
Biological Resources Evaluation
for the
Redding Avenue Student Housing Project
City of Sacramento, CA

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10 October 2018

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TABLE OF CONTENTS

I. SUMMARY OF FINDINGS AND CONCLUSIONS 1

II. INTRODUCTION..... 2

A. Purpose of Report 2

B. Project Location 2

C. Project Applicant 2

D. Project Description..... 2

III. STUDY METHODS..... 9

A. Studies Conducted 9

B. Biological Study Area..... 9

C. Literature Search 9

D. Survey Dates, Personnel, and Coverage 9

E. Field Survey Methods 10

F. Mapping 10

G. Problems Encountered and Limitations That May Influence Results..... 10

IV. ENVIRONMENTAL SETTING 11

A. Soils..... 11

B. Weather and Climate Conditions 15

C. Biological Communities 15

 1. Developed/ Ruderal..... 15

D. The Existing Level of Disturbance 15

V. BIOLOGICAL RESOURCES IN THE BIOLOGICAL STUDY AREA 19

A. Determination of Special-Status Species in the Biological Study Area..... 19

B. Special-Status Species not in the Biological Study Area..... 23

C. Evaluation of Special-Status Wildlife Species..... 23

 1. Birds 23

D. Evaluation of Special-Status Plant Species..... 26

E. Wetlands and Waters 26

G. Trees..... 26

VI. LITERATURE CITED 29

VII. PREPARERS..... 31

FIGURES

Figure 1. Project Location.....	5
Figure 2. Aerial Photograph.....	7
Figure 3. Soils Map.....	13
Figure 4. Biological Resources Map.....	17
Figure 5. Proposed Project Map.....	21

TABLES

Table 1. Building/Unit/Bed Breakdown	3
Table 2. USGS Quads Evaluated for the Redding Avenue Student Housing Project.....	9
Table 3. Special-Status Species with the Potential to Occur in the BSA.....	19
Table 4. Trees proposed for removal ¹	27

APPENDICES

Appendix A. Plant and Wildlife Species Observed
Appendix B. USFWS Species List
Appendix C. CNDDDB Summary Report and CNPS Inventory Query
Appendix D. Photographs
Appendix E. Species Evaluated Table
Appendix F. Wetland Datasheets

I. SUMMARY OF FINDINGS AND CONCLUSIONS

This biological resources evaluation report documents baseline biological conditions for the Redding Avenue Student Housing Project (Project) in the City of Sacramento, CA. Special-status species, their habitat, and sensitive natural communities that could be affected by the project were evaluated. The biological surveys were conducted on 18 July and 6 September 2018.

Biological communities in the Biological Study Area (BSA) consist of a developed site with ruderal species where pavement does not preclude vegetation growth. The BSA is a active lumber mill and is highly disturbed.

No special-status species were observed in the BSA during biological surveys conducted on 18 July and 6 September 2018. No impacts to special-status species are anticipated. The BSA provides potential habitat for the following non-federal listed special-status species:

- Migratory Birds & Birds of Prey (various species; protected under several laws and regulations)
- Burrowing owl (*Athene cunicularia*; State Species of Special Concern)
- Purple martin (*Progne subis*; State Species of Special Concern)

If active bird nests or burrowing owl burrows become established prior to construction, activities associated with construction of the project have the potential to cause nest abandonment. Potential impacts to active bird nests or burrowing owl burrows that may become established prior to construction will be reduced by implementation of mitigation measures provided in Section V.C.1.

II. INTRODUCTION

A. Purpose of Report

The purpose of this report is to document baseline biological resources in the Redding Avenue Student Housing Project (Project) Biological Study Area (BSA). This report includes analysis of impacts to biological resources and recommends mitigation measures to reduce potential impacts to less-than-significant levels under CEQA.

B. Project Location

The approximately 14.6-acre BSA is located at 2601 Redding Avenue, south of the Highway 50 overpass in the City of Sacramento, CA. The BSA consists of portions of assessor's parcel numbers 015-0033-010, 015-0101-016, and 015-0101-003 -068. The BSA is on the Sacramento East USGS topographic quad (T8N, R5E, Section 15, Mt. Diablo Base & Meridian; Figure 1) and is in the Lower Sacramento Hydrologic Unit (Hydrologic Unit Code 18020163). The geographic coordinates of the BSA centroid are 38.548955° north, -121.421828° west (WGS84), and the UTM coordinates are 637,521 meters east, 4,267,909 meters north, Zone 10S (WGS84). Figure 2 is a 9 August 2017 aerial photo of the BSA and surrounding area.

C. Project Applicant

CLIENT:

Raney Planning & Management, Inc.

1501 Sports Drive, Suite A

Sacramento, CA 95834

Contact: Rod Stinson, Division Manager

DEVELOPER/APPLICANT:

LCD Acquisitions, LLC

315 Oconee Street

Athens, GA 30601

Contact: Jason Doornbos, Executive Vice President

D. Project Description

The Project intends to redevelop a site, currently the Dorris Lumber & Moulding Company, into a student housing project near Sacramento State University. The project description is based the "The Retreat-Project Narrative" provided by the Client, dated 11 September 2018. The developer is proposing a 224-unit, 736-bedroom multi-family residential development. The project will feature various 2- and 3-story cottage-style and garden-style residential buildings with a central amenity area and clubhouse. The units will be rented like apartments. The architecture utilizes a variety of building configurations, including many smaller footprint buildings similar to detached single-family and two-family attached and medium and larger footprint buildings ranging from 4 to 8 attached; stacked "townhome"; and garden-style apartment buildings. There are a variety of building types, containing units with a range of 2 to 6 bedrooms per unit. There is a total of 12 different building types proposed with a total of 31 residential buildings plus a clubhouse (total building square feet for the project is +/- 349,382).

Table 1. Building/Unit/Bed Breakdown

Building/Unit/Bed Breakdown											
Building Type	Unit Breakdown by number of bedrooms						Units per Building	Beds per Building	Total Buildings	Total Units	Total Beds
	1B R	2B R	3B R	4B R	5B R	6B R					
Magnolia					1		1	5	2	2	10
Hawthorne					1		1	5	2	2	10
Belmont						1	1	6	5	5	30
Talmadge					2		2	10	4	8	40
Woodbury				9			9	36	6	54	216
Garden Terrace		12		12			24	72	2	48	144
Garden Apartment	12		12				24	48	3	72	144
Finley (4-unit)				4			4	16	3	12	48
Finley (5-unit)				5			5	20	1	5	20
Finley (6-unit)				6			6	24	1	6	24
Baldwin (4-unit)					4		4	20	1	4	20
Baldwin (6-unit)					6		6	30	1	6	30
Total	36	24	36	101	22	5			31	224	736

Site Design

The proposed design is intended to mimic a lower-density single-family or townhouse development by using smaller footprint buildings where possible, particularly in areas more visible from the public ROW. By utilizing a higher number of smaller buildings instead of fewer large buildings, there is an increased amount of landscape and non-paved areas that can provide both passive and active recreation opportunities. The project contains 525 parking spaces. The Finley building type contains two-car garages for each unit. Behind each Finley garage, there are 2 additional tandem spaces and are considered part of the surface parking. The applicant plans to designate some of the proposed parking as Electric Vehicle (EV) charging spaces. Bike parking, both long-term covered parking and short-term parking will be provided throughout the development.

Amenities

The development will be anchored by a centrally-located clubhouse and amenity area. The outdoor amenities include a resort-style pool, layout area, cabanas, grill area, activity courts like volleyball and bag toss, and other features. In addition to these amenities, the applicant intends to build an enclosed dog park.

Utility Design

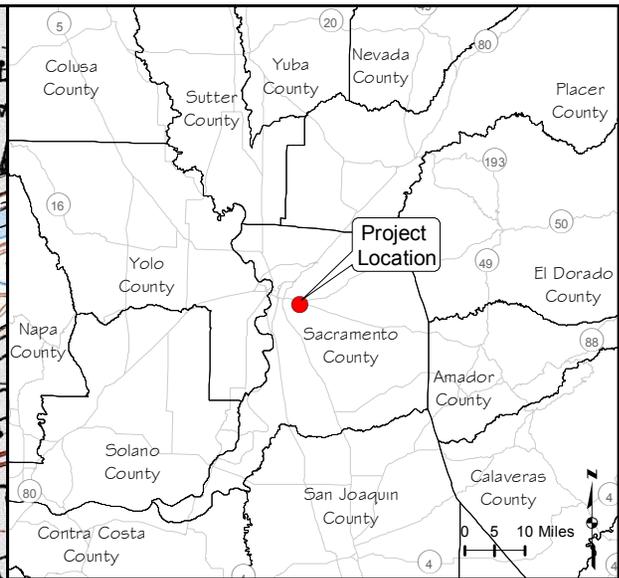
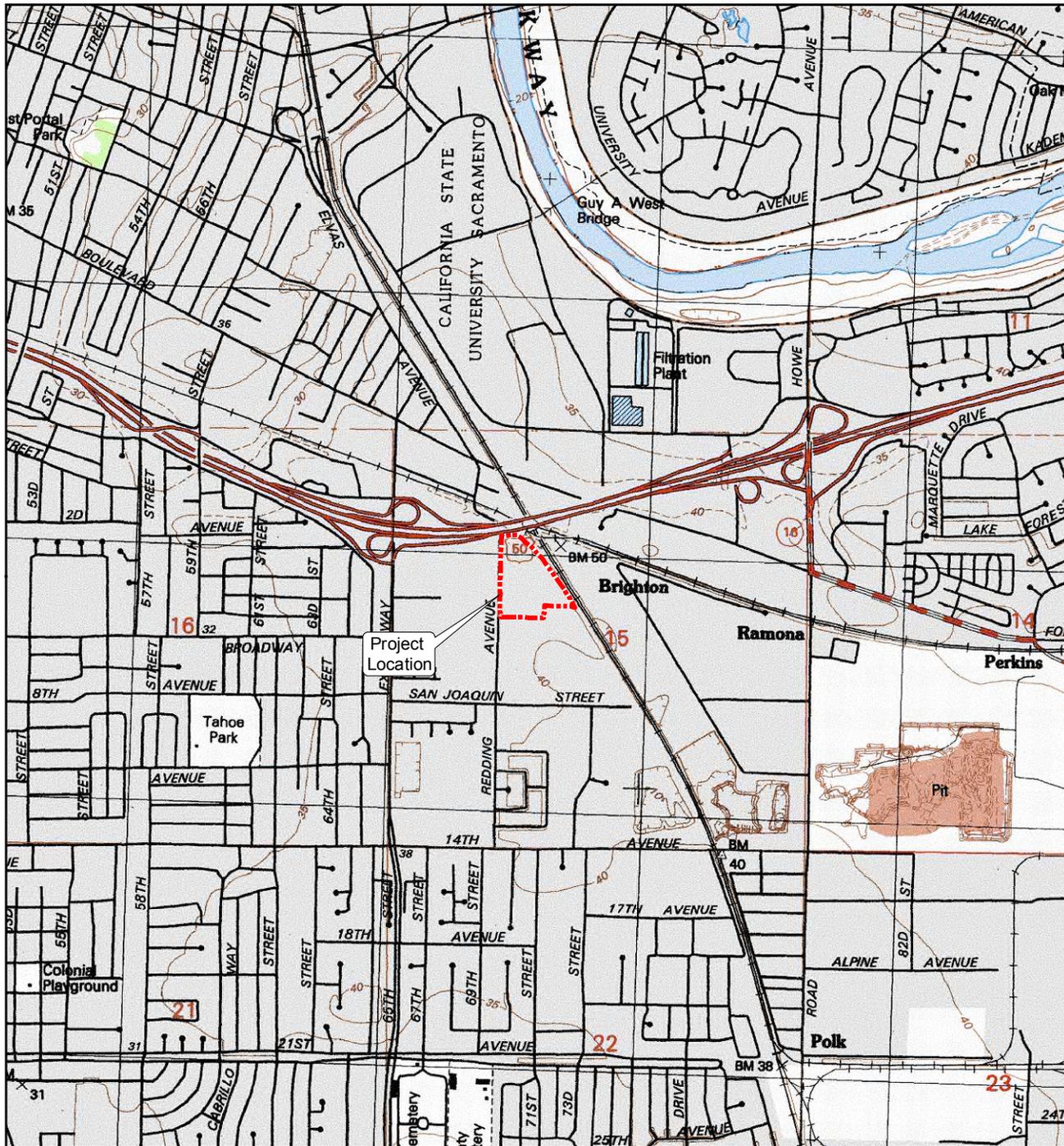
Water: Point of connection for water is from the existing 8 inch water main located in Redding Avenue. The project will also connect the existing 12 inch water main in 4th Avenue to the existing 8 inch water main in Redding Avenue which dead ends at the intersection of 4th Avenue and Redding Avenue. A domestic water service and meter with submeters for each unit will be provided. A separate fire water service will also be provided.

Sanitary Sewer: The project site will connect to the existing 8 inch sewer main in Redding Avenue, which has been confirmed with Department of Utilities to have capacity to serve the project.

Storm drainage: The project will conform to the City's hydraulic model and will connect to the existing 30 inch storm drain flowing north in Redding Avenue. The project will incorporate bioretention areas throughout the site to capture storm water runoff prior to entering the City's municipal system.

Landscape Design / Tree Removal

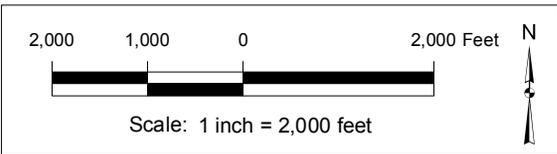
The landscape design will incorporate drought tolerant / native and adapted plantings and a water efficient irrigation system designed for low water use. On-site stormwater treatment will be incorporated into the landscape through the design of planted bioretention areas, contributing to both the function and aesthetics of the site. Shade trees are proposed throughout the site and with the combination of shade trees and covered parking areas, the project will meet the City's 50% parking lot shade requirement. The existing trees along Redding Avenue are intended to remain except for the existing trees located at the proposed vehicular site access at 4th Avenue as well as those near the EVA access at the northern perimeter of the site. Six trees are anticipated for removal: two native Valley oak trees and four horticultural trees (shown on Figure 4).



Redding Avenue Student Housing
 Sacramento County, CA
 10 October 2018

Figure 1. Location Map

 Project Location



Topo Basemap:
 Sacramento East Quad, CA 1992
 USGS 7.5' Quadrangle DRG
 CASIL California Digital Raster Graphics,
 7.5 Minute (C) Series, Albers Nad83 Mosaics (MrSID)
 o_nw0201.sld

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Redding Avenue Student Housing
Sacramento County, CA
10 October 2018

 Project Location

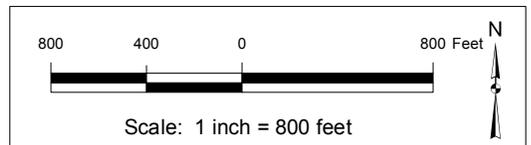


Figure 2. Aerial Photograph

Aerial Photograph: 9 August 2017
Vivid, DigitalGlobe, World Imagery
ESRI ArcGIS Basemap Layer

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III. STUDY METHODS

A. Studies Conducted

A biological field survey was conducted on 18 July 2018. A follow up biological field survey was conducted on 6 September 2018. Data from state and federal agencies, maps, aerial photographs, and published literature were reviewed and analyzed. An evaluation of biological resources was conducted to determine if any state or federal-listed special-status plant or wildlife species or their habitat could occur and be affected by the Project. Vegetation was classified and mapped.

B. Biological Study Area

The approximately 14.6-acre Biological Study Area (BSA) is shown on Figures 1 through 5. The BSA encompasses the proposed project and includes portions of assessor's parcel numbers 015-0033-010, 015-0101-016, and 015-0101-003 -068. Elevation in the BSA ranges from approximately 42 to 45 feet above sea level. The BSA is generally flat.

C. Literature Search

Sycamore Environmental obtained a list from the U.S. Fish and Wildlife Service (USFWS) Sacramento Field Office identifying federal-listed species that potentially occur in or could be affected by the project (USFWS 2018; Appendix B).

The California Natural Diversity Database (CNDDDB) and California Native Plant Society (CNPS) Rare Plant Inventory were queried for records of special-status species in or near the BSA (CDFW 2018f, CNPS 2018). The queries covered the Sacramento East quad and all adjacent USGS quads (Table 1). Query results are in Appendix C.

Table 2. USGS Quads Evaluated for the Redding Avenue Student Housing Project

Taylor Monument	Rio Linda	Citrus Heights
Sacramento West	Sacramento East	Carmichael
Clarksburg	Florin	Elk Grove

Lists of CDFW special-status species reviewed include *Special Animals* (CDFW 2018b), *Special Vascular Plants, Bryophytes, and Lichens List* (CDFW 2018c), *State and Federally Listed Endangered, Threatened, and Rare Plants of California* (CDFW 2018d), and *State and Federally Listed Endangered and Threatened Animals of California* (CDFW 2018e).

D. Survey Dates, Personnel, and Coverage

The biological survey for this project was conducted on 18 July 2018 by Juan Mejia, B.S. A follow up biological and wetland reconnaissance survey was conducted on 6 September 2018 by Nicole Ibañez, B.S.

E. Field Survey Methods

Biological Survey

The biological survey was performed by biologists walking through the BSA while looking for special-status plant and wildlife species, their sign, and their habitat. Areas adjacent to the BSA were inspected for sensitive habitat features such as elderberry shrubs, vernal pools, burrows, nests and wetlands/waters. A known purple martin nesting location just off-site to the north was surveyed. The locations of biological resources and important habitat features were recorded on field maps and/or with a sub-meter accurate GPS unit. Wildlife and plant species observed in the BSA are listed in Appendix A.

Wetland Reconnaissance Survey

A reconnaissance-level survey of wetlands and waters was conducted. Several data points were taken using current U.S. Army Corps of Engineers three-parameter test based on vegetation, soil characteristics and hydrology indicators. The data point locations are shown on Figure 4. None of the data points met the three-parameter test.

F. Mapping

Biological resources observed by Sycamore Environmental were mapped using Geo7X sub-meter accurate GPS unit. The 9 August 2017 aerial photo in Figures 2 and 4 was downloaded from the ESRI ArcGIS basemap layer. Biological communities in Figure 4 were mapped based on field observations and interpretation of the aerial photographs available on Google Earth.

G. Problems Encountered and Limitations That May Influence Results

No problems were encountered that may influence the results of the evaluation.

IV. ENVIRONMENTAL SETTING

The BSA is located south of Highway 50 and east of Redding Avenue in the City of Sacramento, CA. The proposed Project occurs on a developed lot at 2601 Redding Avenue, adjacent to a Union Pacific Railroad line to the east. Land use surrounding the proposed substation to the north, east, and west includes urban, commercial and residential developed areas. Topography in the BSA and surrounding area is generally flat.

A. Soils

The mapped soil unit in the BSA is San Joaquin-Urban land complex, 0 to 2 Percent Slopes (NRCS 2018). Figure 3 is a soils map. The following description is summarized from NRCS (1993, 2018).

San Joaquin-Urban land complex, 0 to 2 Percent Slopes:

These soils occur on low terraces with slopes shaped for urban uses. This unit is about 50 percent San Joaquin soil and 35 percent Urban land. The San Joaquin soil is formed in alluvium derived from mixed granitic rock. Permeability is very slow with limited water capacity. A typical profile for San Joaquin soils has strong brown (7.5 YR 5/6) silt loam 23 inches thick. The subsoil is a claypan of yellowish red (5YR 5/6) clay loam 5 inches thick. The next layer is an indurated hardpan about 26 inches thick. The substratum is a light yellowish brown (10YR 6/4) loam to a depth of 60 inches. In some areas the surface layer is sandy loam, fine sandy loam, loam, or sandy clay loam. Urban land consists of areas covered by impervious surfaces or structures, such as roads, driveways, sidewalks buildings, and parking lots. The soil material under the impervious surfaces is similar to that of the San Joaquin soil, although it may have been truncated or otherwise altered.

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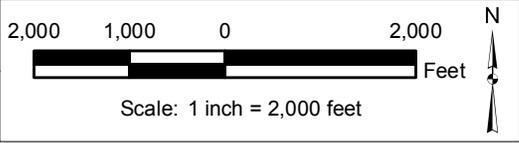
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 Sacramento County, CA
 10 October 2018

Figure 3. Soils Map

-  Biological Study Area
-  Soil Unit Boundaries

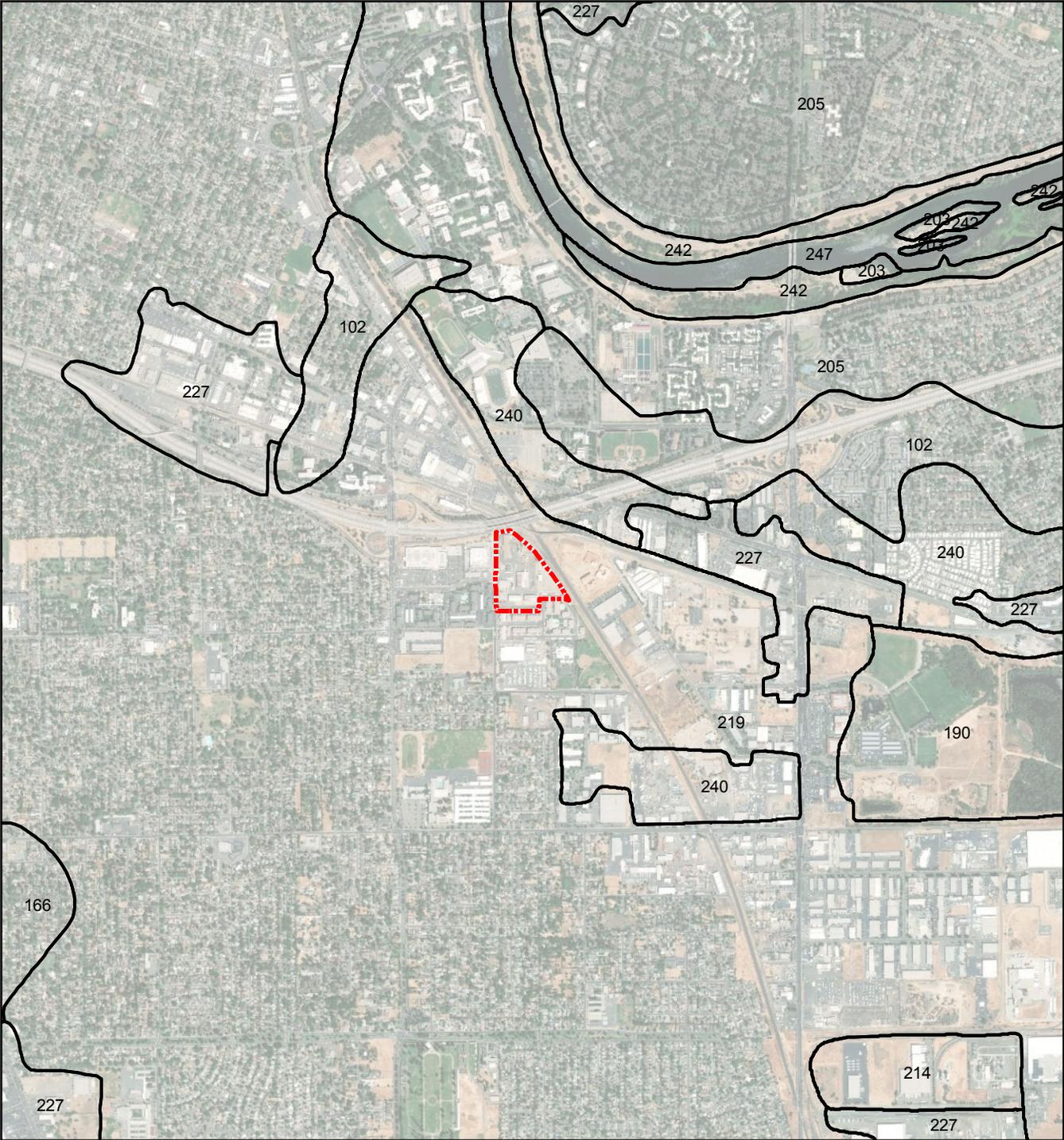
Soil Mapping Unit
Symbol Name

219 San Joaquin-Urban land complex,
 0 to 2 percent slopes



Soil Survey Geographic (SSURGO) database for
 Sacramento County, California, USDA, NRCS
 URL: <http://SoilDataMart.nrcs.usda.gov/>

Aerial Photograph: 9 August 2017
 NAIP2016 USDA FSA Imagery
 ESRI ArcGIS Basemap Layer



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B. Weather and Climate Conditions

The following weather and climate conditions are as reported by the Sacramento WB City gauge (SCR; National Weather Service Forecast Office 2018). This gauge is located approximately 4.7 miles northwest of the BSA at a similar elevation. Weather and climate conditions in the BSA and at the SCR gauge are expected to be similar.

On 18 July 2018 the weather was clear and calm with a high of 70 °F. Historic average precipitation for the SCR gauge from 1 August through 18 July is 17.97 inches (CDEC 2018). From 1 August 2017 through 18 July 2018, the SCR gauge reported 15.96 inches of precipitation. Precipitation preceding the survey was 88% of normal at the nearby SCR gauge.

C. Biological Communities

Biological communities are defined by species composition and relative abundance. Biological communities described below correlate where applicable with *A Manual of California Vegetation, 2nd Edition* (Sawyer et al. 2009), and *List of California terrestrial natural communities recognized by the California Natural Diversity Database* (CDFW 2018a). Biological communities are mapped in Figure 4 and their acreages are in Table 2. Photographs of the BSA are in Appendix D.

1. Developed/ Ruderal

The BSA consists of 14.6 acres of developed areas (Figure 4). The developed area includes manmade structures, paved and gravel parking areas, a water tower, a fuel tank, dumpsters, parked trucks and cars, forklifts and other vehicles, and stockpiles of crates and other materials. There are small areas of ruderal weeds and grasses that appear to be mowed regularly.

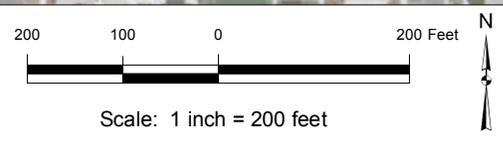
D. The Existing Level of Disturbance

Much of the BSA is heavily disturbed by human uses. The site is currently an active lumber yard for Dorris Lumber & Moulding Company. The site consists of paved areas, graded gravel parking areas, storage and administration structures, water tanks, and pipes. There are small areas of ruderal weeds and grasses that appear to be mowed regularly.

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Biological Community	Area (ac)
Developed/ Ruderal	14.8
Total:	14.8



Redding Avenue Student Housing
 Sacramento County, CA
 10 October 2018

- Biological Study Area (BSA)
- Non-native tree
- Valley oak
- ✕ Indicates tree to be removed
- Data Point



Aerial Photograph: 9 August 2017
 Vivid, DigitalGlobe, World Imagery
 ESRI ArcGIS Basemap Layer

Figure 4. Biological Resource Map

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V. BIOLOGICAL RESOURCES IN THE BIOLOGICAL STUDY AREA

A. Determination of Special-Status Species in the Biological Study Area

Special-status species are those listed (or candidate or proposed) under the federal or state endangered species acts, under the California Native Plant Protection Act, as California species of special concern or fully protected by the California Department of Fish and Wildlife (CDFW), or that are Rank 1 or 2 in the CNPS Inventory of Rare and Endangered Plants of California (CNPS 2017). CNPS Rank 3 and Rank 4 plants may also be considered special-status when they meet the definition of Rare or Endangered under CEQA Guidelines §15125 (c) or §15380.

File data from USFWS, CNDDDB, and CNPS were used to determine the special-status species that could occur in the BSA. The USFWS list of special-status species that could occur in or be affected by the project is in Appendix B. Copies of the CNDDDB and CNPS Inventory queries for the Sacramento East and eight surrounding USGS quads are in Appendix C. Field surveys were conducted by Sycamore Environmental biologists to determine if individuals or habitat for special-status species identified in the file data were present in the BSA. Special-status species for which suitable habitat is present are listed in Table 4. Those with habitat are evaluated further in the sections that follow. Figure 5 is a map showing the proposed project and impacts to natural communities.

Table 3. Special-Status Species with the Potential to Occur in the BSA

Special-Status Species	Common Name	Federal Status ^a	State Status ^a & other codes ^b	Source ^c	Habitat Present?/ Species Observed?
Birds					
<i>Athene cunicularia</i>	Burrowing owl	--	SSC	2	Yes/No
<i>Progne subis</i>	Purple martin	--	SSC	2	Yes/No
Migratory Birds & Birds of Prey		--	--	4	Yes/Yes

^a **Listing Status:** Federal status determined from USFWS (2018) letter. State status determined from CDFW (2018b,c,d,e). Codes used in table are:

E = Endangered; T = Threatened; P = Proposed; C = Candidate; CH = Critical habitat designated; R = California Rare

^b **Other Codes:** Other codes determined from CDFW (2018b,c,d,e) and CNPS (2018). Codes used in table are:

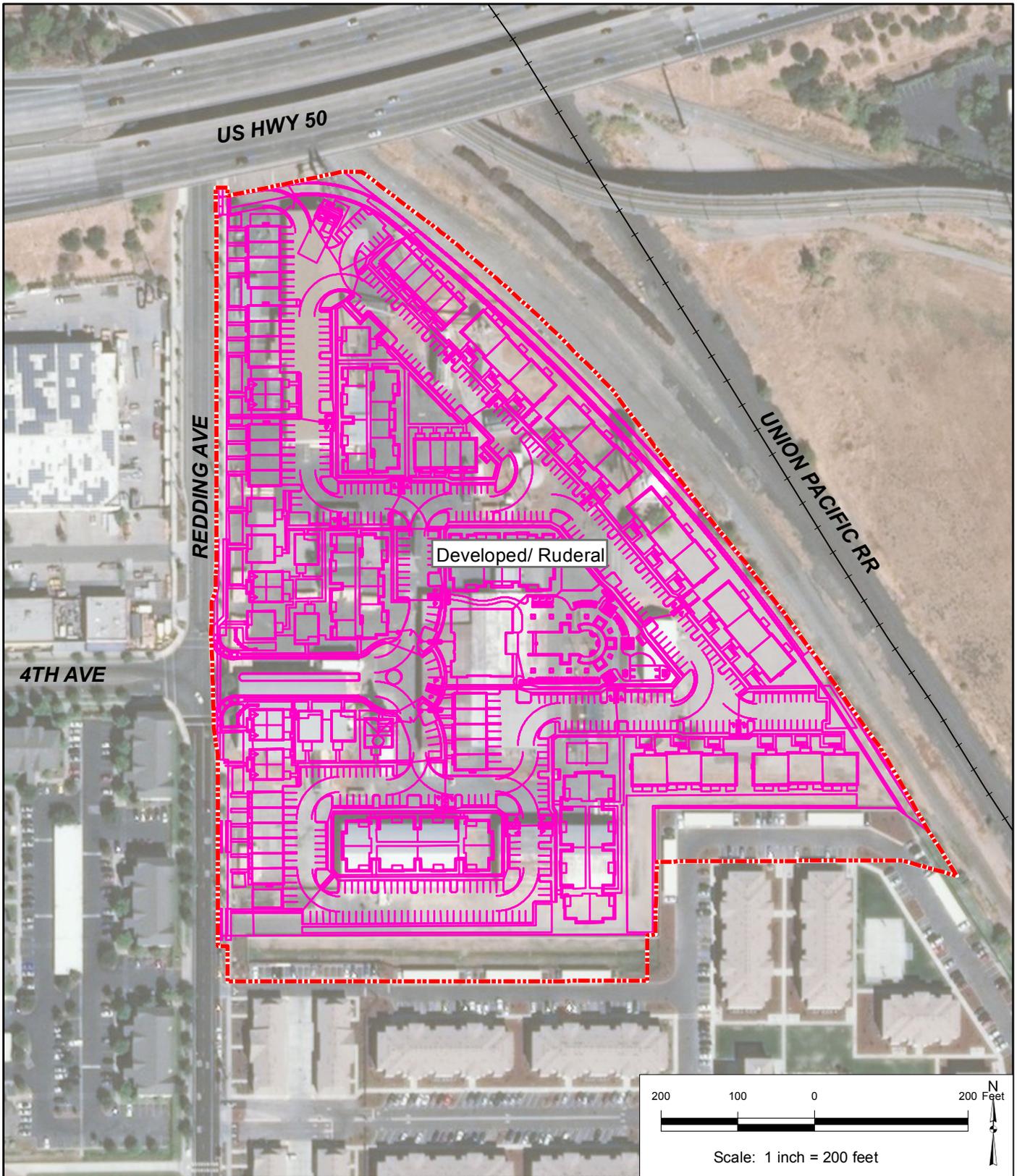
SSC = CDFW Species of Special Concern; FP = CDFW Fully Protected;

CNPS Rank (plants only): 1A = Presumed Extinct in CA; 1B = Rare or Endangered (R/E) in CA and elsewhere; 2 = R/E in CA and more common elsewhere; 3 = Need more information; 4 = Plants of limited distribution.

CNPS Rank Decimal Extensions: .1 = Seriously endangered in California (over 80% of occurrences threatened / high degree and immediacy of threat); .2 = Fairly endangered in CA (20-80% of occurrences threatened); .3 = Not very endangered in CA (< 20% of occurrences threatened or no current threats known).

^c **Sources** 1 = USFWS (2018). 2 = CNDDDB (CDFW 2018). 3 = CNPS (2018). 4 = Observed or included by Sycamore Environmental.

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Redding Avenue Student Housing
 Sacramento County, CA
 10 October 2018

- Biological Study Area (BSA)
- Proposed Project



SYCAMORE
 Environmental
 Consultants, Inc.

Project Plan: 1710-00-AP-SITE-2018.08.06 -
 Concept G CAD base-18163.dwg
 rec'd from Raney Planning and Management
 on 11 Sept. 2018
 Aerial Photograph: 9 August 2017
 UC-G Imagery, US-CA-Sacramento, Microsoft
 ESRI ArcGIS Basemap Layer

Figure 5. Proposed Project Map

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B. Special-Status Species not in the Biological Study Area

Special-status species for which suitable habitat is not present, or whose distributional limits preclude the possibility of their occurrence in the BSA, are not discussed in Section V.C of this report. An evaluation of these species is in Appendix E.

C. Evaluation of Special-Status Wildlife Species

1. Birds

Nesting birds protected under the Migratory Bird Treaty Act / Fish & Game Code

California Fish and Game Code (FGC) §3503 protects most birds and their nests. FGC §3503.5 further protects all birds in the orders Falconiformes and Strigiformes (collectively known as birds of prey). Birds of prey include raptors, falcons, and owls. The federal Migratory Bird Treaty Act (MBTA) of 1918 (16 U.S.C. 703-711) also protects most birds and their nests, including many birds that are non-migratory in California. The MBTA makes it unlawful to take, possess, buy, sell, purchase, or barter any bird listed in 50 CFR Part 10 including feathers or other parts, nests, eggs, or products, except as allowed by implementing regulations. Any disturbance that causes direct injury, death, nest abandonment, or forced fledging of migratory birds, is restricted under the MBTA. Any removal of active nests during the breeding season or any disturbance that results in the abandonment of nestlings is considered a ‘take’ of the species under federal law.

HABITAT PRESENT IN THE BSA: The BSA provides potential nesting and foraging habitat for birds protected under MBTA and/or FGC.

DISCUSSION: Birds protected under MBTA and/or FGC could nest in the BSA in trees, shrubs, on the ground, and on structures. No active bird nests were observed in the BSA, but active nests could become established prior to construction. In the Central Valley, most birds breed between 1 February and 31 August. Bird species observed in or soaring above the BSA are listed in Appendix A.

IMPACTS: If active nests become established prior to construction, activities associated with construction of the project have the potential to cause nest abandonment.

MITIGATION: Potential impacts to active bird nests that may become established prior to construction will be reduced by implementation of the following measures:

- **BIO-1: Worker Environmental Awareness Training Program:**

All construction personnel shall attend a mandatory Worker Environmental Awareness Training (WEAT) Program prior to working in the Project Area. The program shall summarize relevant laws and regulations that protect biological resources, discuss sensitive habitats and special-status species with the potential to occur in the Project Area, and provide instructions to comply with all Project mitigation measures.

- **BIO-2: Migratory Birds and Birds of Prey – Preconstruction Survey and Avoidance**

If construction will begin during the bird nesting season (1 February through 31 August), then a preconstruction survey for protected nesting birds (purple martin, burrowing owl, and other birds protected under the Migratory Bird Treaty Act and California Fish & Game Code) shall be conducted by a qualified biologist. If a 15-day lapse in construction work occurs during the nesting season, then another preconstruction survey shall be conducted prior to the resumption of work.

The preconstruction survey shall be conducted within 15 days prior to the start of construction. The survey shall cover the project site and areas within 500 feet for bird-of-prey, and within 100 feet for other (non-bird-of-prey) nests. Inaccessible areas and private lands shall be surveyed from accessible (public) areas with binoculars. If no active nest of a bird of prey, MBTA bird, or other CDFW protected bird is found, then no further avoidance and minimization measures are necessary. If active nests are found, they shall be avoided and protected as follows:

- If a bird-of-prey nest is found, a 250-foot-radius Environmentally Sensitive Area (ESA) shall be established around the nest.
- If an active nest of another (non-bird-of-prey) bird is found, a 50-foot-radius ESA shall be established around the nest.

No construction activity shall be allowed in an ESA until the biologist determines that either: 1) the nest is no longer active; 2) monitoring determines a smaller ESA buffer will protect the active nest; or 3) monitoring determines that no disturbance to the nest is occurring. Construction buffers may be reduced in size or removed entirely if the qualified biologist determines that construction activities will not disturb nesting activities or contribute to nest abandonment.

Burrowing owl (*Athene cunicularia*)

HABITAT AND BIOLOGY: Burrowing owl is a California species of special concern (CDFW 2018b). Burrowing owls primarily inhabit open, dry grassland and desert habitats, as well as open shrub stages of pinyon-juniper and ponderosa pine habitats (CWHR 2018, Shuford and Gardali 2008). Main habitat components include burrows for roosting and nesting, and relatively short vegetation with sparse shrubs and taller vegetation (Shuford and Gardali 2008). Burrowing owls most commonly use ground squirrel burrows, but they may also use badger, coyote, and fox holes or dens; or human-made structures such as culverts, piles of concrete rubble, pipes and nest boxes (CWHR 2018; Shuford and Gardali 2008). An active nest chamber is often lined with excrement, pellets, debris, grass and feathers (CWHR 2018). This species also thrives in highly altered human landscapes. In agricultural areas, owls nest along roadsides, under water conveyance structures, and near and under runways and similar structures. In urban areas, burrowing owls persist in low numbers in highly developed parcels, busy urban parks, and adjacent to roads with heavy traffic. In the Imperial Valley, owls are able to excavate their own burrows in soft earthen banks of ditches and canals (Shuford and Gardali 2008).

Burrowing owl is a semi-colonial species that breeds in California from March through August, though breeding can begin as early as February and extend into December (Shuford and Gardali 2008; CWHR 2018). A large proportion of adults show strong nest site fidelity. Burrowing owls typically feed on a broad range of insects, small rodents, birds, amphibians, reptiles, and carrion. Foraging usually occurs close to their burrow (Shuford and Gardali 2008).

RANGE: Burrowing owls are a year-round resident in most of California, including the Central Valley, San Francisco Bay region, Carrizo Plain, and Imperial Valley (Shuford and Gardali 2008). This species is generally absent from the humid coastal counties north of Marin and mountainous areas above 5,300 feet (Shuford and Gardali 2008; CWHR 2018).

KNOWN RECORDS: There are 48 CNDDDB records for burrowing owl in the nine-quad area centered on the BSA. The closest record (Occurrence #61) is approximately 0.2 mile north of the BSA on the Sacramento East quad. This record is for 16 burrows observed in 1974, at Sacramento State University and adjacent levee areas along the American River. The Cornell Lab of Ornithology eBird.org Species Map shows three additional sightings at Sacramento State University from 1900, 1978 and 1980 (Cornell 2018). A second nearby record (Occurrence #1269) occurs approximately 1.5 miles south of the BSA on

the Sacramento East quad. The record reports 4 active burrows in 1990 and at least one active burrow and 4 owls observed in 2003. The habitat is described as grassland and berms on the periphery of the Sacramento Army Depot, adjacent to a landscaped lawn area and in the vicinity of light industrial areas. The eBird.org Species Map shows two additional sightings approximately 1 mi west and southwest of the BSA from 1988 and 2018 respectively.

HABITAT PRESENT IN THE BSA: No burrowing owls or potentially occupied burrows were observed in or near the BSA. No California ground squirrels or ground squirrel burrows were observed during the biological survey.

DISCUSSION: There are numerous burrowing owl records in the area. Burrowing owl burrows could become established in the ruderal, grassy areas in the BSA prior to construction.

IMPACTS: If active burrowing owl burrows become established prior to construction, activities associated with construction of the project have the potential to cause nest abandonment.

MITIGATION: Potential impacts to active burrowing owl burrows that may become established prior to construction will be reduced by implementation of the following measures:

- Implement **BIO-1** (worker training) and **BIO-2** (preconstruction surveys and avoidance).
- **BIO-3: Burrowing Owl**

If active burrowing owl burrows are found during the preconstruction survey for protected nesting birds, the project will follow the applicable measures listed in the Staff Report on Burrowing Owl Mitigation (CDFW 2012).

Purple martin (*Progne subis*)

HABITAT AND BIOLOGY: Purple martin is a California species of concern. This species inhabits open areas with nearby water sources (PMCA 2001). Nesting habitat is of concern for CDFW (2018). This species uses valley foothill and montane hardwood, valley foothill and montane hardwood-conifer, and riparian habitats. It also occurs in coniferous habitats, including closed-cone pine-cypress, ponderosa pine, Douglas-fir, and redwood. Nesting habitat includes woodlands, and low elevation coniferous forest (CWHR 2018). Nests are predominately found in old woodpecker cavities, often in tall, isolated trees or snags, but also in human-made structures such as nest boxes, under bridges, and culverts (CWHR 2018). Martins use a wide variety of nest substrates (e.g., tree cavities, bridges, utility poles, lava tubes, and, formerly, buildings), but are very selective of habitat conditions nearby. In the City of Sacramento, this species has persisted by nesting in hollow-box bridges. Martins in urban areas are not highly sensitive to human activities and tolerate substantial levels of human presence (Shuford and Gardali 2008). Purple martins are colonial nesters (PMCA 2001). This species feeds on insects including grasshoppers and dragonflies (PMCA 2001). Breeding occurs from May (rarely late Apr) to mid-August (Shuford and Gardali 2008).

RANGE: The summer range of this species is in deserts and mountains of the southwestern United States. Purple martin migrates south to South America in winter (PMCA 2001).

KNOWN RECORDS: There are 10 CNDDDB records for purple martins in the nine-quad area centered on the BSA. The closest record (Occurrence #19) is approximately 100 feet north of the BSA on the Sacramento East quad. The record reports nesting activity in 2003 under the Highway 50 overpass over Redding Rd and Union Pacific railroad tracks. Three pairs of birds were observed nesting in weep holes (vertical holes) on the underside of freeway and street overpasses. The Cornell Lab of Ornithology eBird.org Species Map shows numerous sightings of purple martin in the City of Sacramento.

HABITAT PRESENT IN THE BSA: Manmade structures in the BSA provide marginal potential nesting habitat for purple martin. The underside of the Highway 50 overpass just north of the BSA provides potential nesting habitat and nesting has been reported there in the past.

DISCUSSION: No purple martin or potential purple martin nests were observed in or near the BSA. Purple martin breeds from May through mid-August. The first general biological survey was conducted during the breeding season, and the second was conducted outside the nesting season for purple martin. Purple martins are known to nest in the weep holes underneath the Highway 50 overpass 100 ft north of the BSA.

IMPACTS: The CNDDDB record located 100 ft north of the Project at the Highway 50 overpass is surrounded by urban land use, including the overpass, the railroad, the lumber mill, streets and industrial buildings. Given the existing level of urban disturbance, construction of the Project is not anticipated to impact purple martin nesting at the Highway 50 overpass.

Purple martin nests may become established within the BSA prior to construction. If active nests within the BSA become established prior to construction, activities associated with construction of the project have the potential to cause nest abandonment.

MITIGATION: Potential impacts to active purple martin nests that may become established in the BSA prior to construction will be reduced by implementation of the following measures:

- Implement **BIO-1** (worker training) and **BIO-2** (preconstruction surveys and avoidance).

D. Evaluation of Special-Status Plant Species

There are no special-status plant species with potential to occur in the BSA.

E. Wetlands and Waters

A reconnaissance-level survey of wetlands and waters was conducted. Several data points were taken using current U.S. Army Corps of Engineers three-parameter test based on vegetation, soil characteristics and hydrology indicators. The data point locations are shown on Figure 4. None of the data points met the three-parameter test. Data sheets are in Appendix F. Photos of the data point locations are in Appendix D.

IMPACTS: No impacts to wetlands or waters will occur.

MITIGATION: No mitigation is proposed.

G. Trees

Sacramento City requires a tree permit for regulated work (including removal) of “City Trees” and “Private Protected Trees.” The Sacramento City Ordinance SCC 12.56 – Trees Generally defines City and Private Protected trees:

“City tree” means any tree the trunk of which, when measured 4.5 feet above ground, is partially or completely located in a city park, on real property the city owns in fee, or on a public right-of-way, including any street, road, sidewalk, park strip, mow strip, or alley.

“Private protected tree” means:

- A. A tree that is designated by city council resolution to have special historical value, special environmental value, or significant community benefit, and is located on private property;
- B. Any native Valley Oak (*Quercus lobata*), Blue Oak (*Quercus douglasii*), Interior Live Oak (*Quercus wislizenii*), Coast Live Oak (*Quercus agrifolia*), California Buckeye (*Aesculus californica*), or California Sycamore (*Platanus racemosa*), that has a Diameter at standard height (DSH or 4.5 feet above natural grade) of 12 inches or more, and is located on private property;
- C. A tree that has a DSH of 24 inches or more located on private property that:
 - 1. is an undeveloped lot; or
 - 2. does not include any single unit or duplex dwellings; or
- D. A tree that has a DSH of 32 inches or more located on private property that includes any single unit or duplex dwellings.

Based on the Arborist Report prepared by Tree Associates, dated 29 August 2018, a total of 23 trees were surveyed. A majority of the trees (19) are located along Redding Avenue, and consist of horticultural (non-native) species of crepe myrtle, Chinese fringe, Chinese pistache, zelkova, and callery pear. Trees located on Redding Avenue would be considered “City Trees.” A total of four (4) trees occur on the site: 610, 611, 612 and 613, two of which are native Valley oaks.

IMPACTS: Based on the Project Narrative, dated 11 September 2018, six (6) trees are proposed for removal: 610, 611, 612, 613, 614 and 630. The existing trees along Redding Avenue are intended to remain except for the trees located at the proposed vehicular site access at 4th Avenue and trees near the Emergency Vehicle Access (EVA) at the northern perimeter of the site. Tree #630 is recommended for removal by the arborist report due to poor health. All four trees located on-site are proposed for removal. A table showing trees removed and their status under the City ordinance are provided below. Tree locations are shown on Figure 4.

Table 4. Trees proposed for removal¹

Tree #	Species	City Tree Ordinance	Permit Required?	Notes
610	Valley oak (<i>Quercus lobata</i>)	Private Protected Tree	Yes	Located on-site. Native oak >12 inch DSH.
611	Valley oak (<i>Quercus lobata</i>)	Private Protected Tree	Yes	Located on-site. Native oak >12 inch DSH.
612	Tree of heaven (<i>Ailanthus altissima</i>)	None	No	Located on-site. Horticultural tree <24 inch DSH located on private property. The arborist report recommends removal of this tree due to its poor condition. Tree of heaven is considered moderately invasive (Cal-IPC 2018).
613	Crepe myrtle (<i>Lagerstroemia indica</i>)	None	No	Located on-site. Horticultural tree <24 inch DSH located on private property
614	Crepe myrtle (<i>Lagerstroemia indica</i>)	City Tree	Yes	Located on sidewalk adjacent to Redding Avenue
630	Zelkova (<i>Zelkova serrata</i>)	City Tree	Yes	Located on sidewalk adjacent to Redding Avenue

¹ Tree numbers, location and species based on the Arborist Report prepared by Tree Associates, dated 29 August 2018

MITIGATION: No mitigation is proposed. A tree permit will need to be acquired from the City.

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VII. PREPARERS

Jeffery Little, Vice President, Sycamore Environmental.

Responsibilities: Principal in charge.

Leane S. Dunn, M.F., Forestry/Urban Forestry, University of California, Berkeley, CA. Over 12 years experience as a professional biologist. She conducts plant and wildlife surveys, arborist surveys, CA red-legged frog protocol surveys, biological resource evaluations, worker awareness training, construction monitoring, provides technical support for wetland delineations, and assists with fairy and tadpole shrimp surveys. She prepares reports used in the CEQA/NEPA process that document resources, identify impacts, recommends mitigation measures, and assists with permit application preparation. She is an ISA Certified Arborist (WE-7368AU), holds a California Department of Fish and Wildlife Rare, Threatened and Endangered Plant Voucher Collecting Permit (2081(a)-16-128-V), and is an authorized individual on the CDFW Scientific Collecting Permit (SC-7617). Her B.S. degree from Cal Poly, San Luis Obispo is in ecology and systematic biology with an emphasis on entomology.

Responsibilities: Project manager, editorial review.

Juan Mejia, B.S., Environmental Science and Management (emphasis Ecology, Conservation and Biodiversity), University of California, Davis, CA. Over 5 years of experience as a professional biologist. Mr. Mejia conducts plant and wildlife surveys, preconstruction and construction monitoring, and prepares biological resource evaluations, permit applications, and other documents used in the CEQA/NEPA process. Serving as both field biologist and technical report writer, he conducts database research on special status species' biology, habitat and distribution. He holds a California Department of Fish and Wildlife Rare, Threatened and Endangered Plant Voucher Collecting Permit (2081(a)-18-013-V), is an authorized individual on the CDFW Scientific Collecting Permit (SC-7617), and a Forest Service Certification in Wilderness Ethics.

Responsibilities: Fieldwork.

Nicole Ibañez, B.S., Biological Sciences (concentration in Field and Wildlife Biology), California Polytechnic State University, San Luis Obispo, CA. Over two years of experience as a professional biologist and GIS technician. Ms. Ibañez conducts preconstruction and construction monitoring, assists with plant and wildlife surveys, wetland delineations, and assists with preparation of biological resource evaluations, Natural Environment Study reports, permit applications, and other documents used in the CEQA/NEPA process. Serves as field biologist and GIS technician. She assists with mapping and figure preparation for biological and permitting documents such as project location maps, aerial photograph exhibits, soils maps, biological resource maps, wetlands/waters delineation maps, tree location maps and other supporting graphics. She holds a California Department of Fish and Wildlife Rare, Threatened and Endangered Plant Voucher Collecting Permit (2081(a)-16-107-V) and is an authorized individual on the CDFW Scientific Collecting Permit (SC-7617).

Responsibilities: Fieldwork, report preparation, figure preparation and spatial analysis.

Cynthia Little, Principal, Sycamore Environmental.

Responsibilities: Senior editor, quality control.

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APPENDIX A

Plant and Wildlife Species Observed

Plant Species Observed.

Family	Scientific Name ¹	Common Name	N/I ²	Cal-IPC ³
EUDICOTS				
Amaranthaceae	<i>Amaranthus</i> sp.	Amaranth, pigweed	--	
Apocynaceae	<i>Asclepias fascicularis</i>	Milkweed	N	
Asteraceae	<i>Centaurea solstitialis</i>	Yellow star-thistle	I	High
	<i>Dittrichia graveolens</i>	Stinkwort	I	Moderate
	<i>Erigeron bonariensis</i>	Flax-leaved horseweed	I	
	<i>Helminthotheca echioides</i>	Bristly ox-tongue	I	Limited
	<i>Lactuca serriola</i>	Prickly lettuce	I	
	<i>Leontodon saxatilis</i>	Hairy hawkbit	I	
	<i>Sonchus</i> sp.	Sow thistle	I	
Brassicaceae	<i>Hirschfeldia incana</i>	Summer mustard	I	Moderate
	<i>Raphanus sativus</i>	Radish	I	Limited
Chenopodiaceae	<i>Chenopodium album</i>	Lamb's quarters	I	
Cistaceae	<i>Cistus</i> sp.	Rock-rose	I	
Convolvulaceae	<i>Convolvulus arvensis</i>	Bindweed, orchard morning-glory	I	
Euphorbiaceae	<i>Chamaesyce</i> sp.	Prostrate spurge	--	
Fabaceae	<i>Acmispon americanus</i> var. <i>americanus</i>	Deervetch, deerweed	N	
	<i>Medicago polymorpha</i>	California burclover	I	
	<i>Melilotus indicus</i>	Sourclover	I	
	<i>Vicia</i> sp.	Vetch	--	
Fagaceae	<i>Quercus wislizeni</i> ⁴	Interior live oak	N	
	<i>Quercus lobata</i>	Valley oak	N	
Geraniaceae	<i>Erodium cicutarium</i>	Redstem filaree	I	Limited
	<i>Geranium molle</i>	Cranesbill, geranium	I	
Lythraceae	<i>Lythrum hyssopifolia</i>	Loosestrife	I	Limited
Oleaceae	<i>Olea europaea</i>	Olive	I	
Onagraceae	<i>Epilobium</i> sp.	Willowherb	--	
	<i>Oenothera elata</i>	Evening-primrose	N	
Plantaginaceae	<i>Plantago lanceolata</i>	English plantain	I	Limited
	<i>Veronica</i> sp.	Speedwell, brooklime	--	
Polygonaceae	<i>Polygonum aviculare</i>	Knotweed, knotgrass	I	
	<i>Rumex</i> sp.	Dock	--	
Rosaceae	<i>Rubus armeniacus</i>	Himalayan blackberry	I	High
Simaroubaceae	<i>Ailanthus altissima</i>	Tree of heaven	I	Moderate
Solanaceae	<i>Nicotiana</i> sp.	Tobacco	--	
	<i>Solanum</i> sp.	Nightshade	--	
MONOCOTS				
Cyperaceae	<i>Cyperus eragrostis</i>	Nutsedge	N	
Poaceae	<i>Avena</i> sp.	Oat	I	

Family	Scientific Name ¹	Common Name	N/I ²	Cal-IPC ³
	<i>Briza minor</i>	Annual quaking grass, small	I	
	<i>Bromus diandrus</i>	Ripgut grass	I	Moderate
	<i>Cynodon dactylon</i>	Bermuda grass	I	Moderate
	<i>Digitaria</i> sp.	Crab grass	--	
	<i>Festuca perennis</i>	Rye grass	I	Moderate
	<i>Panicum capillare</i>	Witch grass	N	
	<i>Polypogon monspeliensis</i>	Annual beard grass, rabbitfoot	I	Limited
	<i>Sorghum halepense</i>	Johnson grass	I	
	<i>Stipa miliacea</i> var. <i>miliacea</i>	Smilo grass	I	Limited
Typhaceae	<i>Typha</i> sp.	Cattail	--	

¹ Nomenclature and taxonomy follow *The Jepson manual: Vascular plants of California*, 2nd ed. (Baldwin et al., eds. 2012).

² N = Native to California; I = Introduced.

³ Negative ecological impact ranking by the California Invasive Plant Council (Cal-IPC 2018).

⁴ Sapling.

Wildlife Species Observed

Common Name	Scientific Name
BIRDS	
American crow	<i>Corvus brachyrhynchos</i>
Band-tailed pigeon	<i>Columba fasciata</i>
House finch	<i>Haemorhous mexicanus</i>
Killdeer	<i>Charadrius vociferus</i>
Mourning dove	<i>Zenaida macroura</i>
Turkey vulture	<i>Cathartes aura</i>
MAMMALS	
Domestic cat	<i>Felis catus</i>

APPENDIX B

USFWS IPAC List

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United States Department of the Interior



FISH AND WILDLIFE SERVICE
Sacramento Fish And Wildlife Office
Federal Building
2800 Cottage Way, Room W-2605
Sacramento, CA 95825-1846
Phone: (916) 414-6600 Fax: (916) 414-6713

In Reply Refer To:
Consultation Code: 08ESMF00-2018-SLI-3231
Event Code: 08ESMF00-2018-E-09736
Project Name: Redding Ave Student Housing

September 17, 2018

Subject: List of threatened and endangered species that may occur in your proposed project location, and/or may be affected by your proposed project

To Whom It May Concern:

The enclosed species list identifies threatened, endangered, proposed and candidate species, as well as proposed and final designated critical habitat, under the jurisdiction of the U.S. Fish and Wildlife Service (Service) that may occur within the boundary of your proposed project and/or may be affected by your proposed project. The species list fulfills the requirements of the Service under section 7(c) of the Endangered Species Act (Act) of 1973, as amended (16 U.S.C. 1531 *et seq.*).

Please follow the link below to see if your proposed project has the potential to affect other species or their habitats under the jurisdiction of the National Marine Fisheries Service:

http://www.nwr.noaa.gov/protected_species/species_list/species_lists.html

New information based on updated surveys, changes in the abundance and distribution of species, changed habitat conditions, or other factors could change this list. Please feel free to contact us if you need more current information or assistance regarding the potential impacts to federally proposed, listed, and candidate species and federally designated and proposed critical habitat. Please note that under 50 CFR 402.12(e) of the regulations implementing section 7 of the Act, the accuracy of this species list should be verified after 90 days. This verification can be completed formally or informally as desired. The Service recommends that verification be completed by visiting the ECOS-IPaC website at regular intervals during project planning and implementation for updates to species lists and information. An updated list may be requested through the ECOS-IPaC system by completing the same process used to receive the enclosed list.

The purpose of the Act is to provide a means whereby threatened and endangered species and the ecosystems upon which they depend may be conserved. Under sections 7(a)(1) and 7(a)(2) of the Act and its implementing regulations (50 CFR 402 *et seq.*), Federal agencies are required to utilize their authorities to carry out programs for the conservation of threatened and endangered species and to determine whether projects may affect threatened and endangered species and/or designated critical habitat.

A Biological Assessment is required for construction projects (or other undertakings having similar physical impacts) that are major Federal actions significantly affecting the quality of the human environment as defined in the National Environmental Policy Act (42 U.S.C. 4332(2) (c)). For projects other than major construction activities, the Service suggests that a biological evaluation similar to a Biological Assessment be prepared to determine whether the project may affect listed or proposed species and/or designated or proposed critical habitat. Recommended contents of a Biological Assessment are described at 50 CFR 402.12.

If a Federal agency determines, based on the Biological Assessment or biological evaluation, that listed species and/or designated critical habitat may be affected by the proposed project, the agency is required to consult with the Service pursuant to 50 CFR 402. In addition, the Service recommends that candidate species, proposed species and proposed critical habitat be addressed within the consultation. More information on the regulations and procedures for section 7 consultation, including the role of permit or license applicants, can be found in the "Endangered Species Consultation Handbook" at:

<http://www.fws.gov/endangered/esa-library/pdf/TOC-GLOS.PDF>

Please be aware that bald and golden eagles are protected under the Bald and Golden Eagle Protection Act (16 U.S.C. 668 *et seq.*), and projects affecting these species may require development of an eagle conservation plan (http://www.fws.gov/windenergy/eagle_guidance.html). Additionally, wind energy projects should follow the wind energy guidelines (<http://www.fws.gov/windenergy/>) for minimizing impacts to migratory birds and bats.

Guidance for minimizing impacts to migratory birds for projects including communications towers (e.g., cellular, digital television, radio, and emergency broadcast) can be found at: <http://www.fws.gov/migratorybirds/CurrentBirdIssues/Hazards/towers/towers.htm>; <http://www.towerkill.com>; and <http://www.fws.gov/migratorybirds/CurrentBirdIssues/Hazards/towers/comtow.html>.

We appreciate your concern for threatened and endangered species. The Service encourages Federal agencies to include conservation of threatened and endangered species into their project planning to further the purposes of the Act. Please include the Consultation Tracking Number in the header of this letter with any request for consultation or correspondence about your project that you submit to our office.

Attachment(s):

- Official Species List

Official Species List

This list is provided pursuant to Section 7 of the Endangered Species Act, and fulfills the requirement for Federal agencies to "request of the Secretary of the Interior information whether any species which is listed or proposed to be listed may be present in the area of a proposed action".

This species list is provided by:

Sacramento Fish And Wildlife Office

Federal Building

2800 Cottage Way, Room W-2605

Sacramento, CA 95825-1846

(916) 414-6600

Project Summary

Consultation Code: 08ESMF00-2018-SLI-3231

Event Code: 08ESMF00-2018-E-09736

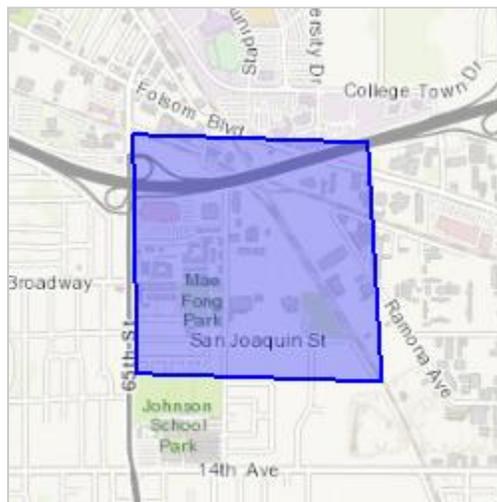
Project Name: Redding Ave Student Housing

Project Type: DEVELOPMENT

Project Description: A new student housing development.

Project Location:

Approximate location of the project can be viewed in Google Maps: <https://www.google.com/maps/place/38.54777928574807N121.42162185031853W>



Counties: Sacramento, CA

Endangered Species Act Species

There is a total of 7 threatened, endangered, or candidate species on this species list.

Species on this list should be considered in an effects analysis for your project and could include species that exist in another geographic area. For example, certain fish may appear on the species list because a project could affect downstream species.

IPaC does not display listed species or critical habitats under the sole jurisdiction of NOAA Fisheries¹, as USFWS does not have the authority to speak on behalf of NOAA and the Department of Commerce.

See the "Critical habitats" section below for those critical habitats that lie wholly or partially within your project area under this office's jurisdiction. Please contact the designated FWS office if you have questions.

-
1. [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.

Reptiles

NAME	STATUS
Giant Garter Snake <i>Thamnophis gigas</i> No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/4482	Threatened

Amphibians

NAME	STATUS
California Red-legged Frog <i>Rana draytonii</i> There is final critical habitat for this species. Your location is outside the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/2891	Threatened
California Tiger Salamander <i>Ambystoma californiense</i> Population: U.S.A. (Central CA DPS) There is final critical habitat for this species. Your location is outside the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/2076	Threatened

Fishes

NAME	STATUS
Delta Smelt <i>Hypomesus transpacificus</i> There is final critical habitat for this species. Your location is outside the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/321	Threatened

Insects

NAME	STATUS
Valley Elderberry Longhorn Beetle <i>Desmocerus californicus dimorphus</i> There is final critical habitat for this species. Your location is outside the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/7850 Habitat assessment guidelines: https://ecos.fws.gov/ipac/guideline/assessment/population/436/office/11420.pdf	Threatened

Crustaceans

NAME	STATUS
Vernal Pool Fairy Shrimp <i>Branchinecta lynchi</i> There is final critical habitat for this species. Your location is outside the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/498	Threatened
Vernal Pool Tadpole Shrimp <i>Lepidurus packardii</i> There is final critical habitat for this species. Your location is outside the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/2246	Endangered

Critical habitats

THERE ARE NO CRITICAL HABITATS WITHIN YOUR PROJECT AREA UNDER THIS OFFICE'S JURISDICTION.

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APPENDIX C

CNDDDB Summary Report
CNPS Inventory Query
(Sacramento East and eight surrounding quads)

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Selected Elements by Scientific Name

California Department of Fish and Wildlife

California Natural Diversity Database



Query Criteria: Quad (Taylor Monument (3812165) OR Rio Linda (3812164) OR Citrus Heights (3812163) OR Sacramento East (3812154) OR Sacramento West (3812155) OR Carmichael (3812153) OR Clarksburg (3812145) OR Florin (3812144) OR Elk Grove (3812143))

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	Candidate Endangered	G2G3	S1S2	SSC
<i>Andrena subapasta</i> An andrenid bee	IIHYM35210	None	None	G1G2	S1S2	
<i>Aquila chrysaetos</i> golden eagle	ABNKC22010	None	None	G5	S3	FP
<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>Branchinecta mesoovallensis</i> midvalley fairy shrimp	ICBRA03150	None	None	G2	S2S3	
<i>Buteo regalis</i> ferruginous hawk	ABNKC19120	None	None	G4	S3S4	WL
<i>Buteo swainsoni</i> Swainson's hawk	ABNKC19070	None	Threatened	G5	S3	
<i>Carex comosa</i> bristly sedge	PMCYP032Y0	None	None	G5	S2	2B.1
<i>Centromadia parryi ssp. parryi</i> pappose tarplant	PDAST4R0P2	None	None	G3T2	S2	1B.2
<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>Cuscuta obtusiflora var. glandulosa</i> Peruvian dodder	PDCUS01111	None	None	G5T4T5	SH	2B.2



Selected Elements by Scientific Name
California Department of Fish and Wildlife
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Species	Element Code	Federal Status	State Status	Global Rank	State Rank	Rare Plant Rank/CDFW SSC or FP
<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>Dumontia oregonensis</i> hairy water flea	ICBRA23010	None	None	G1G3	S1	
<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>Falco columbarius</i> merlin	ABNKD06030	None	None	G5	S3S4	WL
<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
<i>Great Valley Cottonwood Riparian Forest</i> Great Valley Cottonwood Riparian Forest	CTT61410CA	None	None	G2	S2.1	
<i>Great Valley Valley Oak Riparian Forest</i> Great Valley Valley Oak Riparian Forest	CTT61430CA	None	None	G1	S1.1	
<i>Hibiscus lasiocarpus var. occidentalis</i> woolly rose-mallow	PDMAL0H0R3	None	None	G5T3	S3	1B.2
<i>Hydrochara rickseckeri</i> Ricksecker's water scavenger beetle	IICOL5V010	None	None	G2?	S2?	
<i>Juglans hindsii</i> Northern California black walnut	PDJUG02040	None	None	G1	S1	1B.1
<i>Juncus leiospermus var. ahartii</i> Ahart's dwarf rush	PMJUN011L1	None	None	G2T1	S1	1B.2
<i>Lasiurus cinereus</i> hoary bat	AMACC05030	None	None	G5	S4	
<i>Laterallus jamaicensis coturniculus</i> California black rail	ABNME03041	None	Threatened	G3G4T1	S1	FP
<i>Legenere limosa</i> legenere	PDCAM0C010	None	None	G2	S2	1B.1
<i>Lepidium latipes var. heckardii</i> Heckard's pepper-grass	PDBRA1M0K1	None	None	G4T1	S1	1B.2
<i>Lepidurus packardii</i> vernal pool tadpole shrimp	ICBRA10010	Endangered	None	G4	S3S4	



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>Lilaeopsis masonii</i> Mason's lilaepsis	PDAPI19030	None	Rare	G2	S2	1B.1
<i>Linderiella occidentalis</i> California linderiella	ICBRA06010	None	None	G2G3	S2S3	
<i>Melospiza melodia</i> song sparrow ("Modesto" population)	ABPBXA3010	None	None	G5	S3?	SSC
<i>Northern Claypan Vernal Pool</i> Northern Claypan Vernal Pool	CTT44120CA	None	None	G1	S1.1	
<i>Northern Hardpan Vernal Pool</i> Northern Hardpan Vernal Pool	CTT44110CA	None	None	G3	S3.1	
<i>Northern Volcanic Mud Flow Vernal Pool</i> Northern Volcanic Mud Flow Vernal Pool	CTT44132CA	None	None	G1	S1.1	
<i>Nycticorax nycticorax</i> black-crowned night heron	ABNGA11010	None	None	G5	S4	
<i>Oncorhynchus mykiss irideus pop. 11</i> steelhead - Central Valley DPS	AFCHA0209K	Threatened	None	G5T2Q	S2	
<i>Oncorhynchus tshawytscha pop. 6</i> chinook salmon - Central Valley spring-run ESU	AFCHA0205A	Threatened	Threatened	G5	S1	
<i>Oncorhynchus tshawytscha pop. 7</i> chinook salmon - Sacramento River winter-run ESU	AFCHA0205B	Endangered	Endangered	G5	S1	
<i>Orcuttia tenuis</i> slender Orcutt grass	PMPOA4G050	Threatened	Endangered	G2	S2	1B.1
<i>Orcuttia viscida</i> Sacramento Orcutt grass	PMPOA4G070	Endangered	Endangered	G1	S1	1B.1
<i>Phalacrocorax auritus</i> double-crested cormorant	ABNFD01020	None	None	G5	S4	WL
<i>Pogonichthys macrolepidotus</i> Sacramento splittail	AFCJB34020	None	None	GNR	S3	SSC
<i>Progne subis</i> purple martin	ABPAU01010	None	None	G5	S3	SSC
<i>Riparia riparia</i> bank swallow	ABPAU08010	None	Threatened	G5	S2	
<i>Sagittaria sanfordii</i> Sanford's arrowhead	PMALI040Q0	None	None	G3	S3	1B.2
<i>Spea hammondi</i> western spadefoot	AAABF02020	None	None	G3	S3	SSC
<i>Spirinchus thaleichthys</i> longfin smelt	AFCHB03010	Candidate	Threatened	G5	S1	SSC
<i>Symphotrichum lentum</i> Suisun Marsh aster	PDASTE8470	None	None	G2	S2	1B.2
<i>Taxidea taxus</i> 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>Trifolium hydrophilum</i> saline clover	PDFAB400R5	None	None	G2	S2	1B.2
<i>Vireo bellii pusillus</i> least Bell's vireo	ABPBW01114	Endangered	Endangered	G5T2	S2	
<i>Xanthocephalus xanthocephalus</i> yellow-headed blackbird	ABPBXB3010	None	None	G5	S3	SSC

Record Count: 64

Plant List

Inventory of Rare and Endangered Plants

16 matches found. [Click on scientific name for details](#)

Search Criteria

California Rare Plant Rank is one of [1A, 1B, 2A, 2B], Found in Quads 3812165, 3812164, 3812163, 3812155, 3812154, 3812153, 3812145 3812144 and 3812143;

[Modify Search Criteria](#)
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[Modify Sort](#)
[Display Photos](#)

Scientific Name	Common Name	Family	Lifeform	Blooming Period	CA Rare Plant Rank	State Rank	Global Rank
Astragalus tener var. ferrisiae	Ferris' milk-vetch	Fabaceae	annual herb	Apr-May	1B.1	S1	G2T1
Carex comosa	bristly sedge	Cyperaceae	perennial rhizomatous herb	May-Sep	2B.1	S2	G5
Cuscuta obtusiflora var. glandulosa	Peruvian dodder	Convolvulaceae	annual vine (parasitic)	Jul-Oct	2B.2	SH	G5T4T5
Downingia pusilla	dwarf downingia	Campanulaceae	annual herb	Mar-May	2B.2	S2	GU
Gratiola heterosepala	Boggs Lake hedge-hyssop	Plantaginaceae	annual herb	Apr-Aug	1B.2	S2	G2
Hibiscus lasiocarpus var. occidentalis	woolly rose-mallow	Malvaceae	perennial rhizomatous herb (emergent)	Jun-Sep	1B.2	S3	G5T3
Juglans hindsii	Northern California black walnut	Juglandaceae	perennial deciduous tree	Apr-May	1B.1	S1	G1
Juncus leiospermus var. ahartii	Ahart's dwarf rush	Juncaceae	annual herb	Mar-May	1B.2	S1	G2T1
Legenere limosa	legenere	Campanulaceae	annual herb	Apr-Jun	1B.1	S2	G2
Lepidium latipes var. heckardii	Heckard's pepper-grass	Brassicaceae	annual herb	Mar-May	1B.2	S1	G4T1
Lilaeopsis masonii	Mason's lilaeopsis	Apiaceae	perennial rhizomatous herb	Apr-Nov	1B.1	S2	G2
Orcuttia tenuis	slender Orcutt grass	Poaceae	annual herb	May-Sep(Oct)	1B.1	S2	G2
Orcuttia viscida	Sacramento Orcutt grass	Poaceae	annual herb	Apr-Jul(Sep)	1B.1	S1	G1
Sagittaria sanfordii	Sanford's arrowhead	Alismataceae	perennial rhizomatous herb (emergent)	May-Oct(Nov)	1B.2	S3	G3
Symphyotrichum lentum	Suisun Marsh aster	Asteraceae	perennial rhizomatous herb	(Apr)May-Nov	1B.2	S2	G2
Trifolium hydrophilum	saline clover	Fabaceae	annual herb	Apr-Jun	1B.2	S2	G2

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APPENDIX D

Photographs

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Photo 1. View looking south toward the site from its northern end. The site is currently a lumber company (8 September 2018).



Photo 2. View looking southeast toward the northeastern edge of the site. Much of this portion of the site is dominated by ruderal grasses and forbs (8 September 2018).



Photo 3. View looking southwest toward center of the site. The majority of the site is paved, disturbed or developed (8 September 2018).



Photo 4. View of an open storage structure on the site. The exposed rafters may provide potential nesting habitat for migratory birds (8 September 2018).



Photo 5. View north of the western edge of the site, along Redding Avenue. The street trees pictured are to be preserved except the six trees near the proposed new driveway (8 September 2018).



Photo 6. View south of the eastern edge of the site. Several trees along this fence line have been removed. The Union Pacific Railroad is on the other side of the fence (8 September 2018).



Photo 7. A potential swale near the northern edge of the BSA. A white arrow marks where Data Point 1 was taken. This feature is not a waters of the U.S. (8 September 2018).



Photo 8. A potential swale near the northern edge of the BSA. A white arrow marks where Data Point 2 was taken. This feature is not a waters of the U.S. (8 September 2018).



Photo 9. A wetland swale near the eastern edge of the BSA. A white arrow marks where Data Point 3 was taken. This feature is not a waters of the U.S. (8 September 2018).



Photo 10. A close-up shows remnants of biotic crust near Data Point 3. This feature was artificially inundated by water draining from a nearby water tank (8 September 2018).



Photo 11. A potential wetland swale near the eastern edge of the BSA. A white arrow marks Data Point 4. This feature is not a waters of the U.S. (8 September 2018).



Photo 12. A potential wetland swale near the southeastern corner of the BSA. A white arrow marks Data Point 5. This feature is not a waters of the U.S. (8 September 2018).

APPENDIX E

Species Evaluated Table

Species Evaluated Table.

Special-Status Species/ Common Name	Federal Status ^a	State Status ^{a,b}	Source ^c	Habitat Requirements	Potential to Occur in the BSA?
Invertebrates					
<i>Branchinecta lynchi</i> Vernal pool fairy shrimp	T, CH	--	1,2	Inhabits a wide variety of vernal pool habitats. Most commonly found in small (less than 0.05 ac), clear to tea-colored vernal pools with mud, grass, or basalt bottoms in unplowed grasslands (USFWS 2005).	No. There are no vernal pools that provide habitat for this species in the BSA.
<i>Desmocerus californicus dimorphus</i> Valley elderberry longhorn beetle	T, CH	--	1,2	Requires an elderberry shrub (<i>Sambucus nigra</i> ssp. <i>caerulea</i> or <i>Sambucus racemosa</i> var. <i>racemosa</i>) as a host plant. The beetle's range extends throughout CA's Central Valley and associated foothills from about the 3,000 ft levels on the east and the watershed of the Central Valley on the west (USFWS 2014; 1999).	No. There are no elderberry shrubs in or near the BSA.
<i>Lepidurus packardii</i> Vernal pool tadpole shrimp	E, CH	--	1,2	Typically occurs in large, deep vernal pools (USFWS 2005), but can also make use of smaller pools within larger vernal pool complexes (Helm 1998).	No. There are no vernal pools that provide habitat for this species in the BSA.
Fish					
<i>Archoplites interruptus</i> Sacramento perch	--	SSC	2	Inhabits freshwater sloughs, slow-moving rivers, lakes, reservoirs, and farm ponds. Often found near submerged or emergent vegetation. Tolerates variable conditions, including a wide range of turbidity, temperature, salinity, and pH. Occurs mainly in inshore areas of larger lakes (Moyle 2002).	No. There are no aquatic features that provide habitat for this species in the BSA.
<i>Hypomesus transpacificus</i> Delta smelt	T, CH	E	1	Euryhaline (tolerant of a wide salinity range) species that spawns in freshwater dead-end sloughs and shallow edge-waters of channels of the Delta (USFWS 2010). Restricted to the San Pablo Bay upstream through the Delta in Contra Costa, Sacramento, San Joaquin, Solano, and Yolo cos. (Moyle 2002). Their historic range extended from San Pablo Bay upstream to at least the city of Sacramento on the Sacramento River and the city of Mossdale on the San Joaquin River (USFWS 2010). Critical habitat for Delta smelt consists of Suisun Bay, specific named sloughs, and existing contiguous waters contained within the Delta, as defined in § 12220 of the CA Water Code (59 FR 65256).	No. There are no aquatic features that provide habitat for this species in the BSA. There is no critical habitat within the BSA.

Special-Status Species/ Common Name	Federal Status ^a	State Status ^{a,b}	Source ^c	Habitat Requirements	Potential to Occur in the BSA?
<i>Oncorhynchus mykiss irideus</i> pop. 11 steelhead - Central Valley DPS	T, CH	--	2	Anadromous salmonid historically distributed throughout the Sacramento and San Joaquin river drainages. While steelhead are found elsewhere in the Sacramento River system, the principal remaining wild populations are a few hundred fish that spawn annually in Deer and Mill Creeks in Tehama Co. and a population of unknown size in the lower Yuba River. Spawning occurs in small tributaries on coarse gravel beds in riffle areas (Busby et al. 1996). With the possible exception of a small population in the lower Stanislaus River, steelhead appear to have been extirpated from the San Joaquin basin (Moyle 2002).	No. There are no water bodies that provide habitat for salmonids in the BSA.
<i>Oncorhynchus tshawytscha</i> pop. 6 Chinook salmon – Central Valley spring- run ESU	T	T	2	Anadromous fish that prefer streams that are deeper and larger than those used by other Pacific salmon species, with larger gravel and more water flow (NMFS 2018b). Enters the Sacramento/San Joaquin Basin from July through April and spawns from October through February. Adult female Chinook will prepare a spawning bed in a stream with suitable gravel composition, water depth, and velocity (McGinnis 1984). Extant populations of this ESU spawn in the Sacramento River and its tributaries (Moyle 2002). Populations in the San Joaquin River are believed to be extirpated (NMFS 1998a). The state listing is for the Sacramento River Drainage. The Federal listing includes populations spawning in the Sacramento River and its tributaries (CDFW 2018).	No. There are no water bodies that provide habitat for salmonids in the BSA.
<i>Oncorhynchus tshawytscha</i> pop. 7 Chinook salmon – Sacramento River winter-run ESU	E	E	2	Anadromous fish that prefer streams that are deeper and larger than those used by other Pacific salmon species, with larger gravel and more water flow (NMFS 2018a). Once found throughout the upper Sacramento River basin, the winter-run Chinook salmon ESU is now confined to the mainstem Sacramento River below Keswick Dam (Moyle 2002). This ESU is believed to be extirpated from the San Joaquin River Basin. However, an intermittent run has been reported in the lower Calaveras River (NMFS 1998).	No. There are no water bodies that provide habitat for salmonids in the BSA.
<i>Pogonichthys macrolepidotus</i> Sacramento splittail	--	SSC	2	A cyprinid endemic to California, mainly to sloughs, lakes and rivers of the Central Valley. They are largely absent from the northern extent of their range. During most years, except when spawning, splittail are largely confined to the Delta, Suisun Bay, Suisun Marsh, the lower Napa River, the lower Petaluma River, and other parts of the San Francisco Estuary. Spawning can take place any time from late February to early July (Moyle 2002). This minnow spawns either over shoreline vegetation or over gravel in creek tributaries of rivers during spring high water levels (McGinnis 1984).	No. There are no water bodies that provide habitat for Sacramento splittail in the BSA.
<i>Spirinchus thaleichthys</i> Longfin smelt	C	T, SSC	2	Spawns from November to June in freshwater over sandy-gravel substrates, rocks, or aquatic plants. After hatching, larvae move up into surface waters and are transported downstream into brackish-water nursery areas. In the San Francisco estuary, longfin smelt are usually found downstream of Rio Vista on the Sacramento River and from the vicinity of Medford Island downstream on the San Joaquin River. They are occasionally found upstream of these locations (Moyle 2002).	No. There are no water bodies that provide habitat for longfin smelt in the BSA.

Special-Status Species/ Common Name	Federal Status ^a	State Status ^{a,b}	Source ^c	Habitat Requirements	Potential to Occur in the BSA?
Amphibians					
<i>Ambystoma californiense</i> California tiger salamander, central California DPS	T, CH	T	1	Breed and lay eggs primarily in vernal pools and other temporary rainwater ponds. Specific habitat requirements include annual grasslands and open woodlands with animal burrows for summer dormancy, shallow ponds for larval development that do not contain fish, and quiet waterways supporting prey which includes snails, frogs, tadpoles, fish, and invertebrates (CWHR 2018).	No. There are no vernal pools or other suitable breeding habitat in or near the BSA. There are no suitable burrows for the dormancy period.
<i>Rana draytonii</i> California red-legged frog	T, CH	SSC	1	Inhabits ponds, quiet pools of streams, marshes, and riparian areas with dense, shrubby, or emergent vegetation. Requires permanent or nearly permanent pools for larval development (CWHR 2018; USFWS 2010b). May use ephemeral water bodies for breeding if permanent water is nearby (Thomson et al. 2016). The range of CA red-legged frog extends from near sea level to approximately 5,200 ft, though nearly all sightings have occurred below 3,500 ft. CA red-legged frog was probably extirpated from the floor of the Central Valley before 1960 (USFWS 2002).	No. There is no suitable habitat in or near the BSA. The BSA is outside the current range.
<i>Spea hammondi</i> Western spadefoot	--	SSC	2	Breeds almost exclusively in areas of shallow, temporary pools that form during winter rains, such as vernal pools. Spends most of the year in underground burrows up to 36 inches deep. Occurs primarily in grasslands, but occasionally occurs in valley-foothill hardwood woodlands (CWHR 2018). Also breeds in quiet streams. Primarily found in the lowlands frequenting washes, floodplains of rivers, alluvial fans, playas, and alkali flats. Also ranges into foothills and mountains. Prefers areas of open vegetation and short grasses with sandy or gravelly soil (Stebbins 2003).	No. There is no suitable aquatic habitat in or near the BSA.
Reptiles					
<i>Emys marmorata</i> Western pond turtle	--	SSC	2	Found in aquatic habitats with abundant vegetative cover; requires exposed basking sites such as logs, rocks, floating vegetation, or open mud banks. Associated with permanent or nearly permanent water in a wide variety of habitat types, normally in ponds, lakes, streams, irrigation ditches, or permanent pools along intermittent streams, from sea level to 4,690 ft (CWHR 2018).	No. There is no suitable aquatic habitat in or near the BSA.
<i>Thamnophis gigas</i> Giant garter snake	T	T	1,2	Habitat requisites consist of 1) adequate water during the snake's active season (early spring through mid-fall) to provide food and cover; 2) emergent, herbaceous wetland vegetation, such as cattails and bulrushes, for escape cover and foraging habitat during the active season; 3) grassy banks and openings in waterside vegetation for basking; and 4) higher elevation uplands for cover and refuge from flood waters during the snake's winter dormant season (Stebbins 2003).	No. There is no suitable aquatic habitat in or near the BSA.
Birds					
<i>Agelaius tricolor</i> Tricolored blackbird	--	CE, SSC	2	Common locally throughout the Central Valley and in coastal districts from Sonoma Co. south. Breeds near freshwater, preferably in emergent wetland of tall, dense cattails or tules, and also in thickets of willow, blackberry, tall herbs and wild rose. The nesting area is highly colonial, supporting a minimum of 50 pairs (CWHR 2018). Nesting colonies are of concern to CDFW (2018b).	No. There is no nesting habitat in the BSA.

Special-Status Species/ Common Name	Federal Status ^a	State Status ^{a,b}	Source ^c	Habitat Requirements	Potential to Occur in the BSA?
<i>Aquila chrysaetos</i> Golden eagle	--	FP	2	Uncommon permanent resident and migrant throughout California, except in the central portion of the Central Valley. Perhaps more common in southern California than in northern California. Ranges from sea level up to 11,500 ft (Grinnell and Miller 1944). Typically inhabits rolling foothills, mountainous areas, sage-juniper flats, and deserts. Uses secluded cliffs with overhanging ledges and large trees for cover. Nest on cliffs of all heights and in large trees in open areas. Rugged, open habitats with canyons and escarpments are used most frequently for nesting. Needs open terrain for hunting (CWHR 2018). Nesting and wintering sites are of concern to CDFW (2018b).	No. There is no habitat in the BSA.
<i>Athene cucularia</i> Burrowing owl	--	SSC	2	Yearlong resident of open, dry grassland and desert habitat, and in grass, forb, and open shrub stages of pinyon-juniper and Ponderosa pine habitats. Uses small mammal burrows, often those of ground squirrels, for roosting and nesting cover (CWHR 2018). Burrowing sites and some wintering sites are of concern to CDFW (2018b).	Yes. See discussion.
<i>Buteo swainsoni</i> Swainson's hawk	--	T	2	Uncommon breeding resident and migrant in the Central Valley, Klamath Basin, Northeastern Plateau, Lassen Co., and Mojave Desert. Nests in stands with few trees in juniper-sage flats, in riparian areas, and in oak savannah in the Central Valley. Forages in adjacent grasslands, livestock pastures, or suitable (i.e., low growing) crop fields. Feeds on small birds, rodents, mammals, reptiles, large arthropods, amphibians, and, rarely, fish (CWHR 2018). Nesting sites are of concern to CDFW (2018b).	No. There is no habitat in the BSA.
<i>Coccyzus americanus occidentalis</i> Western yellow-billed cuckoo	T	E	2	Uncommon to rare summer resident of valley foothill and desert riparian habitats in scattered locations in CA. Nests in dense cover of deciduous trees and shrubs, especially cottonwoods and willows, which usually abut a slow-moving watercourse, backwater or seep. Also utilizes adjacent orchards, especially walnuts, in the Central Valley (CWHR 2018). Requires relatively large (more than 20 hectares), contiguous patches of multilayered riparian habitat for nesting (Daw 2014). Nesting sites are of concern to CDFW (2018b).	No. There is no suitable habitat in the BSA. There are no large contiguous patches of multilayered riparian habitat nearby.
<i>Elanus leucurus</i> White-tailed kite	--	FP	2	Yearlong resident in coastal and valley lowlands; rarely found away from agricultural areas. Inhabits herbaceous and open stages of most habitats mostly in cismontane CA. Substantial groves of dense, broad-leafed deciduous trees are used for nesting and roosting. Nest placed near top of dense oak, willow, or other tree stand located near open foraging area. Forages in open grasslands, meadows, farmlands, and emergent wetlands (CWHR 2018). Nesting sites are of concern to CDFW (2018b).	No. There is no habitat in the BSA.

Special-Status Species/ Common Name	Federal Status ^a	State Status ^{a,b}	Source ^c	Habitat Requirements	Potential to Occur in the BSA?
<i>Laterallus jamaicensis coturniculus</i> California black rail	--	T, FP	2	Year-long resident of saline, brackish, and fresh emergent wetlands in the San Francisco Bay area, Sacramento-San Joaquin Delta, coastal southern CA at Morro Bay and a few other locations, the Salton Sea, and the lower Colorado River area. Occurs most commonly in tidal emergent wetlands dominated by pickleweed, or in brackish marshes supporting bulrushes and pickleweed. Found in immediate vicinity of tidal sloughs. In freshwater habitat, usually found in bulrushes, cattails, and saltgrass. Nests are concealed in dense vegetation near upper limits of tidal flooding. Occasionally found away from wetlands in late summer and autumn. May overwinter in locations where it does not breed (CWHR 2018).	No. There is no suitable habitat for this species in the BSA.
<i>Melospiza melodia</i> Song sparrow ("Modesto" population)	--	SSC	2	A year-round resident that prefers emergent freshwater marshes dominated by tules and cattails as well as riparian willow thickets. Modesto population song sparrows also nest in riparian forests of valley oak with sufficient understory of blackberry, along vegetated irrigation canals and levees, and in recently planted valley oak restoration sites. The Modesto population is restricted to CA where it is locally numerous in the Sacramento Valley, Sacramento-San Joaquin River Delta, and the northern San Joaquin Valley. The Modesto population remains locally numerous in areas where extensive wetlands occur, such as the Butte Sink area of the Sacramento Valley and the Sacramento-San Joaquin River Delta. Immediately adjacent to the Butte Sink, song sparrows breed in sparsely vegetated irrigation canals, yet are almost entirely absent from the main stem and tributaries of the Sacramento River above Sacramento (Shuford and Gardali 2008).	No. There is no suitable habitat for this species in the BSA.
<i>Progne subis</i> Purple martin	--	SSC	2	Widely distributed throughout nearly the entire eastern U.S. In the western U.S., occurs in the Rocky Mountains, Sonoran Desert, Central Mexico, and Pacific Coast states (Shuford and Gardali 2008). Inhabits open forests, woodlands, and riparian areas in breeding season. Found in a variety of open habitats during migration, including grassland, wet meadow, and fresh emergent wetland, usually near water. Breeding occurs from April into August. Generally inhabits open areas with an open water source nearby. Purple martins nest colonially or singly in cavities both natural and human-made. Nests in old woodpecker cavity mostly, sometimes in human-made structure; in nesting box, under bridge, in culvert. Nest often located in a tall, old, isolated tree or snag in open forest or woodland. Purple martins are not as likely to use nest boxes in CA as they are in the eastern U.S (CWHR 2018). All current known nesting sites in Sacramento are in vertical weep holes beneath bridges built of steel and concrete box girders over urban areas and railroad tracks (Airola and Grantham 2003). Nesting sites are of concern to CDFW (2018b).	Yes. See discussion.

Special-Status Species/ Common Name	Federal Status ^a	State Status ^{a,b}	Source ^c	Habitat Requirements	Potential to Occur in the BSA?
<i>Riparia riparia</i> Bank swallow	--	T	2	Found primarily west of CA deserts in riparian and other lowland habitats during the spring-fall period. In summer, restricted to riparian, lacustrine, and coastal areas with vertical banks, bluffs, and cliffs with fine textured sandy soils, into which it digs nesting holes. About 75% of the breeding population in CA occurs along banks of the Sacramento and Feather Rivers in the northern Central Valley. Other colonies are known from the central coast from Monterey to San Mateo cos., and in northeastern California in Shasta, Siskiyou, Lassen, Plumas, and Modoc cos. Breeding colonies can have between 10 and 1,500, but typically between 100 and 200, nesting pairs (CWHR 2018). Nesting sites are of concern to CDFW (2018b).	No. There is no suitable habitat for this species in the BSA.
<i>Vireo bellii pusillus</i> Least Bell's vireo	E	E	2	Inhabits willows and other low, dense, riparian habitat below approximately 2,000 ft. Currently known from canyons in San Benito and Monterey cos., coastal areas from Santa Barbara Co. south, and western edges of southern California deserts. Usually found near water or intermittent streams. Winters in Mexico from September to the end of March. Peak egg-laying May into early June (CWHR 2016 as Bell's vireo <i>Vireo bellii</i>). Nesting sites are of concern to CDFW (2018b).	No. There is no a riparian habitat in the BSA.
<i>Xanthocephalus xanthocephalus</i> Yellow-headed blackbird	--	SSC	2	Nests in freshwater emergent wetland with dense vegetation and deep water, often along the borders of lakes or ponds. Forages on seeds, cultivated grains, and insects (CWHR 2018). Breeds 1) east of the Cascade and Sierra Nevada mountain ranges, 2) in the Imperial and Colorado River valleys, 3) in the Central Valley, and 4) at selected locations in the coast ranges west of the Central Valley (CWHR 2018). Nesting sites are of concern to CDFW (2018b).	No. Lakes, ponds, and deep water do not occur in the BSA. There is no emergent vegetation suitable for nesting in the BSA.
Mammals					
<i>Taxidea taxus</i> American badger	--	SSC	2	Found throughout most of CA except the northern North Coast. Abundant in drier open stages of many shrub, forest, and herbaceous habitats with friable soils. Feeds on fossorial rodents, some reptiles, insects, earthworms, bird eggs, and carrion (CWHR 2018).	No. There is no suitable habitat in the BSA.
Plants CNPS ^b					
<i>Astragalus tener</i> var. <i>ferrisiae</i> Ferris' milk-vetch		--/ 1B.1	2,3	Annual herb found on vernal mesic meadows and seeps and subalkaline flats of valley and foothill grassland from 6 to 247 ft. Known from only six extant occurrences in Butte, Colusa, Glenn, Sutter and Yolo cos. Extirpated from Solano Co. Most historical habitat destroyed by agriculture. Blooms April through May (CNPS 2011).	No. There is no suitable habitat in the BSA.
<i>Carex comosa</i> Bristly sedge	--	--/ 2B.1	2,3	Perennial rhizomatous herb found in coastal prairie, marshes and swamps along lake margins, and Valley and foothill grassland from 0 to 2,051 ft. Known from Contra Costa, Lake, Mendocino, Sacramento, Santa Cruz, Shasta, San Joaquin, and Sonoma cos. Presumed extirpated from San Bernardino and San Francisco cos. Blooms May through September (CNPS 2018). Habitat also described as, "Swamps and wet thickets, stream, pond, and lakeshores, depressions in wet meadows, marshes including freshwater tidal marshes; often in shallow water or on emergent stumps, floating logs, and floating mats of vegetation" (FNA 2018).	No. There are no coastal prairies, marshes or swamps in the BSA.

Special-Status Species/ Common Name	Federal Status ^a	State Status ^{a,b}	Source ^c	Habitat Requirements	Potential to Occur in the BSA?
<i>Centromadia parryi</i> ssp. <i>parryi</i> Pappose tarplant	--	--/ 1B.2	2	Annual herb found in chaparral, coastal prairie, meadows and seeps, coastal salt marshes and swamps, and vernal mesic valley and foothill grassland from 0 to 1,380 ft. Often found in alkaline conditions. Known from Butte, Colusa, Glenn, Lake, Napa, San Mateo, Solano, and Sonoma cos. Blooms from May through November (CNPS 2018).	No. There is no suitable habitat for this species in the BSA.
<i>Cuscuta obtusiflora</i> var. <i>glandulosa</i> Peruvian dodder	--	--/ 2B.2	2,3	Annual parasitic vine found in freshwater marshes and swamps from 49 to 918 ft. Last seen in 1948 at a marsh near Snelling (Merced Co.) Known from Butte, Los Angeles, Merced, Sacramento, San Bernardino, Sonoma, and Sutter cos. Plants from Sacramento Co. need verification. Blooms July to October (CNPS 2018). Parasitizes <i>Alternanthera</i> , <i>Dalea</i> , <i>Lythrum</i> , <i>Polygonum</i> , and <i>Xanthium</i> (Baldwin et al. 2012).	No. There are no freshwater marshes or swamps in the BSA.
<i>Downingia pusilla</i> Dwarf downingia	--	--/ 2B.2	2,3	Annual herb found in mesic valley and foothill grassland and vernal pools from 3 to 1,460 ft. Known from the north Coast Range, Bay Area, and Central Valley. Blooms March through May (Baldwin et al. 2012, CNPS 2018).	No. There are no vernal pools or other mesic features that provide habitat for this species.
<i>Gratiola heterosepala</i> Boggs Lake hedge- hyssop	--	E/ 1B.2	2,3	Annual herb found in clay soils in marshes and swamps (lake margins) and vernal pools from 30 to 7,800 ft. Known from the Modoc Plateau, Warner Mountains, high Cascade Range, inner north Coast Range, Central Valley, and northern and central Sierra Nevada foothills. Blooms April through August (CNPS 2018).	No. There are no vernal pools, marshes or swamps that provide habitat for this species.
<i>Hibiscus lasiocarpus</i> var. <i>occidentalis</i> Woolly rose-mallow	--	--/ 1B.2	2,3	A perennial, rhizomatous, aquatic emergent herb found in freshwater marshes and swamps from 0 to 400 ft. Occurs in freshwater-soaked river banks and low peat islands in sloughs, often in riprap on sides of levees. Known from Butte, Contra Costa, Colusa, Glenn, Sacramento, San Joaquin, Solano, Sutter, and Yolo cos. Blooms June through September (CNPS 2018).	No. There are no freshwater marshes or swamps in the BSA.
<i>Juglans hindsii</i> Northern California black walnut	--	--/ 1B.1	2,3	Deciduous tree found in riparian forests and riparian woodlands from 0 to 1,444 ft. Known from Contra Costa and Napa cos, and possibly from Lake Co. Presumed extirpated in Sacramento, Solano, and Yolo cos. This species blooms in the spring, but is identifiable for most of the year based on leaves and fruits. There is only one confirmed, native occurrence that CNPS considered viable as of 2003. Trees of this species have hybridized extensively with other <i>Juglans</i> sp., and have naturalized widely in areas of cismontane CA that are not part of its historic range (CNPS 2018). The 1B.1 status only applies to trees which recruited naturally long ago and have not hybridized.	No. There are no riparian woodlands in the BSA.
<i>Juncus leiospermus</i> var. <i>ahartii</i> Ahart's dwarf rush	--	--/ 1B.2	2,3	Annual herb found in mesic areas in valley and foothill grassland from 100 to 750 ft. Known from Butte, Calaveras, Placer, Sacramento, Tehama, and Yuba cos. Blooms March through May (Baldwin et al. 2012, CNPS 2018).	No. The BSA is mostly developed and devoid of vegetation except for ruderal species. There are no mesic areas in the BSA.
<i>Legenere limosa</i> Legenere	--	--/ 1B.1	2,3	Annual herb found in vernal pools from 0 to 2,900 ft. Known from the north Coast Ranges, Central Valley, and Bay Area. Blooms April through June (CNPS 2018).	No. There are no vernal pools in the BSA.

Special-Status Species/ Common Name	Federal Status ^a	State Status ^{a,b}	Source ^c	Habitat Requirements	Potential to Occur in the BSA?
<i>Lepidium latipes</i> var. <i>heckardii</i> Heckard's pepper-grass	--	--/ 1B.2	2,3	Annual herb found in alkaline flats of valley and foothill grassland from 6 to 660 ft. Known from Glenn, Merced, Sacramento, Solano, and Yolo cos. Blooms March through May (CNPS 2018). <i>Lepidium latipes</i> var. <i>heckardii</i> is not recognized as distinct from the common <i>Lepidium latipes</i> var. <i>latipes</i> in the <i>The Jepson manual: Vascular plants of California, 2nd edition</i> (Al-Shehbaz 2012).	No. There are no alkaline flats in the BSA.
<i>Lilaeopsis masonii</i> Mason's lilaeopsis	--	R/ 1B.1	2,3	Rhizomatous herb found in brackish or freshwater marshes and swamps and riparian scrub from 0 to 33 ft. Known from Alameda, Contra Costa, Marin, Napa, Sacramento, San Joaquin, Solano, and Yolo cos. Occurs principally in the lower Sacramento-San Joaquin Delta, Suisun Marsh, and lower Napa River along tidally influenced sloughs and streambanks (CCH 2018). Blooms April through November (CNPS 2018). Habitat also described as tidal marshes and streambanks (Baldwin, et al. 2012).	No. The BSA does not contain tidal waters.
<i>Orcuttia tenuis</i> Slender Orcutt grass	T	E/ 1B.1	2,3	Annual herb found in vernal pools, often those with gravelly substrate, from 115 to 5,800 ft. Known from Butte, Lake, Lassen, Modoc, Plumas, Sacramento, Shasta, Siskiyou, and Tehama cos. Blooms May through October (Baldwin et al. 2012, CNPS 2018).	No. There are no vernal pools in the BSA.
<i>Orcuttia viscida</i> Sacramento Orcutt grass	E, CH	E/ 1B.1	2,3	Annual herb found in vernal pools from 98 to 328 ft. Known only from Sacramento County. Blooms April through September (Baldwin et al. 2012, CNPS 2018). Reported from northern hardpan and volcanic mudflow vernal pools at least 0.25 ac (68 FR 46684).	No. There are no vernal pools in the BSA.
<i>Sagittaria sanfordii</i> Sanford's arrowhead	--	--/ 1B.2	2,3	A perennial emergent rhizomatous herb found in assorted shallow freshwater marshes and swamps from 0 to 2,130 ft. Known from northwestern CA, Cascade foothills, Central Valley, and South Coast. Blooms May through November (Baldwin et al. 2012, CNPS 2018).	No. The BSA does not contain marshes or swamps.
<i>Symphotrichum lentum</i> Suisun Marsh aster	--	--/ 1B.2	2,3	Perennial rhizomatous herb found in brackish and freshwater marshes and swamps from 0 to 10 ft. Known from Contra Costa, Napa, Sacramento, San Joaquin, Solano, and Yolo cos. Blooms from May to November (CNPS 2018).	No. The BSA does not contain marshes or swamps.
<i>Trifolium hydrophilum</i> Saline clover	--	--/ 1B.2	2,3	Annual herb found in marshes and swamps, mesic alkaline soils in Valley and foothill grassland, and vernal pools from 0 to 985 ft. Known from Alameda, Colusa, Lake, Monterey, Napa, Sacramento, San Benito, Santa Clara, Santa Cruz, San Joaquin, San Luis Obispo, San Mateo, Solano, Sonoma, and Yolo cos. Blooms April through June (CNPS 2018).	No. There are no vernal pools in the BSA.
Natural Communities					
Elderberry Savanna			2	Open shrub savannah dominated by <i>Sambucus mexicana</i> , usually with an understory of nonnative annual herbs. Requires grazing, fire, or flooding to prevent succession to Great Valley Mixed Riparian Forest. Occurs in areas of fine-textured alluvium that are set back from active river channels, but still subject to flooding and silt deposition. Additional characteristic species include: <i>Bromus</i> spp., <i>Centaurea solstitialis</i> , and <i>Marrubium vulgare</i> . Scattered among surviving stands of riparian vegetation throughout the Sacramento and northern San Joaquin valleys beyond Merced County (Holland 1986).	No. There are no elderberry shrubs in the BSA.

Special-Status Species/ Common Name	Federal Status ^a	State Status ^{a,b}	Source ^c	Habitat Requirements	Potential to Occur in the BSA?
Great Valley Cottonwood Riparian Forest	--/ --	--/ --	2	Tall, dense, winter-deciduous, broadleaved riparian forest. Tree canopy is mostly closed and moderately to densely stocked with several species. Soil is relatively fine-textured alluvium set back from active river channels. Flooding does occur, but erosion and physical battering is not too severe. Occurs on floodplains of low-gradient, depositional streams of the Great Valley, usually below 500 ft. Characteristic species include: <i>Acer negundo californica</i> , <i>Juglans hindsii</i> , <i>Platanus racemosa</i> , <i>Populus fremontii</i> , and <i>Salix</i> spp. (Holland 1986).	No. This community does not occur in the BSA.
Great Valley Valley Oak Riparian Forest	--/--	--/--	2	A closed-canopy deciduous riparian forest dominated by <i>Quercus lobata</i> with a scattered understory, including lianas, <i>Fraxinus latifolia</i> , <i>Juglans hindsii</i> , and <i>Platanus racemosa</i> . Occurs in the highest parts of river floodplains above the active river channels, in areas with silty alluvium deposits and subsurface water. Occurs in the San Joaquin watershed and on the floodplains of the Kings and Kaweah rivers (Holland 1986).	No. This community does not occur in the BSA.
Northern Claypan Vernal Pool	--	--	2	A low, amphibious, herbaceous, wetland emergent community dominated by annual herbs and grasses. Pools may be small or large. Fairly old, circum neutral to alkaline, silica-cemented hardpan soils. Often more or less saline. Intergrades with Cismontane swale with Cismontane Alkali Marsh, which has water present throughout the year. Loses water primarily by evaporation. Typical species include <i>Allocarya</i> spp., <i>Boisduvalia glabella</i> , <i>Cressa truxillensis vallicola</i> , <i>Downingia</i> spp., <i>Eryngium aristulatum</i> , <i>Lasthenia</i> spp., <i>Plagiobothrys leptocladus</i> , <i>P. stipitatus</i> var. <i>stipitatus</i> , <i>Spergularia marina</i> (Holland 1986).	No. This community does not occur in the BSA.
Northern Hardpan Vernal Pool	--	--	2	A low emergent wetland community dominated by annual herbs and grasses on very acidic soils with an iron-silicon cemented hardpan. Evaporation (not runoff) dries pools in spring creating concentric bands of vegetation. Occurs primarily on old alluvial terraces on the east side of the Great Valley from Tulare or Fresno County north to Shasta County (Holland 1986).	No. This community does not occur in the BSA.
Northern Volcanic Mud Flow Vernal Pool	--	--	2	A very low, open mixture of amphibious annual herbs and grasses. Pools are typically small, covering at most a few square meters. Restricted to irregular depressions in shallow soil in tertiary pyroclastic flows. Pools form in small depressions following winter rains. Characteristic species include: <i>Downingia bicornuta</i> , <i>Lasthenia glaberrima</i> , <i>Limnanthes douglasii rosea</i> , <i>Navarretia tagetina</i> . Distribution is scattered on flat-topped mesas along the Sierran foothills, mostly between 500-2000 ft in the Blue Oak Woodland and Gray-Pine Chaparral Woodland (Holland 1986).	No. This community does not occur in the BSA.

^a **Status:** Endangered (E); Threatened (T); Proposed (P); Candidate (C), Delisted (D), Fully Protected (FP); Rare (R); State Species of Special Concern (SSC); Proposed Critical Habitat (PCH); Critical Habitat (CH) - Project footprint is located within a designated critical habitat unit, but does not necessarily mean that appropriate habitat is present.

^b **CNPS Rare Plant Rank:** 1A = Presumed Extinct in CA; 1B = Rare or Endangered in CA and elsewhere; 2 = R/E in CA and more common elsewhere; 3 = More information is needed about this plant species (review list); 4 = Limited distribution (watch list).

CNPS Decimal Extensions: .1 = Seriously endangered in CA (over 80% of occurrences threatened / high degree and immediacy of threat); .2 = Fairly endangered in CA (20-80% occurrences threatened); .3 = Not very endangered in CA (<20% of occurrences threatened or no current threats known).

^c **Sources:** 1 = USFWS (2018) List for BSA; 2 = CNDDDB (2018) query of the Sacramento East Quad and all surrounding quads; 3 = CNPS (2018) query of the Sacramento East Quad and all surrounding quads.

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APPENDIX F

Wetland Datasheets

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WETLAND DETERMINATION DATA FORM – Arid West Region
 Routine Wetland Determination
 (September 2008 V2.0 COE Arid West Wetlands Delineation Manual)

Project/Site: Redding Ave Student Housing City/County: Sacramento Sampling Date: 6 Sept 2018
 Applicant/Owner: Raney Planning & Management State: CA Sampling Point: 1
 Investigator(s): Nicole Ibañez Section, Township, Range: See report
 Landform (hillslope, terrace, etc.): _____ Local relief (concave, convex, none): _____ Slope (%): _____
 Subregion (LRR): _____ Lat: _____ Long: _____ Datum: _____
 Soil Map Unit Name: _____ NWI classification: _____

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

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>	
Hydric Soil Present?	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>	Is the Sampled Area within a Wetland? Yes <input type="checkbox"/> No <input type="checkbox"/>
Wetland Hydrology Present?	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>	
Remarks:			

VEGETATION

Tree Stratum: (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:
1. _____	_____	_____	_____	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) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>0%</u> (A/B)
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
Total Cover:	--			
Sapling/Shrub Stratum: (Plot size: _____)				
1. _____	_____	_____	_____	Prevalence Index worksheet: Total % Cover of: _____ Multiply by: _____ OBL Species: _____ x 1 = _____ FACW Species _____ x 2 = _____ FAC Species _____ x 3 = _____ FACU Species _____ x 4 = _____ UPL Species _____ x 5 = _____ Column Totals: _____ (A) _____ (B) Prevalence Index = B/A = _____
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
Total Cover:	--			
Herb Stratum: (Plot size: _____ 20' x 4' _____)				
1. <i>Digitaria</i> sp.	80	D	FACU	Hydrophytic Vegetation Indicators: <input type="checkbox"/> Dominance Test is >50% <input type="checkbox"/> Prevalence Index is ≤3.0 ¹ <input type="checkbox"/> Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain)
2. <i>Sonchus oleraceus</i>	5		UPL	
3. <i>Polypogon monspeliensis</i>	1		FACW	
4. <i>Chamaesyce</i> sp.	1		UPL	
5. <i>Solanum</i> sp.	1		--	
6. <i>Plantago lanceolata</i>	1		FAC	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
Total Cover:	89			
Woody Vine Stratum: (Plot size: _____)				
1. _____	_____	_____	_____	¹ Indicators of Hydric soil and wetland hydrology must be present.
2. _____	_____	_____	_____	
Total Cover:	--			
% Bare Ground in Herb Stratum	11	% Cover of Biotic Crust	0	Hydrophytic Vegetation Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>

Remarks:

WETLAND DETERMINATION DATA FORM – Arid West Region
 Routine Wetland Determination
 (September 2008 V2.0 COE Arid West Wetlands Delineation Manual)

Project/Site: Redding Ave Student Housing City/County: Sacramento Sampling Date: 6 Sept 2018
 Applicant/Owner: Raney Planning & Management State: CA Sampling Point: 2
 Investigator(s): Nicole Ibañez Section, Township, Range: See report
 Landform (hillslope, terrace, etc.): terrace Local relief (concave, convex, none): concave Slope (%): 0
 Subregion (LRR): _____ Lat: See report Long: _____ Datum: _____
 Soil Map Unit Name: _____ NWI classification: _____

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

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>			
Hydric Soil Present?	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>	Is the Sampled Area		
Wetland Hydrology Present?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	within a Wetland?	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>
Remarks:					

VEGETATION

<u>Tree Stratum:</u> (Plot size: _____)	<u>Absolute % Cover</u>	<u>Dominant Species?</u>	<u>Indicator Status</u>	Dominance Test worksheet:	
1. _____	_____	_____	_____	Number of Dominant Species That Are OBL, FACW or FAC: <u>1</u> (A)	
2. _____	_____	_____	_____	Total Number of Dominant Species Across All Strata: <u>1</u> (B)	
3. _____	_____	_____	_____	Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100%</u> (A/B)	
4. _____	_____	_____	_____		
Total Cover: <u>--</u>					
<u>Sapling/Shrub Stratum:</u> (Plot size: _____)				Prevalence Index worksheet:	
1. _____	_____	_____	_____	Total % Cover of: _____ Multiply by: _____	
2. _____	_____	_____	_____	OBL Species: _____ x 1 = _____	
3. _____	_____	_____	_____	FACW Species _____ x 2 = _____	
4. _____	_____	_____	_____	FAC Species _____ x 3 = _____	
5. _____	_____	_____	_____	FACU Species _____ x 4 = _____	
Total Cover: <u>--</u>				UPL Species _____ x 5 = _____	
				Column Totals: _____ (A) _____ (B)	
<u>Herb Stratum:</u> (Plot size: <u>6' rad</u>)				Prevalence Index = B/A = _____	
1. <u>Plantago lanceolata</u>	<u>35</u>	<u>D</u>	<u>FAC</u>	Hydrophytic Vegetation Indicators:	
2. <u>Cynodon dactylon</u>	<u>10</u>		<u>FACU</u>	<input checked="" type="checkbox"/> Dominance Test is >50%	
3. <u>Chamaesyce sp.</u>	<u>2</u>		<u>UPL</u>	<input type="checkbox"/> Prevalence Index is ≤3.0 ¹	
4. <u>Helminthotheca echioides</u>	<u>5</u>		<u>FAC</u>	<input type="checkbox"/> Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet)	
5. <u>Sonchus oleraceus</u>	<u>2</u>		<u>UPL</u>	<input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain)	
6. <u>Chenopodium album</u>	<u>1</u>		<u>FACU</u>		
7. <u>Medicago polymorpha</u>	<u>1</u>		<u>FACU</u>		
8. _____	_____	_____	_____		
Total Cover: <u>54</u>					
<u>Woody Vine Stratum:</u> (Plot size: _____)				¹ Indicators of Hydric soil and wetland hydrology must be present.	
1. _____	_____	_____	_____	Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	
2. _____	_____	_____	_____		
Total Cover: <u>--</u>					
% Bare Ground in Herb Stratum <u>15</u>		% Cover of Biotic Crust <u>--</u>			

Remarks:
 Cover includes a lot of dead grass/thatch that is unidentifiable

Profile Description: (Describe 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 ²		
0-3	10YR 3/2	100	--					
3-6	10YR 4/3	99	5YR 5/8	1	C	M	loam	

¹Type : C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains ²Location: PL=Pore Lining, 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"/> 1 cm 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"/> 1 cm Muck (A9) (LRR C) <input type="checkbox"/> 2 cm 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 hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

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

Remarks:
Deep tire ruts in soil

HYDROLOGY

Wetland Hydrology Indicators: Primary Indicators (minimum of one required; check all that apply)		Secondary Indicators (2or 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 checked="" type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Thin Muck Surface (C7) <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"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible-Aerial Imagery (C9) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> FAC-Neutral test (D5)	
Field Observations: Surface Water Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ Water Table Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ Saturation Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ (includes capillary fringe)		Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections, if available): 			
Remarks: Next to a pipe – artificial irrigation			

WETLAND DETERMINATION DATA FORM – Arid West Region
 Routine Wetland Determination
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Project/Site: Redding Ave Student Housing City/County: Sacramento Sampling Date: 6 Sept 2018
 Applicant/Owner: Raney Planning & Management State: CA Sampling Point: 3
 Investigator(s): Nicole Ibañez Section, Township, Range: See report
 Landform (hillslope, terrace, etc.): _____ Local relief (concave, convex, none): _____ Slope (%): _____
 Subregion (LRR): _____ Lat: _____ Long: _____ Datum: _____
 Soil Map Unit Name: _____ NWI classification: _____

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

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>	
Hydric Soil Present?	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>	Is the Sampled Area
Wetland Hydrology Present?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	within a Wetland? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
Remarks:			

VEGETATION

Tree Stratum: (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:
1. _____	_____	_____	_____	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) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>50%</u> (A/B)
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
Total Cover: _____	_____	_____	_____	
Sapling/Shrub Stratum: (Plot size: _____)				
1. _____	_____	_____	_____	Prevalence Index worksheet: Total % Cover of: _____ Multiply by: _____ OBL Species: _____ x 1 = _____ FACW Species _____ x 2 = _____ FAC Species _____ x 3 = _____ FACU Species _____ x 4 = _____ UPL Species _____ x 5 = _____ Column Totals: _____ (A) _____ (B) Prevalence Index = B/A = _____
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
Total Cover: _____	_____	_____	_____	
Herb Stratum: (Plot size: _____ 4' rad _____)				
1. <i>Cynodon dactylon</i>	10	D	FACU	Hydrophytic Vegetation Indicators: <input type="checkbox"/> Dominance Test is >50% <input type="checkbox"/> Prevalence Index is ≤3.0 ¹ <input type="checkbox"/> Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain)
2. <i>Polypogon monspeliensis</i>	15	D	FACW	
3. <i>Cyperus eragrostis</i>	2		FACW	
4. <i>Chamaesyce</i> sp.	1		UPL	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
Total Cover: _____	28	_____	_____	
Woody Vine Stratum: (Plot size: _____)				
1. _____	_____	_____	_____	¹ Indicators of Hydric soil and wetland hydrology must be present.
2. _____	_____	_____	_____	
Total Cover: _____	_____	_____	_____	
% Bare Ground in Herb Stratum	20	% Cover of Biotic Crust	40	Hydrophytic Vegetation Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>

Remarks:
 Most of the veg cover has been mowed and is dead thatch.

WETLAND DETERMINATION DATA FORM – Arid West Region
 Routine Wetland Determination
 (September 2008 V2.0 COE Arid West Wetlands Delineation Manual)

Project/Site: Redding Ave Student Housing City/County: Sacramento Sampling Date: 6 Sept 2018
 Applicant/Owner: Raney Planning & Management State: CA Sampling Point: 4
 Investigator(s): Nicole Ibañez Section, Township, Range: See report
 Landform (hillslope, terrace, etc.): swale Local relief (concave, convex, none): concave Slope (%): _____
 Subregion (LRR): _____ Lat: See report Long: _____ Datum: _____
 Soil Map Unit Name: _____ NWI classification: _____

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

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>		
Hydric Soil Present?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	Is the Sampled Area	
Wetland Hydrology Present?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	within a Wetland?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
Remarks:				

VEGETATION

<u>Tree Stratum:</u> (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:	
1. _____	_____	_____	_____	Number of Dominant Species That Are OBL, FACW or FAC:	<u>0</u> (A)
2. _____	_____	_____	_____	Total Number of Dominant Species Across All Strata:	<u>2</u> (B)
3. _____	_____	_____	_____	Percent of Dominant Species That Are OBL, FACW, or FAC:	<u>0</u> (A/B)
4. _____	_____	_____	_____		
Total Cover:	_____				
<u>Sapling/Shrub Stratum:</u> (Plot size: _____)			Prevalence Index worksheet:		
1. _____	_____	_____	Total % Cover of:	Multiply by:	
2. _____	_____	_____	OBL Species:	<u>0</u> x 1 =	<u>0</u>
3. _____	_____	_____	FACW Species:	<u>0</u> x 2 =	<u>0</u>
4. _____	_____	_____	FAC Species:	<u>1</u> x 3 =	<u>3</u>
5. _____	_____	_____	FACU Species:	<u>1</u> x 4 =	<u>4</u>
Total Cover:	_____		UPL Species:	<u>2</u> x 5 =	<u>10</u>
			Column Totals:	<u>4</u> (A)	<u>17</u> (B)
<u>Herb Stratum:</u> (Plot size: _____ 6' rad _____)			Prevalence Index = B/A = <u>4.25</u>		
1. <u>Raphanus sativus</u>	<u>2</u>		Hydrophytic Vegetation Indicators:		
2. <u>Chenopodium album</u>	<u>5</u>	<u>D</u>	<input type="checkbox"/> Dominance Test is >50%		
3. <u>Convolvulus arvensis</u>	<u>5</u>	<u>D</u>	<input type="checkbox"/> Prevalence Index is ≤3.0 ¹		
4. <u>Asclepias fascicularis</u>	<u>2</u>		<input type="checkbox"/> Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet)		
5. _____	_____	_____	<input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain)		
6. _____	_____	_____			
7. _____	_____	_____			
8. _____	_____	_____			
Total Cover:	<u>14</u>		¹ Indicators of Hydric soil and wetland hydrology must be present.		
<u>Woody Vine Stratum:</u> (Plot size: _____)			Hydrophytic Vegetation Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>		
1. _____	_____	_____			
2. _____	_____	_____			
Total Cover:	_____				
% Bare Ground in Herb Stratum	<u>30</u>	% Cover of Biotic Crust			

Remarks:
 Most of plot is mowed/ dead, unidentifiable grass.

WETLAND DETERMINATION DATA FORM – Arid West Region
 Routine Wetland Determination
 (September 2008 V2.0 COE Arid West Wetlands Delineation Manual)

Project/Site: Redding Ave Student Housing City/County: Sacramento Sampling Date: 6 Sept 2018
 Applicant/Owner: Raney Planning & Management State: CA Sampling Point: 5
 Investigator(s): Nicole Ibañez Section, Township, Range: See report
 Landform (hillslope, terrace, etc.): Swale Local relief (concave, convex, none): Concave Slope (%): 0-1
 Subregion (LRR): _____ Lat: See report Long: _____ Datum: _____
 Soil Map Unit Name: _____ NWI classification: _____

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

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>	
Hydric Soil Present?	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>	Is the Sampled Area within a Wetland? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
Wetland Hydrology Present?	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>	
Remarks:			

VEGETATION

<u>Tree Stratum:</u> (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:
1. _____	_____	_____	_____	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) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>0</u> (A/B)
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
Total Cover: _____	_____	_____	_____	
Sapling/Shrub Stratum: (Plot size: _____)				
1. _____	_____	_____	_____	Prevalence Index worksheet: Total % Cover of: _____ Multiply by: _____ OBL Species: _____ x 1 = _____ FACW Species _____ x 2 = _____ FAC Species _____ x 3 = _____ FACU Species _____ x 4 = _____ UPL Species _____ x 5 = _____ Column Totals: _____ (A) _____ (B) Prevalence Index = B/A = _____
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
Total Cover: _____	_____	_____	_____	
Herb Stratum: (Plot size: <u>30' x 3'</u>)				
1. <u>Cynodon dactylon</u>	80	D	FACU	Hydrophytic Vegetation Indicators: <input type="checkbox"/> Dominance Test is >50% <input type="checkbox"/> Prevalence Index is ≤3.0 ¹ <input type="checkbox"/> Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain)
2. <u>Convolvulus arvensis</u>	6		UPL	
3. <u>Melilotus indicus</u>	1			
4. <u>Lactuca serriola</u>	6			
5. <u>Bromus madritensis ssp. rubens</u>	3			
6. <u>Hirschfeldia incana</u>	1			
7. _____				
8. _____				
Total Cover: _____	97			
Woody Vine Stratum: (Plot size: _____)				
1. _____	_____	_____	_____	<input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain)
2. _____	_____	_____	_____	
Total Cover: _____	_____	_____	_____	
% Bare Ground in Herb Stratum <u>3</u>	% Cover of Biotic Crust <u>0</u>			
Hydrophytic Vegetation Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>				
Remarks:				

