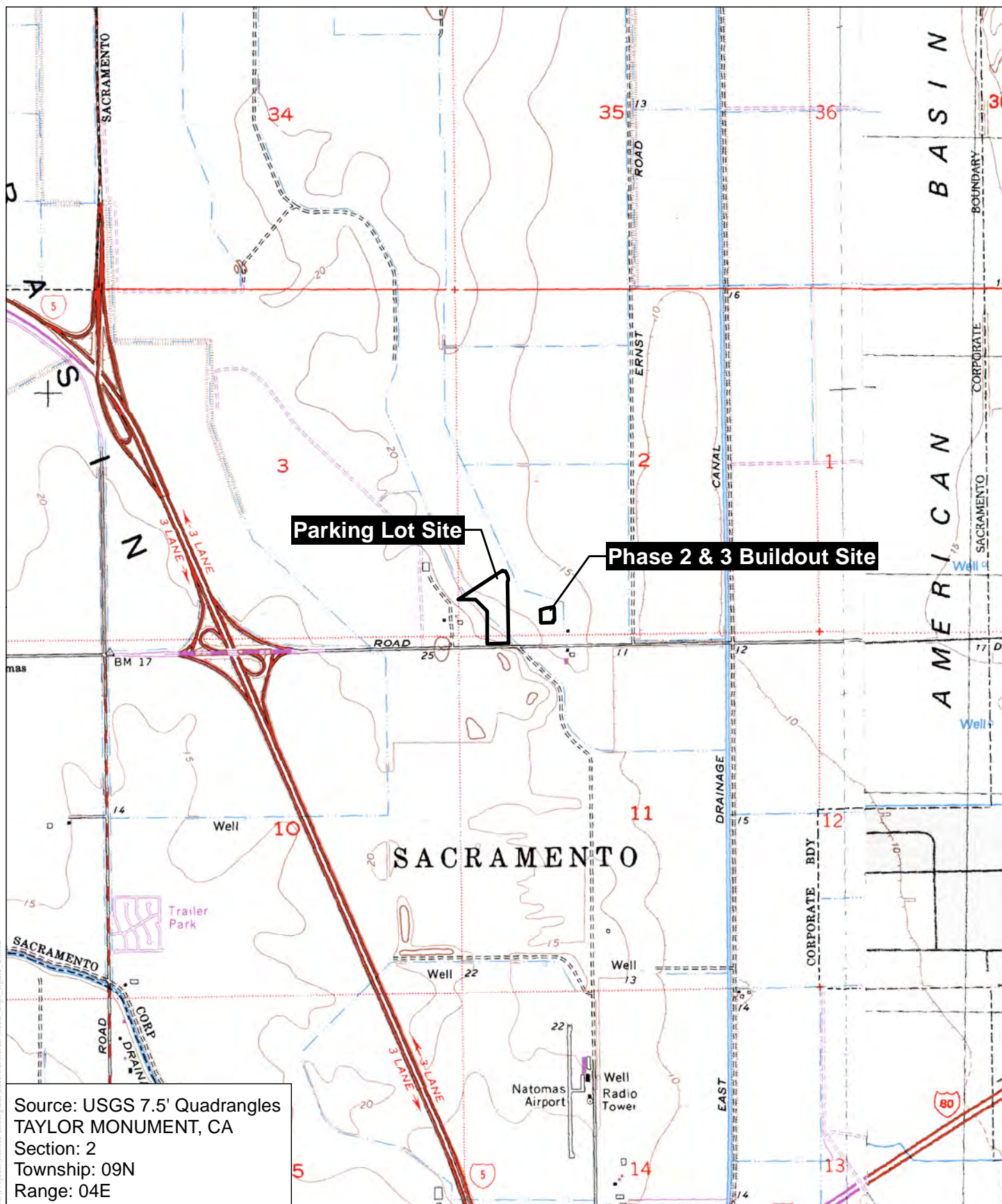
Subject: "LRCCD NATOMAS CENTER PARKING LOT & PHASE 2 AND 3
BUILDOUT", SACRAMENTO COUNTY, CALIFORNIA: BIOLOGICAL
ASSESSMENT

Dear Daniel:

Thank you for asking Moore Biological Consultants to assist with a biological assessment of the "Parking Lot and Phase 2 & 3 Buildout sites at the Natomas Center Campus, in Sacramento County, California (Figures 1 and 2). The focus of our work was to assess two closely situated areas for potentially regulated Waters of the U.S. and wetlands, and to search for special-status species or potentially suitable habitat for special-status species within and near the site. This letter summarizes information related to biological resources in or near the site that was compiled by reviewing databases and available documents, and conducting field surveys on December 16 and 20, 2019, and January 2, 2020.

Project Overview

The Los Rios Community College District (LRCCD) is proposing to construct a new instructional facility adjacent to the existing American River College Natomas Center building (Figure 2 and Detailed Project Description in Attachment A). The new building will provide space for instruction in general education, biology and chemistry. In addition, LRCCD is proposing to add a new parking area to the west of the existing Natomas Center campus.



Methods

Prior to the field surveys, we conducted a search of California Department of Fish and Wildlife's (CDFW) California Natural Diversity Database (CNDDDB, 2019). The CNDDDB search included the USGS 7.5-minute Taylor Monument, Rio Linda, Sacramento West, and Sacramento East topographic quadrangles, encompassing approximately 240+/- square miles surrounding the site (Attachment B). The United States Fish and Wildlife Service (USFWS) IPaC Trust Resource Report of Federally Threatened and Endangered species that may occur in or be affected by projects in the project vicinity was also reviewed (Attachment B). This information was used to identify special-status wildlife and plant species that have been previously documented in the vicinity or have the potential to occur based on suitable habitat and geographical distribution. Additionally, the CNDDDB depicts the locations of sensitive habitats. The USFWS on-line-maps of designated critical habitat in the area were also downloaded.

Field surveys were conducted on December 16 and 20, 2019 and January 2, 2020. The surveys consisted of walking throughout the site making observations of habitat conditions and noting surrounding land uses, habitat types, and plant and wildlife species. The fieldwork included an assessment of potentially jurisdictional Waters of the U.S. and wetlands as defined by the U.S. Army Corps of Engineers (ACOE, 1987; 2008) and a search for special-status species and suitable habitat for special-status species (e.g., blue elderberry shrubs, vernal pools). Trees near the site were assessed for the potential use by nesting raptors, especially Swainson's hawk (*Buteo swainsoni*). The site was also searched for burrowing owls (*Athene cunicularia*) or ground squirrel burrows with evidence of past occupancy by burrowing owls.

Results

GENERAL SETTING: The project site is located at the Natomas Center Campus, in north Sacramento, California (Figure 1). The site is within Sections 2 and 11, in

Township 9 North and Range 4 East of the USGS 7.5-minute Taylor Monument topographic quadrangle (Figure 2). The overall project consists of two separate areas in close proximity to each other and collectively referred to as the project site (Figure 3). The 9.13+/- acer "Parking Lot Site" is a large field that is approximately 250 feet west of the existing Natomas Center Campus (Figure 4). The "Phase 2 and 3 Buildout Site" is an open field just east of the existing Natomas Center instructional building and to the north of the parking lot (Figure 5). The Buildout Site is level and situated at approximately 15 feet above mean sea level. The Parking Lot Site slopes from southwest to northeast and ranges in elevations between 15 and 20 feet above sea level.

Surrounding land uses in this portion of Sacramento County are primarily residential and commercial; the project site is within a part of Natomas that is still being developed (Figure 3). The Parking Lot Site is bordered by Del Paso Road to the south and Via Ingoglia (a.k.a. "Library Street") to the east. A new road and open field that is currently being graded and is under construction is to the north of the Parking Lot Site is bordered on the north by there is an open grassland field to the west (Figure 4). The Buildout Site is within the existing Natomas Center Campus and is bordered by small landscaped strips and parking lot areas. There are a few buildings associated with the adjacent high school and Natomas Center Campus to the north and west of the Buildout Site, respectively (Figure 5).

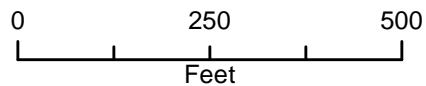
The Buildout Site is a fenced-off grassy field that is biologically unremarkable. Although the Parking Lot Site is also generally unremarkable, it contains a remnant portion section of a constructed ditch and a small wetland. The grasslands in the Parking Lot Site, including the seasonal wetland, have been periodically disked and/or mowed for decades.

VEGETATION: Due to the amount of disturbance from past development and human occupancy of the site, and periodic mowing and/or disking for weed abatement, vegetation in the project site is primarily non-native annual grass and



Figure 3

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Consultants



Map Date: 12/19/2019
Aerial Source: NAIP (2018)

AERIAL

LRCCD Natomas Center Parking Lot &
Phase 2 and 3 Buildout

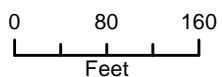
Natomas, Sacramento County, CA

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Figure 4

Moore Biological
Consultants



Map Date: 12/20/2019
Aerial Source: NAIP (2018)



AERIAL - PARKING LOT SITE

LRCCD Natomas Center Parking Lot &
Phase 2 and 3 Buildout

Natomas, Sacramento County, CA



Phase 2 & 3 Buildout Site

Figure 5

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0 30 60
Feet

Map Date: 12/19/2019
Aerial Source: NAIP (2018)



AERIAL - PHASE 2 & 3 BUILDOUT SITE

LRCCD Natomas Center Parking Lot &
Phase 2 and 3 Buildout

Natomas, Sacramento County, CA

weed species. California annual grassland series (Sawyer and Keeler-Wolf, 1995) best describes the ruderal grassland vegetation; the Buildout Site and the Parking Lot Site contain several of the same species. Grasses including oats (*Avena* sp.), Bermuda grass (*Cynodon dactylon*), ripgut brome (*Bromus diandrus*), and perennial ryegrass (*Lolium perenne*), are dominant grass species. Other grassland species such as vetch (*Vicia* sp.), long-beaked hawkbit (*Leontodon saxatilis*), yellow star-thistle (*Centaurea solstitialis*), tall fireweed (*Epilobium brachycarpum*), filaree (*Erodium* sp.), prickly lettuce (*Lactuca serriola*), rose clover (*Trifolium hirtum*), and mallow (*Malva* sp.) are intermixed with the grasses. Table 1 is a list of plant species observed in the site.

The ditch in the Parking Lot Site primarily supports hydrophytic (i.e. not “wetland”) species including rough cocklebur (*Xanthium strumarium*), curly dock (*Rumex crispus*), and lady’s-thumb (*Persicaria maculosa*). In contrast, the disturbed seasonal wetland in the Parking Lot Site contains a mixture of upland and wetland species. A few of the dominant species observed in the seasonal wetland include seaside barley (*Hordeum marinum*), Hyssop loosestrife (*Lythrum hyssopifolium*), and perennial ryegrass.

The only trees in the site are two small cottonwoods (*Populus fremontii*) growing along the banks of the ditch in the Parking Lot Site (see photographs in Attachment C). Additionally, there are a few ornamental landscape trees adjacent to both of the work areas and several landscaping trees associated with the high school and college campuses, nearby residences and commercial buildings (Figure 3). No blue elderberry (*Sambucus mexicana*) shrubs were observed in or adjacent to the site.

WILDLIFE: A limited variety of bird species were observed during the field survey; all of which are common species found in urban areas of Sacramento County. American crow (*Corvus brachyrhynchos*), northern mockingbird (*Mimus polyglottos*), mourning dove (*Zenaida macroura*), California scrub jay (*Aphelocoma californica*), and dark-eyed junco (*Junco hyemalis*) are

TABLE 1
PLANT SPECIES OBSERVED IN THE PROJECT SITE

<i>Acemisson americanus</i>	Spanish lotus
<i>Avena fatua</i>	oat
<i>Brassica nigra</i>	black mustard
<i>Bromus diandrus</i>	ripgut brome
<i>Bromus hordeaceus</i>	soft brome
<i>Centaurea solstitialis</i>	yellow-star thistle
<i>Cirsium vulgare</i>	bull thistle
<i>Cynodon dactylon</i>	Bermuda grass
<i>Cyperus eragrostis</i>	tall flat sedge
<i>Epilobium brachycarpum</i>	annual fireweed
<i>Erigeron bonariensis</i>	flax-leaved horseweed
<i>Erodium botrys</i>	filaree
<i>Hordeum marinum</i>	seaside barley
<i>Hordeum murinum</i>	foxtail barley
<i>Lactuca serriola</i>	prickly lettuce
<i>Leontodon saxatilis</i>	long-beaked hawkbit
<i>Lolium perenne</i>	perennial ryegrass
<i>Lythrum hyssopifolium</i>	Hyssop loosestrife
<i>Malva neglecta</i>	common mallow
<i>Persicaria maculosa</i>	lady's-thumb
<i>Raphanus sativa</i>	radish
<i>Rumex crispus</i>	curly dock
<i>Salsola tragus</i>	Russian thistle
<i>Sonchus oleraceus</i>	common sow-thistle
<i>Trifolium hirtum</i>	rose clover
<i>Vicia americana</i>	American purple vetch
<i>Xanthium strumarium</i>	rough cocklebur

representative of the avian species observed in the site. Several ring-necked pheasant (*Phasianus colchicus*) were observed in the weedy vegetation along the banks of the ditch in the Parking Lot Site. Table 2 is a list of wildlife species observed in the site.

A very limited variety of mammals common to urban areas may occur in the project site. However, black-tailed hare (*Lepus californicus*) was the only mammal observed during the recent surveys. California ground squirrel (*Spermophilus beecheyi*), raccoon (*Procyon lotor*), striped skunk (*Mephitis mephitis*), desert cottontail (*Sylvilagus audubonii*), and Virginia opossum (*Didelphis virginiana*) may occur in the project site on occasion. No California ground squirrel burrows were observed in the site.

Due to lack of suitable habitat, few amphibians and reptiles are expected to use habitats in the site and none were observed. Common species such as western fence lizard (*Sceloporus occidentalis*), Pacific chorus frog (*Pseudacris regilla*) and western terrestrial garter snake (*Thamnophis elegans*) may occur in the site on occasion.

The two cottonwood trees along the remnant ditch in the Parking Lot Site are not large enough to support nesting raptors; these are the only trees in the two work areas. There are a few relatively large landscaping trees in close proximity to the site that are suitable for nesting raptors and other protected migratory birds, including Swainson's hawk. Due to the presence of large trees near the site and suitable raptor foraging habitat (i.e., open fields) in and near the site, it is possible one or more pairs of raptors nest in trees near the project site in some years. Smaller birds, such as songbirds, could potentially nest within the small trees and in the grasslands in the body of the site.

WATERS OF THE U.S. AND WETLANDS: Waters of the U.S., including wetlands, are broadly defined under 33 Code of Federal Regulations (CFR) 328 to include navigable waterways, their tributaries, and adjacent wetlands. State and federal

TABLE 2
WILDLIFE SPECIES DOCUMENTED IN THE PROJECT SITE

Birds

Ring-necked pheasant	<i>Phasianus colchicus</i>
California gull	<i>Larus californicus</i>
Rock dove	<i>Columba livia</i>
Mourning dove	<i>Zenaida macroura</i>
Anna's hummingbird	<i>Calypte anna</i>
California scrub jay	<i>Aphelocoma californica</i>
American crow	<i>Corvus brachyrhynchos</i>
Western bluebird	<i>Sialia mexicana</i>
Northern mockingbird	<i>Mimus polyglottos</i>
European starling	<i>Sturnus vulgaris</i>
Yellow-rumped warbler	<i>Setophaga coronata</i>
Song sparrow	<i>Melospiza melodia</i>
White-crowned sparrow	<i>Zonotrichia leucophrys</i>
Dark-eyed junco	<i>Junco hyemalis</i>

Mammals

Black-tailed jackrabbit	<i>Lepus californicus</i>
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agencies regulate these habitats and Section 404 of the Clean Water Act requires that a permit be secured prior to the discharge of dredged or fill materials into any waters of the U.S., including wetlands. ACOE, CDFW, and the California Regional Water Quality Control Board (RWQCB) have jurisdiction over modifications to riverbanks, lakes, stream channels and other wetland features.

“Waters of the U.S.”, as defined in 33 CFR 328.4, encompasses Territorial Seas, Tidal Waters, and Non-Tidal Waters; Non-Tidal Waters includes interstate and intrastate rivers and streams, as well as their tributaries. The limit of federal jurisdiction of Non-Tidal Waters of the U.S. extends to the “ordinary high water

mark”. The ordinary high water mark is established by physical characteristics such as a natural water line impressed on the bank, presence of shelves, destruction of terrestrial vegetation, or the presence of litter and debris.

Jurisdictional wetlands are vegetated areas that meet specific vegetation, soil, and hydrologic criteria defined by the ACOE *Wetlands Delineation Manual* and Regional Supplement (ACOE, 1987; 2008). Jurisdictional wetlands are usually adjacent to or hydrologically associated with Waters of the U.S; isolated wetlands are outside federal jurisdiction.

Jurisdictional wetlands and Waters of the U.S. include, but are not limited to, perennial and intermittent creeks and drainages, lakes, seeps, and springs; emergent marshes; riparian wetlands; and seasonal wetlands. Wetlands and Waters of the U.S. provide critical habitat components, such as nest sites and a reliable source of water, for a wide variety of wildlife species.

Following wetland delineation work in the Parking Lot site and lands further to the west between 2016 and 2019 undertaken for others, WRA, Inc. conducted a wetland delineation of the site for LRCCD in 2019 (see Attachment D). A total of 0.23 acres of potentially jurisdictional Waters of the U.S., consisting of 0.08+/- acre seasonal wetland and 0.15+/- acres of constructed drainage ditch, which WRA also classified as “seasonal wetland” (WRA, 2020).

We concur that the small seasonal wetland and the remnant ditch in the Parking Lot Site are the only potentially jurisdictional Waters of the U.S. or wetlands observed in the site (Figure 6 and photographs in Attachment C). The remainder of the Parking Lot Site and the Buildout Site consist of grasslands that are vegetated with upland grasses and weeds. No vernal pools, other seasonal wetlands, marshes, ponds, creeks, lakes, or any other potentially jurisdictional Waters of the U.S. or wetlands were observed in the Parking Lot Site or the Buildout Site.



Figure 6

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0 75 150
Feet

Map Date: 01/15/2020
Data Source: WRA
Aerial Source: NAIP (2019)



Potential Waters and Wetlands

LRCCD Natomas Center Parking Lot &
Phase 2 and 3 Buildout

Natomas, Sacramento County, CA

The ditch segment extends southeast to northwest along the west edge and through the south part of the Parking Lot Site (Figure 6 and photographs in Attachment C). This ditch was constructed approximately 60 years and appears to have been associated with historical agricultural activities or regional drainage. Following mass grading and development in this part of Sacramento County, portions of the ditch to the north and south of the site were filled. The segment of ditch in the site is now isolated and no longer conveys water in any capacity; there are no culverts at either end of the ditch. In its current state, it is isolated and is not tributary to any surface waters. Following heavy rain events, the ditch appears to primarily collect direct rainfall and some runoff from the adjacent hillslope to the southwest.

The ditch segment contains a mixture of wetland and upland species, with hydrophytic species present in the deepest and central portion of the ditch. Dominant species within the ditch includes rough cocklebur, curly dock, and lady's-thumb. Other species such as black mustard, prickly lettuce, and other common ruderal species are present along the banks of the ditch.

This seasonal wetland is located just to the east of the north part of the ditch segment in the Parking Lot Site (Figure 6 and photographs in Attachment C). This seasonal wetland is extremely shallow, highly disturbed, and contains a mixture of wetland and upland plant species. Aerial photographs confirm that this wetland has been subject to periodic mowing and/or disking for several decades. This seasonal wetland does not appear to pond water to more than a few inches in its deepest pockets and had no surface water was present during the field surveys. Despite being disturbed, the seasonal wetland in the site is vegetated with hydrophytic species typical of seasonal wetlands such as Hyssop loosestrife, perennial ryegrass, and seaside barley.

SPECIAL-STATUS SPECIES: Special-status species are plants and animals that are legally protected under the state and/or federal Endangered Species Act or other regulations. The Federal Endangered Species Act (FESA) of 1973 declares that

TABLE 3

SPECIAL-STATUS PLANT AND WILDLIFE SPECIES DOCUMENTED OR POTENTIALLY-OCCURRING IN THE PROJECT VICINITY

Common Name	Scientific Name	Federal Status ¹	State Status ²	CNPS List ³	Habitat	Likelihood of Occurrence in the Site
PLANTS						
Ferris' milk-vetch	<i>Astragalus tener</i> <i>var. ferrisiae</i>	None	None	1B	Subalkaline flats in valley and foothill grassland.	Unlikely: the seasonal wetland in the parking lot site is highly disturbed and does not provide suitable habitat for this species. The nearest occurrence of Ferris' milk-vetch in the CNDDDB (2019) search area is approximately 7 miles southwest of the site.
Dwarf downingia	<i>Downingia pusilla</i>	None	None	2	Vernal pools.	Unlikely: the seasonal wetland in the parking lot site is highly disturbed and does not provide suitable habitat for this species. The nearest occurrence of dwarf downingia in the CNDDDB (2019) search area is approximately 3.5 miles northeast of the site.
Bogg's Lake hedge-hyssop	<i>Gratiola heterosepala</i>	None	E	1B	Vernal pools.	Unlikely: the seasonal wetland in the parking lot site is highly disturbed and does not provide suitable habitat for Bogg's Lake hedge-hyssop. The nearest record of this species in the CNDDDB (2019) search area is approximately 5.5 miles northeast of the site.
Woolly rose-mallow	<i>Hibiscus lasiocarpus</i> <i>var. occidentalis</i>	None	None	1B	Freshwater marshes and swamps.	Unlikely: there is no marsh or swamp habitat in the site to support woolly rose-mallow. The nearest occurrence of this species in the CNDDDB (2019) search area is approximately 3 miles southwest of the project site.
Legenere	<i>Legenere limosa</i>	None	None	1B	Vernal pools.	Unlikely: the seasonal wetland in the parking lot site is highly disturbed and does not provide suitable habitat for legenere. The nearest occurrence of this species in the CNDDDB (2019) search area is approximately 4 miles northeast of the site.

TABLE 3

SPECIAL-STATUS PLANT AND WILDLIFE SPECIES DOCUMENTED OR POTENTIALLY-OCCURRING IN THE PROJECT VICINITY

Common Name	Scientific Name	Federal Status ¹	State Status ²	CNPS List ³	Habitat	Likelihood of Occurrence in the Site
Sanford's arrowhead	<i>Sagittaria sanfordii</i>	None	None	1B	Standing or slow moving freshwater ponds, marshes, and ditches.	Unlikely: the seasonal wetland in the parking lot site is highly disturbed and does not provide suitable habitat for this species. The nearest occurrence of Sanford's arrowhead in the CNDDDB (2019) search area is approximately 2.5 miles northeast of the site.
Suisun Marsh aster	<i>Symphotrichum lentum</i>	None	None	1B	Marshes and swamps.	Unlikely: the project site does not provide suitable habitat for this species. The nearest occurrence of Suisun Marsh aster in the CNDDDB (2019) search area is approximately 8.5 miles southwest of the project site.
WILDLIFE						
Birds						
Swainson's hawk	<i>Buteo swainsoni</i>	None	T	N/A	Nesting: large trees, usually within riparian corridors. Foraging: agricultural fields and annual grasslands.	Unlikely: the two trees in the parking lot site are relatively small and do not provide suitable nesting habitat for Swainson's hawk. The on-site grasslands provide marginal, yet potentially suitable foraging habitat for Swainson's hawk. The nearest occurrence of nesting Swainson's hawks in the CNDDDB (2019) search area just west of the parking lot site, nesting in a willow tree along Del Paso Road.
Burrowing owl	<i>Athene cunicularia</i>	None	SC	N/A	Open, dry annual or perennial grasslands, deserts and scrublands characterized by low-growing vegetation.	Unlikely: the ruderal grasslands in the site do provide suitable habitat for burrowing owl. Further, no ground squirrels or ground squirrel burrows were observed in the two work areas. There are multiple occurrences of nesting burrowing owls in the CNDDDB (2019) search area within 0.5 miles of the building and parking lot sites.

TABLE 3

SPECIAL-STATUS PLANT AND WILDLIFE SPECIES DOCUMENTED OR POTENTIALLY-OCCURRING IN THE PROJECT VICINITY

Common Name	Scientific Name	Federal Status ¹	State Status ²	CNPS List ³	Habitat	Likelihood of Occurrence in the Site
Tricolored blackbird	<i>Agelaius tricolor</i>	None	T	N/A	Requires open water and protected nesting substrate, usually cattails and riparian scrub with surrounding foraging habitat.	Unlikely: the site does not provide suitable nesting habitat for tricolored blackbird. The nearest occurrence of tricolored blackbirds in the CNDDDB (2019) search area is approximately 1.5 north of the parking lot site.
White-tailed kite	<i>Elanus leucurus</i>	None	FP	N/A	Herbaceous lowlands with variable tree growth and dense population of voles.	Unlikely: the two trees in the parking lot site are relatively small and do not provide suitable nesting habitat for white-tailed kite. This species may occasionally fly over or forage in the area. The nearest occurrences of white-tailed kite in the CNDDDB (2019) search area are approximately 2 miles northeast of the site.
Song sparrow ("Modesto" population)	<i>Melospiza melodia</i>	None	SC	N/A	Resident of brackish water marshes surrounding Suisun Bay. Inhabits cattails, tules, and tangles bordering sloughs	Unlikely: the project site does not contain suitable nesting or foraging habitat for song sparrow. The nearest occurrence of song sparrow in the CNDDDB (2019) search area is approximately 6 miles southeast of the site.
Western yellow-billed cuckoo	<i>Coccyzus americanus occidentalis</i>	T	E	N/A	Nests in riparian forests, along the broad, lower flood-bottoms of larger river systems.	Unlikely: the sites do not provide suitable habitat for this species. The nearest occurrence of western yellow-billed cuckoo in the CNDDDB (2019) search area is approximately 6 miles southeast of the project site.
California black rail	<i>Laterallus jamaicensis coturniculus</i>	None	T/FP	N/A	Freshwater marshes, wet meadows and shallow margins of saltwater marshes bordering larger bays.	Unlikely: the sites do not provide suitable habitat for this species. The nearest occurrence of California black rail in the CNDDDB (2019) search area is approximately 8.5 miles southwest of the project site.

TABLE 3

SPECIAL-STATUS PLANT AND WILDLIFE SPECIES DOCUMENTED OR POTENTIALLY-OCCURRING IN THE PROJECT VICINITY

Common Name	Scientific Name	Federal Status ¹	State Status ²	CNPS List ³	Habitat	Likelihood of Occurrence in the Site
Least Bell's vireo	<i>Vireo bellii pusillus</i>	E	E	N/A	Nests in willow thickets and other shrubs, primarily in southern California riparian forests.	Unlikely: there is no suitable habitat for least Bell's vireo in or near the site and this species is not known from the area. The nearest occurrence of least Bell's vireo in the CNDDDB (2019) search area is a historical record (1877) mapped approximately 4.5 miles south of the project site.
Bank swallow	<i>Riparia riparia</i>	None	T	N/A	Nests colonially in riparian habitats; requires vertical banks and cliffs with fine-textured soils.	Unlikely: there is no suitable nesting habitat for bank swallows in the project site. The nearest occurrence of bank swallow in the CNDDDB (2019) search area is approximately 6.5 miles southeast of the project site.
Purple martin	<i>Progne subia</i>	None	SC	N/A	Woodlands, low-elevation coniferous forest.	Unlikely: the site does not provide suitable foraging or nesting habitat for purple martin. The nearest occurrence of purple martin in the CNDDDB (2019) search area is approximately 5 miles south of the project site.
Mammals						
American badger	<i>Taxidea taxus</i>	None	SC	N/A	Drier open stages of most shrub, forest, and herbaceous habitats, with friable soils.	Unlikely: the site does not contain suitable habitat for American badger and no dens were observed in the site. The nearest occurrence of this species in the CNDDDB (2019) search area is approximately 10.5 miles southeast of the site.
Reptiles & Amphibians						
California tiger salamander	<i>Ambystoma californiense</i>	T	T	N/A	Seasonal water bodies without fish (i.e., vernal pools and stock ponds) near grassland/ woodland habitats with summer refugia (i.e., burrows).	Unlikely: There is no suitable habitat within or near the site for California tiger salamander. This species is not recorded in the CNDDDB (2019) within the search area. The site is not within designated critical habitat for California tiger salamander (USFWS, 2005b).

TABLE 3

SPECIAL-STATUS PLANT AND WILDLIFE SPECIES DOCUMENTED OR POTENTIALLY-OCCURRING IN THE PROJECT VICINITY

Common Name	Scientific Name	Federal Status ¹	State Status ²	CNPS List ³	Habitat	Likelihood of Occurrence in the Site
California red-legged frog	<i>Rana aurora draytonii</i>	T	SC	N/A	Lowlands and foothills in or near permanent sources of deep water with dense, shrubby or emergent riparian vegetation.	Unlikely: there is no suitable aquatic habitat for California red-legged frog in or near the project site. California red-legged frog is also presumed extinct on the floor of the Central Valley of California. There are no recorded occurrences of this species in the CNDDDB (2019) search area. The site is not within designated critical habitat for California red-legged frog (USFWS, 2006).
Giant garter snake	<i>Thamnophis gigas</i>	T	T	N/A	Freshwater marsh and low gradient streams. Has adapted to drainage canals and irrigation ditches.	Unlikely: the site does not contain suitable aquatic habitat for giant garter snake. The nearest occurrences of this species in the CNDDDB (2019) search area are approximately 0.5 miles southeast of the building site, and 0.5 miles southwest of the parking lot site.
Western pond turtle	<i>Emys marmorata</i>	None	SC	N/A	Ponds, marshes, streams, and ditches with emergent aquatic vegetation and basking areas.	Unlikely: there is no suitable aquatic habitat in the site for western pond turtle. The closest occurrence of western pond turtle in the CNDDDB (2019) search area is approximately 5.5 miles east of the site.
Fish						
Central Valley steelhead	<i>Oncorhynchus mykiss</i>	T	None	N/A	Riffle and pool complexes with adequate spawning substrates within Central Valley drainages.	None: there is no aquatic habitat in the site to support Central Valley steelhead. The nearest occurrence of Central Valley steelhead in the CNDDDB (2019) search area is Dry Creek, approximately 2.5 miles northeast of the site. The site is not within designated critical habitat for Central Valley steelhead (NOAA, 2005).
Winter-run Chinook salmon	<i>Oncorhynchus tshawytscha</i>	E	E	N/A	Deep flowing pools and riffle complexes with adequate spawning substrates.	None: there is no aquatic habitat in the site to support winter-run Chinook salmon. The nearest occurrence of winter-run Chinook salmon in the CNDDDB (2019) search area is in the Sacramento Deep Water Ship Canal off the Sacramento River, approximately 6.5 miles south of the site.

TABLE 3

SPECIAL-STATUS PLANT AND WILDLIFE SPECIES DOCUMENTED OR POTENTIALLY-OCCURRING IN THE PROJECT VICINITY

Common Name	Scientific Name	Federal Status ¹	State Status ²	CNPS List ³	Habitat	Likelihood of Occurrence in the Site
Spring-run Chinook salmon	<i>Oncorhynchus tshawytscha</i>	T	T	N/A	Deep flowing pools and riffle complexes with adequate spawning substrates.	None: there is no aquatic habitat in the site to support spring-run Chinook salmon. The nearest occurrence of spring-run Chinook salmon in the CNDDDB (2019) search area is in the Sacramento Deep Water Ship Canal off the Sacramento River, approximately 6.5 miles south of the site.
Sacramento perch	<i>Archoplites interruptus</i>	None	SC	N/A	Sloughs, lakes, and low-moving Central Valley Rivers; requires warm water.	None: there is no suitable aquatic habitat in the site for Sacramento perch. The nearest occurrence of this species in the CNDDDB (2015) search area is from Lake Greenhaven, approximately 10.5 miles south of the site.
Delta smelt	<i>Hypomesus transpacificus</i>	T	T	N/A	Shallow lower delta waterways with submersed aquatic plants and other suitable refugia.	None: there is no aquatic habitat in the site to support Delta smelt. This species is not recorded in the CNDDDB (2019) search area. The site is not in designated critical habitat for delta smelt (USFWS, 1994).
Sacramento splittail	<i>Pogonichthys macrolepidotus</i>	None	SC	N/A	Lower Sacramento-San Joaquin Delta in low to moderate salinities.	None: there is no aquatic habitat in the site to support Sacramento splittail. The nearest occurrence of Sacramento splittail in the CNDDDB (2019) search area is approximately 3 miles west in the Sacramento River.
Longfin smelt	<i>Spirinchus thaleichthys</i>	C	T	N/A	Brackish estuarine habitats.	None: there is no aquatic habitat in the site to support longfin smelt. The nearest occurrence of longfin smelt in the CNDDDB (2019) search area is approximately 3 miles west in the Sacramento River.

TABLE 3

SPECIAL-STATUS PLANT AND WILDLIFE SPECIES DOCUMENTED OR POTENTIALLY-OCCURRING IN THE PROJECT VICINITY

Common Name	Scientific Name	Federal Status ¹	State Status ²	CNPS List ³	Habitat	Likelihood of Occurrence in the Site
Invertebrates						
Vernal pool fairy shrimp	<i>Branchinecta lynchi</i>	T	None	N/A	Vernal pools	Unlikely: the seasonal wetland in the parking lot site is highly disturbed and does not provide suitable habitat for vernal pool fairy shrimp. The nearest occurrence of this species in the CNDDDB (2019) search area is approximately 2.5 miles northeast of the site. The site is not within designated critical habitat for vernal pool fairy shrimp (USFWS 2005a).
Vernal pool tadpole shrimp	<i>Lepidurus packardii</i>	E	None	N/A	Vernal pools	Unlikely: the seasonal wetland in the site is highly disturbed; vernal pool tadpole shrimp are known to occur in relatively deep and undisturbed vernal pools. The nearest occurrence of this species in the CNDDDB (2019) search area is approximately 5 miles east of the site. The site is not within designated critical habitat for vernal pool tadpole shrimp (USFWS 2005a).
Valley elderberry longhorn beetle	<i>Desmocerus californicus dimorphus</i>	T	None	N/A	Elderberry shrubs, usually in Central Valley riparian habitats.	Unlikely: no blue elderberry shrubs were observed in or adjacent to the site. The nearest occurrence of valley elderberry longhorn beetle in the CNDDDB (2019) search area is approximately 3 miles southwest of the site.

¹ T = Threatened; E = Endangered; C = Candidate for listing.

² T = Threatened; E = Endangered; FP = Fully Protected; SC= State of California Species of Special Concern.

³ CNPS List 1B includes species that are rare, threatened, or endangered in California and elsewhere; List 2 includes species that are rare, threatened, or endangered in California, but more common elsewhere.

all federal departments and agencies shall utilize their authority to conserve endangered and threatened plant and animal species. The California Endangered Species Act (CESA) of 1984 parallels the policies of FESA and pertains to native California species.

Special-status species also include other species that are considered rare enough by the scientific community and trustee agencies to warrant special consideration, particularly with regard to protection of isolated populations, nesting or denning locations, communal roosts, and other essential habitat. The presence of species with legal protection under the Endangered Species Act often represents a major constraint to development, particularly when the species are wide-ranging or highly sensitive to habitat disturbance and where proposed development would result in a take of these species.

Special-status plants are those which are designated rare, threatened, or endangered and candidate species for listing by the USFWS. Special-status plants also include species considered rare or endangered under the conditions of Section 15380 of the California Environmental Quality Act Guidelines, such as those plant species identified on Lists 1A, 1B and 2 in the Inventory of Rare and Endangered Vascular Plants of California (CNPS, 2019). Finally, special-status plants may include other species that are considered sensitive or of special concern due to limited distribution or lack of adequate information to permit listing or rejection for state or federal status, such as those included on CNPS List 3.

The likelihood of occurrence of listed, candidate, and other special-status species in the site is generally low. Table 3 provides a summary of the listing status and habitat requirements of special-status species that have been documented in the greater project vicinity or for which there is potentially suitable habitat in the greater project vicinity. This table also includes an assessment of the likelihood of occurrence of each of these species in the site. The evaluation of the potential for occurrence of each species is based on the distribution of regional occurrences (if any), habitat suitability, and field observations.

SPECIAL-STATUS PLANTS: Special-status plants identified in the CNDDDB (2019) search include Ferris' milk-vetch (*Astragalus tener* var. *ferrisiae*), dwarf downingia (*Downingia pusilla*), Bogg's Lake hedge hyssop (*Gratiola heterosepala*), woolly rose mallow (*Hibiscus lasiocarpus* var. *occidentalis*), legenere (*Legenere limosa*), Sanford's arrowhead (*Sagittaria sanfordii*), and Suisun marsh aster (*Symphotrichum lentum*) (Table 3 and Attachment B). There are no special-status plants listed on the USFWS IPaC Trust Report.

Special-status plants generally occur in relatively undisturbed areas in vegetation communities such as vernal pools, marshes and swamps, riparian scrub, and areas with unusual soils. The upland grasslands throughout most of the project site are highly disturbed and do not provide suitable habitat for any of the special-status plants in Table 3. The seasonal wetland in the site has been subject to high levels of disturbance for several decades and is too small and shallow to support special-status vernal pool plant species such as Bogg's Lake hedge hyssop. The ditch does not provide suitable habitat for special-status vernal pool species or suitable marsh habitat for species such as Sanford's arrowhead or woolly rose-mallow. Due to lack of suitable habitat, no special-status plant species are expected to occur in the site.

SPECIAL-STATUS WILDLIFE: The potential for intensive use of habitats within the project site by special-status wildlife species is also very low. Special-status wildlife species that have been recorded in greater project vicinity in the CNDDDB (2019) include Swainson's hawk, burrowing owl, tricolored blackbird (*Agelaius tricolor*), white-tailed kite, song sparrow ("Modesto population") (*Melospiza melodia*), western yellow-billed cuckoo (*Coccyzus americanus occidentalis*), California black rail (*Laterallus jamaicensis coturniculus*), least Bell's vireo (*Vireo bellii pusillus*), bank swallow (*Riparia riparia*), purple martin (*Progne subia*), American badger (*Taxidea taxus*), giant garter snake (*Thamnophis gigas*), western pond turtle (*Emys marmorata*), Central Valley steelhead (*Oncorhynchus mykiss*), winter-run chinook salmon (*Oncorhynchus tshawytscha*), spring-run chinook salmon (*Oncorhynchus tshawytscha*), Sacramento perch (*Archoplites*

interruptus), Sacramento splittail (*Pogonichthys macrolepidotus*), longfin smelt (*Spirinchus thaleichthys*), vernal pool fairy shrimp (*Branchinecta lynchi*), vernal pool tadpole shrimp (*Lepidurus packardii*), and valley elderberry longhorn beetle (*Desmocerus californicus dimorphus*). The USFWS IPaC Trust Report (Attachment B) includes several of the same species included in the CNDDDB and also includes California red-legged frog (*Rana aurora draytonii*), California tiger salamander (*Ambystoma californiense*), and delta smelt (*Hypomesus transpacificus*), which were added to Table 3.

While the project site may have provided habitat for special-status wildlife species at some time in the past, agriculture and development have substantially modified natural habitats in the greater project vicinity, including those in the site. Of the wildlife species identified in the CNDDDB, Swainson's hawk and burrowing owl are the only species with potential to occur in the site on more than a transitory or very occasional basis and are discussed further below. Other special-status birds, such as tricolored blackbird and white-tailed kite, may fly over or forage in the area on occasion, but would not be expected to nest in or immediately adjacent to the project site. Although considered unlikely to occur in the site, vernal pool fairy shrimp is discussed below due the presence of the seasonal wetland in the Parking Lot Site.

SWAINSON'S HAWK: The Swainson's hawk is a migratory hawk listed by the State of California as a Threatened species. The Migratory Bird Treaty Act and Fish and Game Code of California protect Swainson's hawks year-round, as well as their nests during the nesting season (March 1 through September 15).

Swainson's hawk are found in the Central Valley primarily during their breeding season, a population is known to winter in the San Joaquin Valley.

Swainson's hawks prefer nesting sites that provide sweeping views of nearby foraging grounds consisting of grasslands, irrigated pasture, hay, and wheat crops. Most Swainson's hawks are migratory, wintering in Mexico and breeding in California and elsewhere in the western United States. This raptor generally arrives in the Central Valley in mid-March, and begins courtship and nest

construction immediately upon arrival at the breeding sites. The young fledge in early July, and most Swainson's hawks leave their breeding territories by late August.

The site is within the nesting range of Swainson's hawks and the CNDDDB (2019) contains a few records of nesting Swainson's hawks in the greater project vicinity (Attachment B). The nearest occurrence of nesting Swainson's hawks in the CNDDDB (2019) search area is just west of the Parking Lot Site, nesting in a willow tree along Del Paso Road.

The only trees in the site are two cottonwood saplings in the Parking Lot Site and they are not large enough to support nesting raptors. However, there are a few relatively large trees in close proximity to the site, mostly ornamental species used as landscaping in the surrounding residential subdivisions and commercial properties that may be large enough to be used by nesting Swainson's hawk. The ruderal grassland in both of the work areas provides very low-quality, yet potentially suitable foraging habitat for this species. Due to the relatively small size of the site, surrounding development, and presence of irrigated cropland and large open fields in the greater project vicinity providing high quality forwarding habitat, it is unlikely Swainson's hawks forage in the site on more than an occasional basis.

BURROWING OWL: The Migratory Bird Treaty Act and Fish and Game Code of California protect burrowing owls year-round, as well as their nests during the nesting season (February 1 through August 31). Burrowing owls are a year-long resident in a variety of grasslands as well as scrub lands that have a low density of trees and shrubs with low growing vegetation; burrowing owls that nest in the Central Valley may winter elsewhere.

The primary habitat requirement of the burrowing owl is small mammal burrows for nesting. The owl usually nests in abandoned ground squirrel burrows, although they have been known to dig their own burrows in softer soils. In urban

areas, burrowing owls often utilize artificial burrows including pipes, culverts, and piles of concrete pieces. This semi-colonial owl breeds from March through August, and is most active while hunting during dawn and dusk.

No ground squirrels were observed in the site during the field surveys and no ground squirrel burrows were seen in either the Parking Lot Site or Buildout Site. While there are currently no burrows in the site, burrowing owls are known to occur in this part of Sacramento and may nest in the site if burrow habitat becomes available in the future. The nearest occurrence of nesting burrowing owls in the CNDDDB (2019) search area is within approximately 0.5 miles of the overall project site.

VERNAL POOL INVERTEBRATES: In 1994, USFWS listed three species of Central Valley fairy shrimp and one species of tadpole shrimp as threatened or endangered species under FESA. The vernal pool fairy shrimp was listed as threatened, while Conservancy fairy shrimp (*B. conservatio*), longhorn fairy shrimp (*B. longiantenna*), and vernal pool tadpole shrimp were listed as endangered. All of these species occur in vernal pools and other seasonal wetland habitats throughout much of the Central Valley. In most years, following cold winter rains which fill vernal pools, shrimp hatch, grow for a period ranging from a couple of weeks to a couple of months, then lay eggs and die. The eggs drift to the mud at the bottom of the pools, and remain in the dirt throughout the summer when the pools dry out. They hatch the following winter.

The nearest occurrence of vernal pool fairy shrimp in the CNDDDB (2019) search area is approximately 2.5 miles northeast of the project site. The nearest occurrence of vernal pool tadpole shrimp in the CNDDDB (2019) search area is approximately 5 miles east of the project site.

The seasonal wetland within the site has been subject to high levels of disturbance for several decades and is extremely shallow and highly disturbed. While vernal pool fairy shrimp can occur in disturbed wetlands, significant

disturbance, such as that at the site, reduces the habitat suitability and associated potential for occurrence. Vernal pool tadpole shrimp are known to occur in notably deeper and established vernal pools and would not be expected to occur in a shallow seasonal wetland. Following winter rain events during the first few weeks of December, soils in the wetland during the December 16 and 20, 2019 surveys were only moist, but not boggy; no water was ponding in the wetland. In its current condition, the wetland does not appear to pond water to a sufficient depth for a long enough duration to support vernal pool invertebrates.

OTHER SPECIAL-STATUS SPECIES: The project site does not provide highly suitable habitat for other special-status wildlife species. Special-status birds may fly over the area on occasion, but few, if any, would be expected to use on-site habitats on more than an occasional or transitory basis, primarily due to lack of habitat. For example, the site does not contain riparian vegetation, marshes, or expansive stands of emergent wetland vegetation to provide suitable nesting habitat for tricolored blackbirds or song sparrow ("Modesto population"). The site does not provide suitable habitat characteristics to support any of the other special-status bird species recognized.

The site does not provide suitable denning habitat for American badger. The site does not provide suitable aquatic habitat for any species of fish, California red-legged frog, California tiger salamander, giant garter snake, or western pond turtle. There are no blue elderberry shrubs in the site, precluding the potential occurrence of valley elderberry longhorn beetle.

CRITICAL HABITAT: The site is not within designated critical habitat for California red-legged frog (USFWS, 2006), California tiger salamander (USFWS, 2005a), federally listed vernal pool shrimp or plants (USFWS, 2005b), delta smelt (USFWS, 1994), valley elderberry longhorn beetle (USFWS, 1980), Central Valley steelhead (NOAA, 2005), or any other federally listed species.

Conclusions and Recommendations

- The Buildout Site is a fenced-off field supporting upland grassland vegetation that is surrounded by development. On-site habitats are biologically unremarkable.
- The Parking Lot Site is an open field supporting upland grassland vegetation and also contains a remnant ditch and a highly disturbed seasonal wetland.
- The only potentially jurisdictional Water of the U.S. or wetlands observed in the site are the seasonal wetland and ditch segment within the Parking Lot Site. No other potential jurisdictional Waters of the U.S. or wetlands of any type were observed in the project site.
- The wetland delineation prepared by WRA, Inc. has not yet been verified by ACOE. To expedite the fill of the wetland and associated permit processes and approvals, it is recommended the wetland delineation be submitted to ACOE with a request for a “Preliminary Jurisdictional Determination”. A Clean Water Act Section 404 permit from ACOE and Section 401 Water Quality Certification from Regional Water Quality Control Board (RWQCB) will then be needed prior to the placement of any fill material (e.g., fill dirt) within the seasonal wetland and the ditch.
- Due to a lack of suitable habitat, it is unlikely that special-status plants occur in the site.
- With the exception of Swainson’s hawk and burrowing owl, no special-status wildlife species are expected to occur in the site on more than a very occasional or transitory basis. In its current condition, the seasonal wetland does not appear to pond water to a

sufficient depth for a long enough duration to support vernal pool invertebrates.

- Swainson's hawk could potentially nest in the relatively larger trees adjacent to the two work areas and could be disturbed by construction noise and activity. A pre-construction survey for nesting Swainson's hawks within 0.25 miles of the project site is recommended if construction commences between March 1 and September 15. If active nests are found, a qualified biologist should determine the need (if any) for temporal restrictions on construction. The determination should utilize criteria set forth by CDFW (CDFG, 1994).
- Burrowing owls could potentially nest in the site and could be disturbed by construction noise and activity. Pre-construction surveys for burrowing owls within 250 feet of the site will occur if construction commences between February 1 and August 31. If occupied burrows are found, a qualified biologist will determine the need (if any) for temporal restrictions on construction pursuant to criteria set forth by CDFW (CDFG, 2012).
- Trees and grasslands in the site could be used by birds protected by the Migratory Bird Treaty Act of 1918. If vegetation removal or construction commences during the general avian nesting season (March 1 through July 31), a pre-construction survey for all species of nesting birds is recommended. If active nests are found, work in the vicinity of the nests should be delayed until the young fledge.
- The site is not within designated critical habitat of any federally listed species.

We hope this information is useful. Please call me at (209) 745-1159 with any questions.

Sincerely,



Diane S. Moore, M.S.
Principal Biologist

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Attachment A

Detailed Project Description

LOS RIOS COMMUNITY COLLEGE DISTRICT
NATOMAS CENTER – PARKING LOT EXPANSION AND PHASE 2 AND 3
BUILDOUT
Sacramento County, California

Project Location:

The Project is located at the Natomas Center Campus, in Natomas, Sacramento County, located at the intersection of Del Paso and Via Ingoglia, approximately 4,000 feet east of Interstate 5. The site is located in a primarily suburban area within the City of Natomas. The Natomas Center Campus address is 2421 Del Paso Road, Sacramento, California.

Project Description:

The proposed project includes a new 31,077 assignable square feet (asf) (49,800 gross square feet) instructional facility adjacent to the existing American River College Natomas Center building. The new building will provide space for instruction in general education, biology and chemistry and provides ADA access compliance and adequate HVAC, power, technology and lighting systems to support these instructional programs. This includes 5,610 asf of lecture space, 16,441 asf of lab space and 9,026 asf of office/admin and miscellaneous support space.

In addition, the Los Rios Community College District is proposing to add a new parking area to the existing Natomas Center campus. The location of the new parking will be just west of the existing campus and across the street (west of Via Ingoglia). The attached image below shows the outline of the parcel (see Figure 1). Only a portion of this parcel (Assessor Parcel Number 225-0040-089-



Figure 1 – Parcel Viewer (APN 225-0040-089) Image showing the general location of the proposed parking lot project area. Are highlighted in yellow encompasses the entire 9.13 acres.

0000) will be used for the parking (see Figure 2). The overall parcel is 9.13 acres in size. The final parking configuration will allow for an additional 564 parking stalls. The entire parcel will be part of the Initial Study/Mitigated Negative Declaration (IS/MND) assessment.

The Phase 2 and 3 buildout will include new buildings and associated structures to the east of Phase 1 campus buildings. The location of the proposed construction is shown below (see Figure 3). The attached image below shows the outline of the parcel (see Figure 4). The entire parcel will be part of the Initial Study/Mitigated Negative Declaration (IS/MND) assessment.

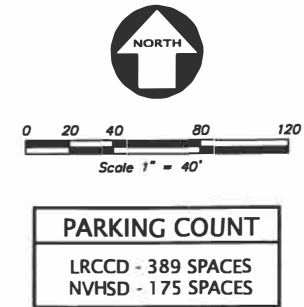
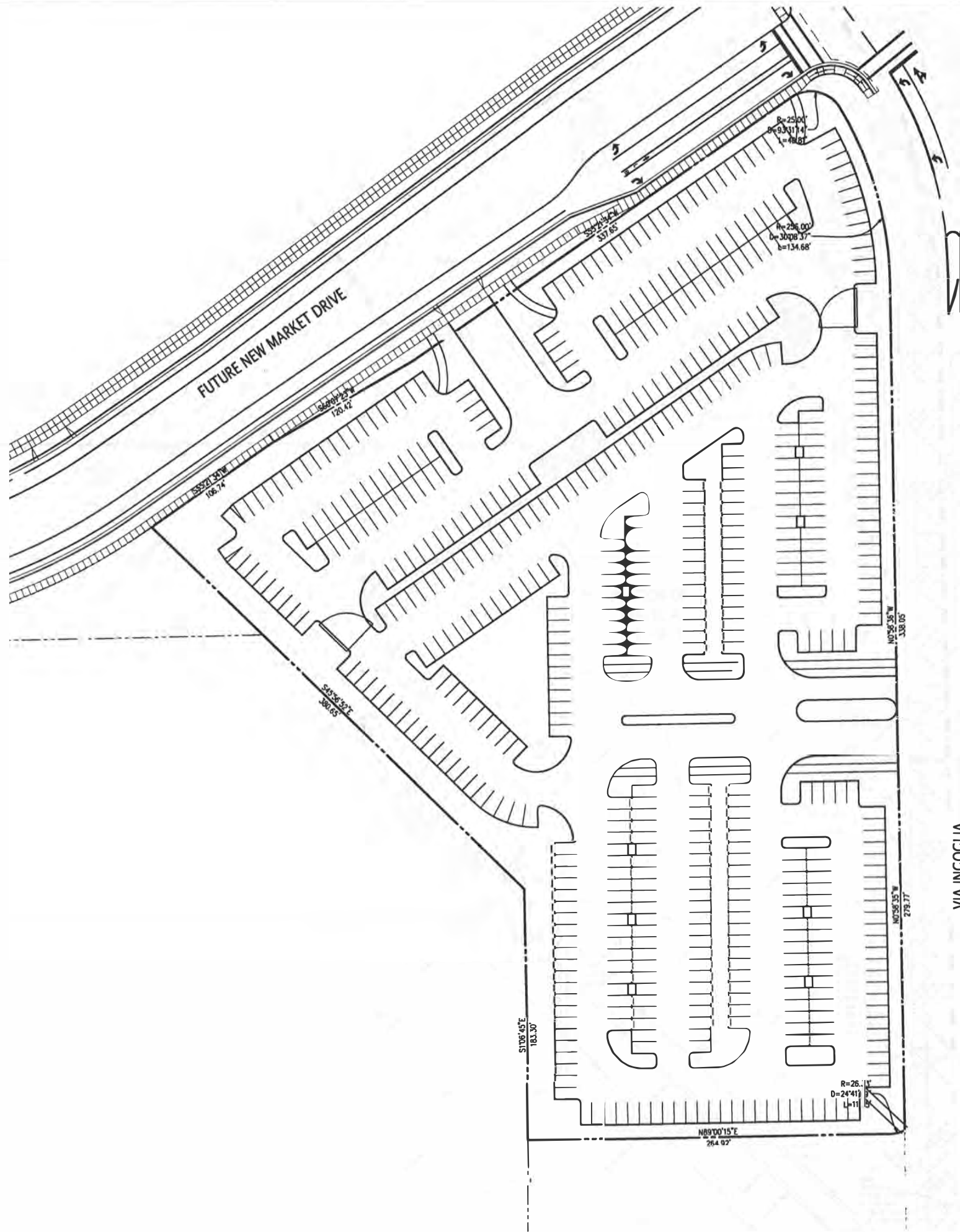


Figure 2 - Image showing the general location of the proposed parking lot project area. Area configurable to between 500 and 600 parking stalls.

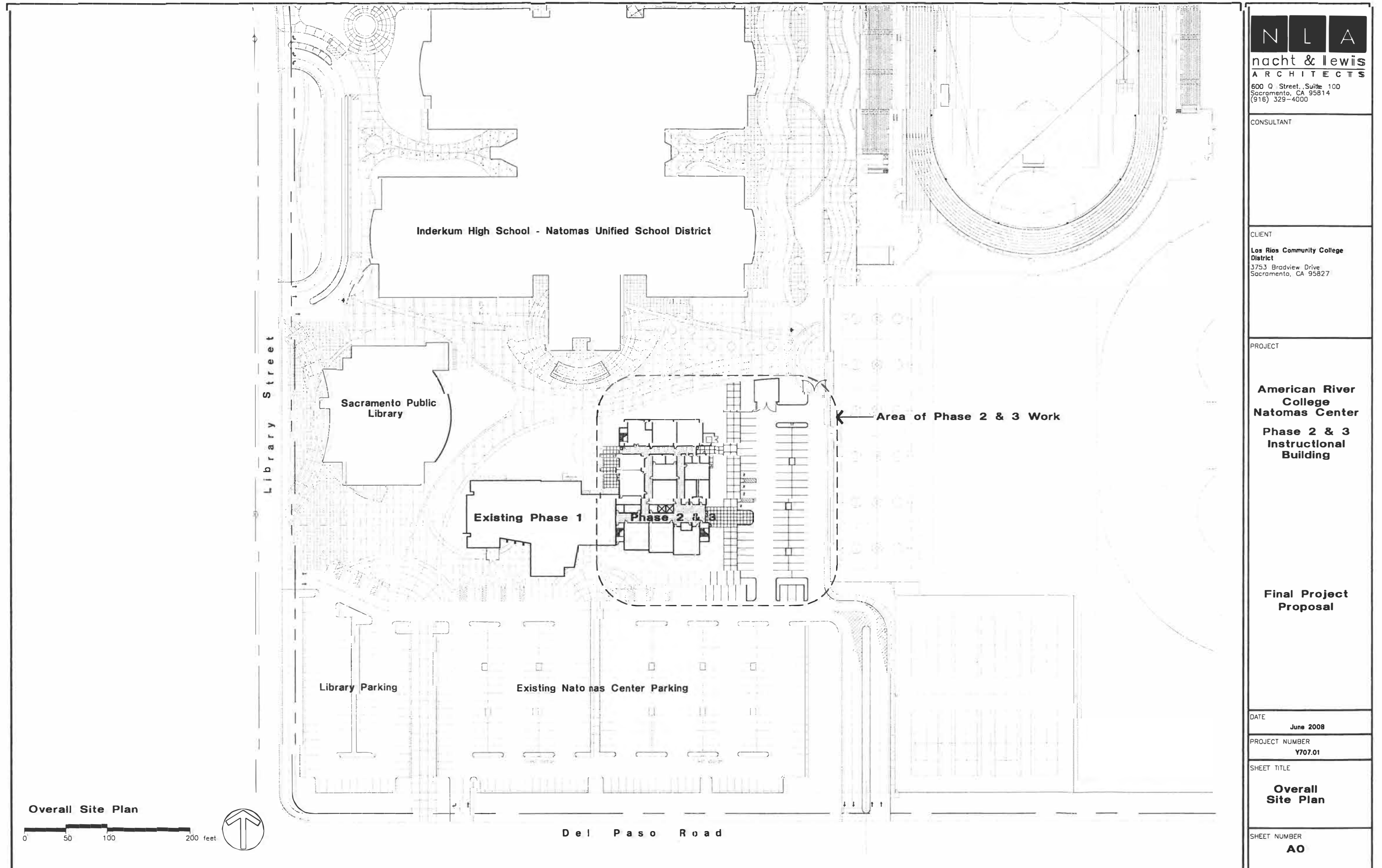
EXHIBIT
OF
NATOMAS PARKING EXPANSION
FOR
LOS RIOS COMMUNITY COLLEGE DISTRICT
SACRAMENTO, CALIFORNIA

DATE	March 12, 2019
SCALE	AS SHOWN
DESIGNER	JNM
JOB NO.	A19501
SHEET	EX
OF	SHEETS

KIER & WRIGHT
CIVIL ENGINEERS & SURVEYORS, INC.
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NO.	REVISION	BY	NO.	REVISION	BY
1			1		
2			2		
3			3		
4			4		
5			5		

Figure 3 – Image showing the general location of the proposed Phase 2 and 3 work areas



N L A
nacht & lewis
ARCHITECTS

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CONSULTANT

CLIENT

Los Rios Community College District
 3753 Bradview Drive
 Sacramento, CA 95827

PROJECT

American River College Natomas Center
Phase 2 & 3 Instructional Building

Final Project Proposal

DATE

June 2008

PROJECT NUMBER

Y707.01

SHEET TITLE

Overall Site Plan

SHEET NUMBER

A0



Figure 4 – Parcel Viewer (APN 225-0040-085) Image showing the general location of the proposed Phase 2 and 3 work areas.

Attachment B

CNDDB Summary Report and Exhibits & USFWS IPaC Trust Resource Report



Selected Elements by Scientific Name

California Department of Fish and Wildlife

California Natural Diversity Database



Query Criteria: Quad IS (Sacramento East (3812154) OR Sacramento West (3812155) OR Taylor Monument (3812165) OR Rio Linda (3812164))

Species	Element Code	Federal Status	State Status	Global Rank	State Rank	Rare Plant Rank/CDFW SSC or FP
<i>Accipiter cooperii</i> Cooper's hawk	ABNKC12040	None	None	G5	S4	WL
<i>Agelaius tricolor</i> tricolored blackbird	ABPBXB0020	None	Threatened	G2G3	S1S2	SSC
<i>Archoplites interruptus</i> Sacramento perch	AFCQB07010	None	None	G2G3	S1	SSC
<i>Ardea alba</i> great egret	ABNGA04040	None	None	G5	S4	
<i>Ardea herodias</i> great blue heron	ABNGA04010	None	None	G5	S4	
<i>Astragalus tener var. ferrisiae</i> Ferris' milk-vetch	PDFAB0F8R3	None	None	G2T1	S1	1B.1
<i>Athene cunicularia</i> burrowing owl	ABNSB10010	None	None	G4	S3	SSC
<i>Branchinecta lynchi</i> vernal pool fairy shrimp	ICBRA03030	Threatened	None	G3	S3	
<i>Buteo swainsoni</i> Swainson's hawk	ABNKC19070	None	Threatened	G5	S3	
<i>Cicindela hirticollis abrupta</i> Sacramento Valley tiger beetle	IICOL02106	None	None	G5TH	SH	
<i>Coccyzus americanus occidentalis</i> western yellow-billed cuckoo	ABNRB02022	Threatened	Endangered	G5T2T3	S1	
<i>Desmocerus californicus dimorphus</i> valley elderberry longhorn beetle	IICOL48011	Threatened	None	G3T2	S2	
<i>Downingia pusilla</i> dwarf downingia	PDCAM060C0	None	None	GU	S2	2B.2
<i>Egretta thula</i> snowy egret	ABNGA06030	None	None	G5	S4	
<i>Elanus leucurus</i> white-tailed kite	ABNKC06010	None	None	G5	S3S4	FP
<i>Elderberry Savanna</i> Elderberry Savanna	CTT63440CA	None	None	G2	S2.1	
<i>Emys marmorata</i> western pond turtle	ARAAD02030	None	None	G3G4	S3	SSC
<i>Fritillaria agrestis</i> stinkbells	PMLIL0V010	None	None	G3	S3	4.2
<i>Gratiola heterosepala</i> Boggs Lake hedge-hyssop	PDSCR0R060	None	Endangered	G2	S2	1B.2



Selected Elements by Scientific Name
California Department of Fish and Wildlife
California Natural Diversity Database



Species	Element Code	Federal Status	State Status	Global Rank	State Rank	Rare Plant Rank/CDFW SSC or FP
Great Valley Cottonwood Riparian Forest Great Valley Cottonwood Riparian Forest	CTT61410CA	None	None	G2	S2.1	
Hibiscus lasiocarpus var. occidentalis woolly rose-mallow	PDMAL0H0R3	None	None	G5T3	S3	1B.2
Lasiurus cinereus hoary bat	AMACC05030	None	None	G5	S4	
Laterallus jamaicensis coturniculus California black rail	ABNME03041	None	Threatened	G3G4T1	S1	FP
Legenere limosa legenere	PDCAM0C010	None	None	G2	S2	1B.1
Lepidurus packardii vernal pool tadpole shrimp	ICBRA10010	Endangered	None	G4	S3S4	
Linderiella occidentalis California linderiella	ICBRA06010	None	None	G2G3	S2S3	
Melospiza melodia song sparrow ("Modesto" population)	ABPBXA3010	None	None	G5	S3?	SSC
Northern Claypan Vernal Pool Northern Claypan Vernal Pool	CTT44120CA	None	None	G1	S1.1	
Northern Hardpan Vernal Pool Northern Hardpan Vernal Pool	CTT44110CA	None	None	G3	S3.1	
Nycticorax nycticorax black-crowned night heron	ABNGA11010	None	None	G5	S4	
Oncorhynchus mykiss irideus pop. 11 steelhead - Central Valley DPS	AFCHA0209K	Threatened	None	G5T2Q	S2	
Oncorhynchus tshawytscha pop. 6 chinook salmon - Central Valley spring-run ESU	AFCHA0205A	Threatened	Threatened	G5	S1	
Oncorhynchus tshawytscha pop. 7 chinook salmon - Sacramento River winter-run ESU	AFCHA0205B	Endangered	Endangered	G5	S1	
Pogonichthys macrolepidotus Sacramento splittail	AFCJB34020	None	None	GNR	S3	SSC
Progne subis purple martin	ABPAU01010	None	None	G5	S3	SSC
Riparia riparia bank swallow	ABPAU08010	None	Threatened	G5	S2	
Sagittaria sanfordii Sanford's arrowhead	PMALI040Q0	None	None	G3	S3	1B.2
Spirinchus thaleichthys longfin smelt	AFCHB03010	Candidate	Threatened	G5	S1	
Symphyotrichum lentum Suisun Marsh aster	PDASTE8470	None	None	G2	S2	1B.2
Taxidea taxus American badger	AMAJF04010	None	None	G5	S3	SSC



Selected Elements by Scientific Name
California Department of Fish and Wildlife
California Natural Diversity Database



Species	Element Code	Federal Status	State Status	Global Rank	State Rank	Rare Plant Rank/CDFW SSC or FP
<i>Thamnophis gigas</i> giant gartersnake	ARADB36150	Threatened	Threatened	G2	S2	
<i>Vireo bellii pusillus</i> least Bell's vireo	ABPBW01114	Endangered	Endangered	G5T2	S2	

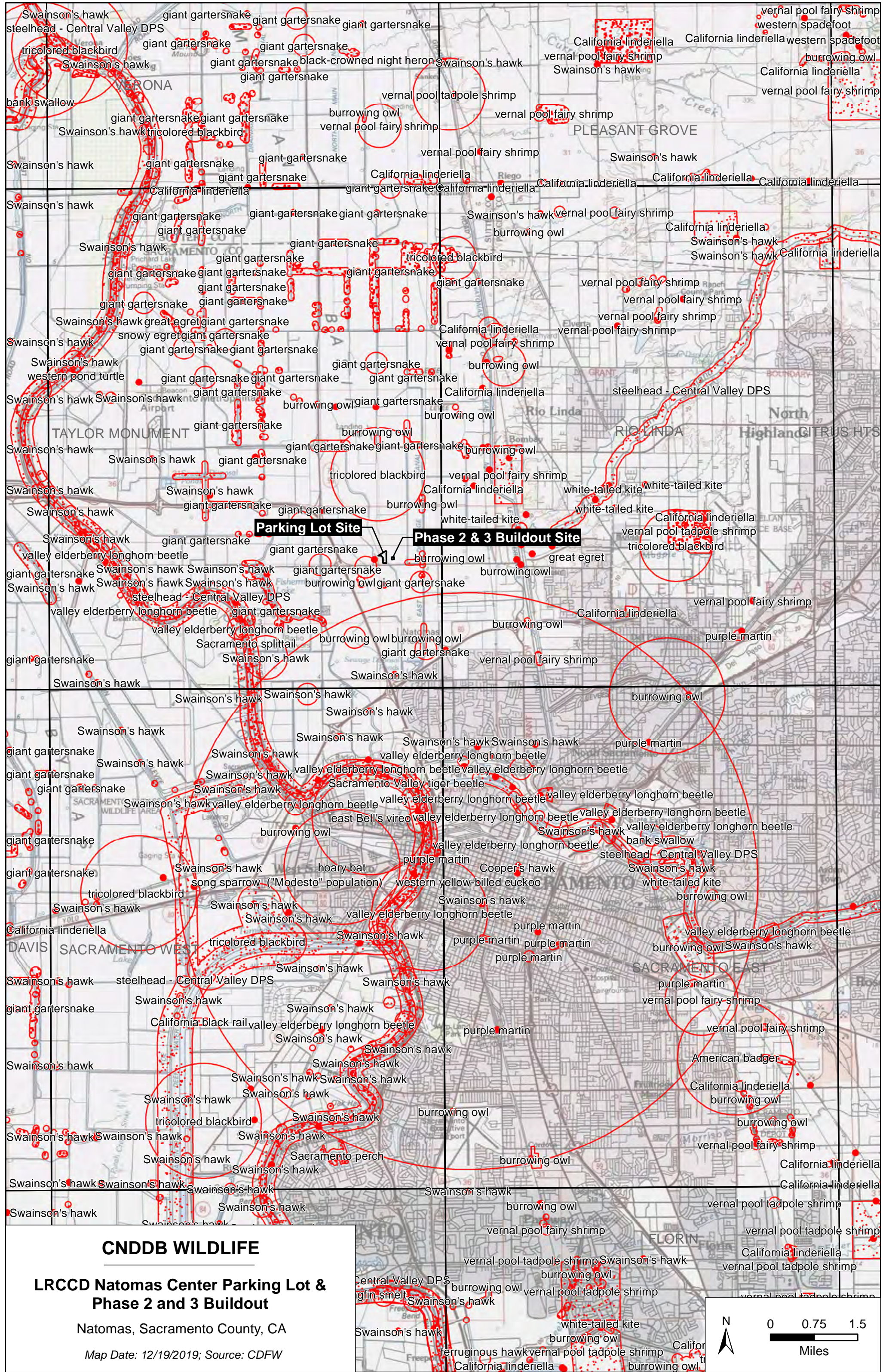
Record Count: 42

CNDDDB WILDLIFE

LRCCD Natomas Center Parking Lot & Phase 2 and 3 Buildout

Natomas, Sacramento County, CA

Map Date: 12/19/2019; Source: CDFW



IPaC resource list

This report is an automatically generated list of species and other resources such as critical habitat (collectively referred to as *trust resources*) under the U.S. Fish and Wildlife Service's (USFWS) jurisdiction that are known or expected to be on or near the project area referenced below. The list may also include trust resources that occur outside of the project area, but that could potentially be directly or indirectly affected by activities in the project area. However, determining the likelihood and extent of effects a project may have on trust resources typically requires gathering additional site-specific (e.g., vegetation/species surveys) and project-specific (e.g., magnitude and timing of proposed activities) information.

Below is a summary of the project information you provided and contact information for the USFWS office(s) with jurisdiction in the defined project area. Please read the introduction to each section that follows (Endangered Species, Migratory Birds, USFWS Facilities, and NWI Wetlands) for additional information applicable to the trust resources addressed in that section.

Location


Sacramento County, California



Local office

Sacramento Fish And Wildlife Office

☎ (916) 414-6600

 (916) 414-6713

Federal Building
2800 Cottage Way, Room W-2605
Sacramento, CA 95825-1846

Endangered species

This resource list is for informational purposes only and does not constitute an analysis of project level impacts.

The primary information used to generate this list is the known or expected range of each species. Additional areas of influence (AOI) for species are also considered. An AOI includes areas outside of the species range if the species could be indirectly affected by activities in that area (e.g., placing a dam upstream of a fish population, even if that fish does not occur at the dam site, may indirectly impact the species by reducing or eliminating water flow downstream). Because species can move, and site conditions can change, the species on this list are not guaranteed to be found on or near the project area. To fully determine any potential effects to species, additional site-specific and project-specific information is often required.

Section 7 of the Endangered Species Act **requires** Federal agencies to "request of the Secretary information whether any species which is listed or proposed to be listed may be present in the area of such proposed action" for any project that is conducted, permitted, funded, or licensed by any Federal agency. A letter from the local office and a species list which fulfills this requirement can **only** be obtained by requesting an official species list from either the Regulatory Review section in IPaC (see directions below) or from the local field office directly.

For project evaluations that require USFWS concurrence/review, please return to the IPaC website and request an official species list by doing the following:

1. Draw the project location and click CONTINUE.
2. Click DEFINE PROJECT.
3. Log in (if directed to do so).
4. Provide a name and description for your project.
5. Click REQUEST SPECIES LIST.

Listed species¹ and their critical habitats are managed by the [Ecological Services Program](#) of the U.S. Fish and Wildlife Service (USFWS) and the fisheries division of the National Oceanic and Atmospheric Administration (NOAA Fisheries²).

Species and critical habitats under the sole responsibility of NOAA Fisheries are **not** shown on this list. Please contact [NOAA Fisheries](#) for [species under their jurisdiction](#).

1. Species listed under the [Endangered Species Act](#) are threatened or endangered; IPaC also shows species that are candidates, or proposed, for listing. See the [listing status page](#) for more information.
2. [NOAA Fisheries](#), also known as the National Marine Fisheries Service (NMFS), is an office of the National Oceanic and Atmospheric Administration within the Department of Commerce.

The following species are potentially affected by activities in this location:

Reptiles

NAME

STATUS

Giant Garter Snake *Thamnophis gigas*

Threatened

No critical habitat has been designated for this species.

<https://ecos.fws.gov/ecp/species/4482>

Amphibians

NAME

STATUS

California Red-legged Frog *Rana draytonii*

Threatened

There is **final** critical habitat for this species. Your location is outside the critical habitat.<https://ecos.fws.gov/ecp/species/2891>California Tiger Salamander *Ambystoma californiense*

Threatened

There is **final** critical habitat for this species. Your location is outside the critical habitat.<https://ecos.fws.gov/ecp/species/2076>

Fishes

NAME

STATUS

Delta Smelt *Hypomesus transpacificus*

Threatened

There is **final** critical habitat for this species. Your location is outside the critical habitat.<https://ecos.fws.gov/ecp/species/321>

Insects

NAME

STATUS

Valley Elderberry Longhorn Beetle *Desmocerus californicus dimorphus*

Threatened

There is **final** critical habitat for this species. Your location is outside the critical habitat.<https://ecos.fws.gov/ecp/species/7850>

Crustaceans

NAME

STATUS

Vernal Pool Fairy Shrimp *Branchinecta lynchi*

Threatened

There is **final** critical habitat for this species. Your location is outside the critical habitat.<https://ecos.fws.gov/ecp/species/498>Vernal Pool Tadpole Shrimp *Lepidurus packardii*

Endangered

There is **final** critical habitat for this species. Your location is outside the critical habitat.<https://ecos.fws.gov/ecp/species/2246>

Critical habitats

Potential effects to critical habitat(s) in this location must be analyzed along with the endangered species themselves.

THERE ARE NO CRITICAL HABITATS AT THIS LOCATION.

Migratory birds

Certain birds are protected under the Migratory Bird Treaty Act¹ and the Bald and Golden Eagle Protection Act².

Any person or organization who plans or conducts activities that may result in impacts to migratory birds, eagles, and their habitats should follow appropriate regulations and consider implementing appropriate conservation measures, as described [below](#).

1. The [Migratory Birds Treaty Act](#) of 1918.
2. The [Bald and Golden Eagle Protection Act](#) of 1940.

Additional information can be found using the following links:

- Birds of Conservation Concern <http://www.fws.gov/birds/management/managed-species/birds-of-conservation-concern.php>
- Measures for avoiding and minimizing impacts to birds <http://www.fws.gov/birds/management/project-assessment-tools-and-guidance/conservation-measures.php>
- Nationwide conservation measures for birds <http://www.fws.gov/migratorybirds/pdf/management/nationwidestandardconservationmeasures.pdf>

The birds listed below are birds of particular concern either because they occur on the [USFWS Birds of Conservation Concern](#) (BCC) list or warrant special attention in your project location. To learn more about the levels of concern for birds on your list and how this list is generated, see the FAQ [below](#). This is not a list of every bird you may find in this location, nor a guarantee that every bird on this list will be found in your project area. To see exact locations of where birders and the general public have sighted birds in and around your project area, visit the [E-bird data mapping tool](#) (Tip: enter your location, desired date range and a species on your list). For projects that occur off the Atlantic Coast, additional maps and models detailing the relative occurrence and abundance of bird species on your list are available. Links to additional information about Atlantic Coast birds, and other important information about your migratory bird list, including how to properly interpret and use your migratory bird report, can be found [below](#).

For guidance on when to schedule activities or implement avoidance and minimization measures to reduce impacts to migratory birds on your list, click on the PROBABILITY OF PRESENCE SUMMARY at the top of your list to see when these birds are most likely to be present and breeding in your project area.

NAME

BREEDING SEASON (IF A BREEDING SEASON IS INDICATED FOR A BIRD ON YOUR LIST, THE BIRD MAY BREED IN YOUR PROJECT AREA SOMETIME WITHIN THE TIMEFRAME SPECIFIED, WHICH IS A VERY LIBERAL ESTIMATE OF THE DATES INSIDE WHICH THE BIRD BREEDS ACROSS ITS ENTIRE RANGE. "BREEDS ELSEWHERE" INDICATES THAT THE BIRD DOES NOT LIKELY BREED IN YOUR PROJECT AREA.)

Burrowing Owl *Athene cunicularia*

Breeds Mar 15 to Aug 31

This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA

<https://ecos.fws.gov/ecp/species/9737>

Clark's Grebe *Aechmophorus clarkii*

Breeds Jan 1 to Dec 31

This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.

Common Yellowthroat *Geothlypis trichas sinuosa*

Breeds May 20 to Jul 31

This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA

<https://ecos.fws.gov/ecp/species/2084>

Costa's Hummingbird *Calypte costae*

Breeds Jan 15 to Jun 10

This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA

<https://ecos.fws.gov/ecp/species/9470>

Long-billed Curlew *Numenius americanus*

Breeds elsewhere

This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.

<https://ecos.fws.gov/ecp/species/5511>

Marbled Godwit *Limosa fedoa*

Breeds elsewhere

This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.

<https://ecos.fws.gov/ecp/species/9481>

Nuttall's Woodpecker *Picoides nuttallii*

Breeds Apr 1 to Jul 20

This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA

<https://ecos.fws.gov/ecp/species/9410>

Oak Titmouse *Baeolophus inornatus*

Breeds Mar 15 to Jul 15

This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.

<https://ecos.fws.gov/ecp/species/9656>

Rufous Hummingbird *Selasphorus rufus*

Breeds elsewhere

This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.

<https://ecos.fws.gov/ecp/species/8002>

Short-billed Dowitcher *Limnodromus griseus*

Breeds elsewhere

This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.

<https://ecos.fws.gov/ecp/species/9480>

Song Sparrow *Melospiza melodia*

Breeds Feb 20 to Sep 5

This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA

Spotted Towhee *Pipilo maculatus clementae*

Breeds Apr 15 to Jul 20

This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA

<https://ecos.fws.gov/ecp/species/4243>

Tricolored Blackbird *Agelaius tricolor*

Breeds Mar 15 to Aug 10

This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.

<https://ecos.fws.gov/ecp/species/3910>

Whimbrel *Numenius phaeopus*

Breeds elsewhere

This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.

<https://ecos.fws.gov/ecp/species/9483>

Wrentit *Chamaea fasciata*

Breeds Mar 15 to Aug 10

This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.

Yellow-billed Magpie *Pica nuttalli*

Breeds Apr 1 to Jul 31

This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.

<https://ecos.fws.gov/ecp/species/9726>

Probability of Presence Summary

The graphs below provide our best understanding of when birds of concern are most likely to be present in your project area. This information can be used to tailor and schedule your project activities to avoid or minimize impacts to birds. Please make sure you read and understand the FAQ “Proper Interpretation and Use of Your Migratory Bird Report” before using or attempting to interpret this report.

Probability of Presence (■)

Each green bar represents the bird's relative probability of presence in the 10km grid cell(s) your project overlaps during a particular week of the year. (A year is represented as 12 4-week months.) A taller bar indicates a higher probability of species presence. The survey effort (see below) can be used to establish a level of confidence in the presence score. One can have higher confidence in the presence score if the corresponding survey effort is also high.

How is the probability of presence score calculated? The calculation is done in three steps:

1. The probability of presence for each week is calculated as the number of survey events in the week where the species was detected divided by the total number of survey events for that week. For example, if in week 12 there were 20 survey events and the Spotted Towhee was found in 5 of them, the probability of presence of the Spotted Towhee in week 12 is 0.25.
2. To properly present the pattern of presence across the year, the relative probability of presence is calculated. This is the probability of presence divided by the maximum probability of presence across all weeks. For example, imagine the probability of presence in week 20 for the Spotted Towhee is 0.05, and that the probability of presence at week 12 (0.25) is the maximum of any week of the year. The relative probability of presence on week 12 is $0.25/0.25 = 1$; at week 20 it is $0.05/0.25 = 0.2$.
3. The relative probability of presence calculated in the previous step undergoes a statistical conversion so that all possible values fall between 0 and 10, inclusive. This is the probability of presence score.

To see a bar's probability of presence score, simply hover your mouse cursor over the bar.

Breeding Season (■)

Yellow bars denote a very liberal estimate of the time-frame inside which the bird breeds across its entire range. If there are no yellow bars shown for a bird, it does not breed in your project area.

Survey Effort (|)

Vertical black lines superimposed on probability of presence bars indicate the number of surveys performed for that species in the 10km grid cell(s) your project area overlaps. The number of surveys is expressed as a range, for example, 33 to 64 surveys.

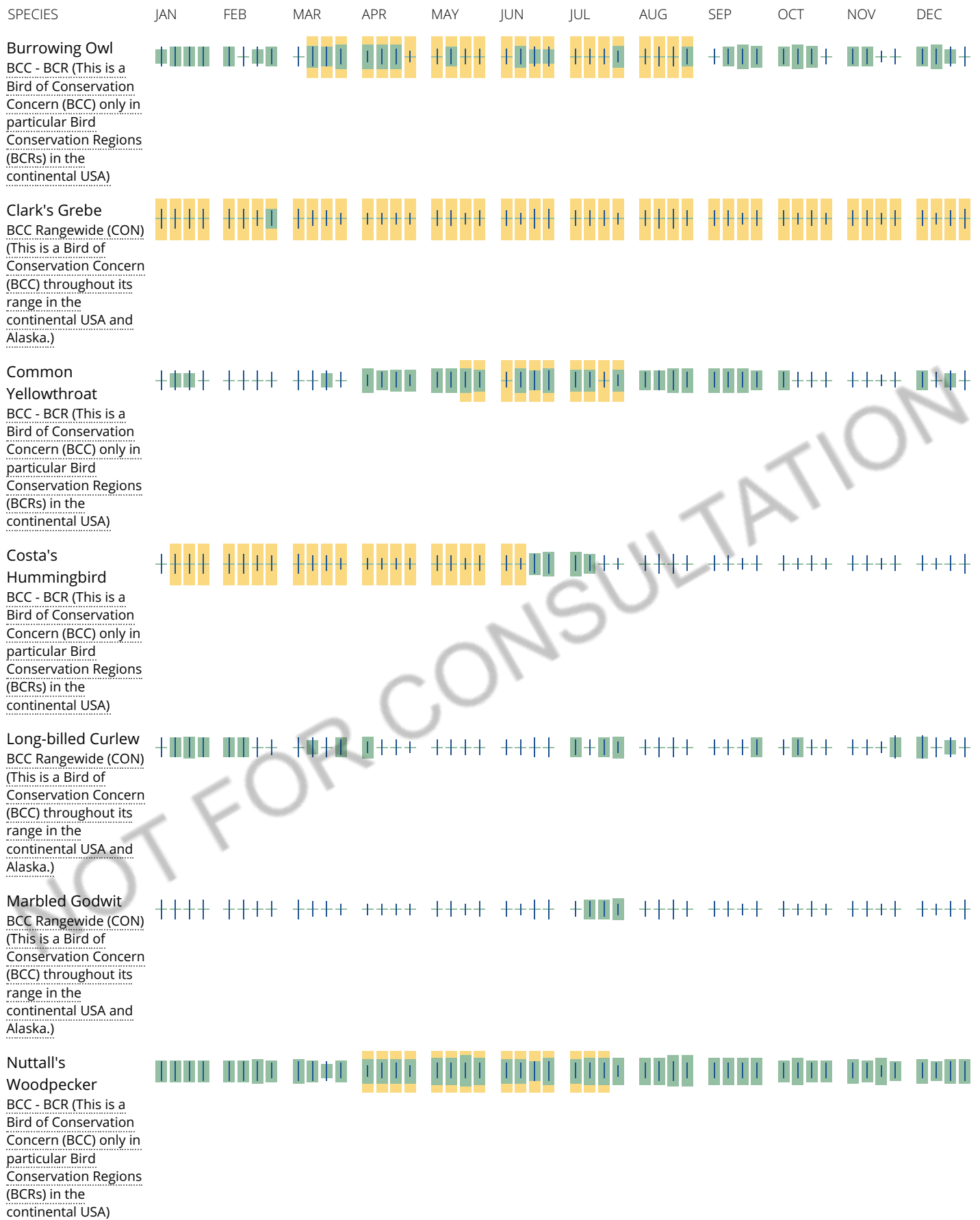
To see a bar's survey effort range, simply hover your mouse cursor over the bar.

No Data (—)

A week is marked as having no data if there were no survey events for that week.

Survey Timeframe

Surveys from only the last 10 years are used in order to ensure delivery of currently relevant information. The exception to this is areas off the Atlantic coast, where bird returns are based on all years of available data, since data in these areas is currently much more sparse.







Tell me more about conservation measures I can implement to avoid or minimize impacts to migratory birds.

[Nationwide Conservation Measures](#) describes measures that can help avoid and minimize impacts to all birds at any location year round. Implementation of these measures is particularly important when birds are most likely to occur in the project area. When birds may be breeding in the area, identifying the locations of any active nests and avoiding their destruction is a very helpful impact minimization measure. To see when birds are most likely to occur and be breeding in your project area, view the Probability of Presence Summary. [Additional measures](#) and/or [permits](#) may be advisable depending on the type of activity you are conducting and the type of infrastructure or bird species present on your project site.

What does IPaC use to generate the migratory birds potentially occurring in my specified location?

The Migratory Bird Resource List is comprised of USFWS [Birds of Conservation Concern \(BCC\)](#) and other species that may warrant special attention in your project location.

The migratory bird list generated for your project is derived from data provided by the [Avian Knowledge Network \(AKN\)](#). The AKN data is based on a growing collection of [survey, banding, and citizen science datasets](#) and is queried and filtered to return a list of those birds reported as occurring in the 10km grid cell(s) which your project intersects, and that have been identified as warranting special attention because they are a BCC species in that area, an eagle ([Eagle Act](#) requirements may apply), or a species that has a particular vulnerability to offshore activities or development.

Again, the Migratory Bird Resource list includes only a subset of birds that may occur in your project area. It is not representative of all birds that may occur in your project area. To get a list of all birds potentially present in your project area, please visit the [AKN Phenology Tool](#).

What does IPaC use to generate the probability of presence graphs for the migratory birds potentially occurring in my specified location?

The probability of presence graphs associated with your migratory bird list are based on data provided by the [Avian Knowledge Network \(AKN\)](#). This data is derived from a growing collection of [survey, banding, and citizen science datasets](#).

Probability of presence data is continuously being updated as new and better information becomes available. To learn more about how the probability of presence graphs are produced and how to interpret them, go the Probability of Presence Summary and then click on the "Tell me about these graphs" link.

How do I know if a bird is breeding, wintering, migrating or present year-round in my project area?

To see what part of a particular bird's range your project area falls within (i.e. breeding, wintering, migrating or year-round), you may refer to the following resources: [The Cornell Lab of Ornithology All About Birds Bird Guide](#), or (if you are unsuccessful in locating the bird of interest there), the [Cornell Lab of Ornithology Neotropical Birds guide](#). If a bird on your migratory bird species list has a breeding season associated with it, if that bird does occur in your project area, there may be nests present at some point within the timeframe specified. If "Breeds elsewhere" is indicated, then the bird likely does not breed in your project area.

What are the levels of concern for migratory birds?

Migratory birds delivered through IPaC fall into the following distinct categories of concern:

1. "BCC Rangewide" birds are [Birds of Conservation Concern](#) (BCC) that are of concern throughout their range anywhere within the USA (including Hawaii, the Pacific Islands, Puerto Rico, and the Virgin Islands);
2. "BCC - BCR" birds are BCCs that are of concern only in particular Bird Conservation Regions (BCRs) in the continental USA; and
3. "Non-BCC - Vulnerable" birds are not BCC species in your project area, but appear on your list either because of the [Eagle Act](#) requirements (for eagles) or (for non-eagles) potential susceptibilities in offshore areas from certain types of development or activities (e.g. offshore energy development or longline fishing).

Although it is important to try to avoid and minimize impacts to all birds, efforts should be made, in particular, to avoid and minimize impacts to the birds on this list, especially eagles and BCC species of rangewide concern. For more information on conservation measures you can implement to help avoid and minimize migratory bird impacts and requirements for eagles, please see the FAQs for these topics.

Details about birds that are potentially affected by offshore projects

For additional details about the relative occurrence and abundance of both individual bird species and groups of bird species within your project area off the Atlantic Coast, please visit the [Northeast Ocean Data Portal](#). The Portal also offers data and information about other taxa besides birds that may be helpful to you in your project review. Alternately, you may download the bird model results files underlying the portal maps through the [NOAA NCCOS Integrative Statistical Modeling and Predictive Mapping of Marine Bird Distributions and Abundance on the Atlantic Outer Continental Shelf](#) project webpage.

Bird tracking data can also provide additional details about occurrence and habitat use throughout the year, including migration. Models relying on survey data may not include this information. For additional information on marine bird tracking data, see the [Diving Bird Study](#) and the [nanotag studies](#) or contact [Caleb Spiegel](#) or [Pam Loring](#).

What if I have eagles on my list?

If your project has the potential to disturb or kill eagles, you may need to [obtain a permit](#) to avoid violating the Eagle Act should such impacts occur.

Proper Interpretation and Use of Your Migratory Bird Report

The migratory bird list generated is not a list of all birds in your project area, only a subset of birds of priority concern. To learn more about how your list is generated, and see options for identifying what other birds may be in your project area, please see the FAQ "What does IPaC use to generate the migratory birds potentially occurring in my specified location". Please be aware this report provides the "probability of presence" of birds within the 10 km grid cell(s) that overlap your project; not your exact project footprint. On the graphs provided, please also look carefully at the survey effort (indicated by the black vertical bar) and for the existence of the "no data" indicator (a red horizontal bar). A high survey effort is the key component. If the survey effort is high, then the probability of presence score can be viewed as more dependable. In contrast, a low survey effort bar or no data bar means a lack of data and, therefore, a lack of certainty about presence of the species. This list is not perfect; it is simply a starting point for identifying what birds of concern have the potential to be in your project area, when they might be there, and if they might be breeding (which means nests might be present). The list helps you know what to look for to confirm

presence, and helps guide you in knowing when to implement conservation measures to avoid or minimize potential impacts from your project activities, should presence be confirmed. To learn more about conservation measures, visit the FAQ "Tell me about conservation measures I can implement to avoid or minimize impacts to migratory birds" at the bottom of your migratory bird trust resources page.

Facilities

National Wildlife Refuge lands

Any activity proposed on lands managed by the [National Wildlife Refuge](#) system must undergo a 'Compatibility Determination' conducted by the Refuge. Please contact the individual Refuges to discuss any questions or concerns.

THERE ARE NO REFUGE LANDS AT THIS LOCATION.

Fish hatcheries

THERE ARE NO FISH HATCHERIES AT THIS LOCATION.

Wetlands in the National Wetlands Inventory

Impacts to [NWI wetlands](#) and other aquatic habitats may be subject to regulation under Section 404 of the Clean Water Act, or other State/Federal statutes.

For more information please contact the Regulatory Program of the local [U.S. Army Corps of Engineers District](#).

Please note that the NWI data being shown may be out of date. We are currently working to update our NWI data set. We recommend you verify these results with a site visit to determine the actual extent of wetlands on site.

This location overlaps the following wetlands:

RIVERINE

[R5UBFx](#)

A full description for each wetland code can be found at the [National Wetlands Inventory website](#)

Data limitations

The Service's objective of mapping wetlands and deepwater habitats is to produce reconnaissance level information on the location, type and size of these resources. The maps are prepared from the analysis of high altitude imagery. Wetlands are identified based on vegetation, visible hydrology and geography. A margin of error is inherent in the use of imagery; thus, detailed on-the-ground inspection of any particular site may result in revision of the wetland boundaries or classification established through image analysis.

The accuracy of image interpretation depends on the quality of the imagery, the experience of the image analysts, the amount and quality of the collateral data and the amount of ground truth verification work conducted. Metadata should be consulted to determine the date of the source imagery used and any mapping problems.

Wetlands or other mapped features may have changed since the date of the imagery or field work. There may be occasional differences in polygon boundaries or classifications between the information depicted on the map and the actual conditions on site.

Data exclusions

Certain wetland habitats are excluded from the National mapping program because of the limitations of aerial imagery as the primary data source used to detect wetlands. These habitats include seagrasses or submerged aquatic vegetation that are found in the intertidal and subtidal zones of estuaries and nearshore coastal waters. Some deepwater reef communities (coral or tubercid worm reefs) have also been excluded from the inventory. These habitats, because of their depth, go undetected by aerial imagery.

Data precautions

Federal, state, and local regulatory agencies with jurisdiction over wetlands may define and describe wetlands in a different manner than that used in this inventory. There is no attempt, in either the design or products of this inventory, to define the limits of proprietary jurisdiction of any Federal, state, or local government or to establish the geographical scope of the regulatory programs of government agencies. Persons intending to engage in activities involving modifications within or adjacent to wetland areas should seek the advice of appropriate federal, state, or local agencies concerning specified agency regulatory programs and proprietary jurisdictions that may affect such activities.

Attachment C

Photographs



Mowed ruderal grassland in the Phase 2 & 3 Buildout site, looking west along the south edge of the site; 12/16/19.



Mowed ruderal grassland in the Phase 2 & 3 Buildout site, looking north from the south edge of the site; 12/16/19.



Mowed ruderal grassland in the Phase 2 & 3 Buildout site, looking south from the north edge of the site; 12/20/19.



Periodically disked ruderal grassland in the Parking Lot site, looking northeast from the southwest part of the site; 12/20/19. A remnant section of a constructed ditch (noted) traverses diagonally through the site.



Periodically disked ruderal grassland in the Parking Lot site, looking northeast from the southwest corner of the site; 12/20/19.



Highly disturbed seasonal wetland in the west-central part of the Parking Lot site, looking east; 12/16/19. The seasonal wetland is a very shallow depression that appears to hold water to depths of no more than 1 to 2 inches.



Constructed ditch in the Parking Lot site, looking northwest from the east edge of the site; 12/20/19. The ditch is a remnant section on a previously much longer ditch that does not have culverts at either end. The ditch hydrologically isolated.



Cottonwood sapling in the northwest part of the constructed ditch in the Parking Lot site, looking northwest; 12/20/19.



Sidewalk along the east edge of the Parking Lot site, looking north along Library Street; 12/20/19.



Sidewalk along the south edge of the Parking Lot site, looking east along Del Paso Road; 12/20/19.

Attachment D

Wetland Delineation

Preliminary Jurisdictional Delineation Report

NATOMAS CENTER PARKING EXPANSION SACRAMENTO, SACRAMENTO COUNTY, CALIFORNIA

Prepared For:

Los Rios CCD
3753 Bradview Drive
Sacramento, California 95827

Prepared By:

WRA, Inc.
2169-G East Francisco Boulevard
San Rafael, California 94901

Contact:
Bianca Clarke
clarke@wra-ca.com

Date:
January 2020

WRA Project No:
29367



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Appendix E – List of Plant Species Observed within the Study Area on June 22, 2016

LIST OF ACRONYMS

APN	Assessor Parcel Number
CDFW	California Department of Fish and Wildlife
CFR	Code of Federal Regulations
Corps	United States Army Corps of Engineers
CSRL	California Soil Resources Lab
CWA	Clean Water Act
EPA	Environmental Protection Agency
FAC	Facultative plant species
FACU	Facultative Upland plant species
FACW	Facultative Wetland plant species
HTL	High Tide Line
NL/UPL	Not Listed/Upland plant species
NOAA	National Oceanic and Atmospheric Agency
NRCS	National Resources Conservation Service
NWI	National Wetlands Inventory
OBL	Obligate plant species
OHW	Ordinary High Water
OHWM	Ordinary High Water Mark
PI	Prevalence Index
SW-01	Seasonal wetland 1
SW-02	Seasonal wetland 2
SP01	Sample point 1
SP02	Sample point 2
SP03	Sample point 3
SP04	Sample point 4
SP05	Sample point 5
SP06	Sample point 6
USDA	United States Department Agriculture
USFWS	United States Fish and Wildlife Service
USGS	United States Geological Survey
WRA	WRA, Inc.

1.0 INTRODUCTION

1.1 Study Background

This report presents the results of a delineation of Waters of the U.S. (“waters”) under Section 404 of the Clean Water Act (CWA) within the proposed Natomas Center Parking Expansion site in the City of Sacramento, Sacramento County, California (Study Area).

The 9.13-acre Study Area is a relatively flat urban infill site that was historically used for agriculture. The Study Area is located north of Del Paso Road, between Town Center Drive and Via Ingoglia, in the Natomas community of Sacramento (Appendix A; Figures 1 and 2). The Study Area is bound by an undeveloped property to the west, by the undeveloped New Market Drive road right-of-way to the north, by Via Ingoglia to the east, and by Del Paso Road to the south.

On December 19, 2019, WRA, Inc. (WRA) conducted a routine wetland delineation of the Study Area to determine the presence of wetlands and non-wetland waters potentially subject to federal jurisdiction under Section 404 and 401 of the CWA.

2.0 REGULATORY BACKGROUND

2.1 Clean Water Act

Section 404 of the CWA gives the U.S. Environmental Protection Agency (EPA) and the U.S. Army Corps of Engineers (Corps) regulatory and permitting authority regarding discharge of dredged or fill material into “navigable waters of the United States.” Section 502(7) of the CWA defines navigable waters as “waters of the United States, including territorial seas.” Section 328 of Chapter 33 in the Code of Federal Regulations (CFR) defines the term “waters of the United States” as it applies to the jurisdictional limits of the authority of the Corps under the CWA. A summary of this definition of “waters of the U.S.” in 33 CFR 328.3 as published in 1986 includes:

- (1) All waters which are currently used, or were used in the past, or may be susceptible to use in interstate or foreign commerce, including all waters which are subject to the ebb and flow of the tide;
- (2) All interstate waters including interstate wetlands;
- (3) All other waters such as intrastate lakes, rivers, streams (including intermittent streams), mudflats, sandflats, wetlands, sloughs, prairie potholes, wet meadows, playa lakes, or natural ponds, the use, degradation or destruction of which could affect interstate or foreign commerce including any such waters: (i) which are or could be used by interstate or foreign travelers for recreational or other purposes; or (ii) from which fish or shellfish are or could be taken and sold in interstate or foreign commerce; or (iii) which are used or could be used for industrial purpose by industries in interstate commerce;
- (4) All impoundments of waters otherwise defined as waters of the United States under the definition;
- (5) Tributaries of waters identified in paragraphs (a) (1)—(4) of this section;
- (6) The territorial seas;
- (7) Wetlands adjacent to waters (other than waters that are themselves wetlands) identified in paragraphs (a) (1)—(6) of this section.

Areas not considered to be “waters of the United States” are exempted under the Preamble to the 1986 Rule and subject to a case by case analysis, including:

- (a) Non-tidal drainage and irrigation ditches excavated on dry land.
- (b) Artificially irrigated areas which would revert to upland if the irrigation ceased.
- (c) Artificial lakes or ponds created by excavating and/or diking dry land to collect and retain water and which are used exclusively for such purposes as stock watering, irrigation, settling basins, or rice growing,
- (d) Artificial reflecting or swimming pools or other small ornamental bodies of water created by excavating and/or diking dry land to retain water for primarily aesthetic reasons.
- (e) Waterfilled depressions created in dry land incidental to construction activity and pits excavated in dry land for the purpose of obtaining fill, sand, or gravel unless and until the construction or excavation operation is abandoned and the resulting body of water meets the definition of waters of the United States (see 33 CFR 328.3(a)).

2.2 Wetlands as “Waters of the State”

The State Water Resources Control Board has adopted a wetland definition that is similar to, but slightly different from that used by the Corps of Engineers. The state definition as adopted in April 2019 and current in effect, states that:

An area is a wetland if, under normal circumstances, (1) the area has continuous or recurrent saturation of the upper substrate caused by groundwater, or shallow surface water, or both; (2) the duration of such saturation is sufficient to cause anaerobic conditions in the upper substrate; and (3) the area’s vegetation is dominated by hydrophytes or the area lacks vegetation.

The State Wetland Policy utilizes the Aquatic Resources Report to determine wetlands that meet the state definition with the exception that additional aquatic resources that may naturally lack vegetation such as playas and seasonal wetlands are also included. In this report, no playas were observed and all wetland features also possessed vegetation. Therefore, for the purposes of identification of any wetlands that are subject to the State Policy, this report will suffice. Some of the features however, may be exempt under the State Policy.

3.0 SITE DESCRIPTION

3.1 Location

The Study Area is located on the eastern border of the Taylor Monument U.S. Geological Survey (USGS) 7.5-minute quadrangle (USGS 2018), approximately 4 miles north of downtown Sacramento. The Study Area consists of Assessor Parcel Number (APN) 225-0040-089, located approximately 0.75 mile east of Interstate 5. The surrounding area is largely comprised of residential and commercial development including Inderkum High School to the east and Natomas Town Center to the west. North Natomas Regional Park is approximately 0.5 mile north of the Study Area.

3.2 Vegetation

Vegetation in the Study Area primarily consists of non-native grasses including Italian ryegrass (*Festuca perennis*, FAC) and wild oat (*Avena* sp., NL). The majority of the Study Area is regularly mowed as part of routine maintenance activities. A small, remnant portion of an agricultural ditch in the central portion of the Study Area is dominated by cocklebur (*Xanthium strumarium*, FAC)

and curly dock (*Rumex crispus*, FAC). Small areas dominated by shortpod mustard (*Hirschfeldia incana*, NL) and yellow star thistle (*Centaurea solstitialis*, NL) are present within the northern and eastern portions of the Study Area. Detailed vegetation community and species assemblage descriptions are provided in Section 5, below.

3.3 Soils

Based on the *Soil Survey of Sacramento County, California* (U.S. Department of Agriculture [USDA] 1985, California Soil Resources Laboratory [CSRL] 2019), the Study Area contains three soil-mapping units: (1) Clear Lake clay, hardpan substratum, drained, 0 to 1 percent slopes (2) Jacktane clay, drained, 0 to 2 percent slopes, and (3) San Joaquin silt loam, 0 to 3 percent slopes. Soils that underlay the Study Area are described below and are depicted on Figure 3 in Appendix A.

Clear Lake clay, hardpan substratum, drained, 0 to 1 percent slopes. This map unit is 85 percent Clear Lake and similar soils and 15 percent minor components. The Clear Lake series consists of very deep poorly drained soils that formed in fine textured alluvium derived from mixed rock sources. Clear Lake soils most commonly occur in flood basins, flood plains, and in swales. Clear Lake soils have a high rate of runoff and have no hydric rating (CSRL 2019, USDA 1985, 2019a).

Jacktane clay, drained, 0 to 2 percent slopes. This map unit is 85 percent Jacktane and similar soils and 15 percent minor components. The Jacktane series consists of moderately deep, artificially drained soils that formed in fine textured alluvium from mixed rock sources. Jacktane soils are used mainly in irrigated crops and have high shrink-swell potential. Jacktane soils have a high rate of runoff and have a hydric rating (CSRL 2019, USDA 1985, 2019a).

San Joaquin silt loam, 0 to 3 percent slopes. This map unit is 85 percent San Joaquin and similar soils with 15 percent minor components. The San Joaquin series consists of deep, moderately well drained soils that formed in alluvium derived from dominantly granitic rocks. San Joaquin series have a slow rate of runoff and have a hydric rating (CSRL 2019, USDA 1985, 2019a).

3.4 Hydrology

The Study Area is located entirely within the Natomas East Main Drainage Canal Watershed. Primary sources of hydrology within the Study Area include precipitation and subsequent sheet flow. The National Wetland Inventory (NWI) has mapped the remnant portion of an agricultural ditch in the central portion of the Study Area (U.S. Fish and Wildlife Service [USFWS] 2019). This remnant agricultural ditch is no longer connected to a larger ditch system but still collects precipitation and surface runoff from the surrounding landscape. The ditch does not have an inlet or outlet and no longer directly drains offsite into a larger drainage ditch system. Water that drains from the Study Area may flow through a network of stormwater channels into the East Drainage Canal approximately 0.6 mile east of the Study Area and ultimately in to the Sacramento River located approximately 3.6 miles south of the Study Area.

Precipitation in the region occurs predominantly as rainfall with an annual average of 18.5 inches recorded at the Sacramento Executive Airport weather station in Sacramento, Sacramento County, California, located approximately 10.5 miles south of the Study Area (USDA 2019b). A WETS analysis for the Sacramento 5ESE, CA weather station, located approximately 5.6 miles east of the Study Area, was performed prior to the field investigation. The three-month precipitation period preceding the field investigation was considered drier than normal; September

was normal, October was dry, and November was dry. Approximately 0.77 inches of rainfall fell in the three months that preceded the field investigation, which is below the average. Thus, the Study Area exhibited relatively dry conditions at the time of the December 19, 2019 survey (USDA 2019b).

4.0 METHODS

Prior to conducting field surveys, reference materials were reviewed, including the *Soil Survey of Sacramento County, California* (USDA 1985), an online soil survey of the Study Area (CSRL 2019), the Taylor Monument USGS 7.5-minute quadrangle (USGS 2018), NWI data (USFWS 2019), and historical aerial photographs (Google Earth 2019). Additionally, WRA reviewed the results of an aquatic feature delineation, also performed by WRA, that was conducted in 2016 within an area that is inclusive of the current Study Area (WRA 2016). This delineation was verified by the Corps on January 16, 2019 (Corps file number SPK-2018-00917).

Following the background data search, WRA biologists performed a focused field evaluation of indicators of wetlands and non-wetland waters in the Study Area. This field evaluation occurred on December 19, 2019.

The methods used to delineate potentially jurisdictional wetlands and non-wetland waters were based on the *U.S. Army Corps of Engineers Wetlands Delineation Manual* ("Corps Manual"; Environmental Laboratory 1987), the *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Arid West Region* ("Arid West Supplement"; Corps 2008a), and the *Field Guide to the Identification of the Ordinary High Water Mark in the Arid West Region of the United States* (Corps 2008b). The routine method for wetland delineation described in the Corps Manual was used to identify areas potentially subject to Corps Section 404 jurisdiction within the Study Area. The general description of the Study Area, described above in Section 3.0, was generated during the field visit.

As stated above, the Study Area was dominated by annual vegetation, primarily grasses. Because of the mid-December timing of the site visit, vegetation was generally in an early phenological stage and as a result was frequently unidentifiable. Additionally, with the exception of the remnant agricultural ditch, most of site had been mowed, so there was often no standing dead vegetation from which to infer the identity of the living vegetation. Interpretation of the vegetation at the time of the site visit was difficult. However, as stated above, WRA conducted a delineation within the Study Area in 2016 (WRA 2016). That delineation occurred during a normal rainfall year, and precipitation was normal during the 3-month period prior to the assessment (USDA 2019b, NOAA 2019). Additionally, general site conditions, such as use, management, and topography, have not changed since 2016. As such, the results of the 2016 delineation are what can reasonably be expected to occur within the Study Area under normal conditions, and they were used to make inferences about vegetation and wetland conditions during the December 2019 site assessment. WRA took sample points in 2019 as close as possible to the 2016 sample point locations to try to maximize the validity of any inferences made from the 2016 delineation. A list of all plant species observed during the 2016 delineation was used to help make inferences on the identity of unidentifiable vegetation and is included as Appendix E of this report.

Methods for evaluating the presence of wetlands and non-wetland waters employed during the delineation are described in detail below.

4.1 Section 404 Waters of the U.S.

4.1.1 Wetlands

The Study Area was evaluated for the presence or absence of indicators of the three wetland parameters described in the Corps Manual (Environmental Laboratory 1987) and the Arid West Supplement (Corps 2008a).

Section 328.3 of the Federal Code of Regulations defines wetlands as:

"Those areas that are inundated or saturated by surface or ground water at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions. Wetlands generally include swamps, marshes, bogs, and similar areas."

EPA, 40 CFR 230.3 and CE, 33 CFR 328.3 (b)

The three parameters used to delineate wetlands are the presence of: (1) hydrophytic vegetation, (2) hydric soils, and (3) wetland hydrology. According to the Corps Manual, for areas not considered "problem areas" or "atypical situations":

"....[E]vidence of a minimum of one positive wetland indicator from each parameter (hydrology, soil, and vegetation) must be found in order to make a positive wetland determination."

Data on vegetation, hydrology, and soils were collected at six sample points (SP01, SP02, SP03, SP04, SP05, and SP06) during the delineation site visit and were reported on Arid West Supplement data forms. Once an area was determined to be a potentially jurisdictional wetland, its boundaries were mapped on a topographic map and delineated using GPS equipment capable of sub-meter accuracy. The areas of potential jurisdictional wetlands were measured digitally using ArcGIS software. Indicators described in the Arid West Supplement were used to make wetland determinations at each sample point in the Study Area and are summarized below.

Vegetation

Plant nomenclature follows the Jepson Flora Project (2019). Plant species identified on the Study Area were assigned a wetland status according to the *National Wetland Plant List* (Lichvar et al. 2016). This wetland classification system is based on the expected frequency of occurrence in wetlands as follows:

OBL:	Obligate species	Almost always a hydrophyte, rarely in uplands
FACW:	Facultative Wetland species	Usually a hydrophyte, but occasionally found in uplands
FAC:	Facultative species	Commonly either a hydrophyte or non-hydrophyte
FACU:	Facultative Upland species	Occasionally a hydrophyte, but usually found in uplands
NL/UPL:	Upland/Not Listed species	Rarely a hydrophyte, almost always in uplands

The presence of hydrophytic vegetation was then determined based on indicator tests described in the Arid West Supplement. The Arid West Supplement requires that a three-step process be conducted to determine if hydrophytic vegetation is present. The procedure first requires the delineator to apply the “50/20 rule” (Indicator 1; Dominance Test) described in the manual. To apply the “50/20 rule”, dominant species are chosen independently from each stratum of the community. Dominant species are determined for each vegetation stratum from a sampling plot of an appropriate size surrounding the sample point. Dominants are the most abundant species that individually or collectively account for more than 50 percent of the total vegetative cover in the stratum, plus any other species that, by itself, accounts for at least 20 percent of the total vegetative cover. If greater than 50 percent of the dominant species has an OBL, FACW, or FAC status, ignoring + and - qualifiers, the sample point meets the hydrophytic vegetation criterion.

If the sample point fails Indicator 1 and both hydric soils and wetland hydrology are not present, then the sample point does not meet the hydrophytic vegetation criterion, unless the site is a problematic wetland situation. However, if the sample point fails Indicator 1 but hydric soils and wetland hydrology are both present, the delineator must apply Indicator 2.

Indicator 2 is known as the Prevalence Index (PI). The prevalence index is a weighted average of the wetland indicator status for all plant species within the sampling plot. Each indicator status is given a numeric code (OBL = 1, FACW = 2, FAC = 3, FACU = 4, and UPL = 5). Indicator 2 requires the delineator to estimate the percent cover of each species in every stratum of the community and sum the cover estimates for any species that is present in more than one stratum. The delineator must then organize all species into groups according to their wetland indicator status and calculate the Prevalence Index using the following formula, where A equals total percent cover:

$$PI = \frac{A_{OBL} + 2A_{FACW} + 3A_{FAC} + 4A_{FACU} + 5A_{UPL}}{A_{OBL} + A_{FACW} + A_{FAC} + A_{FACU} + A_{UPL}}$$

The Prevalence Index will yield a number between 1 and 5. If the Prevalence Index is equal to or less than 3, the sample point meets the hydrophytic vegetation criterion.

Hydrology

The Corps jurisdictional wetland hydrology criterion is satisfied if an area is inundated or saturated for a period sufficient to create anoxic soil conditions during the growing season (a minimum of 14 consecutive days in the Arid West region). Evidence of wetland hydrology can include primary indicators, such as visible inundation or saturation, drift deposits, oxidized root channels, and salt crusts, or secondary indicators such as the FAC-neutral test, presence of a shallow aquitard, or crayfish burrows. The Arid West Supplement contains 16 primary hydrology indicators and 10 secondary hydrology indicators. Only one primary indicator is required to meet the wetland hydrology criterion; however, if secondary indicators are used, at least two secondary indicators must be present to conclude that an area has wetland hydrology.

The presence or absence of the primary or secondary indicators described in the Arid West Supplement was utilized to determine if sample points within the Study Area met the wetland hydrology criterion.

Soils

The Natural Resource Conservation Service (NRCS) defines a hydric soil as follows:

“A hydric soil is a soil that formed under conditions of saturation, flooding, or ponding long enough during the growing season to develop anaerobic conditions in the upper part.”

Federal Register July 13, 1994,
U.S. Department of Agriculture, NRCS

Soils formed over long periods of time under wetland (anaerobic) conditions often possess characteristics that indicate they meet the definition of hydric soils. Hydric soils can have a hydrogen sulfide (rotten egg) odor, low chroma matrix color, generally designated 0, 1, or 2, used to identify them as hydric, presence of redox concentrations, gleyed or depleted matrix, or high organic matter content.

Specific indicators that can be used to determine whether a soil is hydric for the purposes of wetland delineation are provided in the NRCS *Field Indicators of Hydric Soils in the U.S.* (USDA 2018). The Arid West Supplement provides a list of 23 of these hydric soil indicators which are known to occur in the Arid West region. Soil samples were collected and described according to the methodology provided in the Arid West Supplement. Soil chroma and values were determined by utilizing a standard Munsell soil color chart (Munsell Color 2009).

Hydric soils were determined to be present if any of the soil samples met one or more of the hydric soil indicators described in the Arid West Supplement.

4.1.2 Non-wetland Waters

This study also evaluated the presence of “waters of the U.S.” other than wetlands potentially subject to Corps jurisdiction under Section 404 of the CWA. Other areas, besides wetlands, subject to Corps jurisdiction include lakes, rivers, and streams (including intermittent streams) in addition to all areas below the high tide line in areas subject to tidal influence. Jurisdiction in non-tidal areas extends to the ordinary high water mark (OHWM) defined as:

“...that line on the shore established by the fluctuations of water and indicated by physical characteristics such as clear, natural line impresses on the bank, shelving, changes in the characteristics of the soil, destruction of terrestrial vegetation, the presence of litter and debris, or other appropriate means that consider the characteristics of the surrounding areas.”

Federal Register Vol. 51, No. 219,
Part 328.3 (e). November 13, 1986

Identification of the OHWM followed the Corps Regulatory Guidance Letter No. 05-05, *Ordinary High Water Mark Identification* (Corps 2005), and *A Field Guide to the Identification of the Ordinary High Water Mark Identification in the Arid West Region of the United States* (Corps 2008b).

5.0 RESULTS

Within the Study Area, areas that are potentially jurisdictional under Section 404 and 401 of the CWA are depicted on Figure 4 in Appendix A. Standard Corps Arid West wetland delineation data forms are included as Appendix B. Representative photographs of the Study Area and photographs of sample points are presented in Appendix C. A list of all plant species observed during the site visit is included as Appendix D. A list of all plant species observed in the Study Area during WRA's June 22, 2016, aquatic feature delineation are included as Appendix E. All features observed in the Study Area comprise a portion of the Natomas East Main Drainage Canal Watershed, which feeds into the East Drainage Canal, a tributary of a traditionally navigable water of the U.S. (i.e., Sacramento River). Seasonal wetlands potentially subject to Corps jurisdiction under Section 404 and 401 of the CWA found in the Study Area are described and characterized below.

5.1 Potential Section 404 Waters of the U.S.

5.1.1 Potential Wetlands

Within the Study Area, seasonal wetland features, SW-01 and SW-02, are potentially within jurisdiction of Section 404 of the CWA. SW-01 and SW-02 are described below. Representative photographs of the potential seasonal wetlands are provided in Appendix C (Photographs 1-5).

Seasonal Wetland (SW-01)

SW-01 occurs within the remnant agricultural ditch in the central portion of the Study Area. The ditch segment present in the Study Area is an isolated fragment of a historical ditch that has no off-site inlet or outlet. The feature is seasonally inundated, and its hydrological sources appear to be direct precipitation and surface runoff from the adjacent landscape during the rainy season. Although it is no longer connected to a larger ditch system, the ditch is inundated and/or saturated for a duration sufficient to seasonally support wetland conditions. The ditch was dominated throughout by species that are seasonal wetland generalists including cocklebur and curly dock.

Sample point 1 (SP01) was dug in a representative portion of the feature. The soil profile was characterized in the upper 6 inches by a very dark gray (10YR 3/1) silty clay loam matrix with 4 percent redox concentrations and from 6 to 14 inches by a dark gray (10YR 4/1) clay matrix with 20 percent redox concentrations. The sample point met the Depleted Matrix (F3) and Redox Dark Surface (F6) indicators of hydric soil. Wetland hydrology indicators observed in the seasonal wetland include Inundation Visible on Aerial Imagery (B7) and Biotic Crust (B12). Boundaries of the seasonal wetland were mapped based on a change in slope and a shift to upland vegetation.

Seasonal Wetland (SW-02)

SW-02 is located north of the remnant agricultural ditch in the western portion of the Study Area. The feature is a broad, shallow depression dominated by a grass that was unidentifiable at the time of the survey. As discussed in Section 4.0, WRA used the results of the verified 2016 aquatic feature delineation (WRA 2016) to make inferences about vegetation during the December 2019 site visit. During the 2016 delineation, Italian ryegrass was by far the dominant, at 88 percent absolute cover. Because site conditions have not changed since 2016, it is likely that the unidentifiable grass observed at sample point 3 (SP03) in 2019 is Italian ryegrass, and it was treated as FAC. Therefore, the Dominance Test hydrophytic vegetation indicator was met. The fact that hydric soil and primary wetland hydrology indicators were met (see below) supports the assumption that the vegetation is hydrophytic.

Sample point 3 (SP03) was dug in a representative portion of the seasonal wetland feature. The soil profile was characterized in the upper 8 inches by a very dark grayish brown (10YR 3/2) silty clay loam matrix with 2 percent redox concentrations and from 8-12 inches by very dark grayish brown clay with 15 percent redox concentrations. The sample point met the Redox Dark Surface (F6) indicator of hydric soil. The Inundation Visible on Aerial Imagery (B7) primary indicator of wetland hydrology was met. The wetland boundary was based on the location where hydric soil indicators were no longer met.

5.1.2 Non-wetland Waters

The Study Area does not contain any non-wetland waters features that are potentially within jurisdiction of Section 404 and 401 of the CWA.

5.2 Non-Jurisdictional Upland Areas

The majority of the Study Area is composed of non-jurisdictional upland habitat. These areas lack wetland hydrology and hydric soil indicators. As discussed in Section 4.0, WRA used the results of the 2016 delineation (WRA 2016) to make inferences about vegetation during the December 2019 site visit because it was frequently unidentifiable. In 2016, vegetation in upland portions of the Study Area was dominated by species such as slim oat (*Avena barbata*; NL), foxtail barley, Italian ryegrass, shortpod mustard, charlock (*Sinapis arvensis*; NL), and yellow-starthistle. The dominant vegetation community within the upland portions of the Study Area is non-native annual grasslands. Because site conditions have not changed since 2016, it is likely that the unidentifiable species are similar to those observed in 2016. This assumption is supported by the fact that some of these species were identifiable during the 2019 site visit, such as yellow starthistle and shortpod mustard. Sample point 5 (SP05) and sample point 6 (SP06) were dug in representative portions of non-jurisdictional upland grassland throughout the Study Area.

6.0 SUMMARY

The conclusions of this report are based on conditions observed at the time of the field delineation conducted on December 19, 2019. A table summarizing wetlands in the Study Area that potentially fall under Corps jurisdiction is provided below.

Table 1 Summary of Potential Section 404 Wetlands and Waters

Feature Type	Feature Name	Acreage
Seasonal Wetland	SW-01	0.15
	SW-01a	0.05
	SW-01b	0.07
	SW-01c	0.03
	SW-02	0.08
	Total	0.23

6.1 Potential Section 404 Waters of the U.S.

6.1.1 Wetlands

Based on the findings of the wetland delineation, the Study Area contains approximately 0.23 acre of seasonal wetlands potentially subject to Corps jurisdiction under Section 404 of the CWA and RWQCB under Section 401 of the CWA.

6.1.2 Non-wetland Waters

Based on the findings of the wetland delineation, the Study Area does not contain any non-wetland waters features that are potentially within jurisdiction of Section 404 or 401 of the CWA.

6.1.3 Areas Potentially Exempt from Section 404 Jurisdiction

There are no isolated wetlands or man-induced wetlands within the Study Area. All wetlands mapped and presented in this report are likely to be considered jurisdictional by the Corps as they were not created by human activities and are presumed to be connected to a “navigable waters of the U.S.”

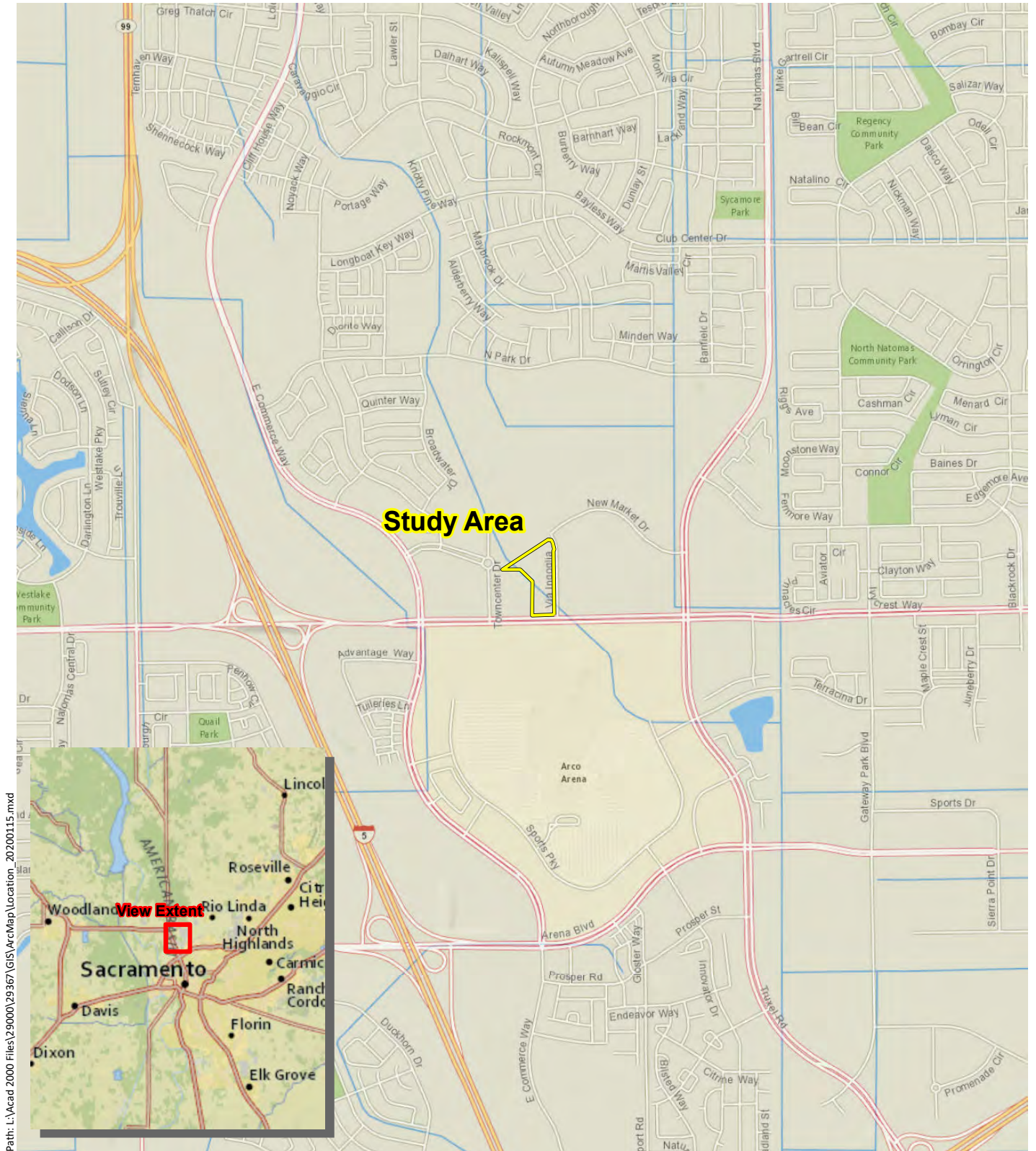
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APPENDIX A -- Figures

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Sources: National Geographic, WRA | Prepared By: mweidenbach, 1/15/2020

Figure 1. Study Area Regional Location Map

Natomas Center Parking Expansion
Sacramento, California

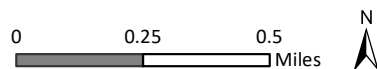




Figure 2. Study Area

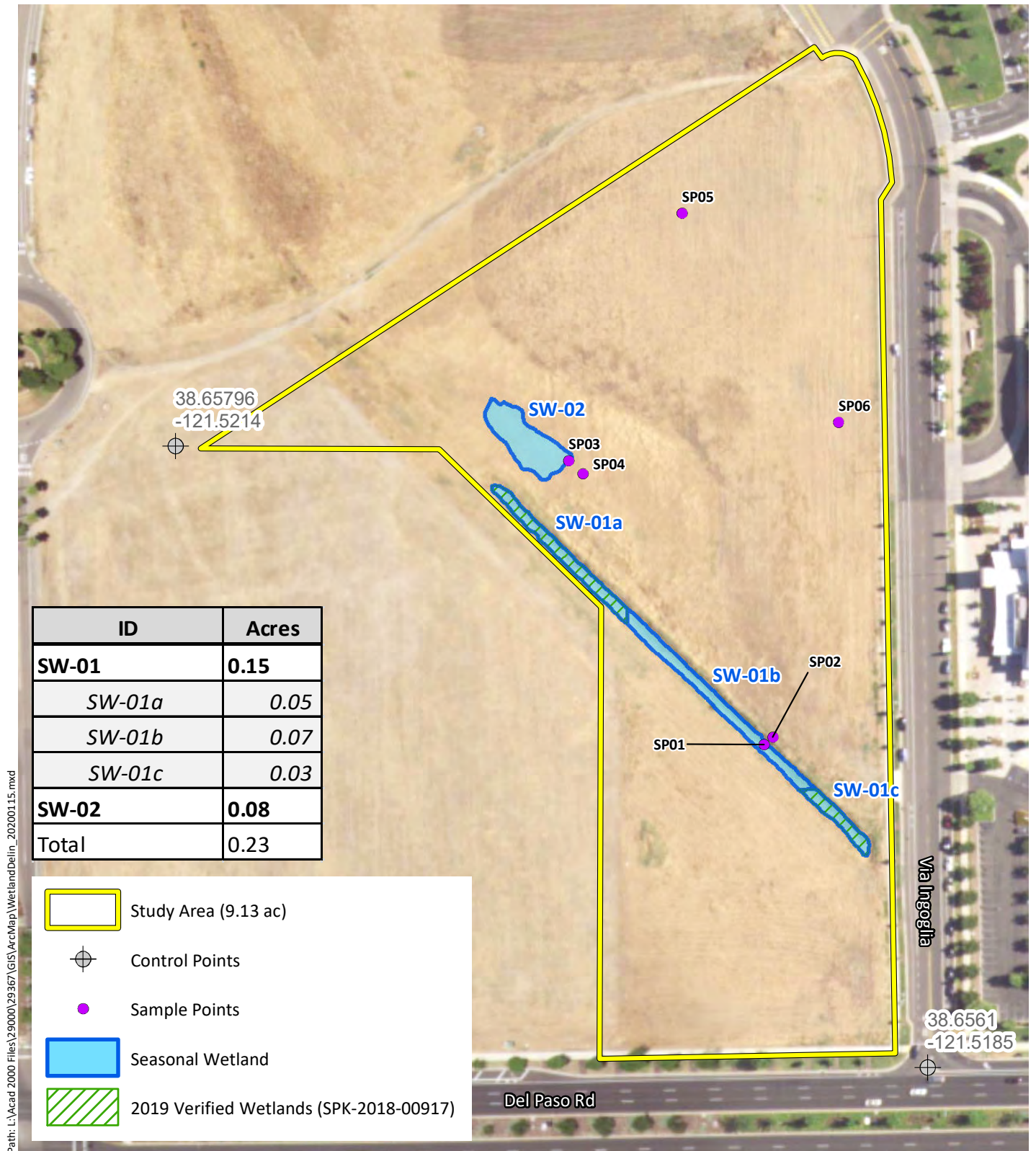
Natomas Center Parking Expansion
Sacramento, California

0 200 400
Feet





Figure 3. Study Area Soils Map



Sources: USDA NAIP Imagery 2016, WRA | Prepared By: mweidenbach, 1/15/2020

Figure 4. Potential Jurisdictional Features within the Study Area

Natomas Center Parking Expansion
Sacramento, California

1 inch = 150 feet
0 100 200 Feet



APPENDIX B -- Arid West Wetland Delineation Data Forms

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Wetland Determination Data Form - Arid West Region

Project/Site Natomas Center Parking Expansion City Sacramento County Sacramento Sampling Date 12/19/2019

Applicant/Owner Los Rios CCD State CA Sampling Point SP01

Investigator(s) Gavin Albertoli Section, Township, Range T9N R4E S2

Landform (hillslope, terrace, etc.) ditch Local Relief (concave, convex, none) concave Slope(%) 1

Subregion(LRR) LRR C (Medit. CA) Lat: 38.656834 Long: -121.518857 Datum: WGS 84

Soil Map Unit Name Jacktone clay, drained, 0 to 2 percent slopes NWI classification R5UBFx

Are climatic/hydrologic conditions on-site typical for this time of year? ☐ Yes ☒ No (If no, explain in remarks)

Are any of the following significantly disturbed? ☐ Vegetation ☐ Soil ☐ Hydrology Are "Normal Circumstances" present? ☒ Yes ☐ No

Are any of the following naturally problematic? ☐ Vegetation ☐ Soil ☐ Hydrology (If needed, explain any answers in remarks)

SUMMARY OF FINDINGS - Attach site map showing sample point locations, transects, important features, etc.

Hydrophytic Vegetation Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No Hydric Soil Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No Wetland Hydrology Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Is the Sampled Area within a Wetland? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
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Remarks: SP01 is a wetland sample point in a remnant ditch in the southeastern portion of the Study Area. Based on historic aerial imagery (Google Earth 2019), the feature is a remnant of a formerly much larger agricultural ditch. The feature has no inlet or outlet, but it is several feet lower than the surrounding grade and collects direct precipitation and seasonal storm runoff. The wetland boundary was based on a change in topography and a shift to upland vegetation. SP01 and SP02 are paired. Rainfall during the preceding 3-month period was below normal.

VEGETATION (use scientific names)

TREE STRATUM	Plot Size:	Absolute % cover	Dominant Species?	Indicator Status	
1. _____	N/A	_____	_____	_____	Dominance Test Worksheet Number of Dominant Species that are OBL, FACW, or FAC? <u>3</u> (A) Total number of dominant species across all strata? <u>3</u> (B) % of dominant species that are OBL, FACW, or FAC? <u>100</u> (A/B)
2. _____		_____	_____	_____	
3. _____		_____	_____	_____	
4. _____		_____	_____	_____	
Tree Stratum Total Cover: _____					
SAPLING/SHRUB STRATUM	Plot Size:	N/A			Prevalence Index Worksheet Total % cover of: _____ Multiply by: _____ OBL species _____ x1 _____ FACW species _____ x2 _____ FAC species _____ x3 _____ FACU species _____ x4 _____ UPL species _____ x5 _____ Column Totals _____ (A) _____ (B) Prevalence Index = B/A = _____
1. _____		_____	_____	_____	
2. _____		_____	_____	_____	
3. _____		_____	_____	_____	
4. _____		_____	_____	_____	
Sapling/Shrub Stratum Total Cover: _____					
HERB STRATUM	Plot Size:	4' x 20'			Hydrophytic Vegetation Indicators <input checked="" type="checkbox"/> Dominance Test is >50% <input type="checkbox"/> Prevalence Index is <= 3.0 ¹ <input type="checkbox"/> Morphological adaptations (provide supporting data in remarks) <input type="checkbox"/> Problematic hydrophytic vegetation ¹ (explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
1. <u>Xanthium strumarium</u>		30	yes	FAC	
2. <u>Rumex crispus</u>		20	yes	FAC	
3. <u>unidentifiable grass</u>		20	yes	FAC	
4. _____		_____	_____	_____	
5. _____		_____	_____	_____	
6. _____		_____	_____	_____	
7. _____		_____	_____	_____	
8. _____		_____	_____	_____	
Herb Stratum Total Cover: <u>70</u>					
WOODY VINE STRATUM	Plot Size:	N/A			Hydrophytic Vegetation Present ? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
1. _____		_____	_____	_____	
2. _____		_____	_____	_____	
Woody Vines Total Cover: _____					
% Bare ground in herb stratum <u>10</u> % cover of biotic crust <u>20</u>					

Remarks: The sample point meets the Dominance Test indicator of hydrophytic vegetation. Grass species was unidentifiable due to the timing of survey. During an assessment by WRA on June 22, 2016, which occurred under normal rainfall conditions, the dominant grass in this ditch was identified as Festuca perennis (FAC). Because site conditions have not changed since 2016, it is likely that the unidentifiable grass is Festuca perennis, and it was treated as FAC. However, the Dominance Test will be met regardless of the identity of the unknown grass.

SOIL

Sampling Point SP01

Profile description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)								
Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ¹		
0-6	10YR 3/1	96	7.5YR 5/6	4	C	M, PL	silty clay loam	
6-14	10YR 4/1	80	7.5YR 5/6	20	C	M, PL	clay	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix. ²Location: PL=Pore Lining, RC=Root Channel, M=Matrix

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)		Indicators for Problematic Hydric Soils ³ :
<input type="checkbox"/> Histosol (A1) <input type="checkbox"/> Histic Epipedon (A2) <input type="checkbox"/> Black Histic (A3) <input type="checkbox"/> Hydrogen Sulfide (A4) <input type="checkbox"/> Stratified Layers (A5)(LRR C) <input type="checkbox"/> 1cm Muck (A9)(LRR D) <input type="checkbox"/> Depleted Below Dark Surface (A11) <input type="checkbox"/> Thick Dark Surface (A12) <input type="checkbox"/> Sandy Mucky Mineral (S1) <input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Sandy Redox (S5) <input type="checkbox"/> Stripped Matrix (S6) <input type="checkbox"/> Loamy Mucky Mineral (F1) <input type="checkbox"/> Loamy Gleyed Matrix (F2) <input checked="" type="checkbox"/> Depleted Matrix (F3) <input checked="" type="checkbox"/> Redox Dark Surface (F6) <input type="checkbox"/> Depleted Dark Surface (F7) <input type="checkbox"/> Redox Depressions (F8) <input type="checkbox"/> Vernal Pools (F9)	<input type="checkbox"/> 1cm Muck (A9) (LRR C) <input type="checkbox"/> 2cm Muck (A10)(LRR B) <input type="checkbox"/> Reduced Vertic (F18) <input type="checkbox"/> Red Parent Material (TF2) <input type="checkbox"/> Other (explain in remarks)

³Indicators of hydric vegetation and wetland hydrology must be present.

Restrictive Layer (if present): Type: <u>N/A</u> Depth (inches): _____	Hydric Soil Present ? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
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Remarks: The sample point meets the Depleted Matrix (F3) and Redox Dark Surface(F6) indicators of hydric soil.

HYDROLOGY

Wetland Hydrology Indicators:		Secondary Indicators (2 or more required)
Primary Indicators (any one indicator is sufficient)		
<input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Water Marks (B1)(Nonriverine) <input type="checkbox"/> Sediment Deposits (B2)(Nonriverine) <input type="checkbox"/> Drift Deposits (B3)(Nonriverine) <input type="checkbox"/> Surface Soil Cracks (B6) <input checked="" type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Water-Stained Leaves (B9)	<input type="checkbox"/> Salt Crust (B11) <input checked="" type="checkbox"/> Biotic Crust (B12) <input type="checkbox"/> Aquatic Invertebrates (B13) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Recent Iron Reduction in PLoWed Soils (C6) <input type="checkbox"/> Other (Explain in Remarks)	<input type="checkbox"/> Water Marks (B1)(Riverine) <input type="checkbox"/> Sediment Deposits (B2)(Riverine) <input type="checkbox"/> Drift Deposits (B3)(Riverine) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> FAC-Neutral Test (D5)
Field Observations: Surface water present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Depth (inches): _____ Water table present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Depth (inches): _____ Saturation Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Depth (inches): _____ (includes capillary fringe)		Wetland Hydrology Present ? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
Describe recorded data (stream gauge, monitoring well, aerial photos, etc.) if available. Google Earth image from 4/11/2011		
Remarks: The sample point meets the Inundation Visible on Aerial Imagery (B7) and Biotic Crust (B12) indicators of wetland hydrology.		

Wetland Determination Data Form - Arid West Region

Project/Site Natomas Center Parking Expansion City Sacramento County Sacramento Sampling Date 12/19/2019
 Applicant/Owner Los Rios CCD State CA Sampling Point SP02
 Investigator(s) Gavin Albertoli Section, Township, Range T9N R4E S2
 Landform (hillslope, terrace, etc.) terrace Local Relief (concave, convex, none) none Slope(%) 0-1
 Subregion(LRR) LRR C (Medit. CA) Lat: 38.656856 Long: -121.518823 Datum: WGS 84
 Soil Map Unit Name Jacktone clay, drained, 0 to 2 percent slopes NWI classification none

Are climatic/hydrologic conditions on-site typical for this time of year? ☐ Yes ☒ No (If no, explain in remarks)
 Are any of the following significantly disturbed? ☐ Vegetation ☐ Soil ☐ Hydrology Are "Normal Circumstances" present? ☒ Yes ☐ No
 Are any of the following naturally problematic? ☐ Vegetation ☐ Soil ☐ Hydrology (If needed, explain any answers in remarks)

SUMMARY OF FINDINGS - Attach site map showing sample point locations, transects, important features, etc.

Hydrophytic Vegetation Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Hydric Soil Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Wetland Hydrology Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Is the Sampled Area within a Wetland? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Remarks: SP02 is an upland sample point taken in a relatively flat field directly east of a remnant agricultural ditch in the southeastern portion of the Study Area. SP01 and SP02 are paired. The wetland boundary was based on change in topography and a shift to upland vegetation. Rainfall during the preceding 3-month period was below normal.	

VEGETATION (use scientific names)

TREE STRATUM	Plot Size:	N/A	Absolute % cover	Dominant Species?	Indicator Status	
1. _____						Dominance Test Worksheet Number of Dominant Species that are OBL, FACW, or FAC? <u>0</u> (A) Total number of dominant species across all strata? <u>2</u> (B) % of dominant species that are OBL, FACW, or FAC? <u>0</u> (A/B)
2. _____						
3. _____						
4. _____						
Tree Stratum Total Cover: _____						
SAPLING/SHRUB STRATUM	Plot Size:	N/A				Prevalence Index Worksheet Total % cover of: _____ Multiply by: _____ OBL species _____ x1 _____ FACW species _____ x2 _____ FAC species _____ x3 _____ FACU species _____ x4 _____ UPL species _____ x5 _____ Column Totals _____ (A) _____ (B) Prevalence Index = B/A = _____
1. _____						
2. _____						
3. _____						
4. _____						
Sapling/Shrub Stratum Total Cover: _____						
HERB STRATUM	Plot Size:	5' radius				Hydrophytic Vegetation Indicators <input type="checkbox"/> Dominance Test is >50% <input type="checkbox"/> Prevalence Index is <= 3.0 ¹ <input type="checkbox"/> Morphological adaptations (provide supporting data in remarks) <input type="checkbox"/> Problematic hydrophytic vegetation ¹ (explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
1. <u>unidentifiable grass</u>			50	yes	NL	
2. <u>Centaurea solstitialis</u>			15	yes	NL	
3. <u>Helminthotheca echioides</u>			5	no	FAC	
4. <u>Malvella leprosa</u>			2	no	FACU	
5. <u>Rumex crispus</u>			2	no	FAC	
6. _____						
7. _____						
8. _____						
Herb Stratum Total Cover: <u>74</u>						
WOODY VINE STRATUM	Plot Size:	N/A				Hydrophytic Vegetation Present ? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
1. _____						
2. _____						
Woody Vines Total Cover: _____						
% Bare ground in herb stratum <u>5</u> % cover of biotic crust <u>0</u>						

Remarks: Additional cover: litter/thatch, 21%. The sample point does not meet indicators of hydrophytic vegetation. During an assessment by WRA on June 22, 2016, which occurred under normal rainfall conditions, the dominant grass at this location was identified as Avena barbata (NL). Because site conditions have not changed since 2016, it is likely that the unidentifiable grass is Avena barbata, and it was treated as NL. This assumption is supported by the co-dominance of yellow starthistle (NL).

SOIL

Sampling Point SP02

Profile description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)							
Depth (inches)	Matrix		Redox Features			Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹		
0-12	10YR 3/2	100					silty clay loam

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix. ²Location: PL=Pore Lining, RC=Root Channel, M=Matrix

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.) <input type="checkbox"/> Histosol (A1) <input type="checkbox"/> Histic Epipedon (A2) <input type="checkbox"/> Black Histic (A3) <input type="checkbox"/> Hydrogen Sulfide (A4) <input type="checkbox"/> Stratified Layers (A5)(LRR C) <input type="checkbox"/> 1cm Muck (A9)(LRR D) <input type="checkbox"/> Depleted Below Dark Surface (A11) <input type="checkbox"/> Thick Dark Surface (A12) <input type="checkbox"/> Sandy Mucky Mineral (S1) <input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Sandy Redox (S5) <input type="checkbox"/> Stripped Matrix (S6) <input type="checkbox"/> Loamy Mucky Mineral (F1) <input type="checkbox"/> Loamy Gleyed Matrix (F2) <input type="checkbox"/> Depleted Matrix (F3) <input type="checkbox"/> Redox Dark Surface (F6) <input type="checkbox"/> Depleted Dark Surface (F7) <input type="checkbox"/> Redox Depressions (F8) <input type="checkbox"/> Vernal Pools (F9)	Indicators for Problematic Hydric Soils³: <input type="checkbox"/> 1cm Muck (A9) (LRR C) <input type="checkbox"/> 2cm Muck (A10)(LRR B) <input type="checkbox"/> Reduced Vertic (F18) <input type="checkbox"/> Red Parent Material (TF2) <input type="checkbox"/> Other (explain in remarks)
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³Indicators of hydric vegetation and wetland hydrology must be present.

Restrictive Layer (if present): Type: <u>N/A</u> Depth (inches): _____	Hydric Soil Present ? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
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Remarks: The sample point does not meet indicators of hydric soil.

HYDROLOGY

Wetland Hydrology Indicators: Primary Indicators (any one indicator is sufficient)		Secondary Indicators (2 or more required)
<input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Water Marks (B1)(Nonriverine) <input type="checkbox"/> Sediment Deposits (B2)(Nonriverine) <input type="checkbox"/> Drift Deposits (B3)(Nonriverine) <input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Water-Stained Leaves (B9)		<input type="checkbox"/> Salt Crust (B11) <input type="checkbox"/> Biotic Crust (B12) <input type="checkbox"/> Aquatic Invertebrates (B13) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Recent Iron Reduction in PLoed Soils (C6) <input type="checkbox"/> Other (Explain in Remarks)
Field Observations: Surface water present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Depth (inches): _____ Water table present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Depth (inches): _____ Saturation Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Depth (inches): _____ (includes capillary fringe)		Wetland Hydrology Present ? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Describe recorded data (stream guage, monitoring well, aerial photos, etc.) if available. N/A		
Remarks: The sample point does not meet indicators of wetland hydrology.		

Wetland Determination Data Form - Arid West Region

Project/Site Natomas Center Parking Expansion City Sacramento County Sacramento Sampling Date 12/19/2019
 Applicant/Owner Los Rios CCD State CA Sampling Point SP03
 Investigator(s) Gavin Albertoli Section, Township, Range T9N R4E S2
 Landform (hillslope, terrace, etc.) terrace Local Relief (concave, convex, none) concave Slope(%) 0
 Subregion(LRR) LRR C (Medit. CA) Lat: 38.657912 Long: -121.519896 Datum: WGS 84
 Soil Map Unit Name Jacktone clay, drained, 0 to 2 percent slopes NWI classification none

Are climatic/hydrologic conditions on-site typical for this time of year? ☐ Yes ☒ No (If no, explain in remarks)
 Are any of the following significantly disturbed? ☐ Vegetation ☐ Soil ☐ Hydrology Are "Normal Circumstances" present? ☒ Yes ☐ No
 Are any of the following naturally problematic? ☐ Vegetation ☐ Soil ☐ Hydrology (If needed, explain any answers in remarks)

SUMMARY OF FINDINGS - Attach site map showing sample point locations, transects, important features, etc.

Hydrophytic Vegetation Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No Hydric Soil Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No Wetland Hydrology Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Is the Sampled Area within a Wetland? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
Remarks: SP03 is a wetland sample point taken in a broad, shallow depression in the northwestern portion of the Study Area, east of a remnant agricultural ditch. The sampled feature is located near the ditch but does not appear to have a direct surface connection to it. The wetland boundary is based on the increased presence of upland species as well as a lack of hydric soil indicators. SP03 and SP04 are paired. Rainfall during the preceding 3-month period was below normal.	

VEGETATION (use scientific names)

TREE STRATUM	Plot Size:	Absolute % cover	Dominant Species?	Indicator Status	
1. _____	<u>N/A</u>	_____	_____	_____	Dominance Test Worksheet Number of Dominant Species that are OBL, FACW, or FAC? <u>1</u> (A) Total number of dominant species across all strata? <u>1</u> (B) % of dominant species that are OBL, FACW, or FAC? <u>100</u> (A/B)
2. _____		_____	_____	_____	
3. _____		_____	_____	_____	
4. _____		_____	_____	_____	
Tree Stratum Total Cover: _____					
SAPLING/SHRUB STRATUM	Plot Size:				Prevalence Index Worksheet Total % cover of: _____ Multiply by: _____ OBL species _____ x1 _____ FACW species _____ x2 _____ FAC species _____ x3 _____ FACU species _____ x4 _____ UPL species _____ x5 _____ Column Totals _____ (A) _____ (B) Prevalence Index = B/A = _____
1. _____	<u>N/A</u>	_____	_____	_____	
2. _____		_____	_____	_____	
3. _____		_____	_____	_____	
4. _____		_____	_____	_____	
Sapling/Shrub Stratum Total Cover: _____					
HERB STRATUM	Plot Size:				Hydrophytic Vegetation Indicators <input checked="" type="checkbox"/> Dominance Test is >50% <input type="checkbox"/> Prevalence Index is <= 3.0 ¹ <input type="checkbox"/> Morphological adaptations (provide supporting data in remarks) <input type="checkbox"/> Problematic hydrophytic vegetation ¹ (explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
1. <u>unidentifiable grass</u>	<u>5' radius</u>	<u>85</u>	<u>yes</u>	<u>FAC</u>	
2. _____		_____	_____	_____	
3. _____		_____	_____	_____	
4. _____		_____	_____	_____	
5. _____		_____	_____	_____	
6. _____		_____	_____	_____	
7. _____		_____	_____	_____	
8. _____		_____	_____	_____	
Herb Stratum Total Cover: <u>85</u>					
WOODY VINE STRATUM	Plot Size:				Hydrophytic Vegetation Present ? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
1. _____	<u>N/A</u>	_____	_____	_____	
2. _____		_____	_____	_____	
Woody Vines Total Cover: _____					
% Bare ground in herb stratum <u>10</u> % cover of biotic crust <u>0</u>					

Remarks: Additional cover: litter/thatch, 5%. The sample point meets the Dominance Test indicator of hydrophytic vegetation. During an assessment by WRA on June 22, 2016, which occurred under normal rainfall conditions, the dominant grass at this location was identified as *Festuca perennis* (FAC). Because site conditions have not changed since 2016, it is likely that the unidentifiable grass is *Festuca perennis*, and it was treated as FAC. This assumption is supported by the fact that hydric soil and wetland hydrology indicators were met. □

SOIL

Sampling Point SP03

Profile description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)								
Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ¹		
0-8	10YR 3/2	98	7.5YR 3/4	2	C	M, PL	silty clay loam	Distinct Redox Concentrations
8-12	10YR 3/2	85	7.5YR 5/4	15	C	M, PL	clay	Distinct Redox Concentrations

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix. ²Location: PL=Pore Lining, RC=Root Channel, M=Matrix

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)		Indicators for Problematic Hydric Soils ³ :
<input type="checkbox"/> Histosol (A1)	<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> 1cm Muck (A9) (LRR C)
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> 2cm Muck (A10)(LRR B)
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Loamy Mucky Mineral (F1)	<input type="checkbox"/> Reduced Vertic (F18)
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	<input type="checkbox"/> Red Parent Material (TF2)
<input type="checkbox"/> Stratified Layers (A5)(LRR C)	<input type="checkbox"/> Depleted Matrix (F3)	<input type="checkbox"/> Other (explain in remarks)
<input type="checkbox"/> 1cm Muck (A9)(LRR D)	<input checked="" type="checkbox"/> Redox Dark Surface (F6)	
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Depleted Dark Surface (F7)	
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Redox Depressions (F8)	
<input type="checkbox"/> Sandy Mucky Mineral (S1)	<input type="checkbox"/> Vernal Pools (F9)	
<input type="checkbox"/> Sandy Gleyed Matrix (S4)		

³Indicators of hydric vegetation and wetland hydrology must be present.

Restrictive Layer (if present): Type: <u>N/A</u> Depth (inches): _____	Hydric Soil Present ? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
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Remarks: The sample point meets the Redox Dark Surface (F6) indicator of hydric soil.

HYDROLOGY

Wetland Hydrology Indicators:		Secondary Indicators (2 or more required)
Primary Indicators (any one indicator is sufficient)		
<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> Salt Crust (B11)	<input type="checkbox"/> Water Marks (B1)(Riverine)
<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Biotic Crust (B12)	<input type="checkbox"/> Sediment Deposits (B2)(Riverine)
<input type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Aquatic Invertebrates (B13)	<input type="checkbox"/> Drift Deposits (B3)(Riverine)
<input type="checkbox"/> Water Marks (B1)(Nonriverine)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)	<input type="checkbox"/> Drainage Patterns (B10)
<input type="checkbox"/> Sediment Deposits (B2)(Nonriverine)	<input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3)	<input type="checkbox"/> Dry-Season Water Table (C2)
<input type="checkbox"/> Drift Deposits (B3)(Nonriverine)	<input type="checkbox"/> Presence of Reduced Iron (C4)	<input type="checkbox"/> Thin Muck Surface (C7)
<input type="checkbox"/> Surface Soil Cracks (B6)	<input type="checkbox"/> Recent Iron Reduction in PLoWed Soils (C6)	<input type="checkbox"/> Crayfish Burrows (C8)
<input checked="" type="checkbox"/> Inundation Visible on Aerial Imagery (B7)	<input type="checkbox"/> Other (Explain in Remarks)	<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)
<input type="checkbox"/> Water-Stained Leaves (B9)		<input type="checkbox"/> Shallow Aquitard (D3)
		<input type="checkbox"/> FAC-Neutral Test (D5)

Field Observations: Surface water present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Depth (inches): _____ Water table present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Depth (inches): _____ Saturation Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Depth (inches): _____ (includes capillary fringe)	Wetland Hydrology Present ? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
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Describe recorded data (stream gauge, monitoring well, aerial photos, etc.) if available.
Google Earth aerial image date 4/11/2011

Remarks: The sample point meets the Inundation Visible on Aerial Imagery (B7) indicator of wetland hydrology.

Wetland Determination Data Form - Arid West Region

Project/Site Natomas Center Parking Expansion City Sacramento County Sacramento Sampling Date 12/19/2019
 Applicant/Owner Los Rios CCD State CA Sampling Point SP04
 Investigator(s) Gavin Albertoli Section, Township, Range T9N R4E S2
 Landform (hillslope, terrace, etc.) terrace Local Relief (concave, convex, none) none Slope(%) 0
 Subregion(LRR) LRR C (Medit. CA) Lat: 38.657872 Long: -121.519843 Datum: WGS 84
 Soil Map Unit Name Jacktone clay, drained, 0 to 2 percent slopes NWI classification none

Are climatic/hydrologic conditions on-site typical for this time of year? ☐ Yes ☒ No (If no, explain in remarks)
 Are any of the following significantly disturbed? ☐ Vegetation ☐ Soil ☐ Hydrology Are "Normal Circumstances" present? ☒ Yes ☐ No
 Are any of the following naturally problematic? ☐ Vegetation ☐ Soil ☐ Hydrology (If needed, explain any answers in remarks)

SUMMARY OF FINDINGS - Attach site map showing sample point locations, transects, important features, etc.

Hydrophytic Vegetation Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Hydric Soil Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Wetland Hydrology Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Is the Sampled Area within a Wetland? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Remarks: SP04 is an upland sample point taken on a slight topographic rise adjacent to a broad shallow depression in the north western portion of the Study Area. The wetland boundary is based on the increased presence of upland species as well as a lack of hydric soil indicators. SP03 and SP04 are paired. Rainfall during the preceding 3-month period was below normal.	

VEGETATION (use scientific names)

TREE STRATUM	Plot Size:	N/A	Absolute % cover	Dominant Species?	Indicator Status	
1. _____						Dominance Test Worksheet Number of Dominant Species that are OBL, FACW, or FAC? <u>1</u> (A) Total number of dominant species across all strata? <u>2</u> (B) % of dominant species that are OBL, FACW, or FAC? <u>50</u> (A/B)
2. _____						
3. _____						
4. _____						
Tree Stratum Total Cover: _____						
SAPLING/SHRUB STRATUM	Plot Size:	N/A				Prevalence Index Worksheet Total % cover of: _____ Multiply by: _____ OBL species _____ x1 _____ FACW species _____ x2 _____ FAC species _____ x3 _____ FACU species _____ x4 _____ UPL species _____ x5 _____ Column Totals _____ (A) _____ (B) Prevalence Index = B/A = _____
1. _____						
2. _____						
3. _____						
4. _____						
Sapling/Shrub Stratum Total Cover: _____						
HERB STRATUM	Plot Size:	5' radius				Hydrophytic Vegetation Indicators <input type="checkbox"/> Dominance Test is >50% <input type="checkbox"/> Prevalence Index is <= 3.0 ¹ <input type="checkbox"/> Morphological adaptations (provide supporting data in remarks) <input type="checkbox"/> Problematic hydrophytic vegetation ¹ (explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
1. <u>unidentifiable grass 1</u>			45	yes	NL	
2. <u>unidentifiable grass 2</u>			45	yes	FAC	
3. _____						
4. _____						
5. _____						
6. _____						
7. _____						
8. _____						
Herb Stratum Total Cover: <u>90</u>						
WOODY VINE STRATUM	Plot Size:	N/A				Hydrophytic Vegetation Present ? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
1. _____						
2. _____						
Woody Vines Total Cover: _____						
% Bare ground in herb stratum <u>0</u>			% cover of biotic crust <u>0</u>			

Remarks: Additional cover: litter/thatch, 10%. The sample point does not meet indicators of hydrophytic vegetation. During an assessment by WRA on June 22, 2016, which occurred under normal rainfall conditions, the dominant grasses at this location were identified as *Festuca perennis* (FAC) and *Avena barbata* (NL). Since site conditions have not changed since 2016, it's likely that the unidentifiable grasses are those two species, and they were treated as NL and FAC. The lack of hydric soil indicators supports the assumption that the veg. is not hydrophytic.

SOIL

Sampling Point SP04

Profile description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)								
Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ¹		
0-10	10YR 3/2	100					silty clay loam	Gravel inclusions

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix. ²Location: PL=Pore Lining, RC=Root Channel, M=Matrix

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.) <input type="checkbox"/> Histosol (A1) <input type="checkbox"/> Histic Epipedon (A2) <input type="checkbox"/> Black Histic (A3) <input type="checkbox"/> Hydrogen Sulfide (A4) <input type="checkbox"/> Stratified Layers (A5)(LRR C) <input type="checkbox"/> 1cm Muck (A9)(LRR D) <input type="checkbox"/> Depleted Below Dark Surface (A11) <input type="checkbox"/> Thick Dark Surface (A12) <input type="checkbox"/> Sandy Mucky Mineral (S1) <input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Sandy Redox (S5) <input type="checkbox"/> Stripped Matrix (S6) <input type="checkbox"/> Loamy Mucky Mineral (F1) <input type="checkbox"/> Loamy Gleyed Matrix (F2) <input type="checkbox"/> Depleted Matrix (F3) <input type="checkbox"/> Redox Dark Surface (F6) <input type="checkbox"/> Depleted Dark Surface (F7) <input type="checkbox"/> Redox Depressions (F8) <input type="checkbox"/> Vernal Pools (F9)	Indicators for Problematic Hydric Soils³: <input type="checkbox"/> 1cm Muck (A9) (LRR C) <input type="checkbox"/> 2cm Muck (A10)(LRR B) <input type="checkbox"/> Reduced Vertic (F18) <input type="checkbox"/> Red Parent Material (TF2) <input type="checkbox"/> Other (explain in remarks)
---	---	---

³Indicators of hydric vegetation and wetland hydrology must be present.

Restrictive Layer (if present): Type: <u>N/A</u> Depth (inches): _____	Hydric Soil Present ? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
---	--

Remarks: The sample point does not meet indicators of hydric soil.

HYDROLOGY

Wetland Hydrology Indicators: Primary Indicators (any one indicator is sufficient)		Secondary Indicators (2 or more required)
<input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Water Marks (B1)(Nonriverine) <input type="checkbox"/> Sediment Deposits (B2)(Nonriverine) <input type="checkbox"/> Drift Deposits (B3)(Nonriverine) <input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Water-Stained Leaves (B9)		<input type="checkbox"/> Salt Crust (B11) <input type="checkbox"/> Biotic Crust (B12) <input type="checkbox"/> Aquatic Invertebrates (B13) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Recent Iron Reduction in PLoed Soils (C6) <input type="checkbox"/> Other (Explain in Remarks)
Field Observations: Surface water present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Depth (inches): _____ Water table present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Depth (inches): _____ Saturation Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Depth (inches): _____ (includes capillary fringe)		Wetland Hydrology Present ? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Describe recorded data (stream guage, monitoring well, aerial photos, etc.) if available. N/A		
Remarks: The sample point does not meet indicators of wetland hydrology.		

Wetland Determination Data Form - Arid West Region

Project/Site Natomas Center Parking Expansion City Sacramento County Sacramento Sampling Date 12/19/2019
 Applicant/Owner Los Rios CCD State CA Sampling Point SP05
 Investigator(s) Gavin Albertoli Section, Township, Range T9N R4E S2
 Landform (hillslope, terrace, etc.) terrace Local Relief (concave, convex, none) none Slope(%) 0
 Subregion(LRR) LRR C (Medit. CA) Lat: 38.658646 Long: -121.519461 Datum: WGS 84
 Soil Map Unit Name Jacktone clay, drained, 0 to 2 percent slopes NWI classification none

Are climatic/hydrologic conditions on-site typical for this time of year? ☐ Yes ☒ No (If no, explain in remarks)
 Are any of the following significantly disturbed? ☐ Vegetation ☐ Soil ☐ Hydrology Are "Normal Circumstances" present? ☒ Yes ☐ No
 Are any of the following naturally problematic? ☐ Vegetation ☐ Soil ☐ Hydrology (If needed, explain any answers in remarks)

SUMMARY OF FINDINGS - Attach site map showing sample point locations, transects, important features, etc.

Hydrophytic Vegetation Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Hydric Soil Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Wetland Hydrology Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Is the Sampled Area within a Wetland? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Remarks: SP05 is an upland sample point taken in a flat field dominated by wild oats in the northern portion of the Study Area. The sample point is representative of the northeastern portion of the Study Area. Rainfall during the preceding 3-month period was below normal.	

VEGETATION (use scientific names)

TREE STRATUM	Plot Size:	N/A	Absolute % cover	Dominant Species?	Indicator Status	
1.						Dominance Test Worksheet Number of Dominant Species that are OBL, FACW, or FAC? <u>0</u> (A) Total number of dominant species across all strata? <u>1</u> (B) % of dominant species that are OBL, FACW, or FAC? <u>0</u> (A/B)
2.						
3.						
4.						
Tree Stratum Total Cover: _____						
SAPLING/SHRUB STRATUM						
Plot Size:		N/A				
1.						Prevalence Index Worksheet Total % cover of: _____ Multiply by: _____ OBL species _____ x1 _____ FACW species _____ x2 _____ FAC species _____ x3 _____ FACU species _____ x4 _____ UPL species _____ x5 _____ Column Totals _____ (A) _____ (B) Prevalence Index = B/A = _____
2.						
3.						
4.						
Sapling/Shrub Stratum Total Cover: _____						
HERB STRATUM						
Plot Size:		5' radius				
1.	<u>unidentifiable grass</u>		60	yes	NL	Hydrophytic Vegetation Indicators <input type="checkbox"/> Dominance Test is >50% <input type="checkbox"/> Prevalence Index is <= 3.0 ¹ <input type="checkbox"/> Morphological adaptations (provide supporting data in remarks) <input type="checkbox"/> Problematic hydrophytic vegetation ¹ (explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
2.						
3.						
4.						
5.						
6.						
7.						
8.						
Herb Stratum Total Cover: <u>60</u>						
WOODY VINE STRATUM						
Plot Size:		N/A				
1.						Hydrophytic Vegetation Present ? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
2.						
Woody Vines Total Cover: _____						
% Bare ground in herb stratum		<u>0</u>		% cover of biotic crust		<u>0</u>

Remarks: Additional cover: litter/thatch: 40%. The sample point does not meet indicators of hydrophytic vegetation. During an assessment by WRA on June 22, 2016, which occurred under normal rainfall conditions, the dominant grass at this location was identified as *Avena barbata* (NL). Because site conditions have not changed since 2016, it is likely that the unidentifiable grass is *Avena barbata*, and it was treated as NL. The lack of hydric soil and wetland hydrology indicators supports the assumption that the vegetation is not hydrophytic.

SOIL

Sampling Point SP05

Profile description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)							
Depth (inches)	Matrix		Redox Features			Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹		
0-12	10YR 3/2	100					silty clay loam

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix. ²Location: PL=Pore Lining, RC=Root Channel, M=Matrix

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.) <input type="checkbox"/> Histosol (A1) <input type="checkbox"/> Histic Epipedon (A2) <input type="checkbox"/> Black Histic (A3) <input type="checkbox"/> Hydrogen Sulfide (A4) <input type="checkbox"/> Stratified Layers (A5)(LRR C) <input type="checkbox"/> 1cm Muck (A9)(LRR D) <input type="checkbox"/> Depleted Below Dark Surface (A11) <input type="checkbox"/> Thick Dark Surface (A12) <input type="checkbox"/> Sandy Mucky Mineral (S1) <input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Sandy Redox (S5) <input type="checkbox"/> Stripped Matrix (S6) <input type="checkbox"/> Loamy Mucky Mineral (F1) <input type="checkbox"/> Loamy Gleyed Matrix (F2) <input type="checkbox"/> Depleted Matrix (F3) <input type="checkbox"/> Redox Dark Surface (F6) <input type="checkbox"/> Depleted Dark Surface (F7) <input type="checkbox"/> Redox Depressions (F8) <input type="checkbox"/> Vernal Pools (F9)	Indicators for Problematic Hydric Soils³: <input type="checkbox"/> 1cm Muck (A9) (LRR C) <input type="checkbox"/> 2cm Muck (A10)(LRR B) <input type="checkbox"/> Reduced Vertic (F18) <input type="checkbox"/> Red Parent Material (TF2) <input type="checkbox"/> Other (explain in remarks)
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³Indicators of hydric vegetation and wetland hydrology must be present.

Restrictive Layer (if present): Type: <u>N/A</u> Depth (inches): _____	Hydric Soil Present ? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
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Remarks: The sample point does not meet indicators of hydric soil.

HYDROLOGY

Wetland Hydrology Indicators: Primary Indicators (any one indicator is sufficient)		Secondary Indicators (2 or more required)
<input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Water Marks (B1)(Nonriverine) <input type="checkbox"/> Sediment Deposits (B2)(Nonriverine) <input type="checkbox"/> Drift Deposits (B3)(Nonriverine) <input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Water-Stained Leaves (B9)	<input type="checkbox"/> Salt Crust (B11) <input type="checkbox"/> Biotic Crust (B12) <input type="checkbox"/> Aquatic Invertebrates (B13) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Recent Iron Reduction in PLoWed Soils (C6) <input type="checkbox"/> Other (Explain in Remarks)	<input type="checkbox"/> Water Marks (B1)(Riverine) <input type="checkbox"/> Sediment Deposits (B2)(Riverine) <input type="checkbox"/> Drift Deposits (B3)(Riverine) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> FAC-Neutral Test (D5)

Field Observations: Surface water present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Depth (inches): _____ Water table present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Depth (inches): _____ Saturation Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Depth (inches): _____ (includes capillary fringe)	Wetland Hydrology Present ? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
---	--

Describe recorded data (stream guage, monitoring well, aerial photos, etc.) if available.
N/A

Remarks: The sample point does not meet indicators of wetland hydrology.

Wetland Determination Data Form - Arid West Region

Project/Site Natomas Center Parking Expansion City Sacramento County Sacramento Sampling Date 12/19/2019
 Applicant/Owner Los Rios CCD State CA Sampling Point SP06
 Investigator(s) Gavin Albertoli Section, Township, Range T9N R4E S2
 Landform (hillslope, terrace, etc.) terrace Local Relief (concave, convex, none) none Slope(%) 0-1
 Subregion(LRR) LRR C (Medit. CA) Lat: 38.658022 Long: -121.518871 Datum: WGS 84
 Soil Map Unit Name Jacktone clay, drained, 0 to 2 percent slopes NWI classification none

Are climatic/hydrologic conditions on-site typical for this time of year? ☐ Yes ☒ No (If no, explain in remarks)
 Are any of the following significantly disturbed? ☐ Vegetation ☐ Soil ☐ Hydrology Are "Normal Circumstances" present? ☒ Yes ☐ No
 Are any of the following naturally problematic? ☐ Vegetation ☐ Soil ☐ Hydrology (If needed, explain any answers in remarks)

SUMMARY OF FINDINGS - Attach site map showing sample point locations, transects, important features, etc.

Hydrophytic Vegetation Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Hydric Soil Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Wetland Hydrology Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Is the Sampled Area within a Wetland? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Remarks: SP07 is an upland sample point taken in a flat field in the eastern portion of the Study Area. The sample point is representative of the eastern portion of the Study Area. Rainfall during the preceding 3-month period was below normal.	

VEGETATION (use scientific names)

TREE STRATUM	Plot Size:	N/A	Absolute % cover	Dominant Species?	Indicator Status	
1. _____						Dominance Test Worksheet Number of Dominant Species that are OBL, FACW, or FAC? <u>0</u> (A) Total number of dominant species across all strata? <u>1</u> (B) % of dominant species that are OBL, FACW, or FAC? <u>0</u> (A/B)
2. _____						
3. _____						
4. _____						
Tree Stratum Total Cover: _____						
SAPLING/SHRUB STRATUM	Plot Size:	N/A				Prevalence Index Worksheet Total % cover of: _____ Multiply by: _____ OBL species _____ x1 _____ FACW species _____ x2 _____ FAC species _____ x3 _____ FACU species _____ x4 _____ UPL species _____ x5 _____ Column Totals _____ (A) _____ (B) Prevalence Index = B/A = _____
1. _____						
2. _____						
3. _____						
4. _____						
Sapling/Shrub Stratum Total Cover: _____						
HERB STRATUM	Plot Size:	5' radius				Hydrophytic Vegetation Indicators <input type="checkbox"/> Dominance Test is >50% <input type="checkbox"/> Prevalence Index is <= 3.0 ¹ <input type="checkbox"/> Morphological adaptations (provide supporting data in remarks) <input type="checkbox"/> Problematic hydrophytic vegetation ¹ (explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
1. <u>unidentifiable grass</u>			85	yes	NL	
2. <u>Convolvulus arvensis</u>			5	no	NL	
3. _____						
4. _____						
5. _____						
6. _____						
7. _____						
8. _____						
Herb Stratum Total Cover: <u>90</u>						
WOODY VINE STRATUM	Plot Size:	N/A				Hydrophytic Vegetation Present ? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
1. _____						
2. _____						
Woody Vines Total Cover: _____						
% Bare ground in herb stratum <u>10</u>			% cover of biotic crust <u>0</u>			

Remarks: The sample point does not meet indicators of hydrophytic vegetation. During an assessment by WRA on June 22, 2016, which occurred under normal rainfall conditions, the dominant grass at this location was identified as Avena barbata (NL). Because site conditions have not changed since 2016, it is likely that the unidentifiable grass is slim oat, and it was treated as NL. The lack of hydric soil and wetland hydrology indicators support the assumption that the vegetation is not hydrophytic.

SOIL

Sampling Point SP06

Profile description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)								
Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ¹		
0-8	10YR 3/3	100					silty clay loam	
8-14	10YR3/1	100					silty clay loam	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix. ²Location: PL=Pore Lining, RC=Root Channel, M=Matrix

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)	Indicators for Problematic Hydric Soils ³ :
<input type="checkbox"/> Histosol (A1) <input type="checkbox"/> Histic Epipedon (A2) <input type="checkbox"/> Black Histic (A3) <input type="checkbox"/> Hydrogen Sulfide (A4) <input type="checkbox"/> Stratified Layers (A5)(LRR C) <input type="checkbox"/> 1cm Muck (A9)(LRR D) <input type="checkbox"/> Depleted Below Dark Surface (A11) <input type="checkbox"/> Thick Dark Surface (A12) <input type="checkbox"/> Sandy Mucky Mineral (S1) <input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Sandy Redox (S5) <input type="checkbox"/> Stripped Matrix (S6) <input type="checkbox"/> Loamy Mucky Mineral (F1) <input type="checkbox"/> Loamy Gleyed Matrix (F2) <input type="checkbox"/> Depleted Matrix (F3) <input type="checkbox"/> Redox Dark Surface (F6) <input type="checkbox"/> Depleted Dark Surface (F7) <input type="checkbox"/> Redox Depressions (F8) <input type="checkbox"/> Vernal Pools (F9)
	<input type="checkbox"/> 1cm Muck (A9) (LRR C) <input type="checkbox"/> 2cm Muck (A10)(LRR B) <input type="checkbox"/> Reduced Vertic (F18) <input type="checkbox"/> Red Parent Material (TF2) <input type="checkbox"/> Other (explain in remarks)

³Indicators of hydric vegetation and wetland hydrology must be present.

Restrictive Layer (if present):	Hydric Soil Present ? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Type: <u>N/A</u> Depth (inches): _____	

Remarks: The sample point does not meet indicators of hydric soil.

HYDROLOGY

Wetland Hydrology Indicators:	Secondary Indicators (2 or more required)
Primary Indicators (any one indicator is sufficient) <input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Water Marks (B1)(Nonriverine) <input type="checkbox"/> Sediment Deposits (B2)(Nonriverine) <input type="checkbox"/> Drift Deposits (B3)(Nonriverine) <input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Water-Stained Leaves (B9)	<input type="checkbox"/> Salt Crust (B11) <input type="checkbox"/> Biotic Crust (B12) <input type="checkbox"/> Aquatic Invertebrates (B13) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Recent Iron Reduction in PLoWed Soils (C6) <input type="checkbox"/> Other (Explain in Remarks)
<input type="checkbox"/> Water Marks (B1)(Riverine) <input type="checkbox"/> Sediment Deposits (B2)(Riverine) <input type="checkbox"/> Drift Deposits (B3)(Riverine) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> FAC-Neutral Test (D5)	

Field Observations:	Wetland Hydrology Present ? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Surface water present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Depth (inches): _____ Water table present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Depth (inches): _____ Saturation Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Depth (inches): _____ (includes capillary fringe)	

Describe recorded data (stream guage, monitoring well, aerial photos, etc.) if available.
N/A

Remarks: The sample point does not meet indicators of wetland hydrology.

APPENDIX C -- Representative Photographs of the Study Area

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Photograph 1. Photograph of seasonal wetland SW-01 in the central portion of the Study Area. Photograph taken facing west on December 19, 2019.



Photograph 2. Photograph of sample point SP01 (wetland sample point) taken within seasonal wetland SW-01. Photograph taken on December 19, 2019.



Photograph 3. Photograph of seasonal wetland SW-01. Photograph taken facing west on December 19, 2019.



Photograph 4. Photograph of sample point SP03 (wetland sample point), located in seasonal wetland SW-02. Photograph taken facing west on December 19, 2019.



Photograph 5. Photograph of cottonwood saplings within seasonal wetland SW-02. Photograph taken on December 19, 2019.



Photograph 6. Photograph of sample point SP04 (upland sample point), located adjacent to seasonal wetland SW-02. Photograph taken on December 19, 2019.



Photograph 7. Photograph of SP05 (upland sample point), located in the northern portion of the Study Area. Photograph taken on December 19, 2019.



Photograph 8. Photograph of the northern portion of the Study Area. Photograph taken facing east on December 19, 2019.

APPENDIX D -- List of Plant Species Observed within the Study Area on December 19, 2019

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Appendix D. Plant species observed in the Study Area on December 19, 2019.

Scientific Name	Common Name	Origin	Form	Rarity Status ¹	CAL-IPC Status ²	Wetland Status ³
<i>Avena</i> sp.	wild oat	non-native (invasive)	annual, perennial grass	-		-
<i>Brassica nigra</i>	Black mustard	non-native (invasive)	annual herb	-	Moderate	-
<i>Bromus diandrus</i>	Ripgut brome	non-native (invasive)	annual grass	-	Moderate	-
<i>Bromus hordeaceus</i>	Soft chess	non-native (invasive)	annual grass	-	Limited	FACU
<i>Carduus pycnocephalus</i> ssp. <i>pycnocephalus</i>	Italian thistle	non-native	annual herb	-	-	-
<i>Centaurea solstitialis</i>	Yellow starthistle	non-native (invasive)	annual herb	-	High	-
<i>Convolvulus arvensis</i>	Field bindweed	non-native (invasive)	perennial herb, vine	-	-	-
<i>Cynodon dactylon</i>	Bermuda grass	non-native (invasive)	perennial grass	-	Moderate	FACU
<i>Cyperus eragrostis</i>	Tall cyperus	native	perennial grasslike herb	-	-	FACW
<i>Dittrichia graveolens</i>	Stinkwort	non-native (invasive)	annual herb	-	Moderate	-
<i>Festuca perennis</i>	Italian rye grass	non-native	annual, perennial grass	-	-	FAC
<i>Helminthotheca echioides</i>	Bristly ox-tongue	non-native (invasive)	annual, perennial herb	-	-	FAC
<i>Hirschfeldia incana</i>	Shortpod mustard	non-native (invasive)	perennial herb	-	Moderate	-
<i>Hordeum marinum</i> ssp. <i>gussoneanum</i>	Mediterranean barley	non-native	annual grass	-	-	FAC
<i>Hordeum murinum</i>	Foxtail barley	non-native (invasive)	annual grass	-	-	FACU
<i>Lactuca saligna</i>	Willow lettuce	non-native	annual herb	-	-	UPL
<i>Lactuca serriola</i>	Prickly lettuce	non-native (invasive)	annual herb	-	-	FACU
<i>Lepidium latifolium</i>	Perennial pepperweed	non-native (invasive)	perennial herb	-	High	FAC
<i>Malvella leprosa</i>	Alkali mallow	native	perennial herb	-	-	FACU
<i>Melilotus indicus</i>	Annual yellow sweetclover	non-native	annual herb	-	-	FACU
<i>Populus fremontii</i> ssp. <i>fremontii</i>	Cottonwood	native	tree	-	-	FAC
<i>Rumex crispus</i>	Curly dock	non-native (invasive)	perennial herb	-	Limited	FAC
<i>Trifolium hirtum</i>	Rose clover	non-native (invasive)	annual herb	-	Limited	-
<i>Vicia villosa</i>	Hairy vetch	non-native (invasive)	annual herb, vine	-	-	-
<i>Xanthium strumarium</i>	Cocklebur	native	annual herb	-	-	FAC

- All species identified using the *Jepson Manual, Second Edition* (Baldwin et al. 2012), *Jepson eFlora* [Jepson Flora Project (eds.) 2019]; nomenclature follows *Jepson eFlora* [Jepson Flora Project (eds.) 2019]

¹Rare Status: The CNPS Inventory of Rare and Endangered Plants (CNPS 2019)

FE:	Federal Endangered
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SE:	State Endangered
ST:	State Threatened
SR:	State Rare
Rank 1A:	Plants presumed extinct in California
Rank 1B:	Plants rare, threatened, or endangered in California and elsewhere. Generally regarded as special-status in native stands only.
Rank 2:	Plants rare, threatened, or endangered in California, but more common elsewhere
Rank 3:	Plants about which we need more information – a review list
Rank 4:	Plants of limited distribution – a watch list

²Invasive Status: California Invasive Plant Inventory (Cal-IPC 2019)

High:	Severe ecological impacts; high rates of dispersal and establishment; most are widely distributed ecologically.
Moderate:	Substantial and apparent ecological impacts; moderate-high rates of dispersal, establishment dependent on disturbance; limited-moderate distribution ecologically
Limited:	Minor or not well documented ecological impacts; low-moderate rate of invasiveness; limited distribution ecologically
Assessed:	Assessed by Cal-IPC and determined to not be an existing current threat

³Wetland Status: National List of Plant Species that Occur in Wetlands, California – Arid West (Lichvar et al. 2016)

OBL:	Almost always found in wetlands; >99% frequency
FACW:	Usually found in wetlands; 67-99% frequency
FAC:	Equally found in wetlands and uplands; 34-66% frequency
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UPL:	Almost never found in wetlands; >1% frequency
NL:	Not listed, assumed almost never found in wetlands; >1% frequency
NI:	No information; not factored during wetland delineation

APPENDIX E -- List of Plant Species Observed within the Study Area on June 22, 2016

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Appendix E. Plant species observed in the Study Area on June 22, 2016.

Scientific Name	Common Name	Origin	Form	Rarity Status ¹	CAL-IPC Status ²	Wetland Status ³
<i>Amaranthus albus</i>	Tumbleweed	non-native	annual herb	-	-	FACU
<i>Amsinckia lycopoides</i>	Tarweed fiddleneck	native	annual herb	-	-	-
<i>Asclepias fascicularis</i>	Milkweed	native	perennial herb	-	-	FAC
<i>Atriplex prostrata</i>	Fat-hen	non-native	annual herb	-	-	FACW
<i>Avena barbata</i>	Slim oat	non-native (invasive)	annual, perennial grass	-	Moderate	-
<i>Brassica nigra</i>	Black mustard	non-native (invasive)	annual herb	-	Moderate	-
<i>Bromus diandrus</i>	Ripgut brome	non-native (invasive)	annual grass	-	Moderate	-
<i>Bromus hordeaceus</i>	Soft chess	non-native (invasive)	annual grass	-	Limited	FACU
<i>Carduus pycnocephalus</i> ssp. <i>pycnocephalus</i>	Italian thistle	non-native	annual herb	-	-	-
<i>Centaurea solstitialis</i>	Yellow starthistle	non-native (invasive)	annual herb	-	High	-
<i>Chenopodium album</i>	Lambs quarters	non-native	annual herb	-	-	FACU
<i>Convolvulus arvensis</i>	Field bindweed	non-native (invasive)	perennial herb, vine	-	-	-
<i>Cuscuta</i> sp.	Dodder	native	perennial herb, vine	-	-	NL
<i>Cynodon dactylon</i>	Bermuda grass	non-native (invasive)	perennial grass	-	Moderate	FACU
<i>Cyperus eragrostis</i>	Tall cyperus	native	perennial grasslike herb	-	-	FACW
<i>Dittrichia graveolens</i>	Stinkwort	non-native (invasive)	annual herb	-	Moderate	-
<i>Epilobium brachycarpum</i>	Willow herb	native	annual herb	-	-	-
<i>Erodium cicutarium</i>	Coastal heron's bill	non-native (invasive)	annual herb	-	Limited	-
<i>Festuca myuros</i>	Rattail sixweeks grass	non-native (invasive)	annual grass	-	-	FACU
<i>Festuca perennis</i>	Italian rye grass	non-native	annual, perennial grass	-	-	FAC
<i>Helminthotheca echioides</i>	Bristly ox-tongue	non-native (invasive)	annual, perennial herb	-	-	FAC
<i>Hirschfeldia incana</i>	Shortpod mustard	non-native (invasive)	perennial herb	-	Moderate	-
<i>Hordeum marinum</i> ssp. <i>gussoneanum</i>	Mediterranean barley	non-native	annual grass	-	-	FAC
<i>Hordeum murinum</i>	Foxtail barley	non-native (invasive)	annual grass	-	-	FACU
<i>Lactuca saligna</i>	Willow lettuce	non-native	annual herb	-	-	UPL
<i>Lactuca serriola</i>	Prickly lettuce	non-native (invasive)	annual herb	-	-	FACU

Scientific Name	Common Name	Origin	Form	Rarity Status ¹	CAL-IPC Status ²	Wetland Status ³
<i>Lepidium latifolium</i>	Perennial pepperweed	non-native (invasive)	perennial herb	-	High	FAC
<i>Lotus corniculatus</i>	Bird's foot trefoil	non-native (invasive)	perennial herb	-	-	FAC
<i>Lythrum hyssopifolia</i>	Hyssop loosestrife	non-native	annual, perennial herb	-	-	OBL
<i>Malva parviflora</i>	Cheeseweed	non-native	annual herb	-	-	-
<i>Malvella leprosa</i>	Alkali mallow	native	perennial herb	-	-	FACU
<i>Melilotus indicus</i>	Annual yellow sweetclover	non-native	annual herb	-	-	FACU
<i>Phalaris paradoxa</i>	Hood canarygrass	non-native	annual grass	-	-	FAC
<i>Poa annua</i>	Annual blue grass	non-native	annual grass	-	-	FAC
<i>Polygonum aviculare</i>	Prostrate knotweed	non-native	annual, perennial herb	-	-	FAC
<i>Polypogon monspeliensis</i>	Annual beard grass	non-native (invasive)	annual grass	-	Limited	FACW
<i>Populus fremontii</i> ssp. <i>fremontii</i>	Cottonwood	native	tree	-	-	FAC
<i>Raphanus sativus</i>	Jointed charlock	non-native (invasive)	annual, biennial herb	-	Limited	-
<i>Rumex crispus</i>	Curly dock	non-native (invasive)	perennial herb	-	Limited	FAC
<i>Salsola</i> sp.	Russian thistle	non-native (invasive)	annual herb	-	Limited	unknown
<i>Silybum marianum</i>	Milk thistle	non-native (invasive)	annual, perennial herb	-	Limited	-
<i>Sinapis arvensis</i>	Charlock	non-native (invasive)	annual herb	-	Limited	-
<i>Sonchus oleraceus</i>	Sow thistle	non-native	annual herb	-	-	UPL
<i>Spergularia rubra</i>	Purple sand spurry	non-native	annual, perennial herb	-	-	FAC
<i>Tragopogon porrifolius</i>	Salsify	non-native	perennial herb	-	-	-
<i>Trifolium hirtum</i>	Rose clover	non-native (invasive)	annual herb	-	Limited	-
<i>Veronica peregrina</i> ssp. <i>xalapensis</i>	Speedwell	native	annual herb	-	-	FAC
<i>Vicia villosa</i>	Hairy vetch	non-native (invasive)	annual herb, vine	-	-	-
<i>Washingtonia robusta</i>	Washington fan palm	non-native (invasive)	tree	-	Moderate	FACW
<i>Xanthium strumarium</i>	Cocklebur	native	annual herb	-	-	FAC

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Attachment E

Designated Critical Habitat

