Caltrans District 3

Yolo 80 Corridor Improvement Project

Valley Elderberry Longhorn Beetle Habitat Assessment

Sacramento, Yolo, and Solano Counties, California

04-SOL-80-PM 40.7/R44.7; 03-YOL-80-PM 0.00/R11.72; 03-YOL-50-PM 0.00/3.12; 03-SAC-50-PM 0.00/L0.617; 03-SAC-80-PM M0.00/M1.36

EA: 03-3H900 / EFIS: 0318000085

August 2022

Caltrans

CALIFORNIA DEPARTMENT OF TRANSPORTATION

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STATE OF CALIFORNIA
Department of Transportation

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LIST OF ABBREVIATED TERMS

%	Percent
ºF	Degrees in Fahrenheit
BSA	Biological Study Area
Caltrans	California Department of Transportation
CDFW	California Department of Fish and Wildlife
Davis	City of Davis
ESL	Environmental Study Limits
I-80	Interstate 80
NES	Natural Environment Study
Project	03-3H900 Yolo 80 Corridor Improvement Project
Sacramento	City of Sacramento
Stantec	Stantec Consulting Services Inc.
USFWS	U.S. Fish and Wildlife Service
USGS	U.S. Geological Survey
US-50	United States Route 50
VELB	Valley Elderberry Longhorn Beetle

Chapter 1 Introduction

This habitat assessment addresses the methods, results, and conclusions associated with surveys for potential valley elderberry longhorn beetle (VELB; *Desmocerus californicus dimorphus*) habitat within the 03-3H900 Yolo 80 Corridor Improvement Project's (project) environmental study limits (ESL), which encompasses all currently proposed project components and disturbance areas (e.g., road widening, paving, staging/laydown areas, etc.) and a 165-foot buffer for the project. For projects with the potential to impact biological resources, Caltrans' standard procedure is to prepare a Natural Environment Study (NES) to describe the project's existing biological environment and how project alternatives may affect that environment. The NES summarizes technical documents such as focused species studies, wetland assessments, and biological assessments related to biological resources in the project's biological study area (BSA). Hence, this habitat assessment has been prepared to support the NES for the project.

The California Department of Transportation (Caltrans) proposes within the project's scope to construct improvements consisting of managed lanes, pedestrian/bicycle facilities, and Intelligent Transportation System elements along I-80 and US-50 from Kidwell Road near the eastern Solano County boundary (near the City of Dixon), through Yolo County, and to West El Camino Avenue on I-80 and Interstate 5 on US-50 in Sacramento County (Appendix A, Figure 1). Caltrans is both the lead agency under the National Environmental Policy Act (as assigned by the Federal Highway Administration) and the California Environmental Quality Act for the project. The purpose of this project is to improve multimodal mobility on the I-80 and US-50 corridors in Solano, Yolo, and Sacramento Counties. The project would decrease congestion through the corridor and the effects that congestion has on transit and freight. It would improve transit headway times, reliability, access, and viability through the corridor. The project would also increase people throughout by increasing transit, bicycle and pedestrian, and carpool use. Furthermore, the project would address non-recurrent congestion caused by incidents, including collisions, by improving incident detection, verification, response, and clearing.

Chapter 2 Environmental Setting

2.1 Study Area

The 165-foot buffer around the ESL, forming the BSA, is consistent with the U.S. Fish and Wildlife Service's (USFWS) *Framework for Assessing Impacts to the Valley Elderberry Longhorn Beetle* (USFWS 2017). The BSA is in the U.S. Geological Survey (USGS) *Dixon, Merritt, Davis, and Sacramento West California* 7.5-minute topographic quadrangles. The BSA is centered on segments of I-80 and US-50 and is confined to the Caltrans right-of-way which ranges from around 300 feet to 800 feet wide, depending on location. The BSA starts in the southwest on I-80 at Pedrick Road (Exit 67) and continues 15 miles to the northwest to where I-80 and US-50 split. From there, the BSA follows I-80 to the north, terminating just past El Camino Avenue, and US-50 to the east, terminating at the 5th Street Exit. The BSA crosses through a predominance of developed and agricultural lands as well as the City of Davis (Davis) and the City of Sacramento (Sacramento).

The BSA is in California's Central Valley, which is a large river fed basin bounded by the Cascade Ranges to the north, Sierra Nevada Mountains to the east, Tehachapi Mountains to the south, and the Coast Range and San Francisco Bay to the west. Within the Central Valley itself, the BSA is in the southern Sacramento Valley and northern Sacramento-San Joaquin Delta areas. Overall topography within the BSA is extremely low-gradient with elevations ranging from about 5 to 80 feet above mean sea level.

The regional climate is typical of the Central Valley and is characterized by a Mediterranean climate with cool, wet winters and hot, dry summers. Precipitation in the region primarily occurs as rain. The average annual rainfall is approximately 34 inches and typically occurs between November 1 and April 30. The study area climate typically exhibits a nine-month growing season from February 26 through November 25. Most herbaceous growth occurs during spring and ceases as soil moisture depletes in early summer. Air temperatures range from an average January high of 53º Fahrenheit (ºF) to an average July high of 93ºF. The annual average high temperature is 74ºF (Western Regional Climate Center 2021).

2.2 Vegetation Communities

Vegetation communities throughout much of California have been mapped by various organizations, including California Department of Fish and Wildlife (CDFW) who hosts a number of these vegetation datasets. Vegetation communities within the BSA is included in two of these datasets: Delta Vegetation and Land Use and Great Valley Ecoregion

(VegCAMP 2011, Schwenkler and Hickson 2018). The classification follows the Federal Geographic Data Committee and National Vegetation Classification Standards, which are compatible with the Manual of California Vegetation, Online Edition (California Native Plant Society 2021). This vegetation data is accurate at a coarse scale due to the minimum mapping unit ranging from 1 to 10 acres (ac) within and across the datasets; due to this level of accuracy for mapping communities, the effort is defined as being mapped to the macrogroup level.

More than 60 percent (%) of the BSA is classified as either barren, urban, agricultural/cropland, or water, with urban accounting for the highest acreage. All vegetation communities mapped by CDFW (VegCAMP 2011, Schwenkler and Hickson 2018) within the BSA are described below.

California Annual and Perennial Grassland. Of the five natural/semi-natural macrogroups, California Annual and Perennial Grassland accounts for the highest acreage (i.e., about 84%) in the BSA and is composed of predominantly non-native grass species such as rye grass (*Festuca perennis*) and wild oats (*Avena* spp.). This macrogroup generally occurs on the roadside of the highway corridor and in between intersections throughout the BSA.

Californian Forest and Woodland. Californian Forest and Woodland macrogroup accounts for approximately 4% of the BSA and is composed of woodlands and forests dominated by warm-temperate oak and conifer species, with a sparse herbaceous stratum. Dominant species observed within the BSA include coast live oak (*Quercus agrifolia*), valley oak (*Quercus lobata*), and interior live oak (*Quercus wislizeni*). This community occurs sporadically along the highway in the general Davis area, as well as on the upper terraces of the Sacramento River.

Introduced North American Mediterranean Woodland and Forest. Introduced North American Mediterranean macrogroup accounts for about 8% of the BSA and is composed of woodlands and forests dominated by non-native and ornamental tree species, with a sparse herbaceous stratum. Within the BSA, stands are planted as windbreaks near agriculture, as well as ornamental landscaping in the more urban areas of the BSA. Stands observed include eucalyptus species (*Eucalyptus* spp.), Lombardy poplar (*Populus nigra*), English walnut (*Juglans regia*), and Peruvian pepper tree (*Schinus molle*).

Southwestern North American Riparian Flooded and Swamp Forest. Southwestern North American Riparian Flooded and Swamp macrogroup accounts for approximately 4% of the BSA and is composed of riparian and floodplain woodlands and forests dominated by

deciduous and/or evergreen tree species, with a sparse herbaceous stratum. Based on the guidelines in the *Framework for Assessing Impacts to the Valley Elderberry Longhorn Beetle* (USFWS 2017) this community is considered a riparian community capable of supporting VELB. Within the BSA, this macrogroup occurs along riparian corridors dominated by species such as Goodding's willow (*Salix goodingii*), California sycamore (*Platanus racemosa*), and Fremont cottonwood (*Populus fremontii*). Within the BSA this macrogroup occurs in the vicinity of Putah Creek, the Yolo Bypass, as well as along the Sacramento River at both crossings.

Western North American Freshwater Marsh. Western North American Freshwater Marsh Macrogroup accounts for less than 1% of the BSA and is composed a dense herbaceous layer with low diversity, with structure varying from barely-emergent forbs to meters-tall graminoids. Within the BSA, this macrogroup is dominated by hardstem bulrush (*Schoenoplectus acutus*) and broadleaf cattail (*Typha latifolia*). This macrogroup is generally found in the BSA in the Yolo Bypass area.

Chapter 3 Background Information

The VELB is a federally listed species of beetle strongly associated with the elderberry (*Sambucus* ssp.) shrub and hence the riparian habitat found in the river and stream systems of California's Central Valley, as well as the adjacent oak woodland and grassland habitats (USFWS 1991). The range of the VELB encompasses the Central Valley and the surrounding foothills, to an elevation up to 3,000 feet above mean sea level (msl), but mostly found around 500 feet above msl (USFWS 2017).

In the Central Valley bottom, the plant species VELB are associated with is the blue elderberry (*Sambucus nigra* ssp. *caerulea*); VELB is also known to feed on red elderberry (*Sambucus racemosa)*, but as this species does not occur in the BSA, this shrub is not discussed further (USFWS 1999). The VELB spends its larval stage inside the stem pith of the elderberry shrub, after the eggs are deposited by the adult female beetle under the bark of the shrub. After the pupae exits the shrub pith, creating an easily visible exit hole, the beetle emerges in their adult stage. Emerging adults then feed on the vegetation of the blue elderberry from March through early June (USFWS 1999). The exit holes are significant as they are often the only visible sign of occupancy by the VELB and can confirm presence or absence of the beetle.

Chapter 4 Methodology

4.1 Field Surveys

VELB habitat assessment and surveys were conducted in accordance with the *Framework for Assessing Impacts to the Valley Elderberry Longhorn Beetle* (USFWS 2017). Reconnaissance level habitat suitability and regional and local VELB occurrences were determined using the following information sources:

- *Dixon, Merritt, Davis, and Sacramento West, California*, USGS 7.5-minute quadrangle maps;
- Aerial photography of the proposed BSA and vicinity;
- USFWS list of endangered and threatened species that may occur in the BSA, (USFWS 2021, Appendix B);
- California Natural Diversity Data Base records for VELB in a 2,526-foot buffer around the BSA (CDFW 2021, Appendix C);

Stantec Consulting Services Inc. (Stantec) biologists John Holson and Sheryl Creer conducted the initial elderberry stem count surveys on February 19, and 21-24, 2021. Subsequent surveys of additional BSA segments (following minor changes to the ESL) were performed by Stantec biologists Sara Cortez and Scott Elder on July 7, 2022. All stems greater than 1-inch diameter at ground level within the BSA were mapped, tallied, and surveyed for exit holes. The shrubs were mapped by location. A "location" consisted of a site where all stems arose within 15 feet of each other. A Global Positioning System capable of sub-foot accuracy was used to map the shrub locations. Binoculars were utilized to inspect inaccessible areas (i.e., private property), hard to access canopies and stems, or when bushes were extremely dense.

As part of the stem count portion of the surveys, stems greater than 1 inch were examined for VELB exit holes by examining the shrub trunks, stems branches, and foliage. Potential exit holes that were in good condition, in the proper circular or oval shape, and 7-10 millimeter in diameter were recorded as VELB exit holes (USFWS 1999). The presence of exit holes has implications that the shrub is likely occupied by the beetle (USFWS 2017), and presence can be assumed.

Assessment for potential occupancy of elderberry shrubs by VELB in the Davis area was determined following USFWS guidance for non-riparian shrubs, including surveying for exit holes in all shrubs occurring within the study area and the dispersal distance of VELB (165 feet). According to the guidance, if no exit holes are observed, a review of the area surrounding the proposed project at the landscape level of shrub occupancy (2,526 feet) for presence of riparian habitat, elderberry shrubs, or known VELB occurrence records is required to determine shrub occupancy. In this case, exit holes were observed in the non-riparian shrubs, confirming shrub occupancy (USFWS 2017).

Assessment for potential occupancy of elderberry shrubs by VELB in the Sacramento area was determined following USFWS guidance for riparian shrubs, which includes surveying for all shrubs occurring within the study area and the dispersal distance of VELB (165 feet). According to the guidance, if elderberry shrubs are present in riparian habitat, its considered suitable VELB habitat and there is likely shrub occupancy by the beetle larvae. Exit holes were also observed in the riparian shrubs, therefore confirming occupancy (USFWS 2017).

Chapter 5 Results

The Stantec field surveys documented VELB habitat at a total of 69 shrubs capable of supporting VELB (i.e., had stems greater than 1 inch diameter) (Table 1, Appendix A, Figure 2). Fifty-three (53) of these shrubs occurred within the ESL, while the remaining 16 shrubs occurred in the 165-foot buffer. Of the 69 shrubs observed, exit holes were observed in 8 shrubs (i.e., about 12%) and 32 shrubs were classified as being in riparian areas. Detailed information on each shrub surveyed can be found in Appendix D, and photos of the shrubs can be found in Appendix E. In general, shrubs were found in two groupings; one group occurred in the general vicinity of the City of Davis, while the second group occurred in the vicinity of the City of Sacramento.

Three CNDDB records of VELB occur within 2,526 feet of the BSA; one is associated with Davis, while the other two are associated with the Sacramento River (CDFW 2021). Observations were made in 1989 for the Davis occurrence, while observations for the two associated with Sacramento River were made in 2015 (CDFW 2021).

Table 1. VELB Shrub Summary

VELB Location	Number of Shrubs	Number of 1-3 Inch Stems	Number of 3-5 Inch Stems	Number of Stems Greater than 5 Inches	Total Number of Elderberry Bushes with VELB Emergence Holes	% of Elderberry Bushes with VELB Emergence Holes
Riparian	32	166	26	25	6	19
Non-Riparian	37	124	55	45	2	6
TOTAL	**69** (53 in ESL)	**290**	**81**	**70**	**8**	**12**

The assessment for potential occupancy of elderberry shrubs by VELB was determined following USFWS guidance for non-riparian shrubs in the general Davis area, and for riparian shrubs in the general Sacramento area. Due to the presence of exit holes in non-riparian shrubs (Appendix D. See VELB 06 and VELB 11), shrubs in the general Davis area were assumed to be likely occupied. The Davis area shrubs are not considered to be in a riparian area based on the CDFW vegetation mapping, however historically they were likely associated with riparian habitat from Putah Creek, which occurs in the BSA but did not contain any associated elderberry shrubs.

Due to the presence of riparian habitat in the general Sacramento area as well as exit holes, shrubs are assumed to be likely occupied. This is considered to be in riparian habitat based on the data from CDFW vegetation mapping, as well as aerial photos. The riparian habitat near the Sacramento River crossings is fragmented based on urbanization; however remnants occur along the shoreline and in pockets of open space.

Therefore, based on the *Framework for Assessing Impacts to the Valley Elderberry Longhorn Beetle* (USFWS 2017), occupancy has been established by the presence of exit holes in both riparian and non-riparian shrubs. Based on the findings of this assessment, it was determined that the proposed project is likely to have an effect on VELB because there is riparian habitat within the study area and/or 165-foot buffer in conjunction with elderberry shrubs, and because there is evidence of VELB presence (i.e., bore or exit holes) observed in elderberry shrubs in the study area.

Chapter 6 References

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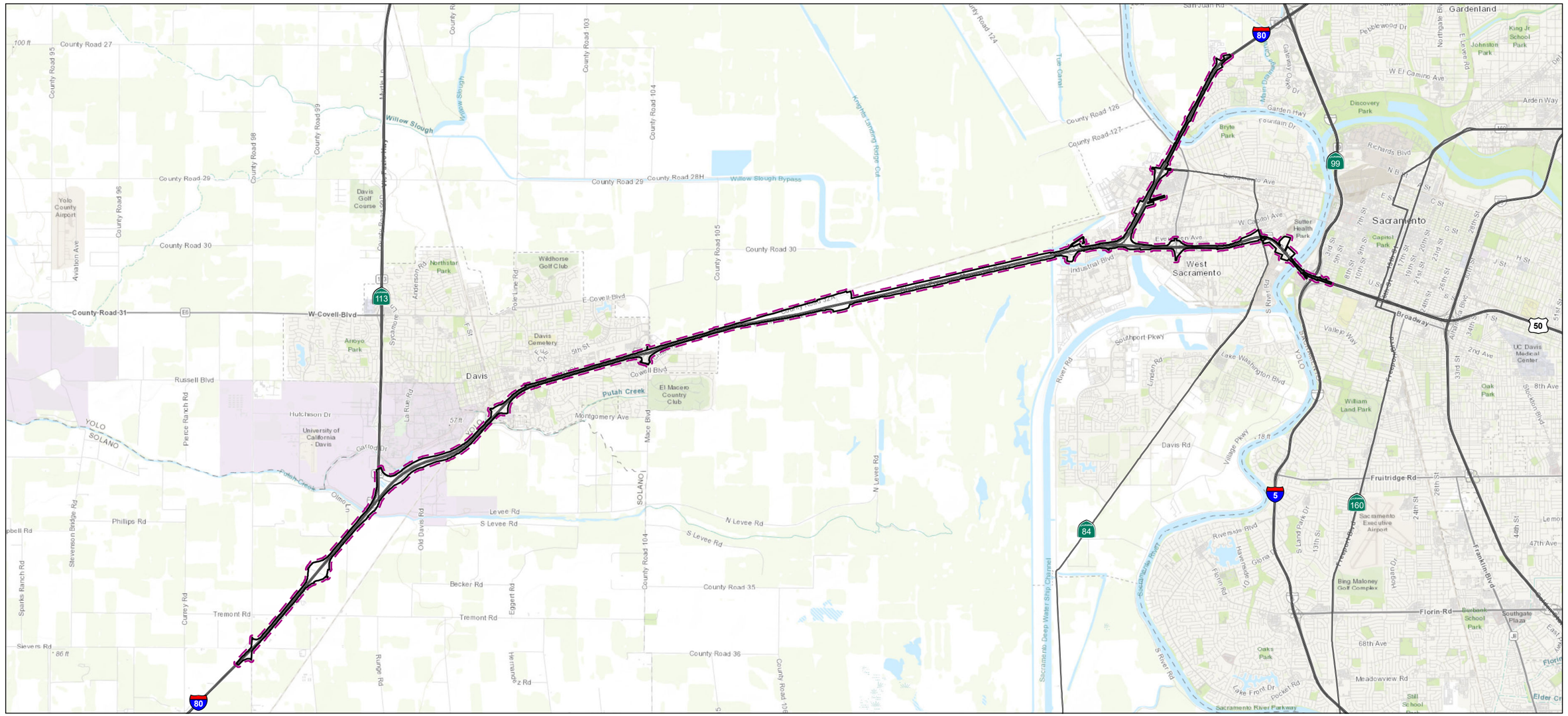
Appendix A Figures

Figure 1. Project Location

Figure 2. VELB Shrub Location Map



Environmental Study Limits (ESL) (1,147.38 acres)

Biological Study Area (2,111.11 acres)

USGS 7.5' 1:24,000 Quadrangles:
Davis (1992), Dixon (1981), Merritt (1992),
and Sacramento West (1992)

N

0 1.5 3

Miles

Notes

1. Coordinate System: NAD 1983 StatePlane California II FIPS 0402 Feet

2. Data Sources: CalTrans, Stantec, 2020

3. Background: Sources: Esri, HERE, Garmin, Intermap, increment P Corp., GEBCO, USGS, FAO, NPS, NRCAN, GeoBase, IGN, Kadaster NL, Ordnance Survey, Esri Japan, METI, Esri China (Hong Kong), (c) OpenStreetMap contributors, and the GIS User Community

Figure 1
Project ESL and BSA
Yolo 80 Corridor Improvement Project
VELB Survey Report

Sacramento, Solano, and
Yolo Counties, California

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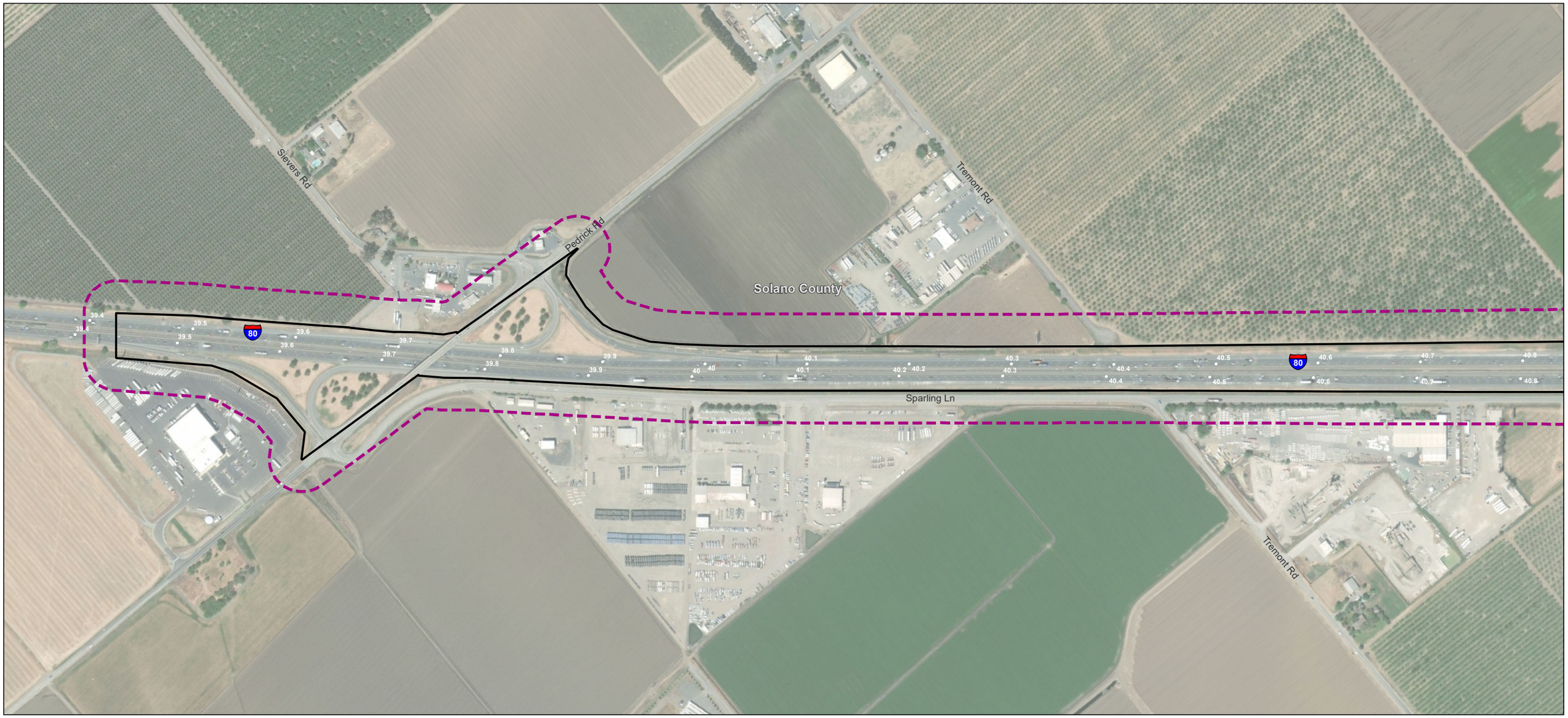
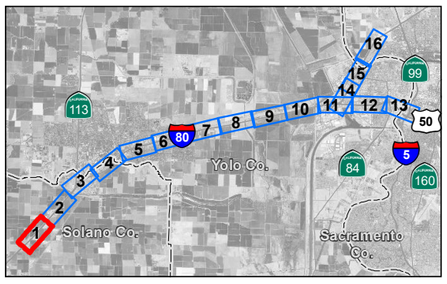




Environmental Study Limit (1,047.38 acres)

Post Mile

VELB Survey Limit (BSA) (2,111.11 acres)

Valley Elderberry Shrub (VELB)

N

0 1,000

Feet

Caltrans

Notes

1. Coordinate System: NAD 1983 StatePlane California II FIPS 0402 Feet

2. Data Sources: CalTrans, Stantec, 2021

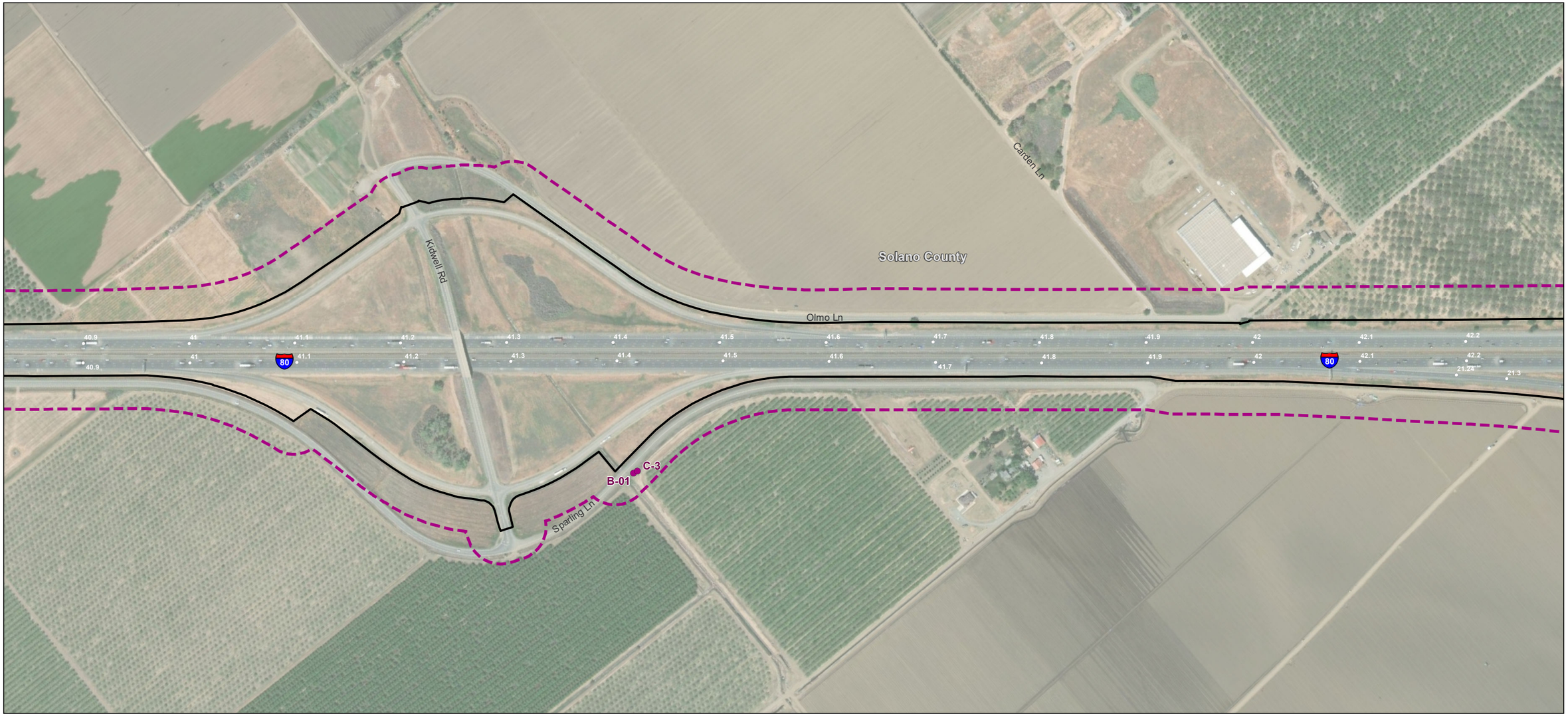
3. Background: Source: Esri, Maxar, Earthstar Geographics, and the GIS User Community

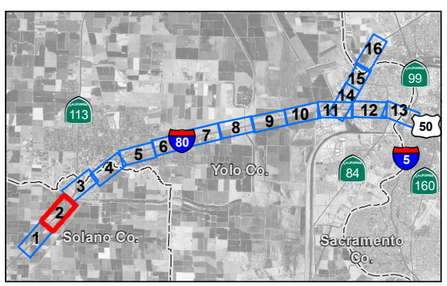
Figure 2
VELB Shrub Locations

Yolo 80 Corridor Improvement Project

EA 03-3H900

Solano, Yolo, and Sacramento Counties, California





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Valley Elderberry Shrub (VELB)

N
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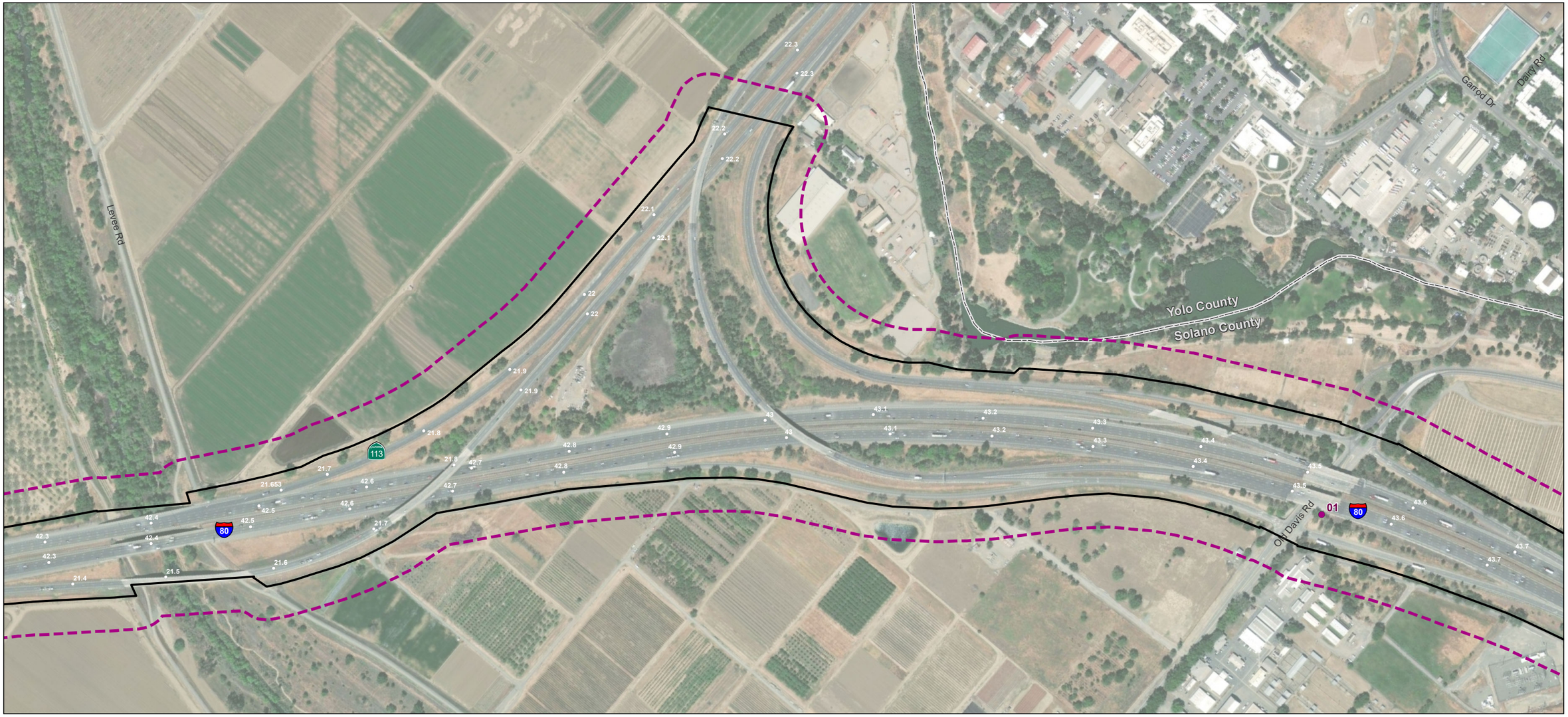

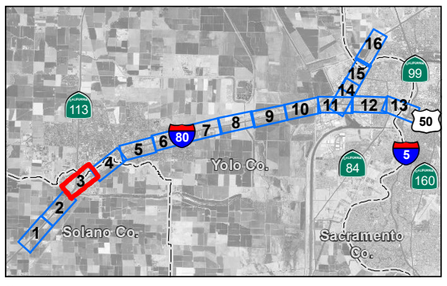

Environmental Study Limit (1,047.38 acres)
Post Mile
County Line
VELB Survey Limit (BSA) (2,111.11 acres)
Valley Elderberry Shrub (VELB)

0 1,000
Feet

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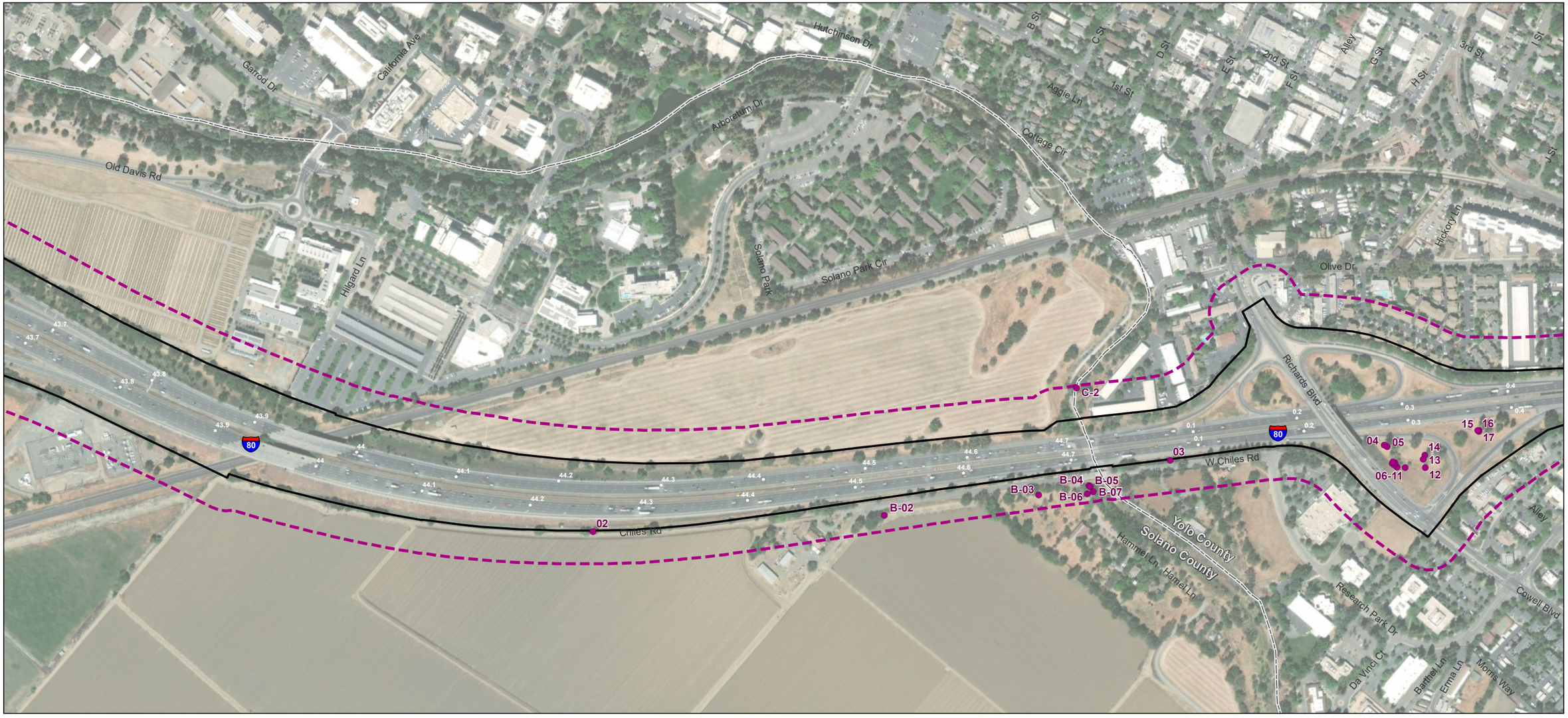

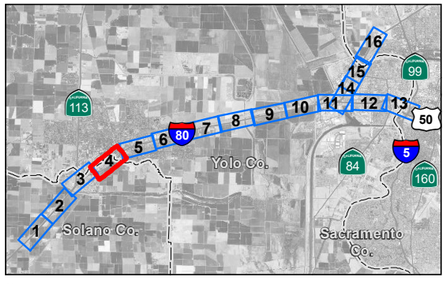

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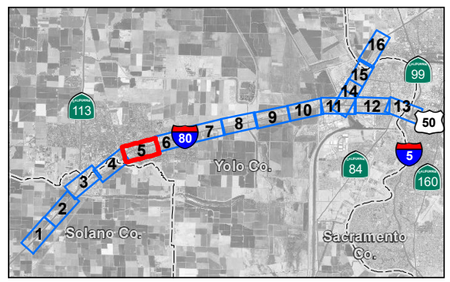

Environmental Study Limit (1,047.38 acres)

Post Mile

VELB Survey Limit (BSA) (2,111.11 acres)

Valley Elderberry Shrub (VELB)

0 1,000 Feet

Caltrans

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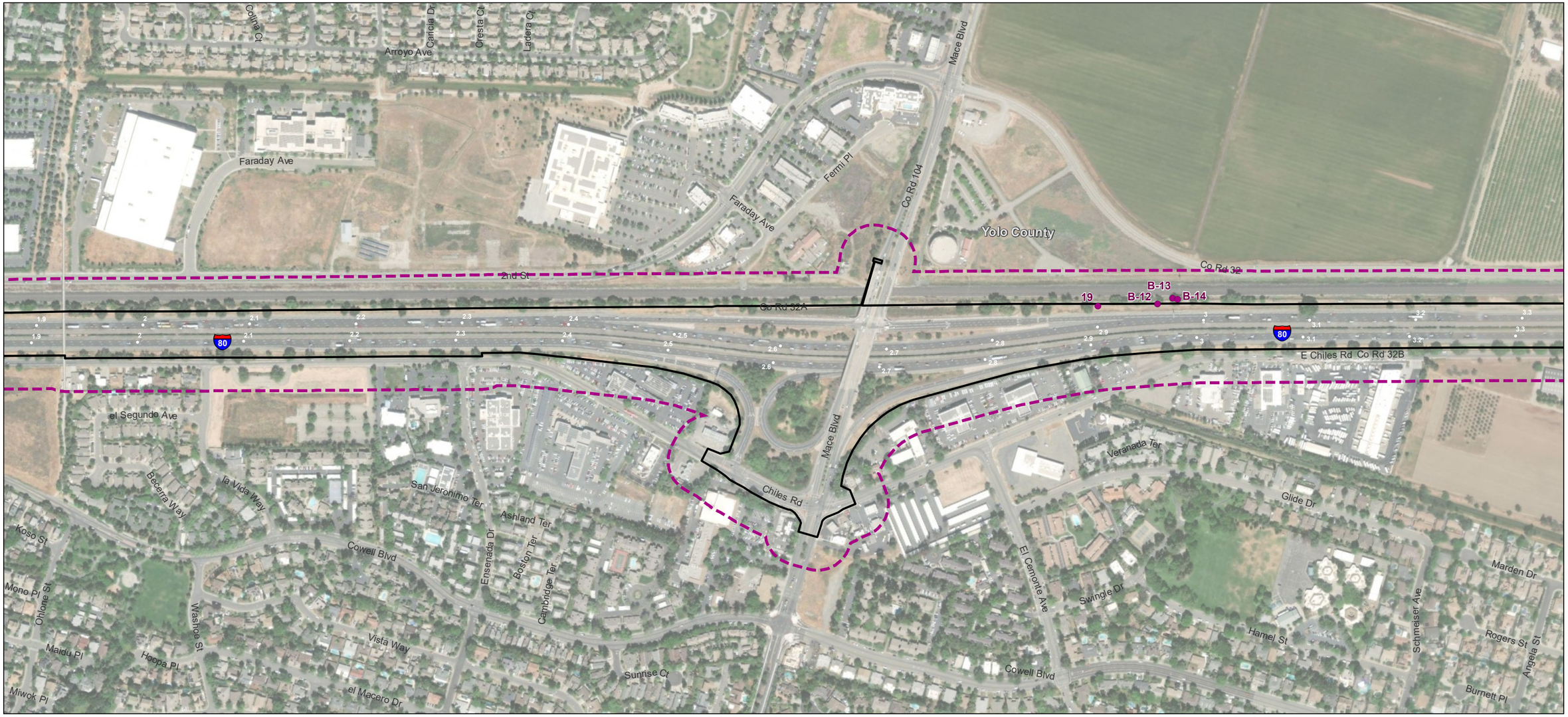
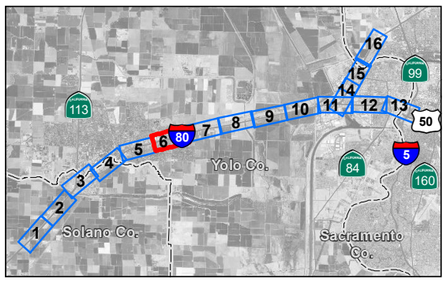
EA 03-3H900

Solano, Yolo, and Sacramento Counties, California





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VELB Survey Limit (BSA) (2,111.11 acres)

Valley Elderberry Shrub (VELB)

0 1,000

Feet

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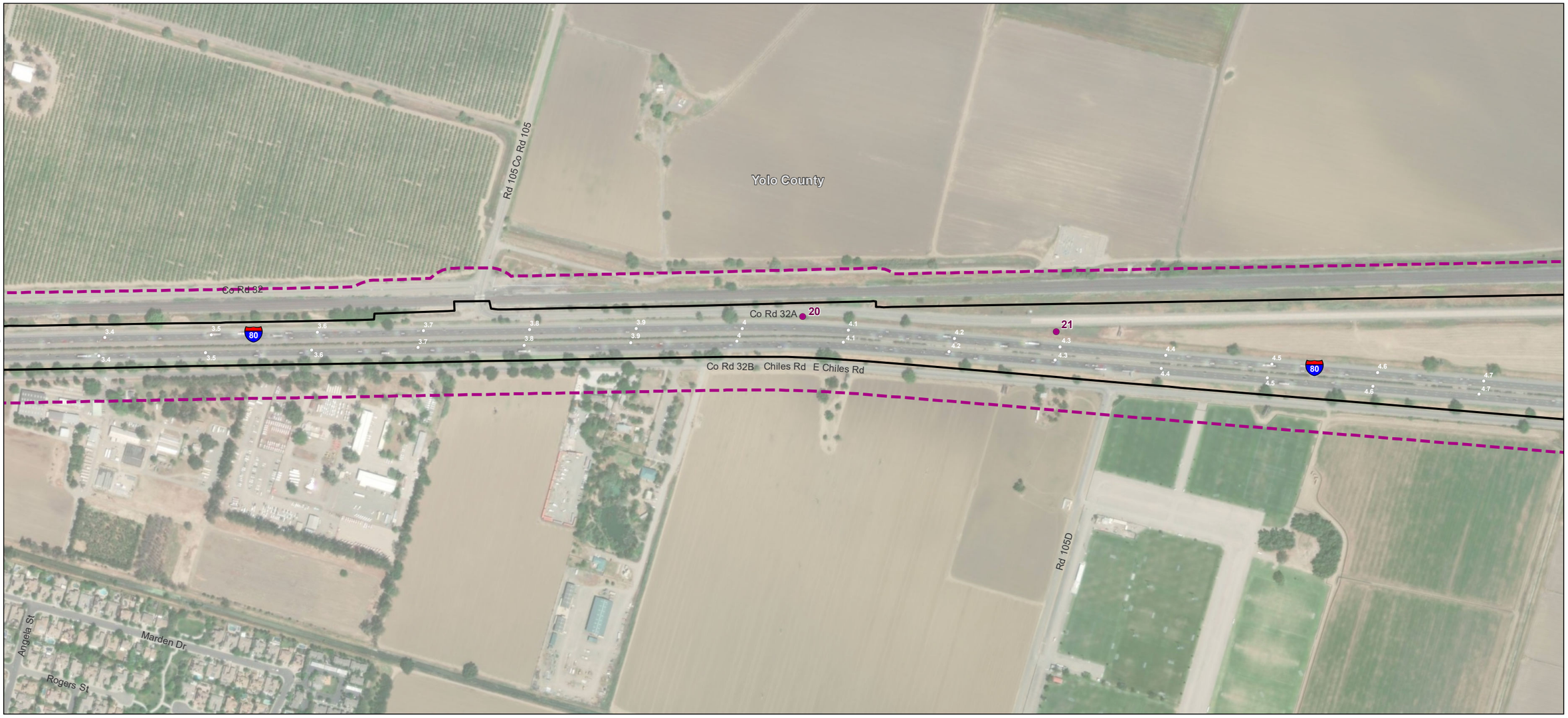
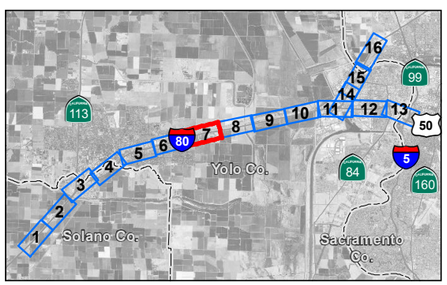




Environmental Study Limit (1,047.38 acres)

Post Mile

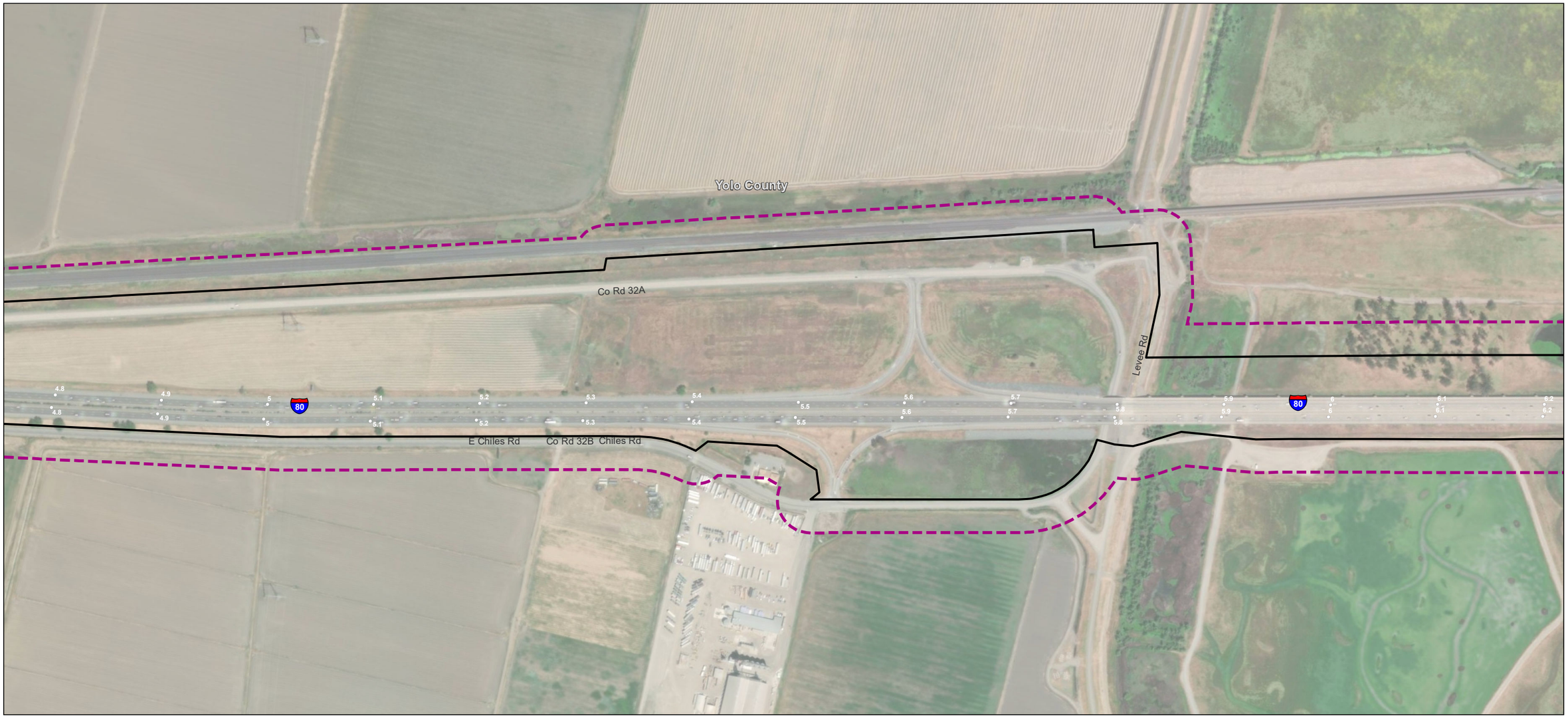
VELB Survey Limit (BSA) (2,111.11 acres)

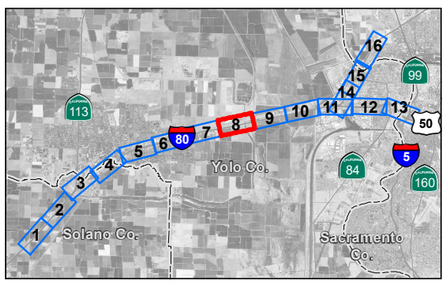
Valley Elderberry Shrub (VELB)

0 1,000 Feet

Notes
1. Coordinate System: NAD 1983 StatePlane California II FIPS 0402 Feet
2. Data Sources: CalTrans, Stantec, 2021
3. Background: Source: Esri, Maxar, Earthstar Geographics, and the GIS User Community

Figure 2
VELB Shrub Locations
Yolo 80 Corridor Improvement Project
EA 03-3H900
Solano, Yolo, and Sacramento Counties, California





Environmental Study Limit (1,047.38 acres)

Post Mile

VELB Survey Limit (BSA) (2,111.11 acres)

Valley Elderberry Shrub (VELB)

0 1,000

Feet

Notes

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3. Background: Source: Esri, Maxar, Earthstar Geographics, and the GIS User Community

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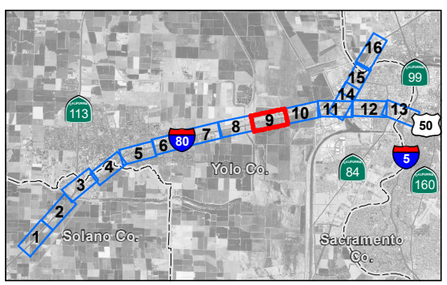
EA 03-3H900
Solano, Yolo, and Sacramento Counties, California



Environmental Study Limit (1,047.38 acres)

Post Mile

VELB Survey Limit (BSA) (2,111.11 acres)

Valley Elderberry Shrub (VELB)

0 1,000

N

Feet

Caltrans

Notes

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2. Data Sources: CalTrans, Stantec, 2021

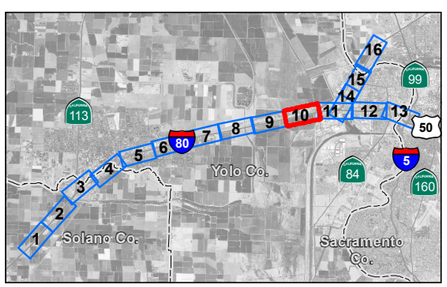
3. Background: Source: Esri, Maxar, Earthstar Geographics, and the GIS User Community

Figure 2
VELB Shrub Locations

Yolo 80 Corridor Improvement Project

EA 03-3H900

Solano, Yolo, and Sacramento Counties, California



Environmental Study Limit (1,047.38 acres)

Post Mile

VELB Survey Limit (BSA) (2,111.11 acres)

Valley Elderberry Shrub (VELB)

0 1,000

Feet

Notes

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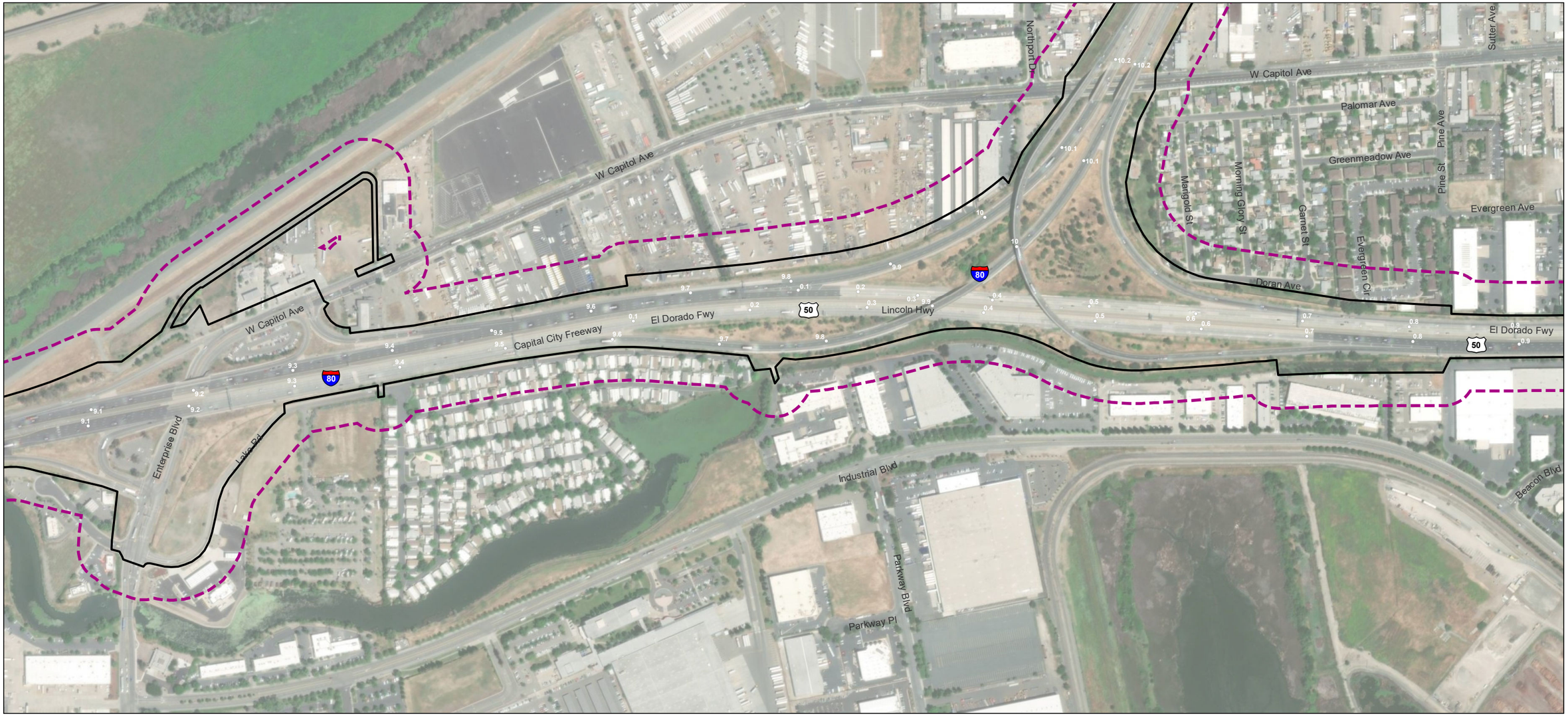
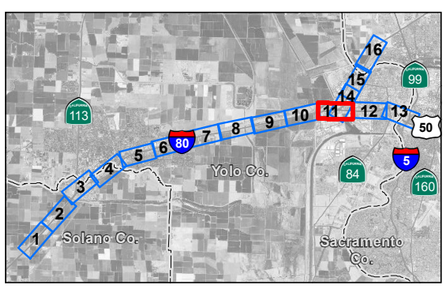
Figure 2
VELB Shrub Locations
Yolo 80 Corridor Improvement Project
EA 03-3H900
Solano, Yolo, and Sacramento Counties, California





Environmental Study Limit (1,047.38 acres)

Post Mile

VELB Survey Limit (BSA) (2,111.11 acres)

Valley Elderberry Shrub (VELB)

0 1,000

Feet

Notes

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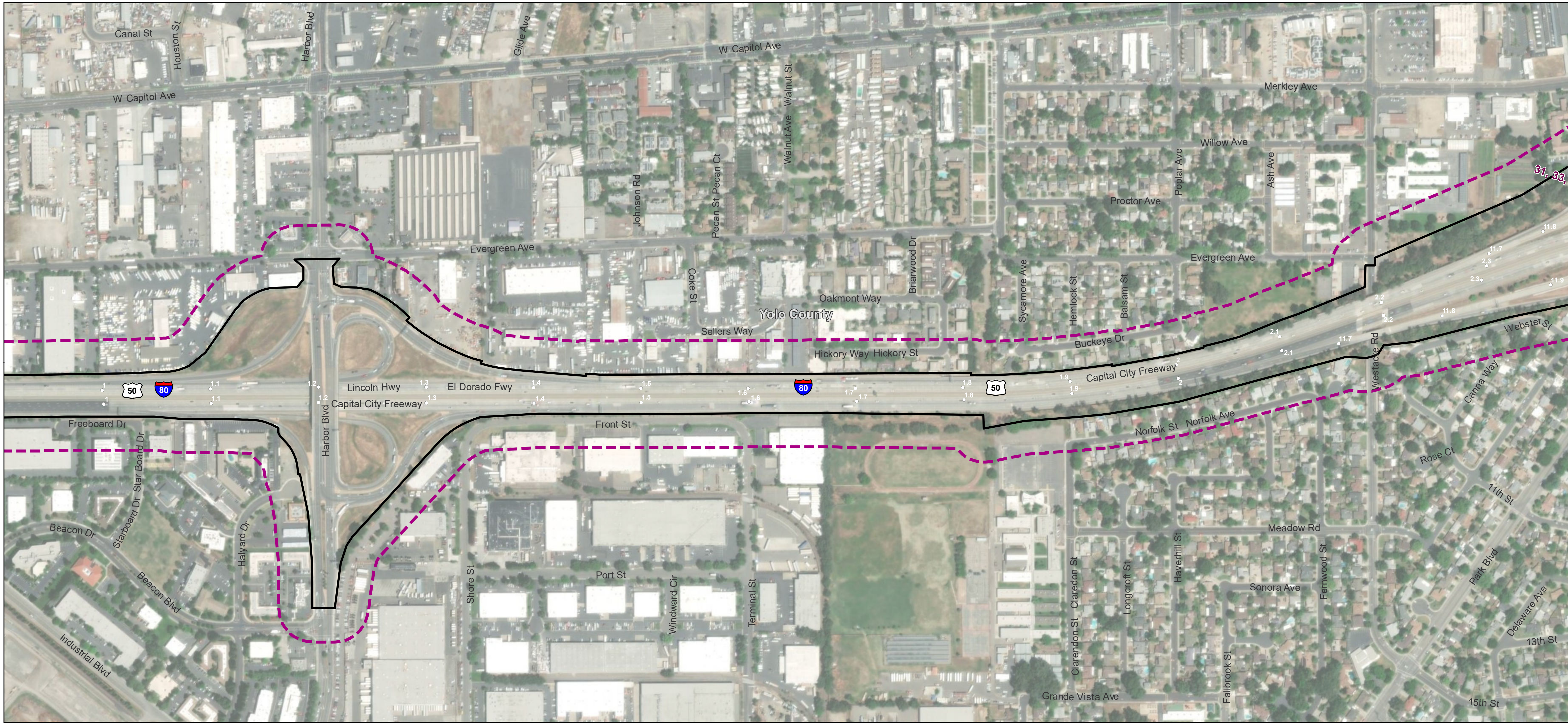
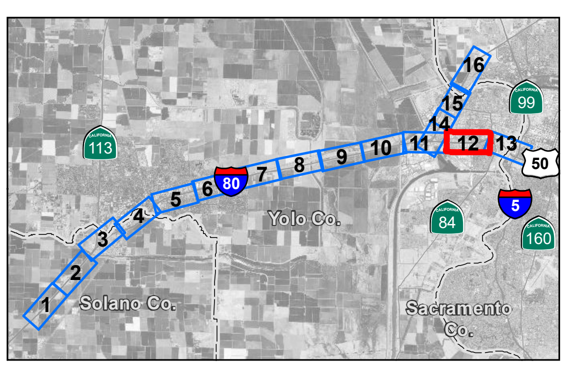
2. Data Sources: CalTrans, Stantec, 2021

3. Background: Source: Esri, Maxar, Earthstar Geographics, and the GIS User Community

Figure 2
VELB Shrub Locations
Yolo 80 Corridor Improvement Project
EA 03-3H900
Solano, Yolo, and Sacramento Counties, California

V:\1867\Active\185733022_CT80Yolo\03_data\gis_cad\gis\mxd\bio\Fig2_VELB_ShrubLocations.mxd Revised: 2022-08-15 By: pglendening





Environmental Study Limit (1,047.38 acres)

Post Mile

VELB Survey Limit (BSA) (2,111.11 acres)

Valley Elderberry Shrub (VELB)

0 — 1,000 Feet

Caltrans

Notes
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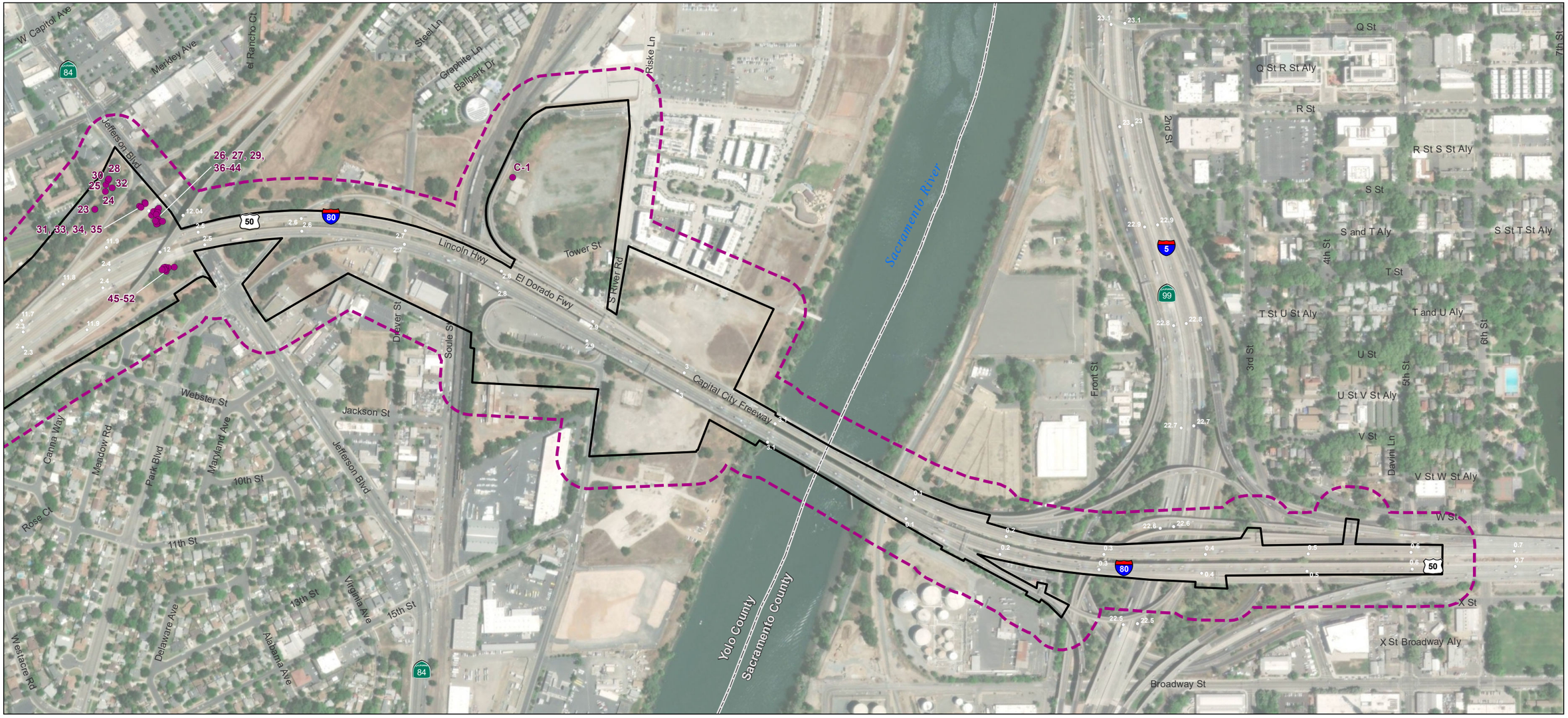
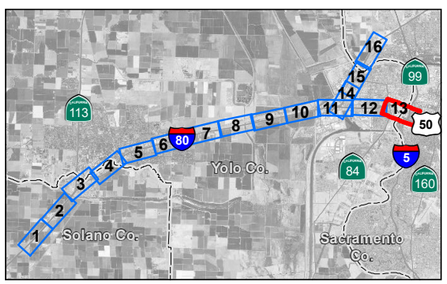
EA 03-3H900
Solano, Yolo, and Sacramento Counties, California





Environmental Study Limit (1,047.38 acres)
Post Mile
County Line
VELB Survey Limit (BSA) (2,111.11 acres)
Valley Elderberry Shrub (VELB)

0 1,000
Feet

Notes
1. Coordinate System: NAD 1983 StatePlane California II FIPS 0402 Feet
2. Data Sources: CalTrans, Stantec, 2021
3. Background: Source: Esri, Maxar, Earthstar Geographics, and the GIS User Community

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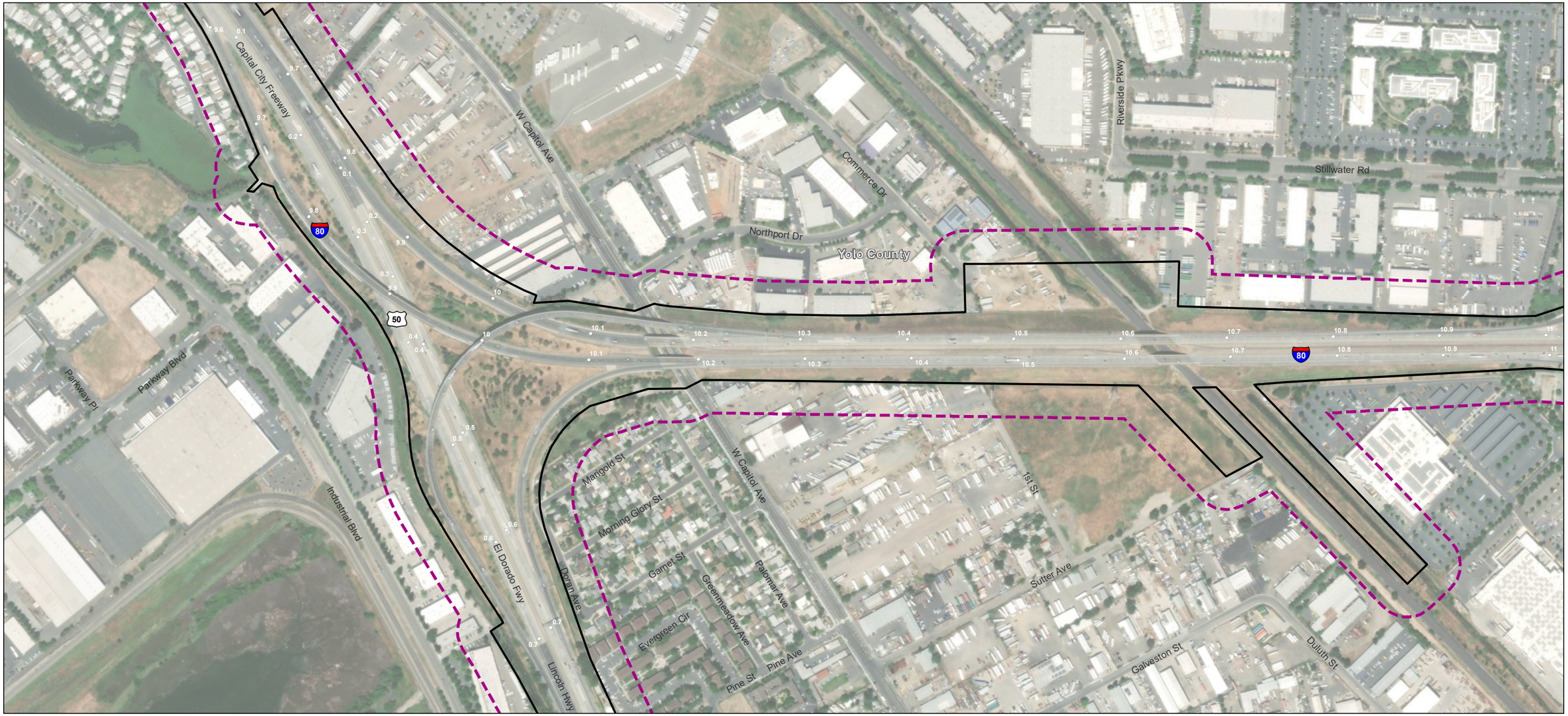
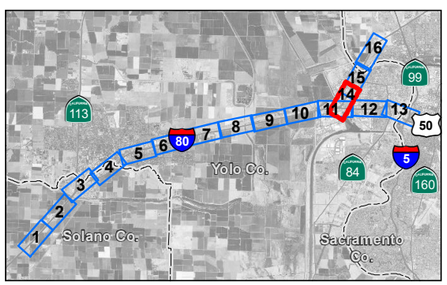
EA 03-3H900
Solano, Yolo, and Sacramento Counties, California





Environmental Study Limit (1,047.38 acres)

Post Mile

VELB Survey Limit (BSA) (2,111.11 acres)

Valley Elderberry Shrub (VELB)

N

0 1,000

Feet

Caltrans

Notes

1. Coordinate System: NAD 1983 StatePlane California II FIPS 0402 Feet

2. Data Sources: CalTrans, Stantec, 2021

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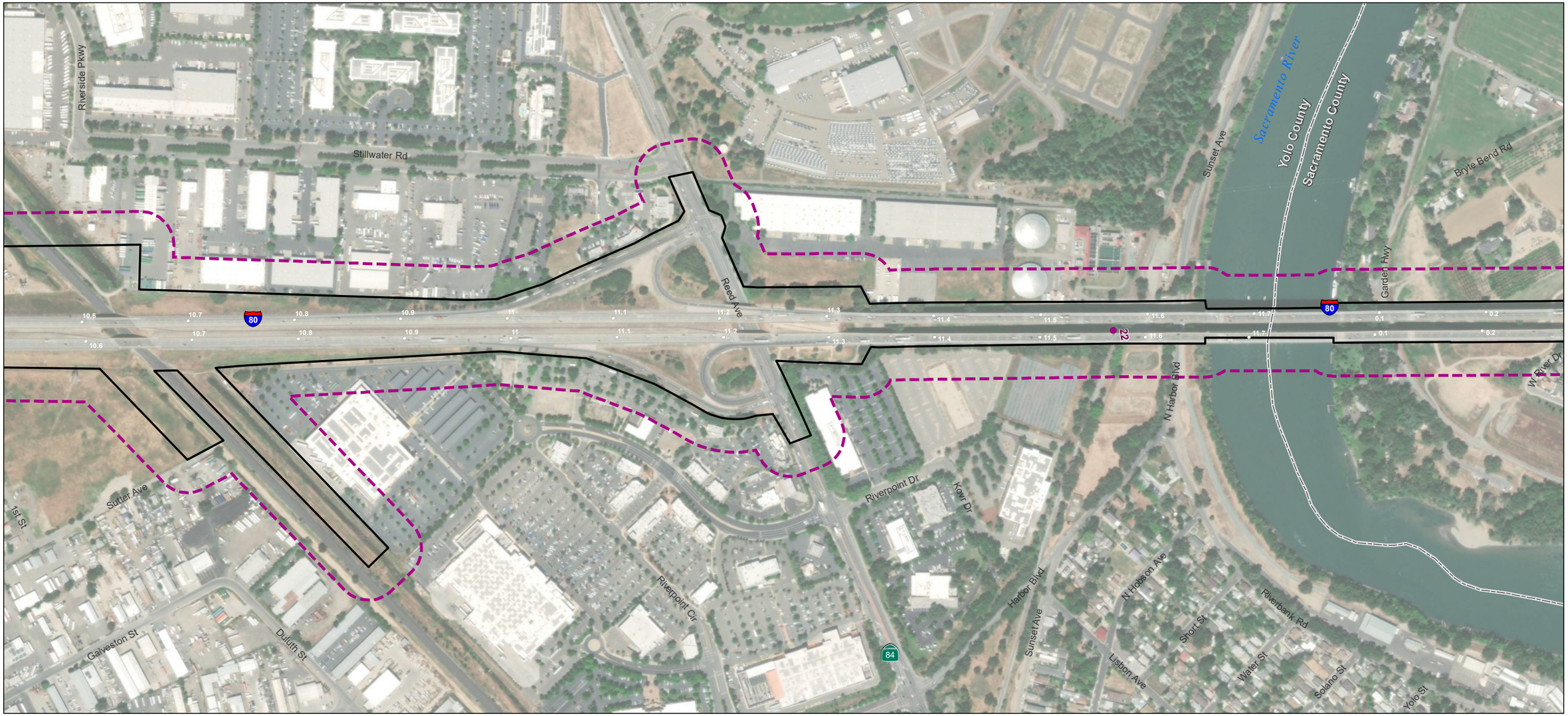
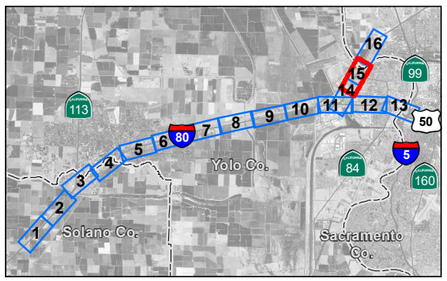
EA 03-3H900
Solano, Yolo, and Sacramento Counties, California





Environmental Study Limit (1,047.38 acres)

Post Mile

County Line

VELB Survey Limit (BSA) (2,111.11 acres)

Valley Elderberry Shrub (VELB)

N

0 1,000

Feet

Caltrans

Notes

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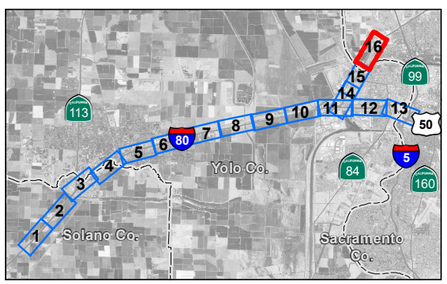
Yolo 80 Corridor Improvement Project
EA 03-3H900
Solano, Yolo, and Sacramento Counties, California



Environmental Study Limit (1,047.38 acres)
Post Mile
County Line
VELB Survey Limit (BSA) (2,111.11 acres)
Valley Elderberry Shrub (VELB)

N
0
1,000
Feet

Caltrans

Notes
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EA 03-3H900
Solano, Yolo, and Sacramento Counties, California

Appendix B USFWS IPAC Speces List

IPaC **U.S. Fish & Wildlife Service**

IPaC resource list

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

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

Location

Sacramento, Solano, and Yolo counties, California

Local offices

Sacramento Fish And Wildlife Office

(916) 414-6600
(916) 414-6713

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

San Francisco Bay-Delta Fish And Wildlife

(916) 930-5603

(916) 930-5654

650 Capitol Mall
Suite 8-300
Sacramento, CA 95814

http://kim_squires@fws.gov

Endangered species

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

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

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

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

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

Listed species[1] and their critical habitats are managed by the Ecological Services Program of the U.S. Fish and Wildlife Service (USFWS) and the fisheries division of the National Oceanic and Atmospheric Administration (NOAA Fisheries[2]).

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

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

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

Birds

NAME	STATUS

Least Bell's Vireo Vireo bellii pusillus — Endangered
Wherever found
There is **final** critical habitat for this species. The location of the critical habitat is not available.
https://ecos.fws.gov/ecp/species/5945

Western Snowy Plover Charadrius nivosus nivosus — Threatened
There is **final** critical habitat for this species. The location of the critical habitat is not available.
https://ecos.fws.gov/ecp/species/8035

Yellow-billed Cuckoo Coccyzus americanus — Threatened
There is **proposed** critical habitat for this species. The location of the critical habitat is not available.
https://ecos.fws.gov/ecp/species/3911

Reptiles

NAME	STATUS

Giant Garter Snake Thamnophis gigas — Threatened
Wherever found
No critical habitat has been designated for this species.
https://ecos.fws.gov/ecp/species/4482

Amphibians

NAME	STATUS

California Red-legged Frog Rana draytonii — Threatened
Wherever found
There is **final** critical habitat for this species. The location of the critical habitat is not available.
https://ecos.fws.gov/ecp/species/2891

California Tiger Salamander Ambystoma californiense — Threatened
There is **final** critical habitat for this species. The location of the critical habitat is not available.
https://ecos.fws.gov/ecp/species/2076

Fishes

NAME	STATUS

Delta Smelt Hypomesus transpacificus — Threatened
Wherever found
There is **final** critical habitat for this species. Your location overlaps the critical habitat.
https://ecos.fws.gov/ecp/species/321

Insects

NAME	STATUS
Delta Green Ground Beetle Elaphrus viridis Wherever found There is **final** critical habitat for this species. The location of the critical habitat is not available. https://ecos.fws.gov/ecp/species/2319	Threatened
Valley Elderberry Longhorn Beetle Desmocerus californicus dimorphus Wherever found There is **final** critical habitat for this species. The location of the critical habitat is not available. https://ecos.fws.gov/ecp/species/7850	Threatened

Crustaceans

NAME	STATUS
Conservancy Fairy Shrimp Branchinecta conservatio Wherever found There is **final** critical habitat for this species. The location of the critical habitat is not available. https://ecos.fws.gov/ecp/species/8246	Endangered
Vernal Pool Fairy Shrimp Branchinecta lynchi Wherever found There is **final** critical habitat for this species. The location of the critical habitat is not available. https://ecos.fws.gov/ecp/species/498	Threatened
Vernal Pool Tadpole Shrimp Lepidurus packardi Wherever found There is **final** critical habitat for this species. The location of the critical habitat is not available. https://ecos.fws.gov/ecp/species/2246	Endangered

Critical habitats

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

This location overlaps the critical habitat for the following species:

NAME	TYPE
Delta Smelt Hypomesus transpacificus https://ecos.fws.gov/ecp/species/321#crithab	Final

Migratory birds

Certain birds are protected under the Migratory Bird Treaty Act[1] and the Bald and Golden Eagle Protection Act[2].

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

1. The Migratory Birds Treaty Act of 1918.
2. The Bald and Golden Eagle Protection Act of 1940.

Additional information can be found using the following links:

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

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

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

NAME	BREEDING SEASON (IF A BREEDING SEASON IS INDICATED FOR A BIRD ON YOUR LIST, THE BIRD MAY BREED IN YOUR PROJECT AREA SOMETIME WITHIN THE TIMEFRAME SPECIFIED, WHICH IS A VERY LIBERAL ESTIMATE OF THE DATES INSIDE WHICH THE BIRD BREEDS ACROSS ITS ENTIRE RANGE.

"BREEDS ELSEWHERE" INDICATES THAT THE BIRD DOES NOT LIKELY BREED IN YOUR PROJECT AREA.)

Allen's Hummingbird Selasphorus sasin — Breeds Feb 1 to Jul 15
This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.
https://ecos.fws.gov/ecp/species/9637

Bald Eagle Haliaeetus leucocephalus — Breeds Jan 1 to Aug 31
This is not a Bird of Conservation Concern (BCC) in this area, but warrants attention because of the Eagle Act or for potential susceptibilities in offshore areas from certain types of development or activities.
https://ecos.fws.gov/ecp/species/1626

Black-chinned Sparrow Spizella atrogularis — Breeds Apr 15 to Jul 31
This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.
https://ecos.fws.gov/ecp/species/9447

Burrowing Owl Athene cunicularia — Breeds Mar 15 to Aug 31
This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA
https://ecos.fws.gov/ecp/species/9737

California Thrasher Toxostoma redivivum — Breeds Jan 1 to Jul 31
This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.

Clark's Grebe Aechmophorus clarkii — Breeds Jan 1 to Dec 31
This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.

Common Yellowthroat Geothlypis trichas sinuosa — Breeds May 20 to Jul 31
This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA
https://ecos.fws.gov/ecp/species/2084

Costa's Hummingbird Calypte costae — Breeds Jan 15 to Jun 10
This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA
https://ecos.fws.gov/ecp/species/9470

Golden Eagle Aquila chrysaetos — Breeds Jan 1 to Aug 31
This is not a Bird of Conservation Concern (BCC) in this area, but warrants attention because of the Eagle Act or for potential susceptibilities in offshore areas from certain types of development or activities.
https://ecos.fws.gov/ecp/species/1680

Lawrence's Goldfinch Carduelis lawrencei — Breeds Mar 20 to Sep 20
This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.
https://ecos.fws.gov/ecp/species/9464

Lewis's Woodpecker Melanerpes lewis — Breeds Apr 20 to Sep 30
This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.
https://ecos.fws.gov/ecp/species/9408

Long-billed Curlew Numenius americanus — Breeds elsewhere
This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.
https://ecos.fws.gov/ecp/species/5511

Marbled Godwit Limosa fedoa — Breeds elsewhere
This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.
https://ecos.fws.gov/ecp/species/9481

Nuttall's Woodpecker Picoides nuttallii — Breeds Apr 1 to Jul 20
This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA
https://ecos.fws.gov/ecp/species/9410

Oak Titmouse Baeolophus inornatus — Breeds Mar 15 to Jul 15
This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.
https://ecos.fws.gov/ecp/species/9656

Rufous Hummingbird selasphorus rufus — Breeds elsewhere
This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.
https://ecos.fws.gov/ecp/species/8002

Short-billed Dowitcher Limnodromus griseus — Breeds elsewhere
This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.
https://ecos.fws.gov/ecp/species/9480

Song Sparrow Melospiza melodia This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA	Breeds Feb 20 to Sep 5
Spotted Towhee Pipilo maculatus clementae This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA https://ecos.fws.gov/ecp/species/4243	Breeds Apr 15 to Jul 20
Tricolored Blackbird Agelaius tricolor This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/3910	Breeds Mar 15 to Aug 10
Whimbrel Numenius phaeopus This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/9483	Breeds elsewhere
Willet Tringa semipalmata This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.	Breeds elsewhere
Wrentit Chamaea fasciata This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.	Breeds Mar 15 to Aug 10
Yellow-billed Magpie Pica nuttalli This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/9726	Breeds Apr 1 to Jul 31

Probability of Presence Summary

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

Probability of Presence (■)

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

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

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

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

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

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

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

No Data (–)
A week is marked as having no data if there were no survey events for that week.

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

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

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

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

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

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

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

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

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

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

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

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

What are the levels of concern for migratory birds?

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

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

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

Details about birds that are potentially affected by offshore projects

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

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

What if I have eagles on my list?

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

Proper Interpretation and Use of Your Migratory Bird Report

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

Facilities

National Wildlife Refuge lands

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

THERE ARE NO REFUGE LANDS AT THIS LOCATION.

Fish hatcheries

THERE ARE NO FISH HATCHERIES AT THIS LOCATION.

Wetlands in the National Wetlands Inventory

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

For more information please contact the Regulatory Program of the local U.S. Army Corps of Engineers District.

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

This location overlaps the following wetlands:

FRESHWATER EMERGENT WETLAND

- PEM1Cx
- PEM1Fx
- PEM1A

FRESHWATER FORESTED/SHRUB WETLAND

- PSSR
- PFOC

RIVERINE

- R2UBH
- R1UBVx
- R5UBFx
- R2UBFx
- R2UBHx
- R5UBF
- R4SBCx

A full description for each wetland code can be found at the National Wetlands Inventory website

Data limitations

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

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

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

Data exclusions

Certain wetland habitats are excluded from the National mapping program because of the limitations of aerial imagery as the primary data source used to detect wetlands. These habitats include seagrasses or submerged aquatic vegetation that are found in the intertidal and subtidal zones of estuaries and nearshore coastal waters.

Some deepwater reef communities (coral or tuberficid worm reefs) have also been excluded from the inventory. These habitats, because of their depth, go undetected by aerial imagery.

Data precautions

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

Appendix C VELB CNDDB Occurrences

Occurrence Report

California Department of Fish and Wildlife

California Natural Diversity Database

Query Criteria: Species IS (Desmocerus californicus dimorphus)
 AND Quad IS (Dixon (3812147) OR Merritt (3812157) OR Sacramento West (3812155) OR Davis (3812156))

Map Index Number: 11171
EO Index: 22733
Key Quad: Sacramento West (3812155)
Element Code: IICOL48011
Occurrence Number: 18
Occurrence Last Updated: 1989-08-11

Scientific Name: *Desmocerus californicus dimorphus*
Common Name: valley elderberry longhorn beetle

Listing Status: **Federal:** Threatened
State: None
Rare Plant Rank:
Other Lists:

CNDDB Element Ranks: **Global:** G3T2
State: S3

General Habitat:

OCCURS ONLY IN THE CENTRAL VALLEY OF CALIFORNIA, IN ASSOCIATION WITH BLUE ELDERBERRY (SAMBUCUS MEXICANA).

Micro Habitat:

PREFERS TO LAY EGGS IN ELDERBERRIES 2-8 INCHES IN DIAMETER; SOME PREFERENCE SHOWN FOR "STRESSED" ELDERBERRIES.

Last Date Observed: XXXX-XX-XX
Occurrence Type: Natural/Native occurrence
Last Survey Date: 1985-04-24
Occurrence Rank: Unknown
Owner/Manager: UNKNOWN
Trend: Unknown
Presence: Presumed Extant

Location:

SACRAMENTO RIVER MI 62.5 W AT I-80.

Detailed Location:

Ecological:

HABITAT IS A NEARLY-PURE ELDERBERRY STAND LOCATED ALONG THE RAILROAD TRACKS, WITH A HIGH DENSITY (50%) OF EXIT HOLES.

Threats:

General:

NO BEETLES OBSERVED; SITE VISITED TOO LATE IN THE DAY.

PLSS: T09N, R04E, Sec. 28 (M)
Accuracy: 1/5 mile
Area (acres): 0
UTM: Zone-10 N4272946 E626445
Latitude/Longitude: 38.59601 / -121.54801
Elevation (feet): 20

County Summary:

Sacramento, Yolo

Quad Summary:

Sacramento West (3812155)

Sources:

JON85R0001 JONES & STOKES ASSOCIATES, INC. - SURVEY OF HABITAT AND POPULATIONS OF THE VALLEY ELDERBERRY LONGHORN BEETLE ALONG THE SACRAMENTO RIVER - RFP NO. FWSI- 84-79 (NR). PROGRESS REPORT TO USFWS. 1985-XX-XX

Occurrence Report

California Department of Fish and Wildlife

California Natural Diversity Database

Map Index Number: 57704
EO Index: 96103
Key Quad: Davis (3812156)
Element Code: IICOL48011
Occurrence Number: 256
Occurrence Last Updated: 2015-01-22

Scientific Name: *Desmocerus californicus dimorphus*
Common Name: valley elderberry longhorn beetle

Listing Status: **Federal:** Threatened
State: None
Rare Plant Rank:
Other Lists:

CNDDB Element Ranks: **Global:** G3T2
State: S3

General Habitat:

OCCURS ONLY IN THE CENTRAL VALLEY OF CALIFORNIA, IN ASSOCIATION WITH BLUE ELDERBERRY (SAMBUCUS MEXICANA).

Micro Habitat:

PREFERS TO LAY EGGS IN ELDERBERRIES 2-8 INCHES IN DIAMETER; SOME PREFERENCE SHOWN FOR "STRESSED" ELDERBERRIES.

Last Date Observed: 1934-03-26
Occurrence Type: Natural/Native occurrence
Last Survey Date: 1934-03-26
Occurrence Rank: Unknown
Owner/Manager: UNKNOWN
Trend: Unknown
Presence: Presumed Extant

Location:

DAVIS, BETWEEN DIXON TO THE WEST AND SACRAMENTO TO THE EAST.

Detailed Location:

MAPPED AS BEST GUESS TO PROVIDED LOCATION DESCRIPTION OF "DAVIS." EXACT LOCATION UNKNOWN. MAPPED TO TOWN OF DAVIS, COLLECTION POSSIBLY MADE NEAR PUTAH CREEK TO THE SOUTH.

Ecological:

Threats:

General:

1 ADULT VALLEY ELDERBERRY LONGHORN BEETLE COLLECTED ON 26 MAR 1934 BY A. THAVER (ESSIG #EMEC654486, UC BERKELEY).

PLSS: T08N, R02E, Sec. 10 (M)
Accuracy: 1 mile
Area (acres): 0
UTM: Zone-10 N4267590 E608965
Latitude/Longitude: 38.55006 / -121.74951
Elevation (feet): 55

County Summary:	Quad Summary:
Solano, Yolo	Davis (3812156), Merritt (3812157)

Sources:

THA34S0001	THAYER, A. (UNIVERSITY OF CALIFORNIA, BERKELEY) - ESSIG MUSEUM OF ENTOMOLOGY #EMEC654486 COLLECTED AT DAVIS 1934-05-26

Occurrence Report

California Department of Fish and Wildlife

California Natural Diversity Database

Map Index Number: 95231
EO Index: 96367
Key Quad: Sacramento West (3812155)
Element Code: IICOL48011
Occurrence Number: 283
Occurrence Last Updated: 2015-03-04

Scientific Name: *Desmocerus californicus dimorphus*
Common Name: valley elderberry longhorn beetle

Listing Status: **Federal:** Threatened
State: None
Rare Plant Rank:
Other Lists:

CNDDB Element Ranks: **Global:** G3T2
State: S3

General Habitat:

OCCURS ONLY IN THE CENTRAL VALLEY OF CALIFORNIA, IN ASSOCIATION WITH BLUE ELDERBERRY (SAMBUCUS MEXICANA).

Micro Habitat:

PREFERS TO LAY EGGS IN ELDERBERRIES 2-8 INCHES IN DIAMETER; SOME PREFERENCE SHOWN FOR "STRESSED" ELDERBERRIES.

Last Date Observed: 1949-05-06
Occurrence Type: Natural/Native occurrence
Last Survey Date: 1949-05-06
Occurrence Rank: Unknown
Owner/Manager: UNKNOWN
Trend: Unknown
Presence: Presumed Extant

Location:

SACRAMENTO, VICINITY OF I-5 AND I-80 INTERCHANGE.

Detailed Location:

MAPPED GENERALLY TO SACRAMENTO, NEAR SACRAMENTO RIVER. PROVIDED LOCATION DESCRIPTION GIVEN ONLY AS "SACRAMENTO." EXACT LOCATION OF COLLECTIONS UNKNOWN, THIS OCCURRENCE SERVES AS A PLACEHOLDER.

Ecological:

ALLOTYPES AND PARATYPES COLLECTED IN 1921 COMPOSED OF 2 MALES AND 2 FEMALES (USNM #24678); COLLECTED ON ELDERBERRY.

Threats:

General:

ALLOTYPE/PARATYPES COLLECTED MAY-JUN 1921. INDIVIDUAL BEETLES COLLECTED ON 2 MAY 1926, 17 MAY 1944, 21 MAY 1944 (4 COLLECTED), 1 JUN 1948, AND 6 MAY 1949. COLLECTIONS HELD AT UC BERKELEY ESSIG MUSEUM OF ENTOMOLOGY ID# EMEC61120-61127.

PLSS: T08N, R04E, Sec. 02 (M)
Accuracy: 1 mile
Area (acres): 0
UTM: Zone-10 N4269963 E630188
Latitude/Longitude: 38.56859 / -121.50559
Elevation (feet): 15

County Summary:

Sacramento, Yolo

Quad Summary:

Sacramento East (3812154), Sacramento West (3812155)

Appendix D VELB Shrub Summary Data

Map ID #	1-3" Stems	3-5" Stems	5"+ Stems	Oversized Trunk Size (")	Exit Holes	Riparian
VELB Shrubs in ESL						
01	2	0	0	0	N	N
02	2	5	2	5.5, 6	N	N
03	6	0	1	24	N	N
04	20	3	0	0	N	N
05	24	0	0	0	N	N
06	0	0	3	6, 6, 8	Y	N
07	0	1	0	0	N	N
08	0	1	2	6”, 8”	N	N
09	2	2	2	9, 10	N	N
10	0	0	2	7, 16	N	N
11	0	0	1	22	Y	N
12	0	1	3	8, 9, 11	N	N
13	0	0	2	6, 10	N	N
14	0	0	1	24	N	N
15	2	1	1	26	N	N
16	0	1	0	0	N	N
17	1	0	0	0	N	N
18	1	0	0	0	N	N
19	2	0	0	0	N	N
20	28	18	3	8, 8, 8	N	N
21	2	2	0	0	N	N
22	0	0	2	6, 8	N	Y
23	4	0	0	0	N	Y
24	2	0	6	6, 6, 7, 7, 8, 10	N	Y
25	2	1	0	0	N	Y
26	4	0	1	19	N	Y
27	0	0	1	16	N	Y
28	25	0	1	18	N	Y
29	1	0	1	9	Y	Y
30	20	7	0	0	N	Y
31	2	0	4	6, 6, 7, 7	N	Y
32	5	0	0	0	N	Y
33	3	0	0	0	N	Y
34	13	0	1	28	N	Y
35	2	3	0	0	N	Y
36	2	0	0	0	N	Y
37	1	3	2	8	Y	Y

38	4	1	1	8	N	Y
39	0	0	1	16	Y	Y
40	11	3	1	8	N	Y
41	4	2	0	0	Y	Y
42	6	0	0	0	N	Y
43	4	2	0	0	Y	Y
44	5	0	0	0	N	Y
45	15	2	1	20	N	Y
46	3	0	0	0	N	Y
47	3	0	0	0	N	Y
48	1	0	0	0	N	Y
49	1	0	0	0	N	Y
50	6	0	1	15	N	Y
51	10	2	1	14	Y	Y
52	1	0	0	0	N	Y
C-1	3	0	0	0	N	Y
VELB Shrubs in 165 Foot Buffer						
B-01	0	1	0	0	N	N
B-02	0	1	0	0	N	N
B-03	0	0	1	18	N	N
B-04	0	0	1	8	N	N
B-05	0	1	0	0	N	N
B-06	0	0	2	8, 8	N	N
B-07	0	0	1	10	N	N
B-08	2	5	2	7, 7	N	N
B-09	0	0	8	7, 8, 8, 8, 9, 9, 9	N	N
B-10	4	4	5	6, 6, 7, 8, 10	N	N
B-11	2	0	0	0	N	N
B-12	12	6	1	42	N	N
B-13	0	0	1	24	N	N
B-14	4	1	0	0	N	N
C-2	6	0	0	0	N	Y
C-3	5	1	0	0	N	N

Appendix E VELB Photographs

Photo 1. View to the north of VELB 01.

Photo 2. View to the east of VELB 02.

Photo 3. View to the north of VELB 03.

Photo 4. View to the north of VELB 04.

Photo 5. View to the west of VELB 05.

Photo 6. View to southeast of VELB 06.

Photo 7. View to the north of VELB 07.

Photo 8. View to the North of VELB 08 and VELB 09 .

Photo 9. View to the southwest of VELB 10.

Photo 10. View to the southwest of VELB 11.

Photo 11. View to the northeast of VELB 12.

Photo 12. View to the east of VELB 13.

Photo 13. View to the southeast of VELB 14.

Photo 14. View to the northeast of VELB 15.

Photo 15. View to the east of VELB 16.

Photo 16. View to the east of VELB 17.

Photo 17. View to the south of VELB 18.

Photo 18. View to the southeast of VELB 19.

Photo 19. View to the southwest of VELB 20.

Photo 20. View to the west of VELB 21.

Photo 21. View to the southeast of VELB 22.

Photo 22. View to the east of VELB 23.

Photo 23. View to the north of VELB 24.

Photo 24. View to the north of VELB 25.

Photo 25. View to the southwest of VELB 26.

v

Photo 26. View to the southeast of VELB 27.

Photo 27. View to the northwest of VELB 28.

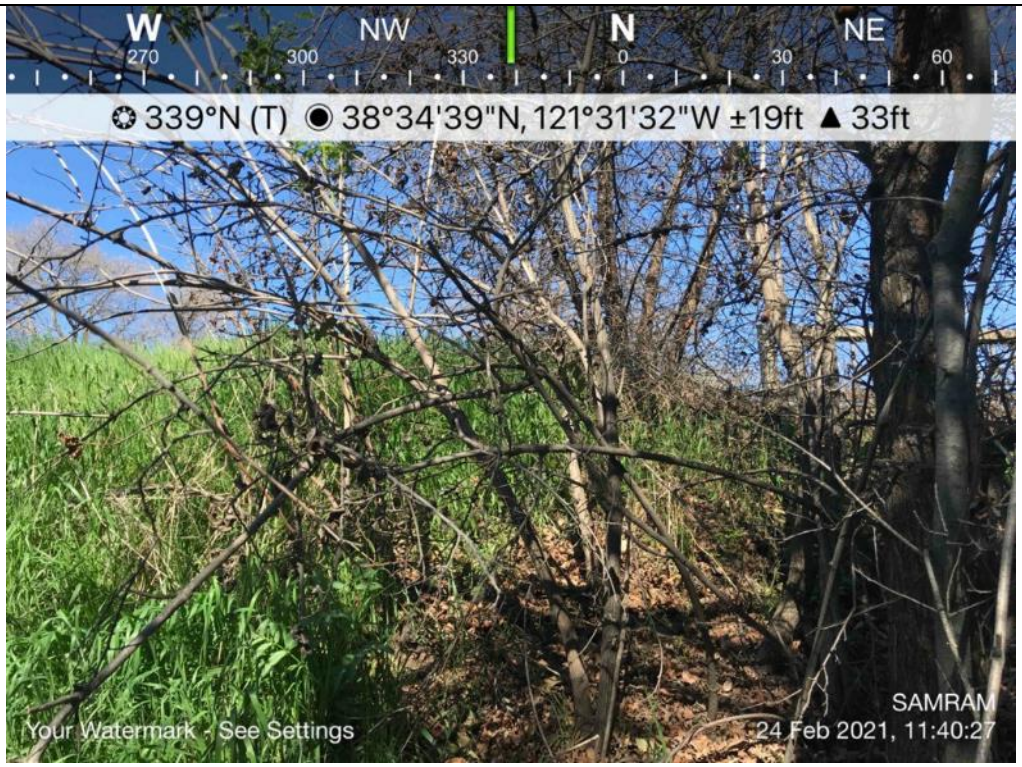

Photo 28. View to the north of VELB 29.

Photo 29. View to the west of VELB 30.

Photo 30. View to the southeast of VELB 32.

Photo 31. View to the southeast of VELB 33.

Photo 32. View to the southeast of VELB 34.

Photo 33. View to the southwest of VELB 35.

Photo 34. View to the southwest of VELB 36.

Photo 35. View to southeast of VELB 37.

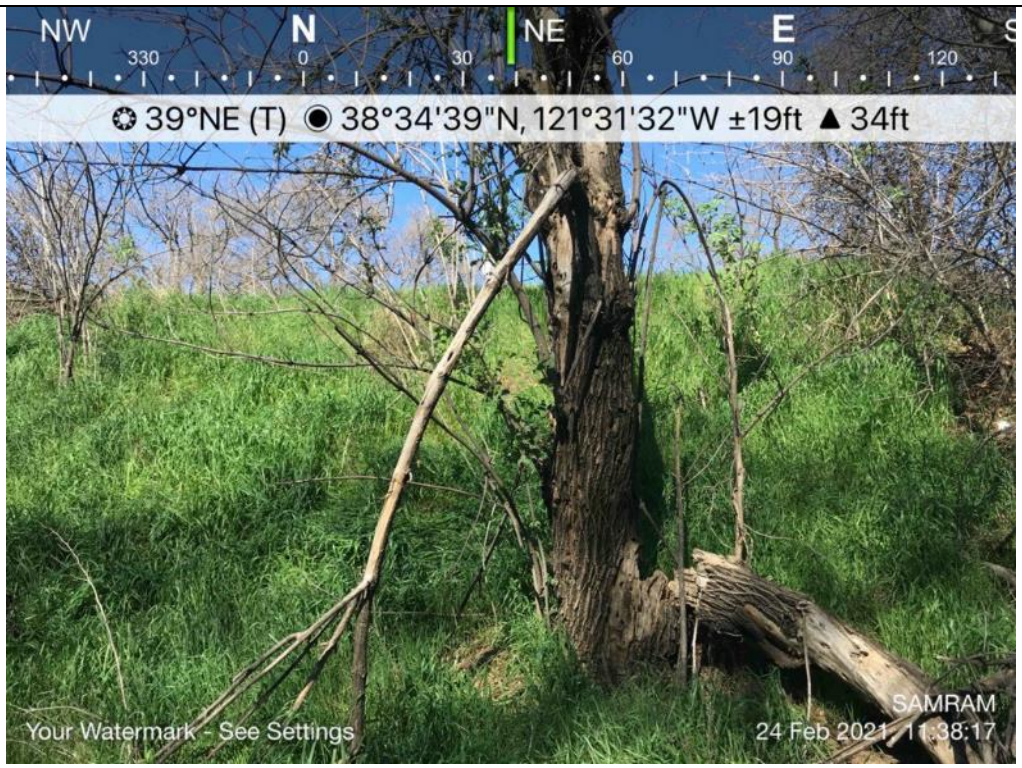

Photo 36. View to the northeast of VELB 38.

Photo 37. View of potential exit holes in VELB 38.

Photo 38. View to the northeast of VELB 39.

Photo 39. View to the west of VELB 40.

Photo 40. View to the east of VELB 41.

Photo 41. View to the southwest of VELB 42.

Photo 42. View to the west of the VELB 43.

Photo 43. View to the east of VELB 44.

Photo 44. View to the north of VELB 45.

Photo 45. View to the north of VELB 46.

Photo 46. View to the north of VELB 47, 49.

Photo 47. View to the north of VELB 48.

Photo 48. View to the north of VELB 50.

Photo 49. View to the north of VELB 51.

Photo 50. View to the northwest of VELB 52.

Photo 51. View to the southeast of the VELB B-01.

Photo52. View to the south of VELB B-02.

Photo 53. View to the southeast of VELB B-03.

Photo 54. View to the southeast of VELB B-04, B-05, B-06, and B-07.

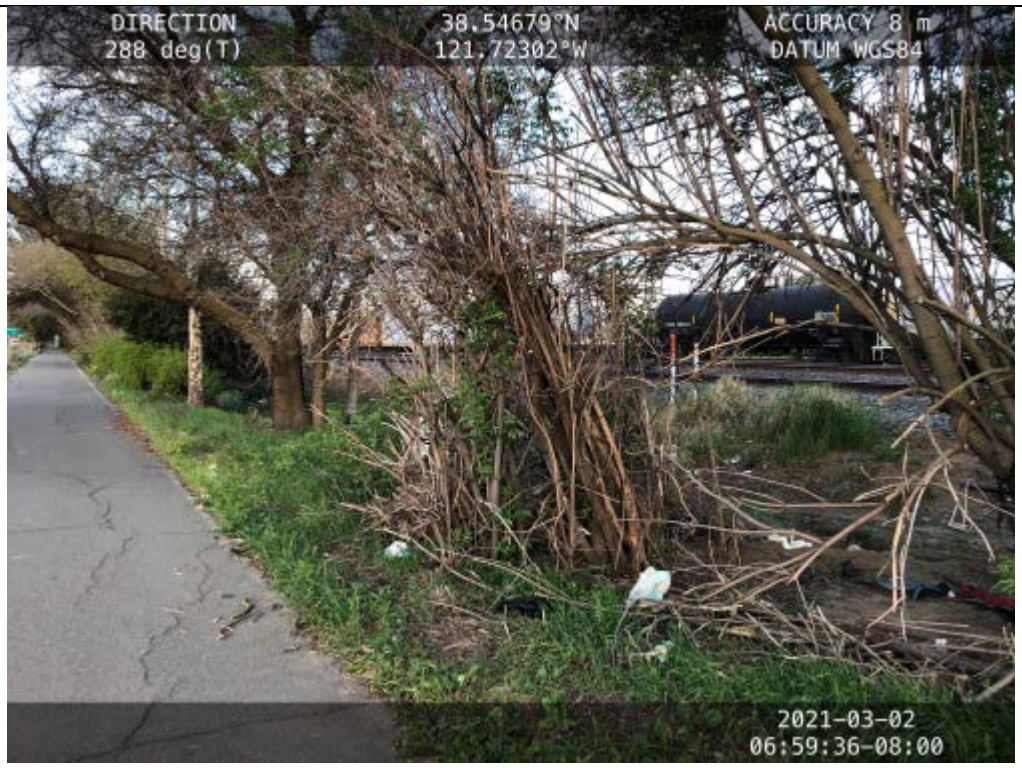

Photo 55. View to the west of VELB B-08.

Photo 56. View to the northwest of VELB B-09.

Photo 57. View to the north of VELB B-10.

Photo 58. View to the north of VELB B-11.

Photo 59. View to the northwest of VELB B-12.

Photo 60. View to the north of VELB B-13.

Photo 61. View to the north of VELB B-14.