

Biological Resources Assessment

Palomino Place

Yolo County, California

Rev. June 13, 2024



Prepared for:

David J. Taormino
Palomino Place, LLC
429 F Street, Suite 5
Davis, California 95616

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1.0 INTRODUCTION

This report presents the results of a biological resources assessment (BRA) conducted for the Palomino Place Property (Study Area). This report was prepared to support analysis of impacts under the California Environmental Quality Act (CEQA) by the Lead Agency (City of Davis). It also includes information regarding the Yolo Habitat Conservation Plan (Yolo HCP), including inclusion of Yolo HCP mitigation measures where applicable, with the intent of allowing the Lead Agency to draft a CEQA document that will dovetail with this HCP. Ultimately, it is anticipated that the CEQA Notice of Determination will be issued by the City of Davis, and the Yolo HCP authorization will be issued by the City of Davis and Yolo Habitat Conservancy. The Wildhorse Environmental Impact Report (EIR) was drafted for the Project in June 1993, with a supplement to the draft EIR being prepared in February 1994. The final EIR (now titled Wildhorse Ranch) was issued in July 2009. Madrone Ecological Consulting, LLC. (Madrone) conducted site visits in 2023, and prepared a BRA that was completed in January 2024. Since that time, a small (approximately 3,000 square feet) additional development area (Additional Area) has been added to the Study Area to facilitate construction of an obstacle course along the eastern edge of the Palomino Place Project. On 23 April 2024, a Madrone biologist conducted a site visit of the Additional Area to determine if any aquatic resources or other biological constraints were present. This BRA has been revised to include the results of the April 2024 site visit of the Additional Area, which is now included in the Study Area. In addition, Crotch's Bumble Bee has been added to the candidate list for protection under the California Endangered Species Act, and information regarding this species has also been added below.

1.1 Applicant Information

Applicant/Property Owner

David J. Taormino
Palomino Place, LLC
429 F Street, Suite 5
Davis, California 95616

Agent/Consultant

Ben Watson
Madrone Ecological Consulting, LLC
8421 Auburn Boulevard, Suite 248
Citrus Heights, California 95610

1.2 Project Location

The 31-acre Study Area is located to the north of East Covell Boulevard in the eastern portion of the City of Davis, Yolo County, California. The Study Area is bounded to the south by East Covell Boulevard and high-density residential development. High-density residential development and the Wildhorse Golf Club course are located to the west of the Study Area, while to the east is a greenway with public walking trail, beyond which is annual grassland and agricultural cropland. An orchard is located to the north of the site. The Study Area is located within Section 2, Township 8 North, Range 2 East (MDB&M) of the "Davis, California" 7.5-Minute Series USGS Topographic Quadrangle (USGS 2018) (**Figure 1**). The Assessor's Parcel Numbers (APN) for the subject property are 042120024, 0711400X2, 071140011, and 071140034. The Study Area can be accessed from East Covell Boulevard.

2.0 PROJECT DESCRIPTION

Palomino Place, LLC plans to request the entitlement of a 149-to-164-unit Community-Centered Housing mixed-use development called Palomino Place (Project). A minimum of forty of the units will be accessory dwelling units (ADUs) constructed concurrently with the ownership units. Included in the 164-unit count is an additional 15 ADUs that could be built based on buyer preference.

The property is within the existing boundaries of the Wildhorse Ranch Planned Development (PD #3-89). The Project site is an infill site located north of Covell Boulevard, between the eastern edge of the existing Wildhorse Ranch homes and the existing Agricultural Buffer bordering the Agricultural lands to the east. Commonly known as Wildhorse Horse Ranch and/or Duffel Horse Ranch, the existing property contains three single family residences and a horse barn. The rest of the property was previously utilized as pasture/grazing land, but now supports ungrazed ruderal vegetation that has been partially mowed for fire control.

The Proposed Project within the 31-acre Study Area will include approximately 26 acres of development, as well as an approximately 5-acre corridor to the north of the development that will be partially disturbed for installation of required utilities to serve the development. Within the 26-acre development footprint, approximately 16.6 acres are proposed for residential housing, with a density of approximately 6.6 units per acre (without ADUs) and 9.0 units per acre (accounting for a minimum of 40 ADUs). These density calculations are based on the gross acreage (16.6 acres) of the residential area of the proposed development. The remaining acreage will be developed with community serving uses, stormwater features, open space, an obstacle course (within the Additional Area), and infrastructure improvements along East Covell Boulevard.

A preliminary site plan for the Project is included as **Attachment A**.

3.0 REGULATORY SETTING

This section describes federal, state, and local laws and policies that are relevant to this assessment of biological resources.

3.1 Federal Regulations

3.1.1 Federal Endangered Species Act

The Federal Endangered Species Act (FESA) of 1973 protects species that are federally listed as endangered or threatened with extinction. FESA prohibits the unauthorized "take" of listed species. Take includes harassing, harming, pursuing, hunting, shooting, wounding, killing, trapping, capturing, or collecting wildlife species or any attempt to engage in such activities. Harm includes significant modifications or degradations of habitats that may cause death or injury to protected species by impairing their behavioral patterns. Harassment includes disruption of normal behavior patterns that may result in injury to or mortality of

protected species. Civil or criminal penalties can be levied against persons convicted of unauthorized “take.” In addition, FESA prohibits malicious damage or destruction of listed plant species on federal lands or in association with federal actions, and the removal, cutting, digging up, damage, or destruction of listed plant species in violation of state law. FESA does not afford any protections to federally listed plant species that are not also included on a state endangered species list on private lands with no associated federal action.

3.1.2 Clean Water Act, Section 404

Section 404 of the Federal Clean Water Act requires that a Department of the Army permit be issued prior to the discharge of dredged or fill material into waters of the United States, including wetlands. The U.S. Army Corps of Engineers (Corps) administers this program, with oversight from the U. S. Environmental Protection Agency. Waters of the United States include all navigable waters; interstate waters and wetlands; all intrastate waters and wetlands that could affect interstate or foreign commerce; impoundments of the above; tributaries of the above; territorial seas; and wetlands adjacent to the above.

3.1.3 Migratory Bird Treaty Act

The Migratory Bird Treaty Act (MBTA) prohibits the take, possession, import, export, transport, selling, purchase, barter, or offering for sale, purchase or barter, any native migratory bird, their eggs, parts, and nests, except as authorized under a valid permit (50 CFR 21.11.). Likewise, Section 3513 of the California Fish & Game Code prohibits the “take or possession” of any migratory non-game bird identified under the MBTA. Therefore, activities that may result in the injury or mortality of native migratory birds, including eggs and nestlings, would be prohibited under the MBTA.

3.2 State Regulations

3.2.1 California Environmental Quality Act

The California Environmental Quality Act (CEQA) requires evaluations of project effects on biological resources. Determining the significance of those effects is guided by Appendix G of the CEQA guidelines. These evaluations must consider direct effects on a biological resource within the project site itself, indirect effects on adjacent resources, and cumulative effects within a larger area or region. Effects can be locally important but not significant according to CEQA if they would not substantially affect the regional population of the biological resource. Significant adverse impacts on biological resources would include the following:

- Substantial adverse effects on any species identified as candidate, sensitive, or special-status in local or regional plans, policies, or regulations or by the California Department of Fish and Wildlife (CDFW) or the U.S. Fish and Wildlife Service (USFWS) (these effects could be direct or via habitat modification);
- Substantial adverse effects on riparian habitat or other sensitive habitat identified in local or regional plans, policies, or regulations or by CDFW and USFWS;

- Substantial adverse effects on state or federally protected (including direct removal, filling, or hydrologic interruption of marshes, vernal pools, coastal wetlands, or other wetland types);
- Substantial interference with movements of native resident or migratory fish or wildlife species populations, or impede the use of native wildlife nursery sites;
- Conflicts with local policies or ordinances protecting biological resources (e.g., tree preservation policies); and
- Conflict with provisions of an adopted Habitat Conservation Plan (HCP), Natural Community Conservation Plan (NCCP), or other approved local, regional, or state habitat conservation plan.

3.2.2 California Endangered Species Act

With limited exceptions, the California Endangered Species Act (CESA) of 1984 protects state-designated endangered and threatened species in a way similar to FESA. For projects on private property (i.e., for which a state agency is not a lead agency), CESA enables CDFW to authorize take of a listed species that is incidental to carrying out an otherwise lawful project that has been approved under CEQA (Fish & Game Code Section 2081).

3.2.3 Native Plant Protection Act

The Native Plant Protection Act (NPPA) was enacted in 1977 and allows the Fish and Game Commission to designate plants as rare or endangered. There are 64 species, subspecies, and varieties of plants that are protected as rare under the NPPA. The NPPA prohibits take of endangered or rare native plants, but includes some exceptions for agricultural and nursery operations; emergencies; and after properly notifying CDFW for vegetation removal from canals, roads, and other sites, changes in land use, and in certain other situations.

3.2.4 Clean Water Act, Section 401

Section 401 of the Clean Water Act requires any applicant for a 404 permit for activities that result in the discharge of dredged or fill material into waters of the United States to obtain a State Water Quality Certification (401 Certification) that the proposed activity will comply with state water quality standards. In California, this program is administered by the State Water Resources Control Board and the nine Regional Water Quality Control Boards (RWQCB). Because the water quality certification program is triggered by the need for a Section 404 permit (and both programs are a part of the Clean Water Act), the definition of waters of the United States under Section 401 is the same as that used by the Corps under Section 404.

3.2.5 Porter-Cologne Water Quality Control Act

The Porter Cologne Water Quality Control Act (Porter-Cologne), from Division 7 of the California Water Code, requires any person discharging waste or proposing to discharge waste that could affect the quality of waters of the state to file a report of waste discharge (RWD) with the RWQCB. The RWQCB can waive the filing of a report, but once a report is filed, the RWQCB must either waive or adopt water discharge

requirements (WDRs). "Waters of the state" are defined as any surface water or groundwater, including saline waters, within the boundaries of the state.

3.2.6 California Fish and Game Code, Section 1600 – Streambed and Lake Alteration

The Department of California Fish and Wildlife (CDFW) is responsible for conserving, protecting, and managing California's fish, wildlife, and native plant resources. To meet this responsibility, the Fish and Game Code, Section 1602, requires notification to CDFW of any proposed activity that may substantially modify a river, stream, or lake. Notification is required by any person, business, state or local government agency, or public utility that proposes an activity that will:

- substantially divert or obstruct the natural flow of any river, stream or lake;
- substantially change or use any material from the bed, channel, or bank of any river, stream, or lake; or
- deposit or dispose of debris, waste, or other material containing crumbled, flaked, or ground pavement where it may pass into any river, stream, or lake.

For the purposes of Section 1602, rivers, streams, and lakes must flow at least intermittently through a bed or channel. If notification is required and CDFW believes the proposed activity is likely to result in adverse harm to the natural environment, it will require that the parties enter into a Lake or Streambed Alteration Agreement (LSAA).

3.2.7 California Fish and Game Code, Section 3503.5 – Raptor Nests

Section 3503.5 of the Fish and Game Code makes it unlawful to take, possess, or destroy hawks or owls, unless permitted to do so, or to destroy the nest or eggs of any hawk or owl.

3.3 Local Regulations

3.3.1 City of Davis Tree Ordinance

Many native and non-native trees are present within the Study Area, and it is assumed that many of these trees would need to be removed as part of the Project construction. The City of Davis (City) Municipal Code Chapter 37 (Tree Ordinance) requires a permit to remove any "Protected Trees" (Davis 2022). The Tree Ordinance protects a number of different categories of Protected Trees, as follows: "street trees", "city trees", "landmark trees", "trees of significance", "parking lot trees", and certain "private trees". The following categories occur within the Study Area:

- Street Trees are "any tree planted and/or maintained by the city, or recorded as a street tree, adjacent to a street or within a city easement or right-of-way on private property, within the street tree easement." The Street Tree Easement is "the ten-foot zone behind the sidewalk or between curb and sidewalk." Street Trees occur along either side of East Covell Boulevard, and in the median.

- City Trees are “trees in parks, greenbelts, open spaces, on city property or easements, etc.” These occur in the northern “arm” of the Study Area.
- Trees of Significance/Private Trees are all trees greater than 5 inches DBH. Where they occur on unimproved property zoned for single-family or duplex development, they are considered “Trees of Significance,” and where they occur on properties with single-family or duplex dwellings already present, they are considered “Private Trees.” Both categories are subject to the same requirements if a grading permit or other discretionary permit application is submitted. These occur in the remainder of the Study Area.

Protected Trees are defined in Municipal Code 37.03.050 trees that have a trunk diameter at breast height (DBH) of more than 5 inches. The Tree Ordinance requires a Tree Permit for the removal of any “Protected Tree, unless otherwise exempted. It is recommended that prior to removing any trees, an arborist report be prepared for the Study Area and conducted by a certified arborist, and a tree removal permit application be submitted to the City.

Mitigation for the removal of Protected Trees is outlined in City Code section 37.03.070 and will be determined by the City and may include the following options:

- Incorporate existing healthy trees into the design of the Project;
- Replanting trees on-site;
- Replanting trees off-site in City-owned open space or park; or
- Payment to the Tree Preservation Fund In lieu of Replacement.

3.3.2 Yolo Habitat Conservation Plan

The Yolo HCP (ICF 2018), which was adopted in January 2019, is a 50-year regional plan which provides for the conservation of 12 sensitive species (hereafter “Covered Species”) and the natural communities and agricultural land on which they depend while allowing for orderly development in Yolo County consistent with local general plans. Six local agencies prepared the Yolo HCP; Yolo Habitat Conservancy, County of Yolo, City of Davis, City of West Sacramento, City of Winters, and City of Woodland. The Yolo HCP only applies to eligible projects, also known as covered activities, undertaken within the Plan Area which includes all areas within Yolo County, including the incorporated cities of Davis, West Sacramento, Winters, and Woodland.

The Yolo HCP provides the basis for issuance of long-term permits under FESA and California Natural Community Conservation Planning Act (NCCPA) that cover an array of public and private activities, including activities that are essential to the ongoing viability of Yolo County’s agricultural and urban economies. Specifically, the Yolo HCP will provide the Permittees (i.e., Yolo County, the four incorporated cities, and the Yolo Habitat Conservancy) with incidental take permits from both USFWS and CDFW for the 12 Covered Species. This action is pursuant to Section 10(a)(1)(B) of the FESA and Section 2835 of the NCCPA chapter of the California Fish & Game Code. The Yolo HCP ensures compliance with the FESA, NCCPA, and the CESA for covered activities that may affect Covered Species.

In addition to the Permittees, the Yolo HCP permits may cover the activities of other entities through certificates of inclusion obtained by completing the Yolo HCP application process. The Yolo Habitat Conservancy charges various types of fees to cover implementation costs, including administration, land acquisition, restoration, and land management costs. Yolo HCP applicants can either pay mitigation fees for land cover conversion or conduct wetland restoration and/or dedicate land in-lieu of the fees. Wetland restoration and land-in-lieu proposals must be reviewed and approved by the Yolo Habitat Conservancy (the entity overseeing Yolo HCP implementation). If an applicant opts to pay the mitigation fees, the Yolo Habitat Conservancy applies an adopted land cover fee schedule, with additional fees for wetlands. Fees are automatically increased annually, adjusted for inflation. Additionally, every five years, the Yolo Habitat Conservancy completes a fee assessment to review costs, underlying assumptions, and actual costs. After this review, fee schedule adjustments are made, and automatic annual increases resume based off the five-year fee assessment.

4.0 METHODOLOGY

4.1 Literature Review

A list of special-status species with potential to occur within the Study Area was developed by conducting queries of the following databases:

- California Natural Diversity Database (CNDDDB) review of the Study Area and all areas within five miles of the Study Area (CNDDDB 2022) (**Figure 2** and **Figure 3**);
- Federally-listed species on the USFWS Information for Planning and Conservation (IPaC) query for the Study Area (USFWS 2022a) (**Attachment B**);
- California Native Plant Society (CNPS) Rare and Endangered Plant Inventory query of the “Davis, California” USGS 7.5-Minute Series Topographic Quadrangle and the eight surrounding quadrangles (CNPS 2022) (**Attachment C**);
- The Cornell Laboratory’s eBird Database (Cornell Lab 2022);
- The Western Monarch Milkweed Mapper Database (WMMM 2022); and
- Western Bat Working Group (WBWG) Species Matrix (WBWG 2022).

For the purposes of this Biological Resources Assessment, special-status species is defined as those species that are:

- listed as threatened or endangered, or proposed or candidates for listing by the USFWS or National Marine Fisheries Service;
- listed as threatened or endangered and candidates for listing by CDFW;
- identified as Fully Protected species, species of special concern, or Watch List species by CDFW;
- identified as a Bird of Conservation Concern by the USFWS;
- identified as a Medium or High priority species by the WBWG (WBWG 2022);
- plant species considered to be rare, threatened, or endangered in California by the CNPS and CDFW [California Rare Plant Rank (CRPR) 1, 2, and 3]:
 - CRPR 1A: Plants presumed extinct;
 - CRPR 1B: Plants rare, threatened, or endangered in California and elsewhere;

- CRPR 2A: Plants extirpated in California, but common elsewhere;
- CRPR 2B: Plants rare, threatened, or endangered in California, but more common elsewhere;
- CRPR 3: Plants about which the CNPS needs more information – a review list; and
- Identified as a covered species in the Yolo HCP.

Additionally, several species that do not have any regulatory status but are tracked by the CNDDDB were considered for the special-status species list.

4.2 Field Surveys

Madrone Ecological Consulting, LLC (Madrone) biologists Matt Shaffer and Daria Snider conducted field surveys of the Study Area in August 2022, September 2022, and April 2024. Mr. Shaffer conducted a field survey of the original Study Area on 24 August 2022 to map Yolo HCP landcover types, assess the suitability of habitats on-site to support special-status species, and conduct an aquatic resources delineation. The delineation was performed in accordance with the *Corps of Engineers Wetlands Delineation Manual* (Environmental Laboratory 1987), the *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Arid West Region (Version 2.0)* (USACE 2008a), *A Field Guide to the Identification of the Ordinary High Water Mark (OHWM) in the Arid West Region of the Western United States* (USACE 2008b), and the Sacramento District's *Minimum Standards for Acceptance of Preliminary Wetlands Delineations* (USACE 2016b). U.S. Army Corps of Engineers (USACE) regulations (33 CFR 328) were used to determine the presence of Waters of the U.S. other than wetlands. Ms. Snider conducted field surveys on 12 and 21 September 2022 to inventory the trees throughout the original Study Area as required by the City's Tree Ordinance, and to conduct a protocol-level special-status plant survey. The special-status plant survey was conducted in accordance with the U.S. Fish and Wildlife Service's *Guidelines for Conducting and Reporting Botanical Inventories for Federally Listed, Proposed and Candidate Plants* (USFWS 1996), California Department of Fish and Wildlife's *Protocols for Surveying and Evaluating Impacts to Special Status Native Plant Populations and Natural Communities* (CDFW 2018), and the *CNPS Botanical Survey Guidelines* (CNPS 2001). Ms. Snider also conducted a survey of the Additional Area on 25 April 2024 to map Yolo HCP landcover types, assess the suitability of habitats on-site to support special-status species, and conduct an aquatic resources delineation.

Meandering pedestrian surveys were performed throughout the Study Area, and a list of all wildlife species observed during the surveys is included as **Attachment D**. Vegetation communities were classified in accordance with *The Manual of California Vegetation, Second Edition* (Sawyer, Keeler-Wolf and Evens 2009), and plant taxonomy was based on the nomenclature in the *Jepson eFlora* (Jepson Flora Project 2022).

5.0 GENERAL SITE CONDITIONS AND HABITAT

The main portion of the Study Area consists of multiple parcels of disturbed ruderal habitat. Based on review of aerial imagery and the presence of substantial existing infrastructure, it appears the Study Area has been used to support horses and potentially other livestock, and much of the ruderal portions of the site have historically been grazed. No livestock was observed within the Study Area during Madrone's site

visits, and much of the fencing and structures appear to be unused and in a state of disrepair. Vegetation within the ruderal areas is dominated by non-native ruderal grasses and forbs including wild oats (*Avena barbata* and *Avena fatua*), black mustard (*Brassica nigra*), Italian thistle (*Carduus pycnocephalus*), yellow star-thistle (*Centaurea solstitialis*), shortpod mustard (*Hirschfeldia incana*), perennial pepperweed (*Lepidium latifolium*), and milk thistle (*Silybum marianum*). Other vegetation growing within the ruderal areas includes field bindweed (*Convolvulus arvensis*), Bermuda grass (*Cynodon dactylon*), stinkwort (*Dittrichia graveolens*), and fennel (*Foeniculum vulgare*). Several homesteads, sheds, paved/gravel roads, and other associated infrastructure occur within the ruderal area. Numerous planted trees are located throughout the ruderal area and associated with the on-site development, including Italian cypress (*Cupressus sempervirens*), fig (*Ficus carica*), English walnut (*Juglans regia*), olive (*Olea europaea*), Chinese pistache (*Pistacia chinensis*), plum (*Prunus sp.*), pomegranate (*Punica granatum*), and Mexican fan palm (*Washingtonia robusta*).

The northern portion of the Study Area as well as the Additional Area consists of the Wildhorse Greenbelt, which was created as a required buffer between the Wildhorse residential development and adjacent farmland, pursuant to Municipal Code Article 40A.01.050. The City-maintained buffer was created to provide wildlife habitat and offer recreational activities. This area consists of annual grassland dominated by non-native annual grasses and forbs such as wild oats, ripgut brome (*Bromus diandrus*), soft brome (*Bromus hordeaceus*), Medusa head grass (*Elymus caput-medusae*), perennial ryegrass (*Festuca perennis*), wall barley (*Hordeum murinum*), rose clover (*Trifolium hirtum*), and winter vetch (*Vicia villosa*). Other species within the annual grassland include yellow star-thistle, perennial pepperweed, field bindweed, narrow-leaf milkweed (*Asclepias fascicularis*), horseweed (*Erigeron canadensis*), prickly lettuce (*Lactuca serriola*), and alkali mallow (*Malvella leprosa*). A walking trail runs through the northern portion of the site, within the Wildhorse Greenbelt. Scattered trees occur along the trail, dominated by valley oak (*Quercus lobata*); other associated tree and shrub species include California buckeye (*Aesculus californica*), toyon (*Heteromeles arbutifolia*), Northern California black walnut (*Juglans hindsii*), western sycamore (*Platanus racemosa*), interior live oak (*Quercus wislizeni*), and California rose (*Rosa californica*).

The Study Area is situated on mostly flat terrain at an elevation of approximately 30 feet to 40 feet above mean sea level (MSL).

5.1 Yolo HCP Land Cover Types

The Yolo HCP land cover classification system uses a two-level hierarchy that establishes 15 natural communities and 79 floristic-based vegetation types and other unvegetated land cover types. On-site conditions with the Study Area were assessed against the land cover type descriptions included in the Yolo HCP and mapped to reflect current conditions. Six land cover types were observed within the Study Area as shown in **Figure 4**. These land covers consist of freshwater marsh alliance, mixed willow alliance, urban, urban ruderal with covered species habitat, vegetated corridor, and California annual grassland alliance.

5.1.1 Freshwater Marsh Alliance

Approximately 0.05 acre of freshwater marsh alliance occurs within the northern portion of the Study Area. The freshwater marsh alliance occurs within Covell Drain, an intermittent drainage, and is dominated by emergent wetland vegetation as detailed below in Section 5.2.1.

5.1.2 Mixed Willow Alliance

Small patches of mixed willow alliance (totaling 0.04 acre) occur along Covell Drain where it crosses through the Study Area. These areas are dominated by Goodding's black willow (*Salix gooddingii*), along with other riparian vegetation including Fremont cottonwood (*Populus fremontii*) and California wild grape (*Vitis californica*).

5.1.3 Urban

The urban landcover type consists of several patches of mostly unvegetated development within the central portion of the Study Area, including several residential homes, sheds and other structures, paved/gravel roads, grass lawns, and other associated infrastructure. In addition, a portion of East Covell Boulevard occurs at the southern end of the Study Area, and a paved walking trail runs through the northern portion of the site. The urban areas total approximately 4.9 acres.

5.1.4 Urban Ruderal with Covered Species Habitat

There are approximately 22.6 acres of the urban ruderal with covered species habitat land cover (ruderal areas) located within the Study Area. This area appears to be regularly disturbed and occurs throughout the main portion of the site. Vegetation is predominantly dominated by non-native ruderal grasses and forbs including wild oats, black mustard, Italian thistle, yellow star-thistle, shortpod mustard, perennial pepperweed, and milk thistle. Several species of planted ornamental trees also occur within the ruderal areas. Portions of these areas contain extremely tall and robust vegetation (likely due to an absence of livestock grazing), while some areas appear to be regularly mowed and contain shorter vegetation.

5.1.5 Vegetated Corridor

Approximately 0.3 acre of vegetated corridor occurs within the Study Area. These areas consist of planted and maintained ornamental tree and shrub species along East Covell Boulevard at the southern end of the site.

5.1.6 California Annual Grassland Alliance

The California annual grassland alliance (annual grassland, totaling approximately 2.9 acres) occurs throughout the northern portion of the Study Area, within the Wildhorse Greenbelt, which is a buffer area between the residential development to the west and agricultural land to the east. This area is dominated

by non-native annual grasses and forbs, such as wild oats, ripgut brome, soft brome, Medusa head grass, perennial ryegrass, wall barely, rose clover, and winter vetch. Although portions of the annual grassland have been mowed adjacent to a walking trail which runs within it, the area is significantly less disturbed and features less ruderal vegetation compared to the ruderal areas within the main portion of the Study Area. In addition, scattered native trees and shrubs have been planted along the walking trail, within the annual grassland.

5.2 Aquatic Resources

As noted in Section 4.2, Madrone conducted an aquatic resources delineation of the original Study Area concurrent with the BRA on 24 August 2022 (**Attachment E**). Subsequently, Madrone conducted a delineation of the Additional Area on 25 April 2024 and found no aquatic resources. The Study Area supports a single type of aquatic resource: intermittent drainage (Covell Drain). **Figure 5** shows and **Table 1** summarizes aquatic resources in the Study Area. A description of each of the aquatic resource types is included below.

Table 1. Aquatic Resources Delineated within the Study Area

Resource Type	Acreage
<i>Other Waters</i>	
Intermittent Drainage (Covell Drain)	0.052
Total	0.052

Madrone confirmed during the 25 April 2024 site visit that there are no aquatic resources within the Additional Area. Please note that the boundary used for the aquatic resources delineation report (**Attachment E**) does not include the Additional Area; However, the Additional Area is included in an updated Study Area aquatic resources delineation map shown on **Figure 5**. All figures included in this BRA include the Additional Area.

5.2.1 Intermittent Drainage (Covell Drain)

Covell Drain, an intermittent drainage, flows from west to east through the northern portion of the Study Area; the drainage was dry at the time of the survey. Covell Drain is generally sparsely vegetated, although dense patches of vegetation occur in portions of the drainage and along the edges of the channel. Vegetation within the drainage consists of emergent wetland species dominated by Baltic rush (*Juncus balticus*) and common tule (*Schoenoplectus acutus*). Other species within the drainage include tall nut-sedge (*Cyperus eragrostis*), paniced willowherb (*Epilobium brachycarpum*), common knotweed (*Persicaria lapathifolia*), curly dock (*Rumex crispus*), and cattail (*Typha sp.*). As noted in Section 5.1.1 above, the Yolo HCP Land Cover classification that mostly closely corresponds to this feature is freshwater marsh alliance; hence it is displayed as such on **Figure 4**.

A wooden plank bridge (part of the walking trail within the site) crosses Covell Drain within the Study Area. Riparian vegetation occurs at this bridge crossing and is dominated by Goodding's black willow, along with

Fremont cottonwood and California wild grape. The upland areas along the banks of Covell Drain consist of mugwort (*Artemisia douglasiana*) and Dallis grass (*Paspalum dilatatum*), as well as other vegetation similar in composition to the annual grasslands on-site.

5.3 Special Lands

The Study Area is not located within any of the following special designated lands:

- The Primary or Secondary Zone of the Legal Delta;
- Critical Habitat as proposed or designated by the USFWS; or
- USFWS Vernal Pool Core Recovery Areas.

5.4 Soils

According to the Natural Resources Conservation Service (NRCS) Soil Survey Database (NRCS 2024), the Study Area contains the following soil mapping units (**Figure 6**):

- Sp, Sycamore silt loam, drained, 0 percent slopes, MLRA 17;
- St, Sycamore silty clay loam, drained, 0 percent slopes, MLRA 17;
- Tc, Tyndall very fine sandy loam, drained; and
- Ya, Yolo silt loam, 0 to 2 percent slopes, MLRA 17.

The Sycamore and Yolo soils are slightly acidic to neutral in the surface layers, but the Tyndall soils are slightly to moderately alkaline. None of the soils are derived from serpentine or comprised of heavy clays, meaning the Study Area does not present suitable habitat for special-status plant species that prefer these habitats.

6.0 RESULTS

Table 2 provides a list of special-status species that were evaluated for the Study Area, including each species' listing status, habitat associations, and potential to occur in the Study Area. The following criteria were used to determine each species' potential for occurrence:

- Present: Species occurs on the site based on CNDDDB records, and/or was observed on the site during field surveys.
- High: The site is within the known range of the species and suitable habitat exists.
- Moderate: The site is within the known range of the species and very limited suitable habitat exists.
- Low: The site is within the known range of the species and there is marginally suitable habitat or the species was not observed during protocol-level surveys conducted on-site.
- No Habitat Present: The site does not contain suitable habitat for the species, or the site is outside the known range of the species.

Figure 2 and **Figure 3** show the CNDDDB occurrences within five miles of the Study Area. The following discussion focuses on special-status plant and animal species that have potential to occur within the Study Area.

Table 2. Special-Status Species with Potential to Occur within the Palomino Place Study Area

Scientific Name (Common Name)	Federal Status	State Status	Habitat Requirements	Potential for Occurrence
Plants				
<i>Astragalus tener</i> var. <i>ferrisiae</i> Ferris' milk-vetch	--	CRPR 1B.1	Alkaline flats, vernal moist meadows within foothill and valley grasslands. Usually occurs in wetlands.	No Habitat Present. Mesic alkaline areas are not present within the Study Area.
<i>Astragalus tener</i> var. <i>tener</i> Alkali milk-vetch	--	CRPR 1B.2	Favors alkaline playas and vernal pools within valley and foothill grasslands with adobe clays. Also occurs in open, alkaline and seasonally moist meadows from 0 to 200 feet. Usually occurs in wetlands.	No Habitat Present. Mesic alkaline areas are not present within the Study Area.
<i>Atriplex cordulata</i> var. <i>cordulata</i> Heartscale	--	CRPR 1B.2	Saline or alkaline chenopod scrub, meadows and seeps, or grasslands with sandy soils.	No Habitat Present. Soils within the Study Area do not have sufficient alkalinity for this species.
<i>Atriplex depressa</i> Brittlescale	--	CRPR 1B.2	Prefers meadows or grasslands with alkaline or saline clay soils.	No Habitat Present. Soils within the Study Area do not have sufficient alkalinity for this species.
<i>Carex comosa</i> Bristly sedge	--	CRPR 2B.1	Coastal prairie and marshy lake margins.	Low. The Covell Drain within the Study Area represents marginally suitable habitat for the species. Protocol-level surveys for the species were negative.
<i>Centromadia parryi</i> var. <i>parryi</i> Pappose tarplant	--	CRPR 1B.2	Found on alkaline soils in coastal prairie, meadows, seeps, coastal salt marshes, and vernal mesic areas in valley/foothill grasslands.	No Habitat Present. Mesic alkaline areas are not present within the Study Area.
<i>Chloropyron palmatum</i> Palmate-bracted bird's-beak	FE	CE, CRPR 1B.1	Prefers alkaline chenopod scrub or valley foothill grassland.	No Habitat Present. Soils within the Study Area do not have sufficient alkalinity for this species.
<i>Eryngium jepsonii</i> Jepson's coyote-thistle	--	CRPR 1B.2	Clay soils of valley and foothill grassland and vernal pools from 10 to 9,850 feet.	No Habitat Present. Clay soils are not present within the Study Area.

Scientific Name (Common Name)	Federal Status	State Status	Habitat Requirements	Potential for Occurrence
<i>Etriplex joaquinana</i> San Joaquin spearscale	--	CRPR 1B.2	Found on alkaline soils in chenopod scrub, meadows and seeps, playas, and valley and foothill grassland.	Low. Ruderal areas within Tyndall soils represent marginally suitable habitat for the species. Protocol-level surveys for the species were negative.
<i>Fritillaria pluriflora</i> Adobe-lily	--	CRPR 1B.2	Grows in chaparral, cismontane woodland, or foothill grasslands with clay or serpentine soils.	No Habitat Present. Serpentine and clay soils are not present within the Study Area.
<i>Hibiscus lasiocarpus</i> var. <i>occidentalis</i> Woolly rose-mallow	--	CRPR 1B.2	Occurs in freshwater marshes along the edges of rivers and sloughs in the Central Valley. Often found in riprap on the sides of levees.	No Habitat Present. This species requires perennial moisture, which does not occur within the Study Area.
<i>Lepidium latipes</i> var. <i>heckardii</i> Heckard's pepper-grass	--	CRPR 1B.2	This annual prefers mesic areas in valley and foothill grasslands with alkaline soils.	No Habitat Present. Mesic alkaline areas are not present within the Study Area.
<i>Lessingia hololeuca</i> Woolly-headed lessingia	--	CRPR 3	Found in coastal scrub, broadleaved upland forest, montane coniferous forest, and grassland, on serpentine and clay soils ranging from 50 to 1,000 feet above mean sea level.	No Habitat Present. Serpentine and clay soils are not present within the Study Area.
<i>Lilaeopsis masonii</i> Mason's lilaeopsis	--	CRPR 1B.1	Prefers brackish or freshwater swamps, intertidal marshes, and riparian scrub at or below 35 feet.	No Habitat Present. This species occurs in tidally influenced areas, which are not present within the Study Area.
<i>Myosurus minimus</i> ssp. <i>apus</i> Little mousetail	--	CRPR 3.1	Alkaline vernal pools.	No Habitat Present. There are no alkaline depressional wetlands within the Study Area.
<i>Navarretia leucocephala</i> ssp. <i>bakeri</i> Baker's navarretia	--	CRPR 1B.1	This annual herb grows in vernal pools and mesic areas in cismontane woodland, lower montane coniferous forest, meadows and seeps, and valley and foothill grasslands.	No Habitat Present. There are no depressional wetlands (vernal pools or seasonal wetlands) within the Study Area.
<i>Neostapfia colusana</i> Colusa grass	FT	CE, CRPR 1B.1	In the dry bottoms of large/deep vernal pools and other seasonally flooded features.	No Habitat Present. There are no depressional wetlands (vernal pools or seasonal wetlands) within the Study Area.

Scientific Name (Common Name)	Federal Status	State Status	Habitat Requirements	Potential for Occurrence
<i>Plagiobothrys hystriculus</i> Bearded popcornflower	--	CRPR 1B.1	Vernal pools or other seasonal wetlands.	No Habitat Present. There are no depressional wetlands (vernal pools or seasonal wetlands) within the Study Area.
<i>Puccinellia simplex</i> California alkali grass	--	CRPR 1B.2	Alkaline sinks, flats, and lake margins, vernal pools, meadows, seeps, and riparian wetlands.	No Habitat Present. Mesic alkaline areas are not present within the Study Area.
<i>Sidalcea keckii</i> Keck's checkerbloom	FE	CRPR 1B.1	Cismontane woodland, valley and foothill grassland; often found in serpentine soils at elevations between 240 and 2,150 feet.	No Habitat Present. Serpentine soils are not present within the Study Area.
<i>Symphotrichum lentum</i> Suisun Marsh aster	--	CRPR 1B.2	Brackish, tidally influenced marshes and adjacent mesic areas at elevations of 0-10 feet.	No Habitat Present. Brackish, tidally influenced marshes are not present within the Study Area.
<i>Trifolium hydrophilum</i> Saline clover	--	CRPR 1B.2	Grows in marshes, swamps, and vernal pools with alkaline soils.	No Habitat Present. Mesic alkaline areas are not present within the Study Area.
<i>Tuctoria mucronata</i> Solano grass	FE	CE, CRPR 1B.1	In the dry bottoms of large/deep vernal pools and other seasonally flooded features.	No Habitat Present. There are no depressional wetlands (vernal pools or seasonal wetlands) within the Study Area.
Invertebrates				
<i>Bombus crotchii</i> Crotch's bumble bee	--	CC	Occurs in open grasslands and scrub habitats. This species occurs primarily in California including the Mediterranean region, Pacific Coast, Western Desert, Great Valley, and adjacent foothills through most of southwestern California (William et al 2014). This species was historically common in the Central Valley of California, but now appears to be absent from most of it, especially in the center of its historic range (Williams et al. 2014; Richardson et al	Moderate. The annual grassland within the Study area represents potential habitat for this species.
<i>Branchinecta conservatio</i> Conservancy fairy shrimp	FE	--	Vernal pools.	No Habitat Present. There are no depressional wetlands (vernal pools or seasonal wetlands) within the Study Area.

Scientific Name (Common Name)	Federal Status	State Status	Habitat Requirements	Potential for Occurrence
<i>Branchinecta lynchi</i> Vernal pool fairy shrimp	FT	--	Vernal pools.	No Habitat Present. There are no depressional wetlands (vernal pools or seasonal wetlands) within the Study Area.
<i>Danus plexippus</i> Monarch butterfly	FC	--	During the breeding season this species lays their eggs on their obligate milkweed host plant (primarily <i>Asclepias</i> sp.)	Low. Scattered milkweed growth was observed within the Study Area, and represents marginal potential habitat for this species.
<i>Desmocerus californicus dimorphus</i> Valley elderberry longhorn beetle	FT	--	Dependent upon elderberry (<i>Sambucus</i> sp.) shrubs as primary host species.	Moderate. Isolated elderberry shrubs within the northern portion of the Study Area represent potential habitat for the species.
<i>Lepidurus packardii</i> Vernal pool tadpole shrimp	FE	--	Vernal pools.	No Habitat Present. There are no depressional wetlands (vernal pools or seasonal wetlands) within the Study Area.
Fish				
<i>Acipenser medirostris</i> Green sturgeon (Southern DPS)	FT	--	This anadromous species spends much of its life in marine waters, and migrates into the freshwater reaches of large coastal rivers to spawn. It spawns in cool, deep, swift flowing river reaches over gravel and cobble bottoms.	No Habitat Present. There is no suitable freshwater or saltwater habitat within the Study Area.
<i>Hypomesus transpacificus</i> Delta smelt	FT	CE	Adults are found in the brackish open surface waters of the Delta and Suisun Bay. Though spawning has never been observed, it is believed to occur in tidally influenced sloughs and drainages on the freshwater side of the mixing zone.	No Habitat Present. No tidally influenced sloughs or drainages are present within the Study Area.
Amphibians				
<i>Ambystoma californiense</i> California tiger salamander	FT	CT	Breeds in ponds or other deeply ponded wetlands, and uses gopher holes and ground squirrel burrows in adjacent grasslands for upland refugia/foraging.	No Habitat Present. No suitable ponds or wetland habitat occur within the Study Area.

Scientific Name (Common Name)	Federal Status	State Status	Habitat Requirements	Potential for Occurrence
Reptiles				
<i>Actinemys marmorata</i> Western pond turtle	--	CSC	Ponds, rivers, streams, wetlands, and irrigation ditches with associated marsh habitat.	Low. The intermittent drainage within the Study Area provides marginal potential habitat for the species.
<i>Thamnophis gigas</i> Giant garter snake	FT	CT	Rivers, canals, irrigation ditches, rice fields, and other aquatic habitats with slow moving water and heavy emergent vegetation.	Low. The intermittent drainage within the Study Area provides marginal potential habitat for the species.
Birds				
<i>Agelaius tricolor</i> Tricolored blackbird	--	CT, CSC	Colonial nester in cattails, bulrush, or blackberries associated with marsh habitats.	Low. Dense bulrush growth within the intermittent drainage in the Study Area provides marginal potential nesting habitat for this species.
<i>Athene cunicularia</i> Burrowing owl	--	CSC	Nests in man-made refugia and abandoned mammal burrows associated with open grassland habitats.	High. Large complexes of California ground squirrel burrows occur throughout the Study Area, and represent potential habitat for this species.
<i>Buteo swainsoni</i> Swainson's hawk	--	CT	Nests in large trees, preferably in riparian areas. Forages in fields, cropland, irrigated pasture, and grassland near large riparian corridors.	Present. This species was observed foraging within the Study Area. Several large trees within the Study Area and immediate vicinity represent potential nesting habitat for the species.
<i>Charadrius nivosus nivosus</i> Western snowy plover	FT	CSC	Barren to sparsely vegetated open areas near water.	No Habitat Present. The Study Area lacks appropriate sparsely vegetated open areas adjacent to water.
<i>Circus hudsonius</i> Northern harrier	--	CSC	Nests in emergent wetland/marsh, open grasslands, or savannah habitats. Forages in open areas such as marshes, agricultural fields, and grasslands.	Moderate. The annual grasslands and ruderal areas provide marginal potential nesting and foraging habitat for this species.

Scientific Name (Common Name)	Federal Status	State Status	Habitat Requirements	Potential for Occurrence
<i>Elanus leucurus</i> White-tailed kite	--	CFP	Open grasslands, fields, and meadows are used for foraging. Isolated trees in close proximity to foraging habitat are used for perching and nesting.	High. Trees throughout the Study Area represent potential nesting habitat for this species.
Mammals				
<i>Antrozous pallidus</i> Pallid bat	--	CSC, WBWG H	Roosts in crevices in rocky outcrops and cliffs, caves, mines, trees (e.g., basal hollows of coast redwoods and giant sequoias, bole cavities of oaks, exfoliating bark, deciduous trees in riparian areas, and fruit trees in orchards), bridges, barns, porches, bat boxes, and human-occupied as well as vacant buildings (WBWG 2022).	High. Several derelict sheds, barns, and other structures, as well as trees within the Study Area provide potential roosting habitat for this species.
<i>Lasionycteris noctivagans</i> Silver-haired bat	--	WBWG M	Roosts in abandoned woodpecker holes, under bark, and occasionally in rock crevices. It forages in open wooded areas near water features.	High. The trees throughout the Study Area represent potential roosting habitat for this species.
<i>Lasiurus cinereus</i> Hoary bat	--	WBWG M	Roosts in dense foliage of medium to large trees within close proximity to water.	Moderate. The large trees associated with the intermittent drainage within the Study Area provide potential roosting habitat for this species.
<i>Taxidea taxus</i> American badger	--	CSC	This species prefers dry open fields, grasslands, and pastures.	Moderate. The ruderal areas and annual grassland within the Study Area provide potential habitat for this species; however, frequent disturbances and other human activity could dissuade this species' presence.

Status Codes:

CFP - CDFW Fully Protected
 CRPR - California Rare Plant Rank
 CSC - CDFW Species of Concern
 WBWG - Western Bat Working Group

CT - California Threatened
 CE - California Endangered
 FE - Federally Endangered
 FT - Federally Threatened
 FC - Federal Listing Candidate Species

6.1 Special-Status Plants

6.1.1 Bristly Sedge

Bristly sedge (*Carex comosa*) is not listed pursuant to either the federal or California ESAs, but is designated as a CRPR 2B.1 species. Bristly sedge is a rhizomatous perennial that occurs in coastal prairie and in marshy lake margins (CNPS 2022). This species blooms from May through September (although sedges are only identifiable when in fruit in late summer and early fall) and is known to occur at elevations ranging from sea level to approximately 2,050 feet above MSL (CNPS 2022).

Marginally suitable habitat for this species is present in Covell Drain. There are no CNDDDB records of bristly sedge within 5 miles of the Study Area (CNDDDB 2022). Bristly sedge was not observed during the protocol-level plant surveys of the Study Area, which were conducted in September, when this species would have been identifiable (**Attachment F**).

6.1.2 San Joaquin Spearscale

San Joaquin spearscale (*Extriplex joaquinana*) is not federally or state listed, but it is classified as a CRPR List 1B.2 plant. It is an annual herbaceous species that is endemic to California and occurs in chenopod scrub, meadows and seeps, playas, and grasslands, often in alkaline soils (CNPS 2022). San Joaquin spearscale blooms from April through October and grows at elevations ranging from sea level to approximately 2,740 feet above MSL (CNPS 2022).

Marginally suitable habitat for this species is present in ruderal areas on Tyndall soils in the southeastern portion of the Study Area. There are ten CNDDDB records of San Joaquin spearscale within 5 miles of the Study Area, the nearest of which (Occurrence #40) is located approximately one mile west of the Study Area (CNDDDB 2022). San Joaquin spearscale was not observed during the protocol-level plant surveys of the Study Area, which were conducted in September 2022 when this species was identifiable at a nearby reference site (**Attachment F**). Additionally, San Joaquin spearscale was not observed during the late April 2024 survey of the Additional Area. This species was observed in vegetative form at a nearby reference site on the same date and would have been identifiable.

6.2 Invertebrates

6.2.1 Monarch Butterfly

Monarch butterfly (*Danus plexippus*) is currently a candidate species for listing under ESA. This species can occur in fields, roadside areas, open areas, wet areas or urban gardens and requires flowering plants as a food source and healthy and abundant milkweed (generally *Asclepius* sp.) for laying eggs on as larval host plants (USFWS 2022b). The monarch life cycle varies by geographic location, and in many regions where monarchs are present, monarchs breed year-round (USFWS 2020).

During the August field survey, several scattered narrowleaf milkweed (*Asclepius fascicularis*) plants, a larval host plant for monarch butterfly, were documented within the Study Area. Other flowering plants within the Study Area could provide nectar for foraging adults. The Study Area provides marginal habitat for this species. The CNDDDB does not track monarch breeding, but a query of the Western Monarch Milkweed Database yielded an observation of monarch breeding in 2020 approximately 1.9 miles southwest of the Study Area (WMMM 2022). No monarch butterflies were observed during the field survey, and no eggs, caterpillars, or other evidence of monarch use were observed on the milkweed plants.

6.2.2 Valley Elderberry Longhorn Beetle

The Valley elderberry longhorn beetle (*Desmocerus californicus dimorphus*, VELB) is listed as threatened pursuant to the federal Endangered Species Act and is a Yolo HCP covered species. The historic range of this beetle is limited to moist Valley oak woodlands along margins of rivers and streams in the lower Sacramento and lower San Joaquin Valleys (USFWS 1984). At the time of its listing, the beetle was known from fewer than 10 localities in Merced, Sacramento, and Yolo Counties (USFWS 1980). Its current distribution is patchy throughout California's Central Valley and associated foothills (USFWS 1999).

The VELB is completely dependent on its host plant, elderberry (*Sambucus* sp.), which occurs in riparian and other woodland communities in California's Central Valley and the associated foothills (USFWS 1999). Female beetles lay their eggs in crevices on the stems or on the leaves of living elderberry plants. When the eggs hatch, larvae bore into stems with a diameter of one inch or more. The larval stages last for one to two years. The fifth instar larvae create emergence holes in the stems and then plug the holes and remain in the stems through pupation (Talley 2003). Adults emerge through the emergence holes from late March through June. The short-lived adult beetles forage on leaves and flowers of elderberry shrubs.

One isolated elderberry shrub with stems one inch diameter or greater is located within the northern portion of the Study Area, and an additional two shrubs are located within 100 feet of the Study Area (**Figure 7**). These shrubs represent suitable habitat for VELB. There is one documented CNDDDB occurrence of VELB within 5 miles of the Study Area (**Figure 3**), located approximately 1.1 miles to the southwest of the site (CNDDDB Occurrence #256) (CNDDDB 2022). No VELB were observed during the field surveys.

6.2.3 Crotch's Bumble Bee

Crotch's bumble bee (*Bombus crotchii*) is a candidate for listing under the California Endangered Species Act. This species has a limited distribution in southwestern North America. This species occurs primarily in California, including the Mediterranean region, Pacific Coast, West Desert, Great Valley, and adjacent foothills through most of southwestern California. It also occurs in Mexico (Baja California and Baja California Sur) (Williams et al. 2014) and has been documented in southwest Nevada, near the California border. This species was historically common in the Central Valley of California, but now appears to be absent from most of the valley, especially in the center of its historic range (Williams et al. 2014; Richardson et al 2014). In California, *B. crotchii* inhabits open grasslands and scrub habitats.

All bumble bees have three basic requirements: suitable nesting sites for the colonies, availability of nectar and pollen from floral resources throughout the duration of the entirety of the colony period (spring, summer, and fall), and suitable overwintering sites for the queens. Nests are often located underground in abandoned holes made by ground squirrels, mice, and rats or occasionally abandoned bird nests (Osborne et al 2008). Some species nest on the surface of the ground (in tufts of grass) or in empty cavities. Bumble bees that nest aboveground may require undisturbed areas with nesting resources such as grass and hay to protect nests. Furthermore, areas with woody cover, or other sheltered areas provide bumble bees sites to build their nests (e.g., downed wood, rock walls, brush piles, etc.).

Bumble bees depend on the availability of habitats with a rich supply of floral resources that bloom continuously during the entirety of the colony's life. The queen collects nectar and pollen from flowers to support the production of her eggs, which are fertilized by sperm she has stored from mating the previous fall. As generalist foragers, bumble bees do not depend on any one flower type. They generally prefer flowers that are purple, blue or yellow; they are essentially blind to the color red. The plant families most commonly associated with Crotch's bumblebee observations in California include Apocynaceae, Asteraceae, Boraginaceae, Fabaceae, and Lamiaceae (Xerces Society 2018). Very little is known about hibernacula, or overwintering sites utilized by most bumble bees. Generally, bumble bees overwinter in soft, disturbed soil (Goulson 2010), under leaf litter or other debris (Williams et al. 2014), in abandoned holes made by fossorial mammals or occasionally in abandoned bird nests (Osborne et al 2008). Some species nest on the surface of the ground (in grassy tussocks) or in empty cavities (hollow logs, dead trees, under rocks, etc.). Queens most likely overwinter in small cavities just below or on the ground surface.

The Annual Grassland within the Study Area represents suitable habitat for Crotch's bumble bee, and the ruderal areas on-site represent marginal potential habitat for this species. There is one documented occurrence of this species in the CNDDDB (Occurrence #11), which is located approximately 2.1 miles from the Study Area (CNDDDB 2024). Collections from Davis and Putah Creek were attributed to this location from 1949 through 1998 (CNDDDB 2024).

6.3 Reptiles

6.3.1 Western Pond Turtle

The western pond turtle (*Emys marmorata*) is not federally, or state listed but is a CDFW species of special concern and a Yolo HCP covered species. Its favored habitats include streams, large rivers and canals with slow-moving water, aquatic vegetation, and open basking sites (Jennings and Hayes 1994). Although the turtles must live near water, they can tolerate drought by burrowing into the muddy beds of dried drainages. This species feeds mainly on invertebrates such as insects and worms, but will also consume small fish, frogs, mammals, and some plants. Western pond turtle predators include raccoons, coyotes, raptors, weasels, large fish, and bullfrogs. This species breeds from mid to late spring in adjacent open grasslands or sandy banks (Jennings and Hayes 1994).

Covell Drain within the Study Area provides marginal potential habitat for this species. Pond turtles may use Covell Drain as a dispersal corridor when it is inundated with water during their active season. Covell Drain was dry during Madrone's site visits and does not serve as suitable habitat for pond turtles when it is not inundated. The adjacent annual grasslands provide marginal potential upland habitat. There is one documented CNDDDB occurrence of western pond turtle within 5 miles of the Study Area (**Figure 3**); the occurrence (CNDDDB Occurrence #362) is located approximately 2.1 miles to the southwest of the site, along Putah Creek (CNDDDB 2022). No western pond turtles were observed during the field surveys.

6.3.2 Giant Garter Snake

Giant garter snake (*Thamnophis gigas*) is listed as threatened pursuant to the federal Endangered Species Act. The historic range of giant garter snake extended from the vicinity of Sacramento and Contra Costa Counties southward to Buena Vista Lake, near Bakersfield in Kern County (Fitch 1940, as cited in USFWS 1993); however, by the 1950s, agricultural conversion appeared to have resulted in the extirpation of the species from the southern one-third of its range (Hansen and Brode 1980, Hansen 1980, as cited in USFWS 1993). Currently, the range of this species is restricted to rice production zones of Sacramento, Sutter, Butte, Colusa, and Glenn Counties, portions of Yolo County, and along the eastern fringes of the Sacramento-San Joaquin River delta (USFWS 1993).

Giant garter snakes inhabit marshes, sloughs, ponds, small lakes, low gradient streams, and other waterways and agricultural wetlands such as irrigation and drainage canals and rice fields (Fitch 1940, Hansen 1980, and Hansen 1988, as cited in USFWS 1993). Several habitat requirements for giant garter snake include adequate water during the snake's active period (early-spring to mid-fall), emergent herbaceous wetland vegetation for cover and foraging, grassy banks and openings for basking, and higher elevation uplands for cover and refuge from flood waters in the winter (Hansen 1988, as cited in USFWS 1993). This species is typically absent from larger rivers and other water bodies that have been highly channelized and support predatory fish (USFWS 1993).

Covell Drain within the Study Area provides marginal potential habitat for this species. Giant garter snake may use Covell Drain when it is inundated during their active season. Covell Drain was dry during Madrone's site visits, and does not serve as suitable habitat for giant garter snake when it is not inundated. The adjacent annual grasslands provide marginal potential upland habitat. There are several documented CNDDDB occurrences of giant garter snake within 5 miles of the Study Area (**Figure 3**); the nearest occurrence (CNDDDB Occurrence #80) is located approximately 1.3 miles to the northeast of the site, along the Willow Slough Bypass (CNDDDB 2022). No giant garter snakes were observed during the field surveys.

6.4 Birds

6.4.1 Tricolored Blackbird

Tricolored blackbird (*Agelaius tricolor*) populations, which are currently in decline throughout the state, were listed as threatened under the CESA by the California Fish and Game Commission on 19 April 2018. This

species is also a Yolo HCP covered species. Historically, colonies were established in freshwater marshes dominated by cattails (*Typha* sp.) and bulrushes (*Scirpus* or *Schoenoplectus* sp.). More recently, they have utilized non-native mustards (*Brassica* sp.), blackberries (*Rubus* sp.), thistles (*Cirsium* sp.), and mallows (*Malva* sp.) as nesting substrate (Airola et al. 2016). Since the 1980s, the largest colonies have been observed in the San Joaquin Valley in cultivated fields of triticale, which is a hybrid of wheat and rye often grown as livestock fodder (Meese 2014). This current trend of nesting in active agricultural fields has further imperiled the species as nestlings typically are not fledged by the time the triticale is harvested.

Small stands of bulrush within Covell Drain represent marginal potential nesting habitat for this species. There are four documented CNDDDB occurrences of tricolored blackbird within 5 miles of the Study Area (Figure 3). The nearest occurrence (CNDDDB Occurrence #488) is located approximately 1.1 miles to the southwest of the site (CNDDDB 2022). No tricolored blackbirds were observed during the field surveys.

6.4.2 Burrowing Owl

Burrowing owl (*Athene cunicularia*) is not listed pursuant to either the California or federal Endangered Species Acts; however, it is designated as a species of special concern by the CDFW and is a Yolo HCP covered species. This species typically inhabits dry open rolling hills, grasslands, desert floors, and open bare ground with gullies and arroyos. It typically uses burrows created by fossorial mammals, most notably the California ground squirrel (*Otospermophilus beecheyi*) but may also use man-made structures such as culverts; cement, asphalt, or wood debris piles; or openings beneath cement or asphalt pavement (CDFW 1995). The breeding season extends from February 1 through August 31 (CBOC 1993, CDFW 2012).

Extensive complexes of California ground squirrel burrows occur throughout the Study Area, as well as several debris piles associated with the on-site development. These features represent suitable potential habitat for burrowing owl. The annual grassland and ruderal areas within the Study Area provide suitable foraging habitat for the species. There are numerous documented CNDDDB occurrences of burrowing owl within 5 miles of the Study Area (Figure 3). This includes two occurrences which are fully or partially located on-site; CNDDDB Occurrence #1027 was recorded in 2006 within the central portion of the site, and CNDDDB Occurrence #613 was recorded in 2009 within the northern-most portion of the site and to the west within the Wildhorse Golf Club course (CNDDDB 2022). Madrone is conducting protocol-level breeding season and non-breeding season surveys for this species in 2024, which began at the beginning of the year. No burrowing owls have been observed during the field surveys.

6.4.3 Swainson's Hawk

Swainson's hawk (*Buteo swainsoni*) is a raptor species that is not federally listed, but is listed as threatened by CDFW, and is also a Yolo HCP covered species. Breeding pairs typically nest in tall trees associated with riparian corridors, and forage in grassland, irrigated pasture, and cropland with a high density of rodents (Shuford and Gardali 2008). The Central Valley populations breed and nest in the late spring through early summer before migrating to Central and South America for the winter (Shuford and Gardali 2008).

This species was observed foraging within the Study Area during the 24 August and 12 September 2022 field surveys. Several large trees within the Study Area and immediate vicinity represent suitable potential nesting habitat for this species, and the annual grassland and ruderal areas on-site represent suitable foraging habitat. There are many documented CNDDDB occurrences of Swainson's hawk within 5 miles of the Study Area (**Figure 3**). The nearest occurrence (CNDDDB Occurrence #1417) was recorded in 2004, nesting within a tree along Covell Drain, immediately adjacent to the site to the east (CNDDDB 2022).

6.4.4 Northern Harrier

Northern harrier (*Circus hudsonius*) is not listed pursuant to either the California or federal Endangered Species Acts; however, it is categorized as a species of special concern by the CDFW. This raptor is known to nest within the Central Valley, along the Pacific Coast, and in northeastern California (Shuford and Gardali 2008). It is a ground nesting species, and typically utilizes emergent wetland/marsh, open grasslands, or savannah habitats. Foraging occurs within a variety of open habitats such as marshes, agricultural fields, and grasslands (Shuford and Gardali 2008).

The annual grasslands and ruderal areas within the Study Area provide marginal potential nesting and foraging habitat for this species. There is one documented CNDDDB occurrence of northern harrier within 5 miles of the Study Area (**Figure 3**); this occurrence (CNDDDB Occurrence #51) is located approximately 2.5 miles to the northwest of the site, near the intersection of County Road 29 and County Road 101A (CNDDDB 2022). No northern harriers were observed within the Study Area during field surveys.

6.4.5 White-Tailed Kite

White-tailed kite (*Elanus leucurus*) is not federally, or state listed but is a CDFW fully protected species and a Yolo HCP covered species. This species is a yearlong resident in the Central Valley and is primarily found in or near foraging areas such as open grasslands, meadows, farmlands, savannahs, and emergent wetlands (Shuford and Gardali 2008). White-tailed kites typically nest from March through June in trees within riparian, oak woodland, and savannah habitats of the Central Valley and Coast Range (Shuford and Gardali 2008).

Trees throughout the Study Area represent suitable potential nesting habitat, and the annual grasslands and ruderal areas on-site represent suitable foraging habitat for white-tailed kite. There are seven documented CNDDDB occurrences of white-tailed kite within 5 miles of the Study Area (**Figure 3**). The nearest occurrence (CNDDDB Occurrence #64) is located approximately 0.3 mile south of the site, within a residential neighborhood (CNDDDB 2022). No white-tailed kites were observed within the Study Area during the field survey.

6.5 Mammals

6.5.1 Pallid Bat

Pallid bat (*Antrozous pallidus*) is not federally, or state listed, but is considered a CDFW species of special concern, and is classified by the WBWG as a High priority species. It favors roosting sites in crevices in rock outcrops, caves, abandoned mines, hollow trees, and human-made structures such as barns, attics, and sheds (WBWG 2022). Although pallid bats are gregarious, they tend to group in smaller colonies of 10 to 100 individuals. It is a nocturnal hunter and captures prey in flight, but unlike most American bats, the species has been observed foraging for flightless insects, which it seizes after landing (WBWG 2022).

Several derelict sheds, barns, and other structures, as well as trees throughout the Study Area represent suitable roosting habitat for this species. There is one documented CNDDDB occurrence of pallid bat within 5 miles of the Study Area (**Figure 3**); this occurrence (CNDDDB Occurrence #312) is located approximately 1.1 miles to the southwest of the site (CNDDDB 2022). No pallid bats were observed within the Study Area during the field surveys.

6.5.2 Silver-Haired Bat

Silver-haired bat (*Lasionycteris noctivagans*) is not federally, or state listed, but it is classified by the WBWG as a Medium priority species. Primarily considered a coastal and montane forest species, the silver-haired bat occurs in more xeric environments during winter and seasonal migrations (WBWG 2022). It roosts in abandoned woodpecker holes, under bark, and occasionally in rock crevices. This insectivore's favored foraging sites include open wooded areas near water features (WBWG 2022).

The trees throughout the Study Area represent suitable roosting habitat for this species. There is one documented CNDDDB occurrence of silver-haired bat within 5 miles of the Study Area (**Figure 3**); this occurrence (CNDDDB Occurrence #88) is located approximately 1.1 miles to the southwest of the site (CNDDDB 2022). No silver-haired bats were observed within the Study Area during the field surveys.

6.5.3 Hoary Bat

Hoary bat (*Lasiurus cinereus*) is not federally, or state listed but is identified as a medium threat rank species by the WBWG (WBWG 2022). It is the most widespread North American bat species and can be found in any location in California. This solitary species primarily roosts in in dense foliage of medium to large trees. Preferred roosting sites are hidden from above, with few branches below, and have a ground cover of low reflectivity. Hoary bat prefers open habitats or habitat mosaics, with access to trees for cover and open areas or habitat edges for feeding.

Larger trees within the Study Area represent potential roosting habitat for this species. There is one documented CNDDDB occurrence of hoary bat within 5 miles of the Study Area (**Figure 3**); this occurrence (CNDDDB Occurrence #136) is located approximately 1.1 miles to the southwest of the site (CNDDDB 2022).

Additionally, a dead hoary bat was documented on iNaturalist along the Wildhorse Greenbelt, just east of the Study Area in April 2022 (iNaturalist 2022).

6.5.4 American Badger

American badger (*Taxidea taxus*) is not federally, or state listed, but it is designated as a species of special concern by CDFW. This species historically ranged throughout much of the state except in humid coastal forests. Badgers were once numerous in the Central Valley; however, populations now occur in low numbers in the surrounding peripheral parts of the valley and in the adjacent lowlands of eastern Monterey, San Benito, and San Luis Obispo counties (Williams 1986). Badgers occupy a variety of habitats, including grasslands and savannas. The principal requirements seem to be significant food supply, friable soils, and relatively open uncultivated ground (Williams, 1986).

The annual grasslands and ruderal areas within the Study Area provide potential habitat for this species; however, frequent disturbances and other human activity throughout the site could dissuade this species' presence. There is one documented CNDDDB occurrence of American badger within 5 miles of the Study Area (**Figure 3**); this occurrence (CNDDDB Occurrence #329) is located approximately 1.1 miles to the southwest of the site (CNDDDB 2022). No badgers were observed within the Study Area during the field surveys.

7.0 IMPACTS TO SENSITIVE BIOLOGICAL RESOURCES

A preliminary site plan has been developed for the Project, and is included in **Attachment A**. However, as the site plan is still in development and specific impacts may change, we have analyzed impacts in a programmatic fashion. Although it is unlikely, we have acknowledged throughout this section the potential that the entire Study Area is directly impacted by the Project.

7.1 Special-Status Plants

The vegetation communities proposed for impact represent suitable habitat for two special-status plant species. Protocol-level special-status plant surveys were conducted throughout the Study Area in 2022 and a survey of the Additional Area was conducted in 2024, and no special-status plants were found. As a result, no impacts to special-status plant species are expected to occur.

7.2 Special-Status Animals

7.2.1 Monarch Butterfly

Several scattered narrowleaf milkweed occur within the ruderal areas and annual grasslands throughout the Study Area, and these represent potential habitat for monarch butterfly. If milkweed plants were removed during Project implementation, and monarch butterfly larva or chrysalises were present, they could be killed.

7.2.2 Crotch's Bumble Bee

Impacts to the annual grassland and ruderal areas may impact nesting Crotch's bumble bees. If Crotch's bumble bees are present at the time of grading, incidental mortality could occur.

7.2.3 Valley Elderberry Longhorn Beetle

One elderberry shrub with stems greater than one inch in diameter is present within the Study Area, and two shrubs are present within 100 feet of the Study Area (Figure 7). These shrubs represent potential habitat for VELB. If VELB larva were present within the on-site elderberry shrub, and that shrub was removed, the larva could be killed. Additionally, construction activities that occur within 100 feet of elderberry shrubs could indirectly affect VELB, if they were present. Potential indirect effects include application of pesticides that could kill individual beetles, or dust, herbicides, or adjacent compaction that could reduce the health of the shrubs hosting the beetles and could cause larva inside the shrubs to die.

7.2.4 Western Pond Turtle

Covell Drain represents marginally suitable habitat for western pond turtle, when inundated. While potential aquatic habitat will not be impacted, grassland areas adjacent to Covell Drain may provide nesting habitat. If western pond turtles were present and/or nesting in the upland areas within 100 feet of Covell Drain, individual turtles could be killed, or eggs could be crushed by construction that occurs adjacent to the drainage.

7.2.5 Giant Garter Snake

Covell Drain represents marginally suitable habitat for giant garter snake, when inundated. While potential aquatic habitat will not be impacted, upland areas adjacent to Covell Drain may provide upland habitat for this species. Impacts to upland areas within 200 feet of Covell Drain could result in injury or mortality of giant garter snakes.

7.2.6 Tricolored Blackbird

Small stands of bulrush within Covell Drain represent marginal potential nesting habitat for tricolored blackbird, and annual grassland represents potential foraging habitat. While Covell Drain and the surrounding riparian corridor will be avoided by the Project, construction activities adjacent to active nests could disturb birds, which may lead to mortality of eggs or young.

7.2.7 Burrowing Owl

Extensive complexes of ground squirrel burrows and several piles of debris located throughout the Study Area represent suitable potential habitat for Burrowing owl. The proposed Project would impact most of these areas (approximately 25.5 acres of urban ruderal with covered species habitat and California annual

grassland alliance). If ground disturbance occurred while burrowing owls were occupying burrows, individuals of this species could be injured or killed.

7.2.8 Swainson's Hawk

The ruderal areas and annual grassland within the Study Area represent suitable foraging habitat for Swainson's hawk, and many of the trees within the Study Area represent potential nesting habitat. The proposed Project could result in the removal of potential nesting trees and impacts to 25.5 acres of urban ruderal with covered species habitat and California annual grassland alliance that represent Swainson's hawk foraging habitat.

7.2.9 Northern Harrier

The proposed Project could result in impacts to 25.5 acres of urban ruderal with covered species habitat and California annual grassland alliance that represent potential nesting and foraging habitat for northern harrier; construction within these areas could impact this species if it were present.

7.2.10 White-Tailed Kite

The ruderal areas and annual grassland within the Study Area represent suitable foraging habitat for white-tailed kite, and many of the trees within the Study Area represent potential nesting habitat. The proposed Project could result in the removal of potential nesting trees and impacts to 25.5 acres of urban ruderal with covered species habitat and California annual grassland alliance that represent white-tailed kite foraging habitat.

7.2.11 Nesting Raptors and Other Birds

In addition to the above-listed bird species, other more common bird species protected by the MBTA could also nest on-site if the habitats meet their nesting requirements. If these species were nesting within the Study Area, removal of the nests would impact them. Furthermore, birds nesting in avoided areas adjacent to construction could be disturbed by construction, which could result in nest abandonment.

7.2.12 Roosting Bats

Removal of buildings, structures, and trees within the Study Area has the potential to impact several roosting bat species, including western red bat, hoary bat, and pallid bat. If special-status bats were roosting in trees or structures to be removed by Project construction, they could be injured or killed.

7.2.13 American Badger

The proposed Project could result in impacts to 25.5 acres of potential habitat (urban ruderal with covered species habitat and California annual grassland alliance) for American badger; construction within these areas could impact this species if it were present.

7.3 Aquatic Resources

The utility line will be jack and bored underneath Covell Drain; therefore, the Project will not impact aquatic resources. Construction methods will not include injection of drilling mud due to the soil types present, and therefore there is no risk of frac out during boring operations.

7.4 Protected Trees

A total of 128 Protected Trees were inventoried within the Study Area including three trees that were mapped within the Additional Area during the 25 April 2024 site visit. An Arborist survey Report for the Study Area is included as **Attachment G**, and an exhibit showing all trees and their condition, as well as a table with additional details within both the Study Area and Additional Area are included as **Attachment H**. Of these trees, 18 are in "poor to dead" condition, and these are recommended for removal. The remaining 110 trees in "fair or better" condition are Protected Trees per City Ordinance and would require a tree removal permit prior to impact. The current land plan proposes to impact 62 of the 110 Protected Trees in "fair or better" condition. All trees to be impacted, including condition, size, species, and anticipated Protected status is included as **Attachment I**.

8.0 MITIGATION FOR IMPACTS TO SENSITIVE BIOLOGICAL RESOURCES

8.1 Yolo HCP Covered Species

Participation in the Yolo HCP entails two components: 1) payment of land cover fees for impacts to all fee-paying landcover types; and 2) compliance with the Avoidance and Minimization Measures (AMMs) included in the Yolo HCP.

The Yolo HCP Covered Species with potential to occur within the Study Area include the following:

- *Valley Elderberry Longhorn Beetle* (Elderberry shrubs);
- *Western pond turtle* (Covell Drain);
- *Giant garter snake* (Covell Drain);
- *Swainson's hawk* (nesting habitat in large trees, and foraging habitat throughout the ruderal and annual grassland areas);
- *White-tailed kite* (nesting habitat in trees, and foraging habitat throughout the ruderal and annual grassland areas);
- *Burrowing owl* (within ground squirrel burrow complexes and other refugia located throughout the ruderal and annual grassland areas); and

- *Tricolored blackbird* (nesting habitat within Covell Drain).

Avoidance and Minimization Measures

Development of the Study Area would need to comply with a number of general and species-specific AMMs, of the Yolo HCP, as listed below. Refer to the AMMs included in the Yolo HCP for details on how these AMMs will be fulfilled.

General Construction and Operations and Maintenance

- AMM3: Confine and Delineate Work Area
- AMM4: Cover Trenches and Holes during Construction and Maintenance
- AMM5: Control Fugitive Dust
- AMM6: Conduct Worker Training
- AMM7: Control Night-Time Lighting of Project Construction Sites
- AMM8: Avoid and Minimize Effects of Construction Staging Areas and Temporary Work Areas

Covered Species

- AMM12: Minimize Take and Adverse Effects on Habitat of Valley Elderberry Longhorn Beetle
- AMM14: Minimize Take and Adverse Effects on Habitat of Western Pond Turtle
- AMM15: Minimize Take and Adverse Effects on Habitat of Giant Garter Snake
- AMM16: Minimize Take and Adverse Effects on Habitat of Swainson's Hawk and White-Tailed Kite
- AMM18: Minimize Take and Adverse Effects on Western Burrowing Owl
- AMM21: Minimize Take and Adverse Effects on Habitat of Tricolored Blackbird

Land Conversion Fee

If implementation of the Project would result in the entire Study Area being permanently impacted, with the exception of Covell Drain and adjacent mixed willow alliance, then Land Cover conversion fees would be required for the following land cover impacts (**Figure 4**): 3.0 acres of California annual grassland alliance, 4.9 acres of urban, 22.6 acres of urban ruderal with covered species habitat, and 0.3 acre of vegetated corridor. Currently (June 2024), the Yolo HCP/NCCP land cover fee is \$16,559 per acre for each of these land cover types, (Yolo Habitat Conservancy 2024). Therefore, land cover fees for the California annual grassland alliance and urban ruderal with covered species habitat would total \$510,017.20. It is Madrone's opinion that no land cover fees would be required for the Project's 5.2 acres of urban or vegetated corridor land cover types, as these areas do not support covered species habitat. However, this is subject to the discretion of the Yolo Habitat Conservancy at the time an HCP application package is submitted.

8.2 Aquatic Resources

No impacts to aquatic resources or riparian vegetation will occur based on project design. Jack and bore construction methods will be utilized to construct the utility crossing under Covell Drain as well as the adjacent riparian zone.

8.3 Special-Status Plants

Special-status plant surveys conducted throughout the Study Area in 2022 were negative, but given enough time, plants may become established in areas where suitable habitat exists. If construction does not commence prior to the spring of 2025, another round of special-status plant surveys shall be conducted in areas proposed for impact prior to commencement of construction. Surveys shall be conducted in accordance with the *Guidelines for Conducting and Reporting Botanical Inventories for Federally Listed, Proposed, and Candidate Plants* (USFWS 1996), the *Botanical Survey Guidelines of the California Native Plant Society* (CNPS 2001), and *Protocols for Surveying and Evaluating Impacts to Special Status Native Plant Populations and Natural Communities* (CDFW 2018). This protocol includes conducting surveys at the appropriate time of year, when plants are in bloom.

If no special-status plant species are found, no further mitigation would be required. If special status plants are found within the proposed impact area and they are perennials, then mitigation could consist of digging up the plants and transplanting them into a suitable mitigation area prior to construction. If special-status plants will be impacted, a mitigation plan shall be developed and approved by the City. Mitigation for the transplantation/establishment of rare plants will result in no net loss of individual plants after a five (5) year monitoring period.

8.4 Monarch Butterfly

Monarch butterfly is not a covered species under the Yolo HCP. Therefore, to avoid impacts to these species, it is recommended that a pre-construction survey be conducted by a qualified biologist to survey for monarch eggs, larvae, and chrysalises. All milkweed plants within the Study Area shall be surveyed, as well as surrounding vegetation which may support chrysalises. If any monarch eggs, larvae, or chrysalises are found within the Study Area, they will be avoided with no work occurring within 50 feet of the monarchs until adults emerge and voluntarily leave the Project site. If the eggs, larvae, or chrysalises are in the work area and cannot be avoided, eggs will be allowed to hatch, and all larvae and chrysalises will be translocated to an alternative location (e.g., containing a suitable population of larval host plants) outside of the work area. Should the species be listed under FESA in the future, additional coordination with USFWS may be necessary prior to translocation.

8.5 Crotch's Bumble Bee

Crotch's bumble bee is not a covered species under the Yolo HCP. Crotch's bumble bee is currently a candidate species for listing under the California Endangered Species Act. As a candidate for listing, the species is temporarily afforded the same protections as a state-listed endangered or threatened species. After CDFW's status report is complete, the Commission must decide at a public meeting whether the petitioned action is warranted. If the Commission finds that the petitioned action is not warranted, the process ends, and the species will be removed from the list of candidate species. If the Commission finds that the petitioned action is warranted, the species will be added to the list of threatened or endangered species.

The mitigation measures below only apply if this species is a candidate species or is listed under the California Endangered Species Act at the time of construction. If Crotch's bumble bee is no longer a candidate species under the California Endangered Species Act, then the following mitigation measures are not required.

- Initial ground-disturbing work (e.g., grading, vegetation removal, staging) within potential habitat for this species shall take place between 1 September and 31 March (i.e., outside the colony active period), if feasible, to avoid impacts on special-status bumble bees.
- If completing all initial ground-disturbing work within potential habitat for this species between 1 September and 31 March is not feasible, then a biologist with experience conducting biological resource surveys within California shall conduct a pre-construction survey for Crotch's bumble bee in the areas proposed for impact no more than 14 days prior to the commencement of construction activities. The survey shall occur during the period from one hour after sunrise to two hours before sunset, with temperatures between 65° F and 90° F, with low wind and no rain. If the timing of the start of construction makes the survey infeasible due to the temperature requirements, the surveying biologist shall select the most appropriate days based on the National Weather Service seven-day forecast and shall survey at a time of day that is closest to the temperature range stated above. The survey duration shall be commensurate with the extent of suitable floral resources (which represent foraging habitat) present within the area proposed for impact. A meandering pedestrian survey shall be conducted throughout the area proposed for impact to identify patches of suitable floral resources. Suitable floral resources for Crotch's bumble bee include species in the following families: *Apocynaceae*, *Asteraceae*, *Boraginaceae*, *Fabaceae*, and *Lamiaceae*.
- At a minimum, pre-construction survey methods shall include the following:
 - Search areas with floral resources for foraging bumble bees. Observed foraging activity may indicate a nest is nearby, and therefore, the survey duration shall be increased when foraging bumble bees are present.
 - If special-status bumble bees are observed, watch any special-status bumble bees present and observe their flight patterns. Attempt to track their movements between foraging areas and the nest.
 - Visually look for nest entrances. Observe burrows, any other underground cavities, logs, or other possible nesting habitat.
 - If floral resources or other vegetation preclude observance of the nest, small areas of vegetation may be removed via hand removal, line trimming, or mowing to a height of no less than 4 inches to assist with locating the nest.
 - Look for concentrated special-status bumble bee activity.
 - Listen for the humming of a nest colony.
 - If bumble bees are observed, attempt to photograph the individual and identify it to species.
- The biologist conducting the survey shall record when the survey was conducted, a general description of any suitable foraging habitat/floral resources present, a description of observed

bumble bee activity, a list of bumble bee species observed, a description of any vegetation removed to facilitate the survey, and their determination of if survey observations suggest a special-status bumble bee nest(s) may be present or if construction activities could otherwise harm special-status bumble bees. The report shall be submitted to the City of Davis prior to the commencement of construction activities.

- If no bumble bees are located during the pre-construction survey or the bumble bees located are definitively identified as common (i.e., not special-status) species, then no further mitigation or coordination with CDFW is required.
- If any sign(s) of a bumble bee nest is observed, and/or if it cannot be established the species present is not a special-status bumble bee, then construction shall not commence until either 1) the bumble bees present are identified as common (i.e., not special status) by a qualified biologist, or 2) the completion of coordination with CDFW to identify appropriate mitigation measures, which may include but not be limited to: waiting until the colony active season ends, establishment of nest buffers, or obtaining an Incidental Take Permit (ITP) from CDFW (see below).
- If, after coordination with CDFW, impacts to special-status bumble bees cannot be avoided, the Applicant shall obtain an ITP from CDFW, and the applicant shall implement all conditions identified in the ITP. Mitigation required by the ITP may include but will not be limited to, the Project Applicant translocating nesting substrate in accordance with the latest scientific research to another suitable location (i.e., a location that supports similar or better floral resources as the impact area), enhancing floral resources on areas of the Project site that will remain appropriate habitat, worker awareness training, and/or other measures specified by CDFW.

8.6 Nesting Raptors and Other Birds

For special-status bird species not covered by the Yolo HCP, the following nest survey requirements apply if construction activities take place during the typical bird breeding/nesting season (February 15 through August 31).

A pre-construction nesting bird survey shall be conducted by the Project Biologist throughout the Project and all accessible areas within a 500-foot radius of proposed construction areas, no more than 14 days prior to the initiation of construction. If there is a break in construction activity of more than 14 days, then subsequent surveys shall be conducted.

If active raptor nests are found, no construction activities shall take place within 500 feet of the nest until the young have fledged. If active songbird nests are found, a 100-foot no disturbance buffer will be established. These no-disturbance buffers may be reduced if a smaller, sufficiently protective buffer is approved by the City after taking into consideration the natural history of the species of bird nesting, the proposed activity level adjacent to the nest, the nest occupants' habituation to existing or ongoing activity, and nest concealment (i.e., whether there are visual or acoustic barriers between the proposed activity and the nest). A biologist may visit the nest as needed to determine when the young have fledged the nest and are independent of the site or the nest can be left undisturbed until the end of the nesting season.

A report summarizing the survey(s) shall be provided to the City within 30 days of the completed survey and is valid for one construction season. If no nests are found, no further mitigation is required.

If the nest buffer is reduced, but construction activities cause a nesting bird to do any of the following in a way that would be considered a result of construction activities: vocalize, make defensive flights at intruders, get up from a brooding position, or fly off the nest, then the exclusionary buffer shall be increased such that activities are far enough from the nest to stop this agitated behavior. The revised no-disturbance buffer will remain in place until the chicks have fledged or as otherwise determined by a qualified biologist in consultation with the City.

Construction activities may only resume within the no-disturbance buffer after a follow-up survey by the biologist has been conducted and a report has been prepared indicating that the nest (or nests) are no longer active, and that no new nests have been identified.

8.7 Roosting Bats

The Yolo HCP does not cover bats. It is recommended that a pre-construction roosting bat survey be conducted by a qualified biologist within 14 days prior to any tree or building removal that will occur during the breeding season (April through August). If pre-construction surveys indicate that no roosts of special-status bats are present, or that roosts are inactive or potential habitat is unoccupied, no further mitigation is required. If roosting bats are found, exclusion shall be conducted by the qualified biologist in coordination with CDFW. Methods may include acoustic monitoring, evening emergence surveys, and the utilization of two-step tree removal supervised by the qualified biologist. Two-step tree removal involves removal of all branches that do not provide roosting habitat on the first day, and then the next day cutting down the remaining portion of the tree. Building exclusion methods may include such techniques as installation of passive one-way doors, or the installation of netting when the bats are not present to prevent their reoccupation. Once the bats have been excluded, tree or building removal may occur.

8.8 American Badger

American badger is not a covered species under the Yolo HCP. It is recommended that a pre-construction survey be conducted by a qualified biologist within 48 hours prior to the initiation of construction. If American badger or burrows with American badger are found on-site during the preconstruction survey, consultation with CDFW shall occur prior to the initiation of any construction activities, to determine an appropriate burrow excavation and/or relocation method. If American badger is not found, further measures are not necessary.

8.9 Tree Removal

As noted in Section 4.2, Madrone conducted a tree inventory throughout the Study Area in September 2022 (**Attachment G**) and conducted an additional survey of the Additional Area in 2024 (**Attachment H**). The Tree Ordinance requires mitigation for impacts to "city trees", "street trees", and "trees of significance", all

of which occur within the Study Area. If any of these will be impacted, they must be mitigated in accordance with the Tree Ordinance. Final mitigation requirements will be determined by the City of Davis and may include the following options:

- Incorporate existing healthy trees into the design of the Project;
- Replanting trees on-site;
- Replanting trees off-site in city-owned open space or park; or
- Payment to the Tree Preservation Fund In lieu of Replacement.

9.0 REFERENCES

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Figures

Figure 1. Site and Vicinity

Figure 2. California Natural Diversity Database Occurrences of Special-Status Plant Species

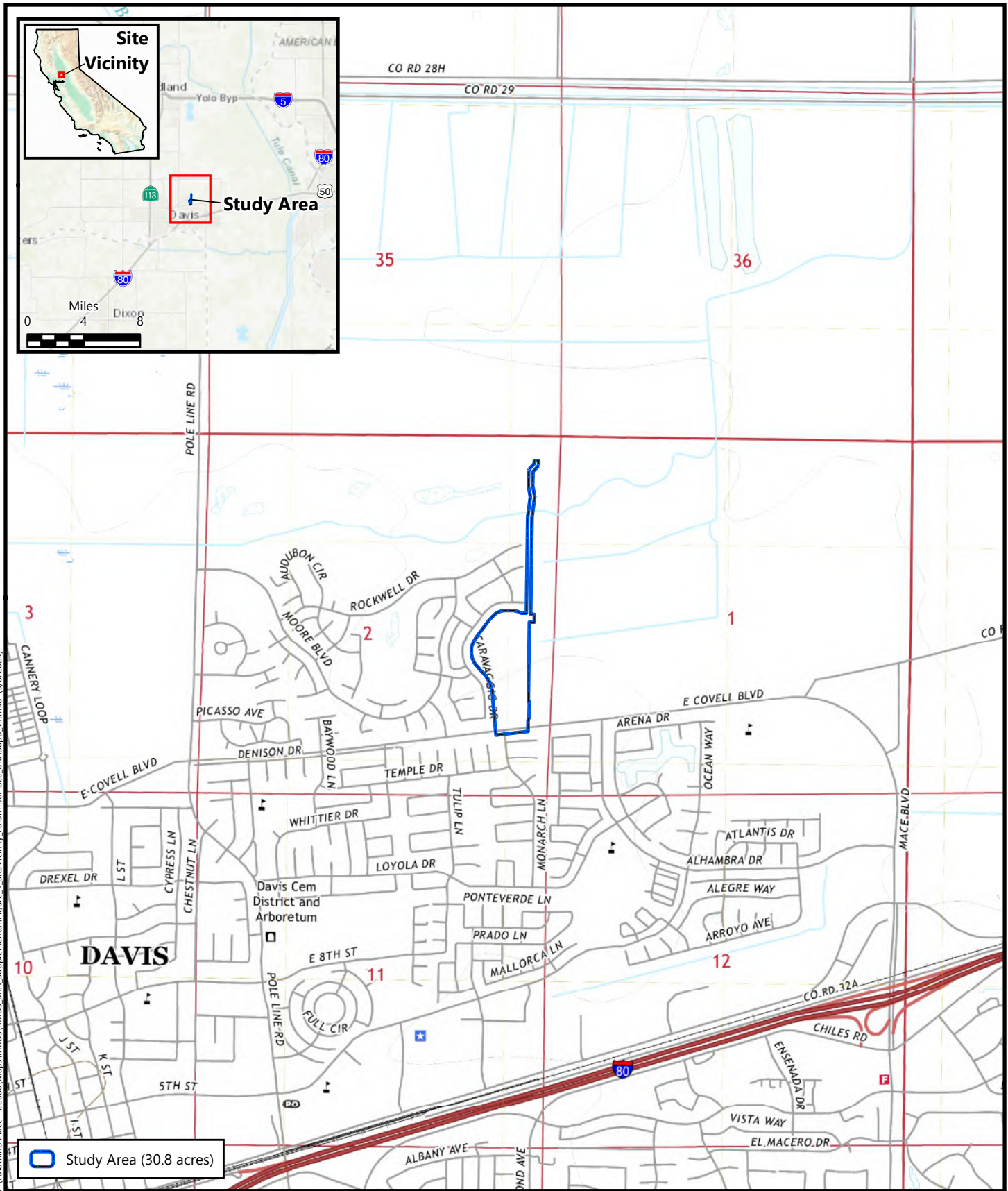
Figure 3. California Natural Diversity Database Occurrences of Special-Status Wildlife Species

Figure 4. Yolo HCP Land Cover Types

Figure 5. Aquatic Resources

Figure 6. Natural Resources Conservation Service Soils

Figure 7. Elderberry Shrub Locations



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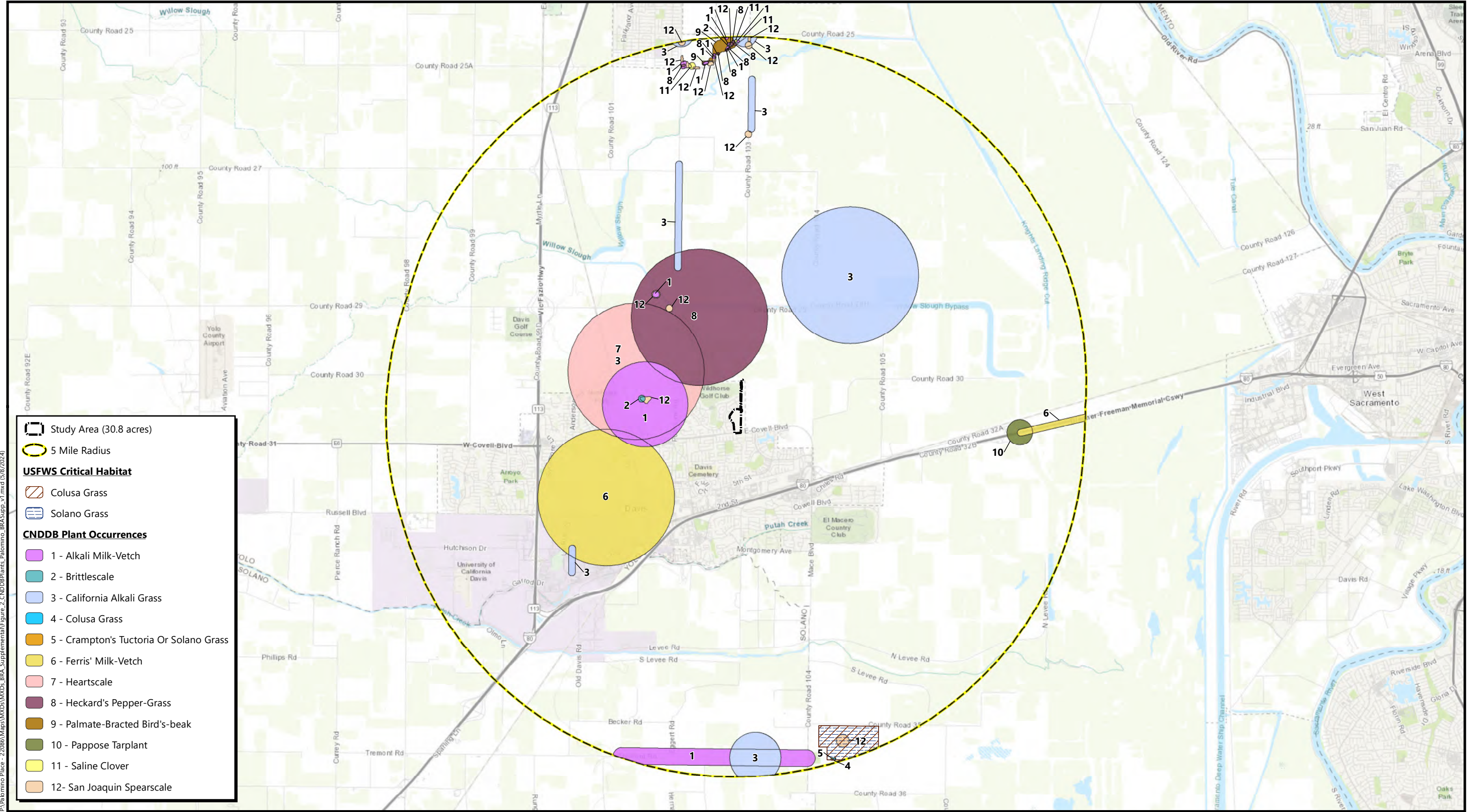


Figure 1
Site and Vicinity

Source: United States Geologic Survey, 2021
 "Davis, California" 7.5-Minute Topographic Quadrangle
 Section 2, Township 8 North, Range 2 East, MDBM
 Latitude (NAD83): 38.566892°, Longitude (NAD83): -121.714338°

Palomino Place
 Yolo County, California





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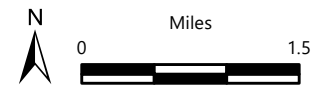
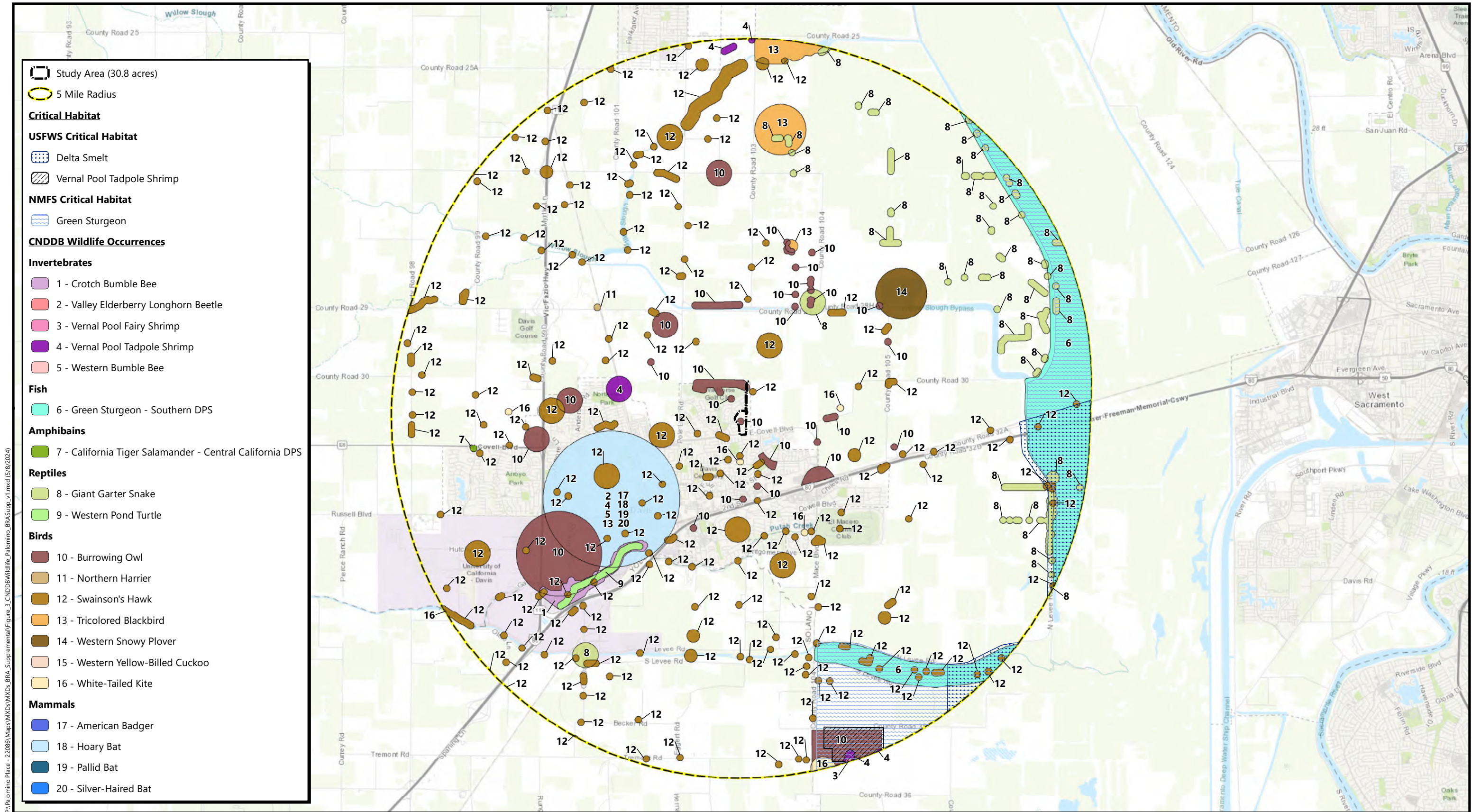


Figure 2
California Natural Diversity Database Occurrences
of Plant Species and Critical Habitat

Source: California Department of Fish and Wildlife, May 2024
 Basemap Source: ESRI World Topography

Palomino Place
 Yolo County, California





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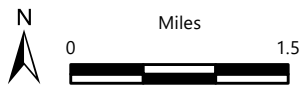
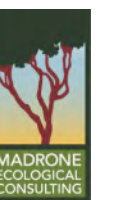
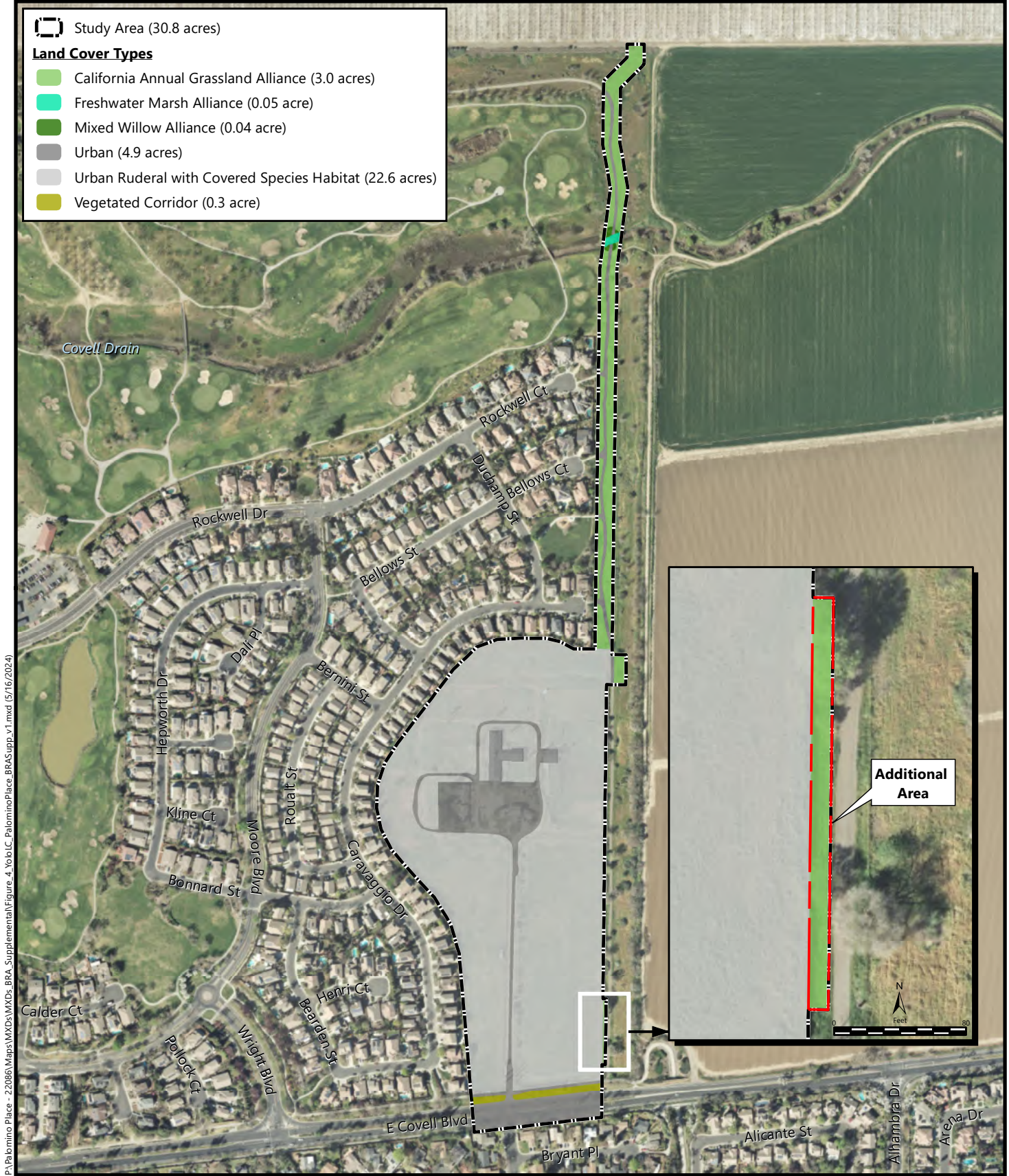


Figure 3
California Natural Diversity Database Occurrences
of Wildlife Species and Critical Habitat

Source: California Department of Fish and Wildlife, May, 2024
 Basemap Source: ESRI World Topography

Palomino Place
 Yolo County, California



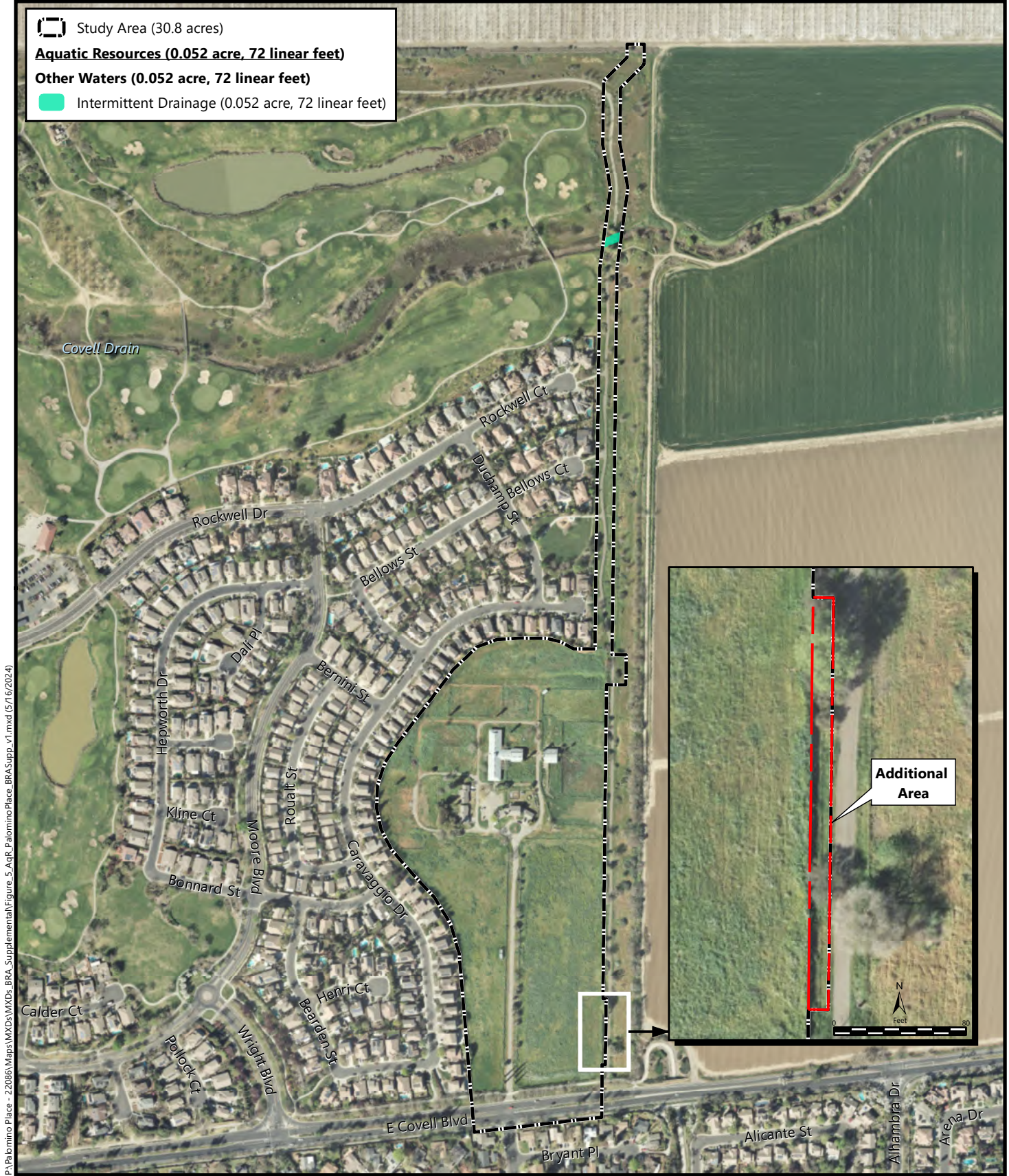


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Figure 4
Yolo HCP Land Cover Types

Boundary Source: Cunningham Civil Engineering
 Aerial Source:ESRI/SACOG, 18 March 2022





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Figure 5
Aquatic Resources

Palomino Place
Yolo County, California



Boundary Source: Cunningham Civil Engineering
Aerial Source:ESRI/SACOG, 18 March 2022



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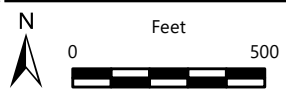
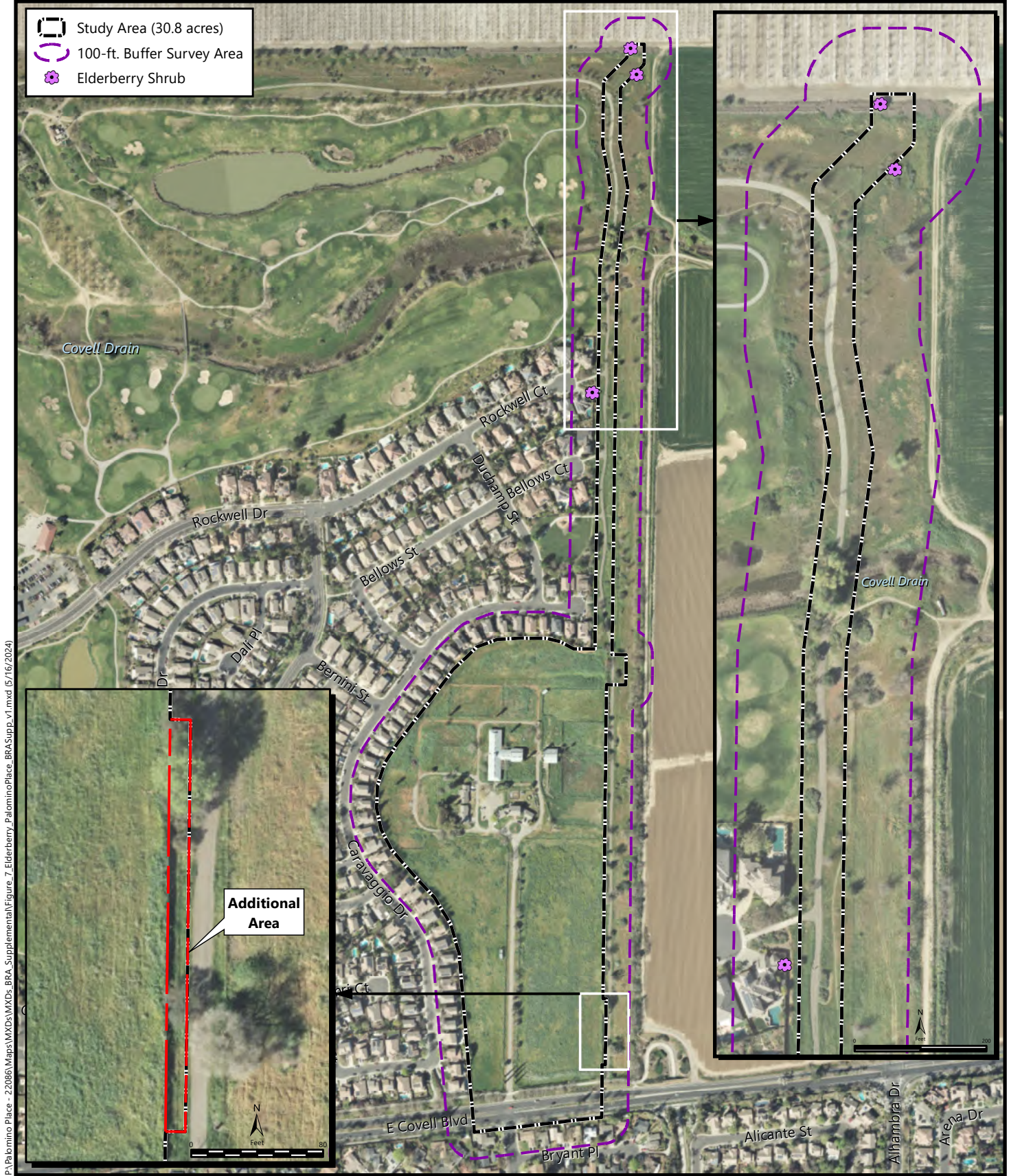


Figure 6
Natural Resources Conservation
Service Soils

Soil Survey Source: *USDA, Natural Resources Conservation Service*
Soil Survey Geographic (SSURGO) database for
Yolo County, California
 Aerial Source: *ESRI/SACOG, 18 March 2022*

Palomino Place
Yolo County, California





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Figure 7
Elderberry Shrub Locations

Palomino Place
Yolo County, California



Boundary Source: Cunningham Civil Engineering
Aerial Source:ESRI/SACOG, 18 March 2022

Attachments

Attachment A. Preliminary Site Plan

Attachment B. IPaC Trust Resource Report for the Study Area

Attachment C. CNPS Inventory of Rare and Endangered Plants Query for the "Davis, California"
USGS Quadrangle and Eight Surrounding Quadrangles

Attachment D. Wildlife List

Attachment E. Aquatic Resources Delineation Report for Palomino Place

Attachment F. Special-Status Plant Survey Report for Palomino Place

Attachment G. Arborist Survey Report for Palomino Place

Attachment H. Arborist Survey Map and Results (Including Additional Area)

Attachment I. Tree Removal Sheet

Attachment A

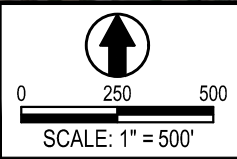
Preliminary Site Plan



LEGEND

- PROJECT AREA
- OFFSITE SEWER (UNDER EXISTING GRAVEL PATH)

DESIGNED BF
 DRAWN LE
 CHECKED BF
 DATE: 04/22/2024
 JOB No: 1807.00.06



**PALOMINO PLACE
 GRADING AND UTILITY
 DISTURBANCE AREA**

DAVIS CALIFORNIA

CECWEST.COM

Project Planning ■ Civil Engineering ■ Landscape Architecture

■ Sacramento Office ■ Davis Office
 2120 20th Street, Suite Three 2940 Spafford Street, Suite 200
 Sacramento, CA 95818 Davis, CA 95618
 (916) 455-2026 (530) 758-2026

SCALE
 1" = 500'

SHEET
1
 OF
1

Attachment B

IPaC Trust Resource Report for the Study Area



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:
Project Code: 2022-0088259
Project Name: Palomino Place

September 22, 2022

Subject: List of threatened and endangered species that may occur in your proposed project location 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, 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 U.S. Fish and Wildlife Service (Service) under section 7(c) of the Endangered Species Act (Act) of 1973, as amended (16 U.S.C. 1531 *et seq.*).

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>

Migratory Birds: In addition to responsibilities to protect threatened and endangered species under the Endangered Species Act (ESA), there are additional responsibilities under the Migratory Bird Treaty Act (MBTA) and the Bald and Golden Eagle Protection Act (BGEPA) to protect native birds from project-related impacts. Any activity, intentional or unintentional, resulting in take of migratory birds, including eagles, is prohibited unless otherwise permitted by the U.S. Fish and Wildlife Service (50 C.F.R. Sec. 10.12 and 16 U.S.C. Sec. 668(a)). For more information regarding these Acts see <https://www.fws.gov/birds/policies-and-regulations.php>.

The MBTA has no provision for allowing take of migratory birds that may be unintentionally killed or injured by otherwise lawful activities. It is the responsibility of the project proponent to comply with these Acts by identifying potential impacts to migratory birds and eagles within applicable NEPA documents (when there is a federal nexus) or a Bird/Eagle Conservation Plan (when there is no federal nexus). Proponents should implement conservation measures to avoid or minimize the production of project-related stressors or minimize the exposure of birds and their resources to the project-related stressors. For more information on avian stressors and recommended conservation measures see <https://www.fws.gov/birds/bird-enthusiasts/threats-to-birds.php>.

In addition to MBTA and BGEPA, Executive Order 13186: *Responsibilities of Federal Agencies to Protect Migratory Birds*, obligates all Federal agencies that engage in or authorize activities that might affect migratory birds, to minimize those effects and encourage conservation measures that will improve bird populations. Executive Order 13186 provides for the protection of both migratory birds and migratory bird habitat. For information regarding the implementation of Executive Order 13186, please visit <https://www.fws.gov/birds/policies-and-regulations/executive-orders/e0-13186.php>.

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 Code 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:

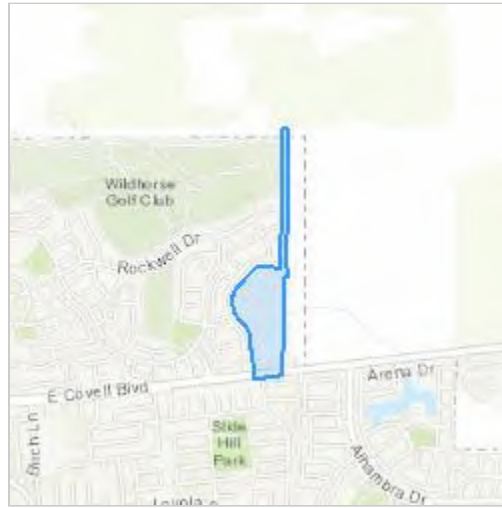
Sacramento Fish And Wildlife Office

Federal Building
2800 Cottage Way, Room W-2605
Sacramento, CA 95825-1846
(916) 414-6600

Project Summary

Project Code: 2022-0088259
Project Name: Palomino Place
Project Type: New Constr - Above Ground
Project Description: Development
Project Location:

Approximate location of the project can be viewed in Google Maps: <https://www.google.com/maps/@38.56915815,-121.71332128013785,14z>



Counties: Yolo County, California

Endangered Species Act Species

There is a total of 9 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.

Birds

NAME	STATUS
Western Snowy Plover <i>Charadrius nivosus nivosus</i> Population: Pacific Coast population DPS-U.S.A. (CA, OR, WA), Mexico (within 50 miles of Pacific coast) There is final critical habitat for this species. The location of the critical habitat is not available. Species profile: https://ecos.fws.gov/ecp/species/8035	Threatened

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 Tiger Salamander <i>Ambystoma californiense</i> Population: U.S.A. (Central CA DPS) There is final critical habitat for this species. The location of the critical habitat is not available. 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. The location of the critical habitat is not available. Species profile: https://ecos.fws.gov/ecp/species/321	Threatened

Insects

NAME	STATUS
Monarch Butterfly <i>Danaus plexippus</i> No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/9743	Candidate
Valley Elderberry Longhorn Beetle <i>Desmocerus californicus dimorphus</i> There is final critical habitat for this species. The location of the critical habitat is not available. Species profile: https://ecos.fws.gov/ecp/species/7850	Threatened

Crustaceans

NAME	STATUS
Conservancy Fairy Shrimp <i>Branchinecta conservatio</i> There is final critical habitat for this species. The location of the critical habitat is not available. Species profile: https://ecos.fws.gov/ecp/species/8246	Endangered
Vernal Pool Fairy Shrimp <i>Branchinecta lynchi</i> There is final critical habitat for this species. The location of the critical habitat is not available. 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. The location of the critical habitat is not available. 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.

IPaC User Contact Information

Agency: Madrone Ecological Consulting
Name: Dustin Brown
Address: 8421 Auburn Boulevard, Suite 248
City: Citrus Heights
State: CA
Zip: 95610
Email: dbrown@madroneeco.com
Phone: 9168223230

Attachment C

**CNPS Inventory of Rare and Endangered Plants
Query for the "*Davis, California*" USGS Quadrangle
and Eight Surrounding Quadrangles**





CNPS Rare Plant Inventory



Search Results

28 matches found. Click on scientific name for details

Search Criteria: 9-Quad include [3812155:3812165:3812145:3812147:3812167:3812157:3812166:3812156:3812146]

▲ SCIENTIFIC NAME	COMMON NAME	FAMILY	LIFEFORM	BLOOMING PERIOD	FED LIST	STATE LIST	GLOBAL RANK	STATE RANK	CA RARE PLANT RANK	PHOTO
<u><i>Astragalus pauperculus</i></u>	depauperate milk-vetch	Fabaceae	annual herb	Mar-Jun	None	None	G4	S4	4.3	 ©2012 Tim Kellison
<u><i>Astragalus tener</i> var. <i>ferrisiae</i></u>	Ferris' milk-vetch	Fabaceae	annual herb	Apr-May	None	None	G2T1	S1	1B.1	No Photo Available
<u><i>Astragalus tener</i> var. <i>tener</i></u>	alkali milk-vetch	Fabaceae	annual herb	Mar-Jun	None	None	G2T1	S1	1B.2	No Photo Available
<u><i>Atriplex cordulata</i> var. <i>cordulata</i></u>	heartscale	Chenopodiaceae	annual herb	Apr-Oct	None	None	G3T2	S2	1B.2	 © 1994 Robert E. Preston, Ph.D.
<u><i>Atriplex depressa</i></u>	brittlescale	Chenopodiaceae	annual herb	Apr-Oct	None	None	G2	S2	1B.2	 © 2009 Zoya Akulova
<u><i>Carex comosa</i></u>	bristly sedge	Cyperaceae	perennial rhizomatous herb	May-Sep	None	None	G5	S2	2B.1	 Dean Wm. Taylor 1997
<u><i>Centromadia parryi</i> ssp. <i>parryi</i></u>	pappose tarplant	Asteraceae	annual herb	May-Nov	None	None	G3T2	S2	1B.2	No Photo Available
<u><i>Centromadia parryi</i> ssp. <i>rudis</i></u>	Parry's rough tarplant	Asteraceae	annual herb	May-Oct	None	None	G3T3	S3	4.2	No Photo Available
<u><i>Chloropyron palmatum</i></u>	palmate-bracted bird's-beak	Orobanchaceae	annual herb (hemiparasitic)	May-Oct	FE	CE	G1	S1	1B.1	No Photo Available
<u><i>Eryngium jepsonii</i></u>	Jepson's coyote-thistle	Apiaceae	perennial herb	Apr-Aug	None	None	G2	S2	1B.2	No Photo Available

<u><i>Extriplex joaquinana</i></u>	San Joaquin spearscale	Chenopodiaceae	annual herb	Apr-Oct	None	None	G2	S2	1B.2	No Photo Available
<u><i>Fritillaria agrestis</i></u>	stinkbells	Liliaceae	perennial bulbiferous herb	Mar-Jun	None	None	G3	S3	4.2	 © 2016 Aaron Schusteff
<u><i>Fritillaria pluriflora</i></u>	adobe-lily	Liliaceae	perennial bulbiferous herb	Feb-Apr	None	None	G2G3	S2S3	1B.2	 © 2015 Steve Matson
<u><i>Hesperevax caulescens</i></u>	hogwallow starfish	Asteraceae	annual herb	Mar-Jun	None	None	G3	S3	4.2	 © 2017 John Doyen
<u><i>Hibiscus lasiocarpus</i> var. <i>occidentalis</i></u>	woolly rose-mallow	Malvaceae	perennial rhizomatous herb (emergent)	Jun-Sep	None	None	G5T3	S3	1B.2	 © 2020 Steven Perry
<u><i>Lepidium latipes</i> var. <i>heckardii</i></u>	Heckard's pepper-grass	Brassicaceae	annual herb	Mar-May	None	None	G4T1	S1	1B.2	 2018 Jennifer Buck
<u><i>Lessingia hololeuca</i></u>	woolly-headed lessingia	Asteraceae	annual herb	Jun-Oct	None	None	G2G3	S2S3	3	 © 2015 Aaron Schusteff
<u><i>Lilaeopsis masonii</i></u>	Mason's lilaeopsis	Apiaceae	perennial rhizomatous herb	Apr-Nov	None	CR	G2	S2	1B.1	No Photo Available
<u><i>Myosurus minimus</i> ssp. <i>apus</i></u>	little mousetail	Ranunculaceae	annual herb	Mar-Jun	None	None	G5T2Q	S2	3.1	No Photo Available
<u><i>Navarretia cotulifolia</i></u>	cotula navarretia	Polemoniaceae	annual herb	May-Jun	None	None	G4	S4	4.2	 © 2020 Zoya Akulova
<u><i>Navarretia leucocephala</i> ssp. <i>bakeri</i></u>	Baker's navarretia	Polemoniaceae	annual herb	Apr-Jul	None	None	G4T2	S2	1B.1	 © 2018 Bryan Diaz

<u><i>Neostapfia colusana</i></u>	Colusa grass	Poaceae	annual herb	May-Aug	FT	CE	G1	S1	1B.1	No Photo Available
<u><i>Plagiobothrys hystriculus</i></u>	bearded popcornflower	Boraginaceae	annual herb	Apr-May	None	None	G2	S2	1B.1	No Photo Available
<u><i>Puccinellia simplex</i></u>	California alkali grass	Poaceae	annual herb	Mar-May	None	None	G2	S2	1B.2	No Photo Available
<u><i>Sidalcea keckii</i></u>	Keck's checkerbloom	Malvaceae	annual herb	Apr-May(Jun)	FE	None	G2	S2	1B.1	No Photo Available
<u><i>Symphotrichum lentum</i></u>	Suisun Marsh aster	Asteraceae	perennial rhizomatous herb	(Apr)May-Nov	None	None	G2	S2	1B.2	No Photo Available
<u><i>Trifolium hydrophilum</i></u>	saline clover	Fabaceae	annual herb	Apr-Jun	None	None	G2	S2	1B.2	No Photo Available
<u><i>Tuctoria mucronata</i></u>	Crampton's tuctoria or Solano grass	Poaceae	annual herb	Apr-Aug	FE	CE	G1	S1	1B.1	No Photo Available

Showing 1 to 28 of 28 entries

Suggested Citation:

California Native Plant Society, Rare Plant Program. 2022. Rare Plant Inventory (online edition, v9-01 1.5). Website <https://www.rareplants.cnps.org> [accessed 29 September 2022].

Attachment D

Wildlife List

Wildlife Species Observed within the
Palomino Place Project Area
24 August, 12 and 21 September 2022, and 25 April 2024

Species Name	Common name
Birds	
<i>Aphelocoma californica</i>	California scrub jay
<i>Branta canadensis</i>	Canada goose
<i>Buteo jamaicensis</i>	Red-tailed hawk
<i>Buteo swainsoni</i>	Swainson's hawk
<i>Calypte anna</i>	Anna's hummingbird
<i>Carduelis psaltria</i>	Lesser goldfinch
<i>Cathartes aura</i>	Turkey vulture
<i>Charadrius vociferus</i>	Killdeer
<i>Corvus brachyrhynchos</i>	American crow
<i>Corvus corax</i>	Common raven
<i>Dryobates nuttallii</i>	Nuttall's woodpecker
<i>Haemorhous mexicanus</i>	House finch
<i>Hirundo rustica</i>	Barn swallow
<i>Melospiza crissalis</i>	California towhee
<i>Mimus polyglottos</i>	Northern mockingbird
<i>Pica nuttalli</i>	Yellow-billed magpie
<i>Psittacus minimus</i>	Bushtit
<i>Sayornis nigricans</i>	Black phoebe
<i>Sturnus vulgaris</i>	European starling
<i>Tringa melanoleuca</i>	Greater yellowlegs
<i>Tyrannus verticalis</i>	Western kingbird
<i>Zenaidura macroura</i>	Mourning dove
Mammals	
<i>Lepus californicus</i>	Black-tailed jackrabbit
<i>Spermophilus beecheyi</i>	California ground squirrel
<i>Sylvilagus audubonii</i>	Desert cottontail
Reptiles	
<i>Sceloporus occidentalis</i>	Western fence lizard

Attachment E

**Aquatic Resources Delineation
Report for Palomino Place**



Aquatic Resources Delineation Report

Palomino Place

Yolo County, California
September 2022



Prepared for:

J. David Taormino
Taormino and Associates
429 F Street, Suite 5
Davis, CA 95616

Recommended Citation:

Madrone Ecological Consulting, LLC (Madrone). 2022. *Aquatic Resources Delineation Report for Palomino Place*. Prepared for J. David Taormino. Published on 29 September 2022.

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Aquatic Resources Delineation Report Palomino Place

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- Figure 2. Natural Resources Conservation Service Soils
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Attachments

- Attachment A. Arid West Wetland Determination Data Forms
- Attachment B. Aquatic Resources Delineation Map
- Attachment C. Plant Species Observed within the Study Area
- Attachment D. Representative Site Photographs
- Attachment E. GIS Shapefiles and the Aquatic Resources Excel Spreadsheet (via email)
- Attachment F. Access Letter
- Attachment G. JD Request Form

1.0 INTRODUCTION

This report presents the results of a delineation of aquatic resources within the Palomino Place Property (Study Area) conducted by Madrone Ecological Consulting, LLC (Madrone). The approximately 31-acre Study Area is generally located on the eastern edge of the City of Davis, Yolo County, California. The Study Area is located within Section 2, Township 8 North, Range 2 East (MDB&M) of the "Davis, California" 7.5-Minute Series USGS Topographic Quadrangle (USGS 2018) (Figure 1).

1.1 Contact Information

Property Owner

J. David Taormino
Taormino and Associates
429 F Street, Suite 5
Davis, CA 95616

Agent

Ben Watson
Madrone Ecological Consulting, LLC
8421 Auburn Blvd., Suite 248
Citrus Heights, CA 95610

2.0 METHODOLOGY

Madrone biologist Matt Shaffer conducted a delineation of aquatic resources within the Study Area on 24 August 2022. Water features and data points were mapped in the field with a GPS unit capable of sub-meter accuracy (Arrow 100). Three-parameter data (vegetation, soils, and hydrology) were collected at each data point, documenting wetland/waters or upland status, as appropriate. The delineation map was prepared in accordance with the *Updated Map and Drawing Standards for the South Pacific Division Regulatory Program* (USACE 2016a). The GPS data was overlaid on an ortho-rectified aerial photograph (Maxar 2021).

The delineation was performed in accordance with the *Corps of Engineers Wetlands Delineation Manual* (Environmental Laboratory 1987), the *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Arid West Region (Version 2.0)* (USACE 2008a), *A Field Guide to the Identification of the Ordinary High Water Mark (OHWM) in the Arid West Region of the Western United States* (USACE 2008b), and the Sacramento District's *Minimum Standards for Acceptance of Preliminary Wetlands Delineations* (USACE 2016b). U.S. Army Corps of Engineers (USACE) regulations (33 CFR 328) were used to determine the presence of Waters of the United States other than wetlands. The most recent *National Wetland Plant List* (USACE 2018) was used to determine the wetland indicator status of plants observed in the Study Area. The *Jepson eFlora* (Jepson Flora Project 2022) was used for plant nomenclature, except where it conflicted with the nomenclature in the *National Wetland Plant List*, which was given priority on the data sheets.

On behalf of our client, we are requesting a Preliminary Jurisdictional Determination for the Study Area (request form included as **Attachment G**).

3.0 EXISTING CONDITIONS

The Study Area is bounded to the south by East Covell Boulevard and high-density residential development. High-density residential development and the Wildhorse Golf Club course are located to the west of the Study Area, while annual grassland and agricultural cropland border the site to the east. An orchard is located to the north of the site. The Study Area is situated on mostly flat terrain at an elevation of approximately 30 feet to 40 feet above mean sea level (MSL).

The main portion of the Study Area consists of multiple parcels of disturbed ruderal habitat. Vegetation within the ruderal areas is predominantly dominated by non-native ruderal grasses and forbs including wild oats (*Avena barbata* and *Avena fatua*), black mustard (*Brassica nigra*), Italian thistle (*Carduus pycnocephalus*), yellow star-thistle (*Centaurea solstitialis*), shortpod mustard (*Hirschfeldia incana*), perennial pepperweed (*Lepidium latifolium*), and milk thistle (*Silybum marianum*). Other vegetation growing within the ruderal areas includes field bindweed (*Convolvulus arvensis*), Bermuda grass (*Cynodon dactylon*), stinkwort (*Dittrichia graveolens*), and fennel (*Foeniculum vulgare*). Several homesteads, sheds, paved/gravel roads, and other associated infrastructure occur within the ruderal area. Numerous planted trees are located throughout the ruderal area and associated with the on-site development, including Italian cypress (*Cupressus sempervirens*), fig (*Ficus carica*), English walnut (*Juglans regia*), olive (*Olea europaea*), Chinese pistache (*Pistacia chinensis*), plum (*Prunus sp.*), pomegranate (*Punica granatum*), and Mexican fan palm (*Washingtonia robusta*). The northern portion of the Study Area consists of annual grassland dominated by non-native annual grasses and forbs such as wild oats, rigput brome (*Bromus diandrus*), soft brome (*Bromus hordeaceus*), Medusa head grass (*Elymus caput-medusae*), perennial ryegrass (*Festuca perennis*), wall barley (*Hordeum murinum*), rose clover (*Trifolium hirtum*), and winter vetch (*Vicia villosa*). Other species within the annual grassland include yellow star-thistle, perennial pepperweed, field bindweed, narrow-leaf milkweed (*Asclepias fascicularis*), horseweed (*Erigeron canadensis*), prickly lettuce (*Lactuca serriola*), and alkali mallow (*Malvella leprosa*). A walking trail runs through the northern portion of the Study Area within the annual grassland, shifting alignment to be located just offsite, east of the Study Area on the southern end. Scattered trees occur along the trail, dominated by valley oak (*Quercus lobata*); other associate tree and shrub species include California buckeye (*Aesculus californica*), toyon (*Heteromeles arbutifolia*), Northern California black walnut (*Juglans hindsii*), western sycamore (*Platanus racemosa*), interior live oak (*Quercus wislizeni*), and California rose (*Rosa californica*).

3.1 Hydrology

Surface water within the Study Area is driven primarily by rainfall; water within the site appears to drain into stormwater drainage systems along East Covell Boulevard to the south and associated with the adjacent residential development to the west. In addition, water in parts of the northern portion of the Study Area drains into Covell Drain. Covell Drain is an intermittent tributary to the Willow Slough Bypass, which flows into the Yolo Bypass, and ultimately the Sacramento River. The Study Area is located within the *Lower Sacramento River Watershed* (HUC 18020109) (USGS 1984).

3.2 Soils

According to the Natural Resources Conservation Service (NRCS) Soil Survey Database (NRCS 2022), four soil mapping units occur within the Study Area (Figure 2). None of the soil units consist of hydric components, but all four units contain hydric inclusions (NRCS 2022). The soils within the Study Area fall within the hydrological soil groups A (Tc), B (Sp and Ya), and C (St). Soils within the hydrological soil group A generally have a high infiltration rate when thoroughly wet (low runoff potential) and a high rate of water transmission. Group B soils have a moderate infiltration and transmission rate, while group C soils have a slow infiltration and transmission rate (high runoff potential). The soils found within the Study Area are summarized in Table 1.

Table 1. Hydric Rating of Soils within the Study Area

Soil Unit Name	Map Unit Symbol	Hydric Rating
Sycamore silt loam, drained, 0 percent slopes, MLRA 17	Sp	No
Sycamore silty clay loam, drained, 0 percent slopes, MLRA 17	St	No
Tyndall very fine sandy loam, drained	Tc	No
Yolo silt loam, 0 to 2 percent slopes, MLRA 17	Ya	No

3.3 Driving Directions

The Study Area is located along East Covell Boulevard in the City of Davis, Yolo County, California. To access the Study Area from Sacramento, drive west on I-80 towards Davis. Take exit 75 and turn right onto Mace Boulevard. Continue north on Mace Boulevard (name changes to East Covell Boulevard) for approximately 1.9 miles, then turn right onto an unnamed driveway across from Monarch Lane; the Study Area is located directly ahead.

4.0 RESULTS

A single aquatic resource (a portion of Covell Drain, an intermittent drainage) totaling approximately 0.052 acre was delineated within the Study Area. This feature is an 'other water' (non-wetland); no wetlands were mapped within the Study Area. A summary of the aquatic resources found on-site and their acreages is shown in Table 2.

Table 2. Aquatic Resources Delineated within the Study Area

Resource Type	Acreage
<i>Other Waters</i>	
Intermittent Drainage (Covell Drain)	0.052
Total	0.052

Data sheets are included in **Attachment A**. Maps of the aquatic resources within the Study Area are included as **Figure 3** and **Attachment B**, and a list of the plant species observed in the Study Area with their wetland indicator status is included in **Attachment C**. Representative site photographs are included in **Attachment D**. GIS Shapefiles and the *Aquatic Resources Excel Spreadsheets* for the aquatic resources shown on **Figure 3** and **Attachment B** are included via email as **Attachment E**. Each of the feature types are described below.

4.1 Intermittent Drainage (Covell Drain)

Covell Drain (ID-1, 0.052 acre), an intermittent drainage, flows from west to east through the northern portion of the Study Area; the drainage was dry at the time of the survey. Covell Drain is mostly vegetated with emergent wetland vegetation dominated by Baltic rush (*Juncus balticus*) and common tule (*Schoenoplectus acutus*). Other species within the drainage include tall nut-sedge (*Cyperus eragrostis*), panicled willowherb (*Epilobium brachycarpum*), common knotweed (*Persicaria lapathifolia*), curly dock (*Rumex crispus*), and cattail (*Typha sp.*). A wooden plank bridge (part of the walking trail within the site) crosses Covell Drain within the Study Area. Riparian vegetation occurs at this bridge crossing and is dominated by Goodding's black willow (*Salix gooddingii*), along with Fremont cottonwood (*Populus fremontii*) and California wild grape (*Vitis californica*). The upland areas along the banks of Covell Drain consist of mugwort (*Artemisia douglasiana*) and Dallis grass (*Paspalum dilatatum*), as well as other vegetation similar in composition to the annual grasslands on-site.

A data point was collected within Covell Drain (DP-2). Wetland hydrology indicators at this point included the presence of biotic crust, water-stained leaves, inundation visible on aerial imagery, and several secondary indicators including riverine water marks, sediment deposits, and drift deposits, as well as drainage patterns. Soils were considered hydric based on the presence of field indicator F6 (Redox Dark Surface).

5.0 CONCLUSION

A total of 0.052 acre of aquatic resources (intermittent drainage) were mapped within the Study Area. As noted above in Section 3.1, this drainage ultimately flows into the Yolo Bypass and Sacramento River, and therefore may be Jurisdictional. The applicant is requesting a Preliminary Jurisdictional Determination for the Aquatic Resources Delineation Map of the Study Area included as **Attachment B**. A letter providing USACE staff accompanied access to the Study Area is included as **Attachment F**.

6.0 REFERENCES

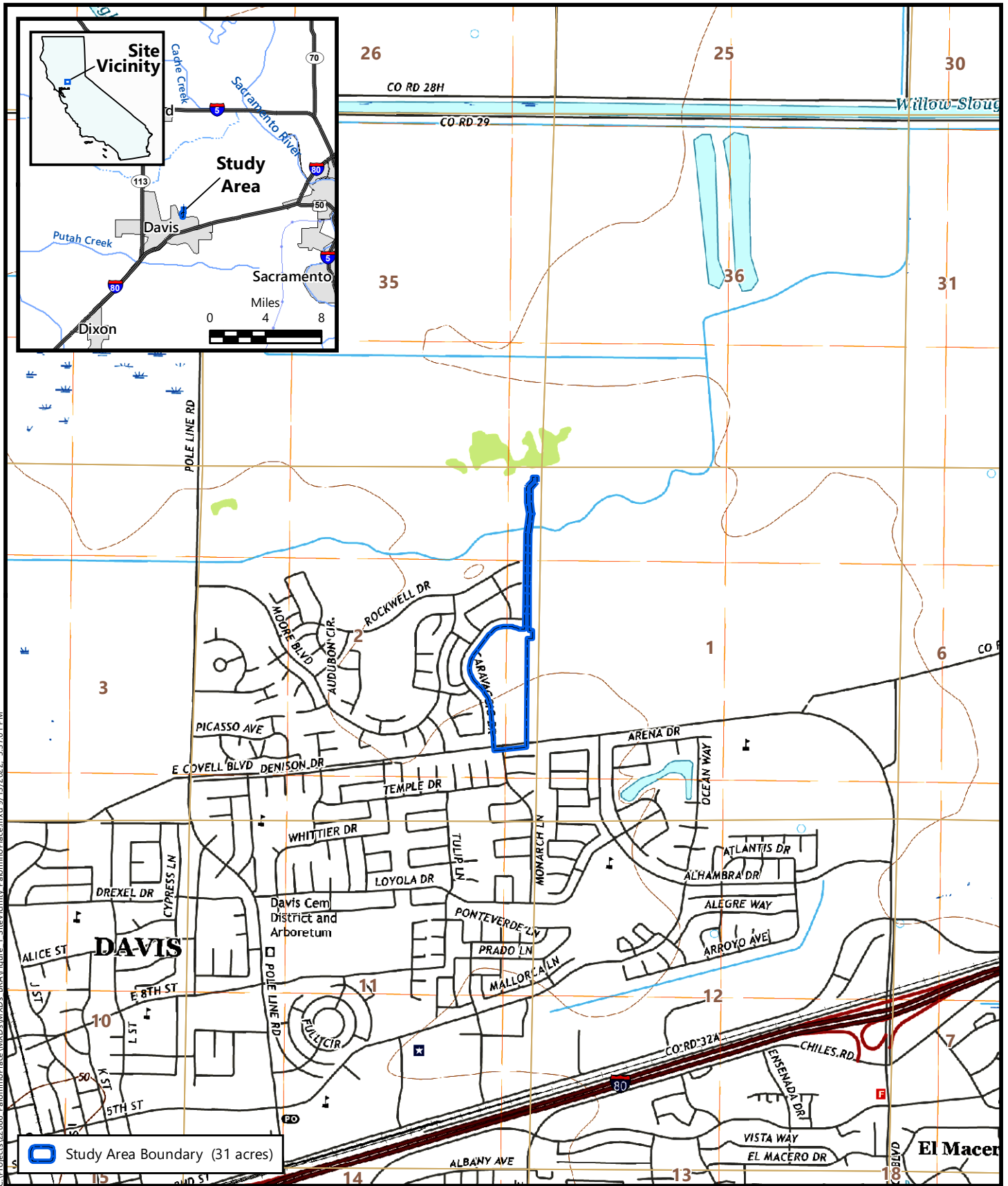
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Figures

Figure 1. Site and Vicinity

Figure 2. Natural Resources Conservation Service Soils

Figure 3. Aquatic Resources



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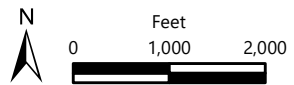


Figure 1
Site and Vicinity

Source: United States Geologic Survey, 2018
 Section 2, Township 8 North, Range 2 East, MDB&M
 "Davis, California" 7.5-Minute Topographic Quadrangle
 Longitude -121.714341, Latitude 38.566897

Palomino Place
 Yolo County, California





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Study Area Boundary (31 acres)

Soil Map Units

- Sp - Sycamore silt loam, drained, 0 percent slopes, MLRA 17
- St - Sycamore silty clay loam, drained, 0 percent slopes, MLRA 17
- Tc - Tyndall very fine sandy loam, drained
- Ya - Yolo silt loam, 0 to 2 percent slopes, MLRA 17

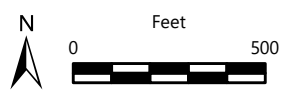


Figure 2
Natural Resources Conservation Service Soils

Soil Survey Source: *USDA, Soil Conservation Service.*
Soil Survey Geographic (SSURGO) database for Yolo County, California
 Aerial Source: Maxar WV02, 22 April 2021

Palomino Place
 Yolo County, California





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Figure 3
Aquatic Resources

Palomino Place
Yolo County, California



Attachments

Attachment A. Arid West Wetland Determination Data Forms

Attachment B. Aquatic Resources Delineation Map

Attachment C. Plant Species Observed within the Study Area

Attachment D. Representative Site Photographs

Attachment E. GIS Shapefiles and the Aquatic Resources Excel Spreadsheet (via email)

Attachment F. Access Letter

Attachment G. JD Request Form

Attachment A

Arid West Wetland Determination Data Forms

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: Palomino Place City/County: Davis / Yolo Sampling Date: 08/24/22
 Applicant/Owner: Taormino and Associates State: CA Sampling Point: DP-1
 Investigator(s): Matt Shaffer Section, Township, Range: S2, T8N, R2E
 Landform (hillslope, terrace, etc.): Terrace Local relief (concave, convex, none): None Slope (%): N/A
 Subregion (LRR): Mediterranean California (LRR C) Lat: 38.572943 Long: -121.713282 Datum: NAD83
 Soil Map Unit Name: Ya - Yolo silt loam, 0 to 2 percent slopes, MLRA 17 NWI Classification: N/A
 Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No _____ (If no, explain in Remarks.)
 Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes X 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 <u>X</u> No _____	Is the Sampled Area within a Wetland? Yes _____ No <u>X</u>
Hydric Soil Present? Yes _____ No <u>X</u>	
Wetland Hydrology Present? Yes <u>X</u> No _____	

Remarks: Point within suspect area adjacent to Covell Drain. Dominated by FAC vegetation compared to adjacent uplands.

VEGETATION – Use scientific names of plants.

<u>Tree Stratum</u> (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>0</u> (A) Total Number of Dominant Species Across All Strata: <u>0</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>0%</u> (A/B)
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	Prevalence Index Worksheet: Total % Cover of: _____ Multiply by: _____ OBL species <u>0</u> x1 = <u>0</u> FACW species <u>0</u> x2 = <u>0</u> FAC species <u>30</u> x3 = <u>90</u> FACU species <u>0</u> x4 = <u>0</u> UPL species <u>0</u> x5 = <u>0</u> Column Totals: <u>30</u> (A) <u>90</u> (B) Prevalence Index = B/A = <u>3.0</u>
=Total Cover				
<u>Sapling/Shrub Stratum</u> (Plot size: _____)	_____	_____	_____	
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	Hydrophytic Vegetation Indicators: _____ Dominance Test is >50% <u>X</u> Prevalence Index is ≤3.0 ¹ _____ Morphological Adaptation ¹ (Provide supporting data in Remarks or on a separate sheet) _____ Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
=Total Cover				
<u>Herb Stratum</u> (Plot size: <u>1 meter²</u>)	_____	_____	_____	
1. <u><i>Epilobium brachycarpum</i></u>	<u>10</u>	_____	<u>FAC</u>	
2. <u><i>Artemesia douglasiana</i></u>	<u>10</u>	_____	<u>FAC</u>	
3. <u><i>Rumex crispus</i></u>	<u>10</u>	_____	<u>FAC</u>	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
=Total Cover				
<u>Woody Vine Stratum</u> (Plot size: _____)	_____	_____	_____	Hydrophytic Vegetation Present? Yes <u>X</u> No _____
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	% Bare Ground in Herb Stratum <u>70*</u> % Cover of Biotic Crust <u>0</u>

Remarks: *~60% covered in thatch.

SOIL

Sampling Point: DP-1

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-4	10YR 3/2	100						Sandy Clay 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.)		Indicators for Problematic Hydric Soils³:	
<input type="checkbox"/> Histosol (A1)	<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> 1 cm Muck (A9) (LRR C)	
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> 2 cm Muck (A10) (LRR B)	
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Loamy Mucky Mineral (F1)	<input type="checkbox"/> Reduced Vertic (F18)	
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	<input type="checkbox"/> Red Parent Material (TF2)	
<input type="checkbox"/> Stratified Layers (A5) (LRR C)	<input type="checkbox"/> Depleted Matrix (F3)	<input type="checkbox"/> Other (Explain in Remarks)	
<input type="checkbox"/> 1 cm Muck (A9) (LRR D)	<input type="checkbox"/> Redox Dark Surface (F6)		
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Depleted Dark Surface (F7)		
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Redox Depressions (F8)		
<input type="checkbox"/> Sandy Mucky Mineral (S1)	<input type="checkbox"/> Vernal Pools (F9)		
<input type="checkbox"/> Sandy Gleyed Matrix (S4)			

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present): Type: _____ Depth (inches): _____	Hydric Soil Present? Yes _____ No <u>X</u>
Remarks: No redox.	

HYDROLOGY

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

Field Observations: Surface Water Present? Yes _____ No <u>X</u> Depth (inches): _____ Water Table Present? Yes _____ No <u>X</u> Depth (inches): _____ Saturation Present? Yes _____ No <u>X</u> Depth (inches): _____ (includes capillary fringe)	Wetland Hydrology Present? Yes <u>X</u> No _____
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Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks: Evidence of possible minor overbank flooding from Covell Drain.

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: Palomino Place City/County: Davis / Yolo Sampling Date: 08/24/22
 Applicant/Owner: Taormino and Associates State: CA Sampling Point: DP-2
 Investigator(s): Matt Shaffer Section, Township, Range: S2, T8N, R2E
 Landform (hillslope, terrace, etc.): Terrace Local relief (concave, convex, none): Concave Slope (%): 5%
 Subregion (LRR): Mediterranean California (LRR C) Lat: 38.572832 Long: -121.713085 Datum: NAD83
 Soil Map Unit Name: Ya - Yolo silt loam, 0 to 2 percent slopes, MLRA 17 NWI Classification: N/A
 Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No _____ (If no, explain in Remarks.)
 Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes X 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 <u>X</u> No _____	Is the Sampled Area within a Wetland? Yes <u>X</u> No _____
Hydric Soil Present? Yes <u>X</u> No _____	
Wetland Hydrology Present? Yes <u>X</u> No _____	

Remarks: Point within Covell Drain (intermittent drainage).

VEGETATION – Use scientific names of plants.

<u>Tree Stratum</u> (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>1</u> (A) Total Number of Dominant Species Across All Strata: <u>1</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100%</u> (A/B)	
1. _____	_____	_____	_____		
2. _____	_____	_____	_____		
3. _____	_____	_____	_____		
4. _____	_____	_____	_____	Prevalence Index Worksheet: Total % Cover of: _____ Multiply by: _____ OBL species <u>40</u> x1 = <u>40</u> FACW species <u>15</u> x2 = <u>30</u> FAC species <u>10</u> x3 = <u>30</u> FACU species <u>0</u> x4 = <u>0</u> UPL species <u>0</u> x5 = <u>0</u> Column Totals: <u>65</u> (A) <u>100</u> (B) Prevalence Index = B/A = <u>1.5</u>	
=Total Cover					
<u>Sapling/Shrub Stratum</u> (Plot size: _____)	_____	_____	_____		
1. _____	_____	_____	_____		
2. _____	_____	_____	_____		
3. _____	_____	_____	_____		
4. _____	_____	_____	_____	Hydrophytic Vegetation Indicators: <u>X</u> Dominance Test is >50% <u>X</u> Prevalence Index is ≤3.0 ¹ _____ Morphological Adaptation ¹ (Provide supporting data in Remarks or on a separate sheet) _____ Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.	
5. _____	_____	_____	_____		
=Total Cover					
<u>Herb Stratum</u> (Plot size: <u>1 meter²</u>)	_____	_____	_____		
1. <u><i>Schoenoplectus acutus</i></u>	<u>40</u>	<u>X</u>	<u>OBL</u>		
2. <u><i>Juncus balticus</i></u>	<u>15</u>		<u>FACW</u>		
3. <u><i>Vitis californica</i></u>	<u>T</u>		<u>FACU</u>		
4. <u><i>Artemesia douglasiana</i></u>	<u>5</u>		<u>FAC</u>		
5. <u><i>Rumex crispus</i></u>	<u>5</u>		<u>FAC</u>		
6. _____	_____	_____	_____		
7. _____	_____	_____	_____		
8. _____	_____	_____	_____		
=Total Cover					
<u>Woody Vine Stratum</u> (Plot size: _____)	_____	_____	_____	Hydrophytic Vegetation Present? Yes <u>X</u> No _____	
1. _____	_____	_____	_____		
2. _____	_____	_____	_____	=Total Cover	
% Bare Ground in Herb Stratum _____		% Cover of Biotic Crust _____			

Remarks: Clear wetland vegetation.

SOIL

Sampling Point: DP-2

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-8	10YR 3/1	85	5YR 3/3	15	C	M	Clay	

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

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

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

HYDROLOGY

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

Field Observations: Surface Water Present? Yes _____ No <input checked="" type="checkbox"/> Depth (inches): _____ Water Table Present? Yes _____ No <input checked="" type="checkbox"/> Depth (inches): _____ Saturation Present? Yes _____ No <input checked="" type="checkbox"/> Depth (inches): _____ (includes capillary fringe)	Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No _____
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Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks: Clear hydrology.

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: Palomino Place City/County: Davis / Yolo Sampling Date: 08/24/22
 Applicant/Owner: Taormino and Associates State: CA Sampling Point: DP-3
 Investigator(s): Matt Shaffer Section, Township, Range: S2, T8N, R2E
 Landform (hillslope, terrace, etc.): Terrace Local relief (concave, convex, none): Convex Slope (%): 10%
 Subregion (LRR): Mediterranean California (LRR C) Lat: 38.572945 Long: -121.7132 Datum: NAD83
 Soil Map Unit Name: Ya - Yolo silt loam, 0 to 2 percent slopes, MLRA 17 NWI Classification: N/A
 Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No _____ (If no, explain in Remarks.)
 Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes X 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 _____	No <u>X</u>	Is the Sampled Area within a Wetland?	Yes _____	No <u>X</u>
Hydric Soil Present?	Yes _____	No <u>X</u>			
Wetland Hydrology Present?	Yes _____	No <u>X</u>			
Remarks: Upland paired point with DP-1 and DP-2.					

VEGETATION – Use scientific names of plants.

	Absolute % Cover	Dominant Species?	Indicator Status		
Tree Stratum (Plot size: _____)					
1. _____	_____	_____	_____	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>0</u> (A) Total Number of Dominant Species Across All Strata: <u>2</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>0%</u> (A/B)	
2. _____	_____	_____	_____		
3. _____	_____	_____	_____		
4. _____	_____	_____	_____		
_____ =Total Cover				Prevalence Index Worksheet: Total % Cover of: _____ Multiply by: _____ OBL species <u>0</u> x1 = <u>0</u> FACW species <u>0</u> x2 = <u>0</u> FAC species <u>0</u> x3 = <u>0</u> FACU species <u>15</u> x4 = <u>60</u> UPL species <u>85</u> x5 = <u>425</u> Column Totals: <u>100</u> (A) <u>485</u> (B) Prevalence Index = B/A = <u>4.9</u>	
Sapling/Shrub Stratum (Plot size: _____)					
1. _____	_____	_____	_____		
2. _____	_____	_____	_____		
3. _____	_____	_____	_____		
4. _____	_____	_____	_____		
5. _____	_____	_____	_____		
_____ =Total Cover					
Herb Stratum (Plot size: <u>1 meter²</u>)					
1. <u>Vicia villosa</u>	<u>45</u>	<u>X</u>	<u>UPL</u>	Hydrophytic Vegetation Indicators: _____ Dominance Test is >50% <u>X</u> Prevalence Index is ≤3.0 ¹ _____ Morphological Adaptation ¹ (Provide supporting data in Remarks or on a separate sheet) _____ Problematic Hydrophytic Vegetation ¹ (Explain)	
2. <u>Avena fatua</u>	<u>30</u>	<u>X</u>	<u>UPL</u>		
3. <u>Lactuca serriola</u>	<u>5</u>		<u>FACU</u>		
4. <u>Hordeum murinum</u>	<u>5</u>		<u>FACU</u>		
5. <u>Bromus hordeaceus</u>	<u>5</u>		<u>FACU</u>		
6. <u>Brassica nigra</u>	<u>10</u>		<u>UPL</u>		
7. _____	_____	_____	_____		
8. _____	_____	_____	_____		
<u>100</u> =Total Cover					
Woody Vine Stratum (Plot size: _____)					
1. _____	_____	_____	_____	¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.	
2. _____	_____	_____	_____		
_____ =Total Cover				Hydrophytic Vegetation Present? Yes _____ No <u>X</u>	
% Bare Ground in Herb Stratum <u>T*</u>	% Cover of Biotic Crust <u>0</u>				

Remarks: *thatch.

SOIL

Sampling Point: DP-3

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-4	10YR 3/2	100					Clay 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.)		Indicators for Problematic Hydric Soils³:	
<input type="checkbox"/> Histosol (A1)	<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> 1 cm Muck (A9) (LRR C)	
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> 2 cm Muck (A10) (LRR B)	
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Loamy Mucky Mineral (F1)	<input type="checkbox"/> Reduced Vertic (F18)	
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	<input type="checkbox"/> Red Parent Material (TF2)	
<input type="checkbox"/> Stratified Layers (A5) (LRR C)	<input type="checkbox"/> Depleted Matrix (F3)	<input type="checkbox"/> Other (Explain in Remarks)	
<input type="checkbox"/> 1 cm Muck (A9) (LRR D)	<input type="checkbox"/> Redox Dark Surface (F6)		
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Depleted Dark Surface (F7)		
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Redox Depressions (F8)		
<input type="checkbox"/> Sandy Mucky Mineral (S1)	<input type="checkbox"/> Vernal Pools (F9)		
<input type="checkbox"/> Sandy Gleyed Matrix (S4)			

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present): Type: _____ Depth (inches): _____	Hydric Soil Present? Yes _____ No <u>X</u>
Remarks: No redox.	

HYDROLOGY

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

Field Observations: Surface Water Present? Yes _____ No <u>X</u> Depth (inches): _____ Water Table Present? Yes _____ No <u>X</u> Depth (inches): _____ Saturation Present? Yes _____ No <u>X</u> Depth (inches): _____ (includes capillary fringe)	Wetland Hydrology Present? Yes _____ No <u>X</u>
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Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks: No hydrology indicators.

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: Palomino Place City/County: Davis / Yolo Sampling Date: 08/24/22
 Applicant/Owner: Taormino and Associates State: CA Sampling Point: DP-4
 Investigator(s): Matt Shaffer Section, Township, Range: S2, T8N, R2E
 Landform (hillslope, terrace, etc.): Terrace Local relief (concave, convex, none): Concave Slope (%): 2%
 Subregion (LRR): Mediterranean California (LRR C) Lat: 38.570722 Long: -121.713352 Datum: NAD83
 Soil Map Unit Name: St - Sycamore silty clay loam, drained, 0 percent slopes, MLRA 17 NWI Classification: N/A
 Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No _____ (If no, explain in Remarks.)
 Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes X 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 _____ No <u>X</u>	Is the Sampled Area within a Wetland?	Yes _____ No <u>X</u>
Hydric Soil Present? Yes _____ No <u>X</u>		
Wetland Hydrology Present? Yes _____ No <u>X</u>		

Remarks: Point within shallow, undefined swale. Vegetation similar to surrounding uplands.

VEGETATION – Use scientific names of plants.

<u>Tree Stratum</u> (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>0</u> (A) Total Number of Dominant Species Across All Strata: <u>1</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>0%</u> (A/B)
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	Prevalence Index Worksheet: Total % Cover of: _____ Multiply by: _____ OBL species <u>0</u> x1 = <u>0</u> FACW species <u>0</u> x2 = <u>0</u> FAC species <u>5</u> x3 = <u>15</u> FACU species <u>5</u> x4 = <u>20</u> UPL species <u>70</u> x5 = <u>350</u> Column Totals: <u>80</u> (A) <u>385</u> (B) Prevalence Index = B/A = <u>4.8</u>
=Total Cover				
<u>Sapling/Shrub Stratum</u> (Plot size: _____)	1. _____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	Hydrophytic Vegetation Indicators: _____ Dominance Test is >50% _____ Prevalence Index is ≤3.0 ¹ _____ Morphological Adaptation ¹ (Provide supporting data in Remarks or on a separate sheet) _____ Problematic Hydrophytic Vegetation ¹ (Explain)
=Total Cover				
<u>Herb Stratum</u> (Plot size: <u>1 meter²</u>)	1. <u><i>Avena fatua</i></u>	<u>60</u>	<u>X</u> <u>UPL</u>	
2. <u><i>Trifolium hirtum</i></u>	<u>5</u>	_____	<u>UPL</u>	
3. <u><i>Convolvulus arvensis</i></u>	<u>5</u>	_____	<u>UPL</u>	
4. <u><i>Hordeum murinum</i></u>	<u>5</u>	_____	<u>FACU</u>	
5. <u><i>Festuca perennis</i></u>	<u>5</u>	_____	<u>FAC</u>	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
=Total Cover				¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
<u>Woody Vine Stratum</u> (Plot size: _____)	1. _____	_____	_____	
2. _____	_____	_____	_____	
=Total Cover				
% Bare Ground in Herb Stratum <u>20*</u>	% Cover of Biotic Crust <u>0</u>			

Remarks: *thatch.

SOIL

Sampling Point: DP-4

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-4	10YR 3/2	100					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.)		Indicators for Problematic Hydric Soils³:	
<input type="checkbox"/> Histosol (A1)	<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> 1 cm Muck (A9) (LRR C)	
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> 2 cm Muck (A10) (LRR B)	
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Loamy Mucky Mineral (F1)	<input type="checkbox"/> Reduced Vertic (F18)	
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	<input type="checkbox"/> Red Parent Material (TF2)	
<input type="checkbox"/> Stratified Layers (A5) (LRR C)	<input type="checkbox"/> Depleted Matrix (F3)	<input type="checkbox"/> Other (Explain in Remarks)	
<input type="checkbox"/> 1 cm Muck (A9) (LRR D)	<input type="checkbox"/> Redox Dark Surface (F6)		
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Depleted Dark Surface (F7)		
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Redox Depressions (F8)		
<input type="checkbox"/> Sandy Mucky Mineral (S1)	<input type="checkbox"/> Vernal Pools (F9)		
<input type="checkbox"/> Sandy Gleyed Matrix (S4)			

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present): Type: _____ Depth (inches): _____	Hydric Soil Present? Yes _____ No <u>X</u>
Remarks: No redox.	

HYDROLOGY

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

Field Observations: Surface Water Present? Yes _____ No <u>X</u> Depth (inches): _____ Water Table Present? Yes _____ No <u>X</u> Depth (inches): _____ Saturation Present? Yes _____ No <u>X</u> Depth (inches): _____ (includes capillary fringe)	Wetland Hydrology Present? Yes _____ No <u>X</u>
---	---

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks: No hydrology indicators.

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: Palomino Place City/County: Davis / Yolo Sampling Date: 08/24/22
 Applicant/Owner: Taormino and Associates State: CA Sampling Point: DP-5
 Investigator(s): Matt Shaffer Section, Township, Range: S2, T8N, R2E
 Landform (hillslope, terrace, etc.): Terrace Local relief (concave, convex, none): Concave Slope (%): 5%
 Subregion (LRR): Mediterranean California (LRR C) Lat: 38.568231 Long: -121.714126 Datum: NAD83
 Soil Map Unit Name: St - Sycamore silty clay loam, drained, 0 percent slopes, MLRA 17 NWI Classification: N/A
 Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No _____ (If no, explain in Remarks.)
 Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes X 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 _____ No <u>X</u>	Is the Sampled Area within a Wetland?	Yes _____ No <u>X</u>
Hydric Soil Present? Yes _____ No <u>X</u>		
Wetland Hydrology Present? Yes _____ No <u>X</u>		

Remarks: Point within shallow, poorly defined swale in ruderal field.

VEGETATION – Use scientific names of plants.

<u>Tree Stratum</u> (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>1</u> (A) Total Number of Dominant Species Across All Strata: <u>3</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>33%</u> (A/B)
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
_____ =Total Cover				Prevalence Index Worksheet: Total % Cover of: _____ Multiply by: _____ OBL species <u>0</u> x1 = <u>0</u> FACW species <u>0</u> x2 = <u>0</u> FAC species <u>35</u> x3 = <u>105</u> FACU species <u>0</u> x4 = <u>0</u> UPL species <u>55</u> x5 = <u>275</u> Column Totals: <u>90</u> (A) <u>380</u> (B) Prevalence Index = B/A = <u>4.2</u>
<u>Sapling/Shrub Stratum</u> (Plot size: _____)	1. _____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
_____ =Total Cover				
<u>Herb Stratum</u> (Plot size: <u>1 meter²</u>)	1. <u>Avena fatua</u>	<u>35</u>	<u>X</u>	<u>UPL</u>
2. <u>Hordeum marinum</u>	<u>20</u>	<u>X</u>	<u>FAC</u>	
3. <u>Lepidium latifolium</u>	<u>15</u>		<u>FAC</u>	
4. <u>Silybum marianum</u>	<u>20</u>	<u>X</u>	<u>UPL</u>	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
<u>90</u> =Total Cover				
<u>Woody Vine Stratum</u> (Plot size: _____)	1. _____	_____	_____	Hydrophytic Vegetation Indicators: _____ Dominance Test is >50% _____ Prevalence Index is ≤3.0 ¹ _____ Morphological Adaptation ¹ (Provide supporting data in Remarks or on a separate sheet) _____ Problematic Hydrophytic Vegetation ¹ (Explain)
2. _____	_____	_____	_____	
_____ =Total Cover				
% Bare Ground in Herb Stratum <u>10*</u>	% Cover of Biotic Crust <u>0</u>	Hydrophytic Vegetation Present? Yes _____ No <u>X</u>		

Remarks: *thatch.

SOIL

Sampling Point: DP-5

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-4	10YR 3/2	100					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.)		Indicators for Problematic Hydric Soils³:	
<input type="checkbox"/> Histosol (A1)	<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> 1 cm Muck (A9) (LRR C)	
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> 2 cm Muck (A10) (LRR B)	
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Loamy Mucky Mineral (F1)	<input type="checkbox"/> Reduced Vertic (F18)	
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	<input type="checkbox"/> Red Parent Material (TF2)	
<input type="checkbox"/> Stratified Layers (A5) (LRR C)	<input type="checkbox"/> Depleted Matrix (F3)	<input type="checkbox"/> Other (Explain in Remarks)	
<input type="checkbox"/> 1 cm Muck (A9) (LRR D)	<input type="checkbox"/> Redox Dark Surface (F6)		
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Depleted Dark Surface (F7)		
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Redox Depressions (F8)		
<input type="checkbox"/> Sandy Mucky Mineral (S1)	<input type="checkbox"/> Vernal Pools (F9)		
<input type="checkbox"/> Sandy Gleyed Matrix (S4)			

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present): Type: _____ Depth (inches): _____	Hydric Soil Present? Yes _____ No <u>X</u>
Remarks: No redox.	

HYDROLOGY

Wetland Hydrology Indicators:		
<u>Primary Indicators (minimum of one required; check all that apply)</u>		<u>Secondary Indicators (2 or more required)</u>
<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> Salt Crust (B11)	<input type="checkbox"/> Water Marks (B1) (Riverine)
<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Biotic Crust (B12)	<input type="checkbox"/> Sediment Deposits (B2) (Riverine)
<input type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Aquatic Invertebrates (B13)	<input type="checkbox"/> Drift Deposits (B3) (Riverine)
<input type="checkbox"/> Water Marks (B1) (Nonriverine)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)	<input type="checkbox"/> Drainage Patterns (B10)
<input type="checkbox"/> Sediment Deposits (B2) (Nonriverine)	<input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3)	<input type="checkbox"/> Dry-Season Water Table (C2)
<input type="checkbox"/> Drift Deposits (B3) (Nonriverine)	<input type="checkbox"/> Presence of Reduced Iron (C4)	<input type="checkbox"/> Crayfish Burrows (C8)
<input type="checkbox"/> Surface Soil Cracks (B6)	<input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)	<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)	<input type="checkbox"/> Thin Muck Surface (C7)	<input type="checkbox"/> Shallow Aquitard (D3)
<input type="checkbox"/> Water-Stained Leaves (B9)	<input type="checkbox"/> Other (Explain in Remarks)	<input type="checkbox"/> FAC-Neutral Test (D5)
Field Observations:		
Surface Water Present? Yes _____ No <u>X</u>	Depth (inches): _____	Wetland Hydrology Present? Yes _____ No <u>X</u>
Water Table Present? Yes _____ No <u>X</u>	Depth (inches): _____	
Saturation Present? Yes _____ No <u>X</u>	Depth (inches): _____ (includes capillary fringe)	

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks: No hydrology indicators.

Attachment B

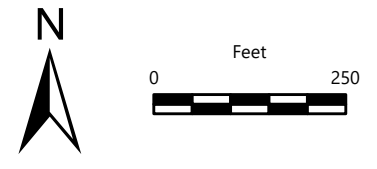
Aquatic Resources Delineation Map



C:\Projects\2022\PalominoPlace\MapDocs_AerialUSACE_AND_PalominoPlace.mxd 9/26/2022 4:07:56 PM

Notes:
Map Scale: 1 inch = 250 feet
Coordinate System: NAD83 State Plane California II
Datum: NAD83 (North American Datum 1983)
Projection: Lambert Conformal Conic
Vertical Data: NAVD88
Aerial Base: Maxar, WV02, 22 April 2021
Topo Source: Yolo County
Date Map Prepared: 20 September 2022
Map Prepared by: D. Wagnon
Delineation Performed by: M. Shaffer
Definitions:
 NAD = North American Datum
 NAVD = North American Vertical Datum
 USGS = United States Geological Survey

Prepared For:
 J. David Taormino
 Taormino and Associates
 429 F Street, Suite 5
 Davis, CA 95616



- Study Area Boundary (31 acres)
- 1-Ft. Contour Interval
- Reference Point (Longitude, Latitude)
- Data Points
- Aquatic Resources (0.052 acre, 72 linear feet)**
- Other Waters (0.052 acre, 72 linear feet)**
- Intermittent Drainage (0.052 acre, 72 linear feet)

Aquatic Resources Delineation

Palomino Place
 Yolo County, California



8421 Auburn Boulevard, Suite 248
 Citrus Heights, California 95610
 (916) 822.3230 | www.madroneco.com

Attachment C

Plant Species Observed within the Study Area

**Plant Species Observed within the
Palomino Place Study Area
24 August 2022**

Species Name	Common Name	Wetland Indicator Status
<i>Acmispon americanus</i>	Spanish lotus	UPL
<i>Aesculus californica</i>	California buckeye	UPL
<i>Amaranthus blitoides</i>	Prostrate pigweed	FACU
<i>Ambrosia psilostachya</i>	Western ragweed	FACU
<i>Artemisia californica</i>	California sagebrush	UPL
<i>Artemisia douglasiana</i>	Mugwort	FAC
<i>Asclepias fascicularis</i>	Narrow-leaf milkweed	FAC
<i>Atriplex rosea</i>	Redscale	FACU
<i>Avena barbata</i>	Slender wild oat	UPL
<i>Avena fatua</i>	Wild oat	UPL
<i>Baccharis pilularis</i>	Coyote bush	UPL
<i>Brassica nigra</i>	Black mustard	UPL
<i>Bromus diandrus</i>	Ripgut brome	UPL
<i>Bromus hordeaceus</i>	Soft brome	FACU
<i>Carduus pycnocephalus</i>	Italian thistle	UPL
<i>Ceanothus sp.</i>	Ceanothus	-
<i>Celtis occidentalis</i>	Common hackberry	-
<i>Centaurea solstitialis</i>	Yellow star-thistle	UPL
<i>Cercis canadensis</i>	Eastern redbud	UPL
<i>Cercis occidentalis</i>	Western redbud	UPL
<i>Chenopodium album</i>	Lamb's quarters	FACU
<i>Cirsium vulgare</i>	Bull thistle	FACU
<i>Convolvulus arvensis</i>	Field bindweed	UPL
<i>Cotoneaster sp.</i>	Cotoneaster	-
<i>Cupressus sempervirens</i>	Italian cypress	UPL
<i>Cynodon dactylon</i>	Bermuda grass	FACU
<i>Cyperus eragrostis</i>	Tall nut-sedge	FACW
<i>Dittrichia graveolens</i>	Stinkwort	UPL
<i>Elymus caput-medusae</i>	Medusa head grass	UPL
<i>Elymus glaucus</i>	Blue wildrye	FACU
<i>Epilobium brachycarpum</i>	Panicled willowherb	FAC
<i>Epilobium canum</i>	California fuchsia	UPL
<i>Erigeron canadensis</i>	Horseweed	FACU
<i>Eriogonum fasciculatum</i>	California buckwheat	UPL
<i>Euphorbia serpillifolia</i>	Thyme-leafed spurge	UPL
<i>Festuca perennis</i>	Perennial ryegrass	FAC
<i>Ficus carica</i>	Fig	FACU
<i>Foeniculum vulgare</i>	Fennel	UPL
<i>Frangula californica ssp. tomentella</i>	Hoary coffeeberry	UPL

<i>Fremontodendron californicum</i>	California fremontia	UPL
<i>Galium aparine</i>	Goose grass	FACU
<i>Ginkgo biloba</i>	Ginkgo	-
<i>Helminthotheca echioides</i>	Bristly oxtongue	FAC
<i>Heteromeles arbutifolia</i>	Toyon	UPL
<i>Hirschfeldia incana</i>	Shortpod mustard	UPL
<i>Hordeum marinum</i>	Mediterranean barley	FAC
<i>Hordeum murinum</i>	Wall barley	FACU
<i>Juglans hindsii</i>	Northern California black walnut	FAC
<i>Juglans regia</i>	English walnut	UPL
<i>Juncus balticus</i>	Baltic rush	FACW
<i>Kickxia elatine</i>	Sharp-leaved fluellin	UPL
<i>Koelreuteria paniculata</i>	Golden rain tree	-
<i>Lactuca serriola</i>	Prickly lettuce	FACU
<i>Lepidium didymum</i>	Lesser swine cress	UPL
<i>Lepidium latifolium</i>	Perennial pepperweed	FAC
<i>Ligustrum sp.</i>	Privet	UPL
<i>Malvella leprosa</i>	Alkali mallow	FACU
<i>Melia azedarach</i>	Chinaberry	UPL
<i>Muhlenbergia rigens</i>	Deer grass	FAC
<i>Myoporum sp.</i>	Myoporum	-
<i>Olea europaea</i>	Olive	UPL
<i>Opuntia ficus-indica</i>	Mission cactus	UPL
<i>Paspalum dilatatum</i>	Dallis grass	FAC
<i>Peritoma arborea</i>	Bladderpod	UPL
<i>Persicaria lapathifolia</i>	Common knotweed	FACW
<i>Phalaris aquatica</i>	Harding grass	FACU
<i>Phyllostachys sp.</i>	Bamboo	-
<i>Pinus canariensis</i>	Canary island pine	-
<i>Pistacia chinensis</i>	Chinese pistache	-
<i>Platanus racemosa</i>	Western sycamore	FAC
<i>Populus fremontii</i>	Fremont cottonwood	FAC
<i>Prunus armeniaca</i>	Apricot	-
<i>Prunus sp.</i>	Plum	-
<i>Punica granatum</i>	Pomegranate	-
<i>Quercus ilex</i>	Holm oak	-
<i>Quercus lobata</i>	Valley oak	FACU
<i>Quercus wislizeni</i>	Interior live oak	UPL
<i>Rosa californica</i>	California rose	FAC
<i>Rosa sp.</i>	Rose	-
<i>Rumex crispus</i>	Curly dock	FAC
<i>Salix gooddingii</i>	Goodding's black willow	FACW
<i>Sambucus nigra ssp. caerulea</i>	Blue elderberry	FACU
<i>Schoenoplectus acutus</i>	Common tule	OBL
<i>Silybum marianum</i>	Milk thistle	UPL

<i>Stipa pulchra</i>	Purple needle grass	UPL
<i>Triadica sebifera</i>	Chinese tallowtree	FAC
<i>Trifolium hirtum</i>	Rose clover	UPL
<i>Typha sp.</i>	Cattail	OBL
<i>Vicia villosa</i>	Winter vetch	UPL
<i>Vitis californica</i>	California wild grape	FACU
<i>Washingtonia robusta</i>	Mexican fan palm	FACW

Attachment D

Representative Site Photographs



Data Point DP-1 – 24 August 2022



Data Point DP-2 – 24 August 2022



Data Point DP-3 – 24 August 2022



Data Point DP-4 – 24 August 2022



Data Point DP-5 – 24 August 2022



Intermittent Drainage (Covell Drain) (ID-1), facing northeast – 24 August 2022

Attachment E

GIS Shapefiles and the Aquatic Resources Excel Spreadsheet (via email)

Attachment F


Access Letter

Attachment G

JD Request Form

Attachment F

**Special-Status Plant Survey
Report for Palomino Place**



Special-Status Plant Survey Report

Palomino Place

Yolo County, California

October 2022



Prepared for:

David J. Taormino
Palomino Place, LLC
429 F Street, Suite 5
Davis, California 95616

Recommended Citation:

Madrone Ecological Consulting, LLC (Madrone). 2022. *Special-Status Plant Survey Report for Palomino Place*. Prepared for Palomino Place, LLC. Published on 5 October 2022

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Palomino Place**

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 3.1.2 Mixed Willow Alliance **3**

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Figures:

Figure 1. Vicinity Map

Figure 2. Yolo HCP Land Cover Types

Figure 3. Natural Resources Conservation Service Soils

Attachments:

Attachment A: Botanist Qualifications

Attachment B: Target Plant Species Reference Population Information

Attachment C: Plant Species Observed within the Palomino Place Study Area

1.0 INTRODUCTION

This report presents the results of a special-status plant survey conducted for the approximately 31-acre Palomino Place Study Area. The Study Area is located to the north of East Covell Boulevard in the eastern portion of the City of Davis, Yolo County, California. The Study Area is located within Section 2, Township 8 North, Range 2 East (MDB&M) of the "Davis, California" 7.5-Minute Series USGS Topographic Quadrangle (USGS 2018) (Figure 1).

2.0 METHODOLOGY

Madrone Ecological Consulting, LLC (Madrone) botanist Daria Snider conducted protocol-level rare plant surveys of the Study Area on 12 and 21 September 2022 in accordance with the *Guidelines for Conducting and Reporting Botanical Inventories for Federally Listed, Proposed, and Candidate Plants* (USFWS 2000), the *Botanical Survey Guidelines of the California Native Plant Society* (CNPS 2001), and *Protocols for Surveying and Evaluating Impacts to Special Status Native Plant Populations and Natural Communities* (CDFW 2018).

A list of special-status plant species with potential to occur within the Study Area was developed by reviewing the following:

- the California Native Plant Society (CNPS) Rare and Endangered Plant Inventory (CNPS 2021) query of CRPR Lists 1A, 1B, 2A, 2B, and 3 within the "Davis, California" USGS topo quadrangle, and the eight surrounding quadrangles; and
- the California Natural Diversity Database occurrences of special-status plant species within 5 miles of the Study Area (CNDDDB 2022).

The target species for this survey were:

- Bristly sedge (*Carex comosa*) and
- San Joaquin spearscale (*Extriplex joaquiniana*).

The Study Area was comprehensively surveyed on foot by walking rough transects through the site to ensure full coverage. The surveys were floristic in nature, which means that all plant species observed on-site were identified to the taxonomic level necessary to determine rarity. Thus, if a special-status plant was present but not on the target list, it would have been detected and documented. Plant taxonomy was based on the nomenclature in the *Jepson eFlora* (Jepson Flora Project 2022). Vegetation communities were classified according to the *Yolo Habitat Conservation Plan/Natural Community Conservation Plan* (Yolo HCP) (ICF 2018). Qualifications for the botanist that conducted the surveys are included in **Attachment A**, a list of reference populations of target plants visited is included in **Attachment B**, and a comprehensive list of all plant species observed during surveys of the Study Area is included in **Attachment C**.

3.0 EXISTING CONDITIONS

The main portion of the Study Area consists of multiple parcels of disturbed ruderal habitat. Based on review of aerial imagery and the presence of substantial existing infrastructure, it appears the Study Area

has been used to support horses and potentially other livestock, and much of the ruderal portions of the site have historically been grazed. No livestock was observed within the Study Area during Madrone's site visits, and much of the fencing and structures appear to be unused and in a state of disrepair. Vegetation within the ruderal areas is dominated by non-native ruderal grasses and forbs including wild oats (*Avena barbata* and *Avena fatua*), black mustard (*Brassica nigra*), Italian thistle (*Carduus pycnocephalus*), yellow star-thistle (*Centaurea solstitialis*), shortpod mustard (*Hirschfeldia incana*), perennial pepperweed (*Lepidium latifolium*), and milk thistle (*Silybum marianum*). Other vegetation growing within the ruderal areas includes field bindweed (*Convolvulus arvensis*), Bermuda grass (*Cynodon dactylon*), stinkwort (*Dittrichia graveolens*), and fennel (*Foeniculum vulgare*). Several homesteads, sheds, paved/gravel roads, and other associated infrastructure occur within the ruderal area. Numerous planted trees are located throughout the ruderal area and associated with the on-site development, including Italian cypress (*Cupressus sempervirens*), fig (*Ficus carica*), English walnut (*Juglans regia*), olive (*Olea europaea*), Chinese pistache (*Pistacia chinensis*), plum (*Prunus sp.*), pomegranate (*Punica granatum*), and Mexican fan palm (*Washingtonia robusta*).

The northern portion of the Study Area consists of the Wildhorse Greenbelt, which was created as a required buffer between the Wildhorse residential development and adjacent farmland, pursuant to Municipal Code Article 40A.01.050. The City-maintained buffer was created to provide wildlife habitat and offer recreational activities. This area consists of annual grassland dominated by non-native annual grasses and forbs such as wild oats, ripgut brome (*Bromus diandrus*), soft brome (*Bromus hordeaceus*), Medusa head grass (*Elymus caput-medusae*), perennial ryegrass (*Festuca perennis*), wall barley (*Hordeum murinum*), rose clover (*Trifolium hirtum*), and winter vetch (*Vicia villosa*). Other species within the annual grassland include yellow star-thistle, perennial pepperweed, field bindweed, narrow-leaf milkweed (*Asclepias fascicularis*), horseweed (*Erigeron canadensis*), prickly lettuce (*Lactuca serriola*), and alkali mallow (*Malvella leprosa*). A walking trail runs through the northern portion of the site, within the Wildhorse Greenbelt. Scattered trees occur along the trail, dominated by valley oak (*Quercus lobata*); other associated tree and shrub species include California buckeye (*Aesculus californica*), toyon (*Heteromeles arbutifolia*), Northern California black walnut (*Juglans hindsii*), western sycamore (*Platanus racemosa*), interior live oak (*Quercus wislizeni*), and California rose (*Rosa californica*).

The Study Area is situated on mostly flat terrain at an elevation of approximately 30 feet to 40 feet above mean sea level (MSL).

3.1 Yolo HCP Land Cover Types

The Yolo HCP land cover classification system uses a two-level hierarchy that establishes 15 natural communities and 79 floristic-based vegetation types and other unvegetated land cover types. Six land cover types were observed within the Study Area: freshwater marsh alliance, mixed willow alliance, urban, urban ruderal with covered species habitat, vegetated corridor, and California annual grassland alliance (Figure 2).

3.1.1 Freshwater Marsh Alliance/Covell Drain

Covell Drain, an intermittent drainage, flows from west to east through the northern portion of the Study Area; the drainage was dry at the time of the survey. Covell Drain is generally sparsely vegetated, although dense patches of vegetation occur in portions of the drainage and along the edges of the channel. Vegetation within the drainage consists of emergent wetland species dominated by Baltic rush (*Juncus balticus*) and common tule (*Schoenoplectus acutus*). Other species within the drainage include tall nut-sedge (*Cyperus eragrostis*), paniced willowherb (*Epilobium brachycarpum*), common knotweed (*Persicaria lapathifolia*), curly dock (*Rumex crispus*), and cattail (*Typha sp.*). The Yolo HCP Land Cover classification that mostly closely corresponds to this feature is freshwater marsh alliance.

3.1.2 Mixed Willow Alliance

Small patches of mixed willow alliance occur along Covell Drain where it crosses through the Study Area. These areas are dominated by Goodding's black willow (*Salix gooddingii*), along with other riparian vegetation including Fremont cottonwood (*Populus fremontii*) and California wild grape (*Vitis californica*).

3.1.3 Urban

The urban landcover type consists of several patches of mostly unvegetated development within the central portion of the Study Area, including several residential homes, sheds and other structures, paved/gravel roads, grass lawns, and other associated infrastructure. In addition, a portion of East Covell Boulevard occurs at the southern end of the Study Area, and a paved walking trail runs through the northern portion of the site.

3.1.4 Urban Ruderal with Covered Species Habitat

The urban ruderal with covered species habitat land cover (ruderal areas) within the Study Area appears to be regularly disturbed and occurs throughout the main portion of the site. Vegetation is predominantly dominated by non-native ruderal grasses and forbs including wild oats, black mustard, Italian thistle, yellow star-thistle, shortpod mustard, perennial pepperweed, and milk thistle. Several species of planted ornamental trees also occur within the ruderal areas. Portions of these areas contain extremely tall and robust vegetation (likely due to an absence of livestock grazing), while some areas appear to be regularly mowed and contain shorter vegetation.

3.1.5 Vegetated Corridor

Vegetated corridor consists of planted and maintained ornamental tree and shrub species along East Covell Boulevard at the southern end of the site.

3.1.6 California Annual Grassland Alliance

The California annual grassland alliance (annual grassland) occurs throughout the northern portion of the Study Area, within the Wildhorse Greenbelt, which is a buffer area between the residential development to the west and agricultural land to the east. This area is dominated by non-native annual grasses and forbs, such as wild oats, riggut brome, soft brome, Medusa head grass, perennial ryegrass, wall barely, rose clover, and winter vetch. Although portions of the annual grassland have been mowed adjacent to a walking trail which runs within it, the area is significantly less disturbed and features less ruderal vegetation compared to the ruderal areas within the main portion of the Study Area. In addition, scattered native trees and shrubs have been planted along the walking trail, within the annual grassland.

3.2 Soils

According to the Natural Resources Conservation Service (NRCS) Soil Survey Database (NRCS 2022), the Study Area contains the following soil mapping units (**Figure 3**):

- Sp, Sycamore silt loam, drained, 0 percent slopes, MLRA 17;
- St, Sycamore silty clay loam, drained, 0 percent slopes, MLRA 17;
- Tc, Tyndall very fine sandy loam, drained; and
- Ya, Yolo silt loam, 0 to 2 percent slopes, MLRA 17.

The Sycamore and Yolo soils are slightly acidic to neutral in the surface layers, but the Tyndall soils are slightly to moderately alkaline. None of the soils are derived from serpentine or comprised of heavy clays, meaning the Study Area does not present suitable habitat for special-status plant species that prefer these habitats.

4.0 SURVEY RESULTS

4.1 Bristly Sedge

Bristly sedge (*Carex comosa*) is not federally or state listed, but is designated as a CRPR 2B.1 species. Bristly sedge is a rhizomatous perennial that occurs in coastal prairie and in marshy lake margins (CNPS 2022). This species blooms from May through September (although sedges are only identifiable when in fruit in late summer and early fall) and is known to occur at elevations ranging from sea level to approximately 2,050 feet above MSL (CNPS 2022).

Marginally suitable habitat for this species is present in Covell Drain. Bristly sedge was not observed during the protocol-level plant surveys of the Study Area, which were conducted in September, when this species would have been identifiable.

4.2 San Joaquin Spearscale

San Joaquin spearscale (*Extriplex joaquinana*) is not federally or state listed, but it is classified as a CRPR List 1B.2 plant. It is an annual herbaceous species that is endemic to California and occurs in chenopod scrub, meadows and seeps, playas, and grasslands, often in alkaline soils (CNPS 2022). San Joaquin spearscale blooms from April through October and grows at elevations ranging from sea level to approximately 2,740 feet above MSL (CNPS 2022).

Marginally suitable habitat for this species is present in ruderal areas on Tyndall soils in the southeastern portion of the Study Area. San Joaquin spearscale was not observed during the protocol-level plant surveys of the Study Area, which were conducted in September 2022 when this species was identifiable at a nearby reference site.

5.0 CONCLUSION

None of the target plant species were observed during the 2022 special-status plant survey of the Study Area.

6.0 REFERENCES

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Figures

Figure 1. Vicinity Map

Figure 2. Yolo HCP Land Cover Types

Figure 3. Natural Resources Conservation Service Soils

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Figure 2
Yolo HCP Land Cover Types




Aerial Source: Maxar WV02, 22 April 2021

Palomino Place
Yolo County, California









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 Study Area Boundary (31 acres)

Soil Map Units

-  Sp - Sycamore silt loam, drained, 0 percent slopes, MLRA 17
-  St - Sycamore silty clay loam, drained, 0 percent slopes, MLRA 17
-  Tc - Tyndall very fine sandy loam, drained
-  Ya - Yolo silt loam, 0 to 2 percent slopes, MLRA 17

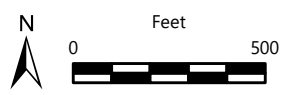


Figure 3
Natural Resources Conservation Service Soils

Soil Survey Source: *USDA, Soil Conservation Service.*
Soil Survey Geographic (SSURGO) database for Yolo County, California
 Aerial Source: Maxar WV02, 22 April 2021

Palomino Place
 Yolo County, California



Attachments

Attachment A: Botanist Qualifications

Attachment B: Target Plant Species Reference Population Information

Attachment C: Plant Species Observed within the Palomino Place Study Area

Attachment A

Botanist Qualifications

Rare Plant Survey Botanist Qualifications

Daria Snider

Ms. Snider has more than 17 years of experience conducting botanical inventories. As a senior biologist, she specializes in rare plant surveys, wetland delineations, and general biological resource inventories. In addition to rare plant surveys, her botanical experience includes general vegetation surveys, aerial and field vegetation mapping, Certified Arborist tree inventories, CRAM Assessments, floristic monitoring, and invasive species identification and mapping. Ms. Snider's experience includes a wide variety of habitat types, including vernal pools, annual grasslands, oak woodland, riparian communities, coastal sage scrub, chaparral, cismontane and montane forests, and desert. Her geographic expertise covers much of California, from Shasta County in the north to the Mojave Desert and San Gabriel Mountains in the south, and from Napa County in the west to the Sierra Nevada foothills and mountains in the east. Her primary focus is on the Sacramento Valley and the adjacent Sierra Nevada foothills.

Attachment B

Target Plant Species Reference Population Information

**Target Plant Species Reference Population Information
for the Palomino Place
Special-Status Plant Survey**

Plant Species	Location of Reference Population	Date of Visit	Phenology of Reference Population/ Distinctive Characteristics
<i>Carex comosa</i> Bristly sedge	CalFlora and Jepson eFlora	September 2022	Glabrous sedge with inflated perigynia and 3 stigmas and curved perigynia beak teeth.
<i>Extriplex joaquiniana</i> San Joaquin spearscale	Woodland Regional Park	12 September 2022	Numerous individuals observed along the roadsides. Plant is in fruit and easily identifiable to species.

Attachment C

Plant Species Observed within the Palomino Place Study Area

Plant Species Observed within the
Palomino Place Study Area
12 and 21 September 2022

Family/Species Name	Common name	Native/Non-native
ADOXACEAE		
<i>Sambucus nigra subsp. caerulea</i>	Blue elderberry	Native
AMARANTHACEAE		
<i>Amaranthus blitoides</i>	Procumbent pigweed	Native
ANACARDIACEAE		
<i>Pistacia chinensis</i>	Chinese pistache	Non-Native
APIACEAE		
<i>Foeniculum vulgare</i>	Fennel	Non-Native
APOCYNACEAE		
<i>Asclepias fascicularis</i>	Narrow-leaf milkweed	Native
ARECACEAE		
<i>Washingtonia robusta</i>	Mexican fan palm	Non-Native
ASTERACEAE		
<i>Ambrosia psilostachya</i>	Western ragweed	Native
<i>Artemisia californica</i>	California sagebrush	Native
<i>Artemisia douglasiana</i>	Mugwort	Native
<i>Baccharis pilularis</i>	Coyote brush	Native
<i>Carduus pycnocephalus subsp. pycnocephalus</i>	Italian thistle	Non-Native
<i>Centaurea solstitialis</i>	Yellow star-thistle	Non-Native
<i>Cirsium vulgare</i>	Bull thistle	Non-Native
<i>Dittrichia graveolens</i>	Stinkwort	Non-Native
<i>Erigeron canadensis</i>	Horseweed	Native
<i>Helminthotheca echioides</i>	Bristly ox-tongue	Non-Native
<i>Lactuca serriola</i>	Prickly lettuce	Non-Native
<i>Silybum marianum</i>	Milk thistle	Non-Native
BRASSICACEAE		
<i>Brassica nigra</i>	Black mustard	Non-Native

Family/Species Name	Common name	Native/Non-native
<i>Hirschfeldia incana</i>	Shortpod mustard	Non-Native
<i>Lepidium didymum</i>	Lesser swine cress	Non-Native
<i>Lepidium latifolium</i>	Perennial pepperweed	Non-Native
CACTACEAE		
<i>Opuntia ficus-indica</i>	Mission prickly-pear	Non-Native
CANNABACEAE		
<i>Celtis occidentalis</i>	Common hackberry	Non-Native
CHENOPODIACEAE		
<i>Atriplex rosea</i>	Tumbling orache	Non-Native
<i>Chenopodium album</i>	Lamb's quarters	Non-Native
CLEOMACEAE		
<i>Peritoma arborea</i>	Bladderpod	Native
CONVOLVULACEAE		
<i>Convolvulus arvensis</i>	Bindweed	Non-Native
CUPRESSACEAE		
<i>Cupressus sempervirens</i>	Italian cypress	Non-Native
CYPERACEAE		
<i>Cyperus eragrostis</i>	Tall nutsedge	Native
<i>Schoenoplectus acutus var. occidentalis</i>	Common tule	Native
DIPSACACEAE		
<i>Dipsacus fullonum</i>	Wild teasel	Non-Native
EUPHORBIACEAE		
<i>Euphorbia serpillifolia</i>	Thyme-leafed spurge	Native
<i>Triadica sebifera</i>	Chinese tallowtree	Non-Native
FABACEAE		
<i>Acmispon americanus var. americanus</i>	Spanish lotus	Native
<i>Cercis canadensis</i>	Eastern redbud	Non-Native
<i>Cercis occidentalis</i>	Western redbud	Native
<i>Trifolium hirtum</i>	Rose clover	Non-Native

Family/Species Name	Common name	Native/Non-native
<i>Vicia villosa</i>	Hairy vetch, winter vetch	Non-Native
FAGACEAE		
<i>Quercus ilex</i>	Holly oak	Non-Native
<i>Quercus lobata</i>	Valley oak	Native
<i>Quercus wislizeni</i>	Interior live oak	Native
JUGLANDACEAE		
<i>Juglans hindsii</i>	Northern California black walnut	Native
<i>Juglans regia</i>	Persian or english walnut	Non-Native
JUNCACEAE		
<i>Juncus balticus subsp. ater</i>	Baltic rush	Native
LYTHRACEAE		
<i>Punica granatum</i>	Pomegranate	Non-Native
MALVACEAE		
<i>Fremontodendron californicum</i>	Flannelbush	Native
<i>Malvella leprosa</i>	Alkali-mallow	Native
MELIACEAE		
<i>Melia azedarach</i>	China berry	Non-Native
MORACEAE		
<i>Ficus carica</i>	Edible fig	Non-Native
OLEACEAE		
<i>Ligustrum species</i>	Privet	Non-Native
<i>Olea europaea</i>	Olive	Non-Native
ONAGRACEAE		
<i>Epilobium brachycarpum</i>	Willowherb	Native
<i>Epilobium canum</i>	California fuchsia	Native
PINACEAE		
<i>Pinus canariensis</i>	Canary island pine	Non-Native

Family/Species Name	Common name	Native/Non-native
PLANTAGINACEAE		
<i>Kickxia elatine</i>	Sharp-leaved fluellen	Non-Native
PLATANACEAE		
<i>Platanus racemosa</i>	Western sycamore	Native
POACEAE		
<i>Avena barbata</i>	Slender wild oat	Non-Native
<i>Avena fatua</i>	Wild oat	Non-Native
<i>Bromus diandrus</i>	Ripgut grass	Non-Native
<i>Bromus hordeaceus</i>	Soft chess	Non-Native
<i>Cynodon dactylon</i>	Bermuda grass	Non-Native
<i>Elymus caput-medusae</i>	Medusa head	Non-Native
<i>Elymus glaucus</i>	Blue wild-rye	Native
<i>Festuca perennis</i>	Rye grass	Non-Native
<i>Hordeum marinum subsp. gussoneanum</i>	Mediterranean barley	Non-Native
<i>Hordeum murinum</i>	Wall barley	Non-Native
<i>Muhlenbergia rigens</i>	Deer grass	Native
<i>Paspalum dilatatum</i>	Dallis grass	Non-Native
<i>Phalaris aquatica</i>	Harding grass	Non-Native
<i>Phyllostachys species</i>	Bamboo	Non-Native
<i>Stipa pulchra</i>	Purple needle grass	Native
POLYGONACEAE		
<i>Eriogonum fasciculatum</i>	California buckwheat	Native
<i>Persicaria lapathifolia</i>	Willow weed	Native
<i>Rumex crispus</i>	Curly dock	Non-Native
RHAMNACEAE		
<i>Ceanothus species</i>		
<i>Frangula californica subsp. tomentella</i>	Hoary coffeeberry	Native
ROSACEAE		
<i>Cotoneaster species</i>		
<i>Heteromeles arbutifolia</i>		Native
<i>Prunus armeniaca</i>	Apricot	Non-Native
<i>Rosa californica</i>	California rose	Native
<i>Rosa species</i>		

Family/Species Name	Common name	Native/Non-native
RUBIACEAE		
<i>Galium aparine</i>	Goose grass	Native
SALICACEAE		
<i>Populus fremontii subsp. fremontii</i>	Fremont cottonwood	Native
<i>Salix gooddingii</i>	Goodding's black willow	Native
SAPINADACEAE		
<i>Koelreuteria paniculata</i>	Golden rain tree	Non-Native
<i>Aesculus californica</i>	California buckeye	Native
SCROPHULARIACEAE		
<i>Myoporum species</i>	Myoporum	Non-Native
TYPHACEAE		
<i>Typha species</i>	Cattail	
VITACEAE		
<i>Vitis californica</i>	California wild grape	Native

Attachment G

Arborist Report for Palomino Place



Arborist Survey Report

Palomino Place

City of Davis, Yolo County, California

October 2022



Prepared for:

David J. Taormino
Palomino Place, LLC
429 F Street, Suite 5
Davis, California 95616

Recommended Citation:

Madrone Ecological Consulting, LLC (Madrone). 2022. *Arborist Report – Palomino Place*. Prepared for Palomino Place, LLC.. Published 4 October 2022.

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Palomino Place**

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Figure 1. Vicinity Map

Attachments

- Attachment A. Tree Inventory Map
- Attachment B. Arborist Survey Data

1.0 INTRODUCTION

This report presents the results of an arborist survey conducted for the Palomino Place Property (Study Area) by Madrone Ecological Consulting, LLC (Madrone). The approximately 31-acre Study Area is north of Covell Boulevard and east of the Wildhorse residential development and golf club within the City of Davis, Yolo County, California. The Study Area is located within Section 2, Township 8 North, Range 2 East (MDB&M) of the "Davis, California" 7.5-Minute Series USGS Topographic Quadrangle (USGS 2018) (Figure 1).

2.0 GENERAL SITE CONDITIONS AND HABITAT

The main portion of the Study Area consists of multiple parcels of disturbed ruderal habitat. Vegetation within the ruderal areas is predominantly dominated by non-native ruderal grasses and forbs including wild oats (*Avena barbata* and *Avena fatua*), black mustard (*Brassica nigra*), Italian thistle (*Carduus pycnocephalus*), yellow star-thistle (*Centaurea solstitialis*), shortpod mustard (*Hirschfeldia incana*), perennial pepperweed (*Lepidium latifolium*), and milk thistle (*Silybum marianum*). Other vegetation growing within the ruderal areas includes field bindweed (*Convolvulus arvensis*), Bermuda grass (*Cynodon dactylon*), stinkwort (*Dittrichia graveolens*), and fennel (*Foeniculum vulgare*). Several homesteads, sheds, paved/gravel roads, and other associated infrastructure occur within the ruderal area. Numerous non-native trees are located throughout the ruderal area and associated with the on-site development, including Italian cypress (*Cupressus sempervirens*), fig (*Ficus carica*), English walnut (*Juglans regia*), olive (*Olea europaea*), Chinese pistache (*Pistacia chinensis*), plum (*Prunus sp.*), pomegranate (*Punica granatum*), and Mexican fan palm (*Washingtonia robusta*).

The northern portion of the Study Area consists of annual brome grassland dominated by wild oats, ripgut brome (*Bromus diandrus*), soft brome (*Bromus hordeaceus*), Medusa head grass (*Elymus caput-medusae*), perennial ryegrass (*Festuca perennis*), wall barley (*Hordeum murinum*), rose clover (*Trifolium hirtum*), and winter vetch (*Vicia villosa*). Other species within the annual grassland include yellow star-thistle, perennial pepperweed, field bindweed, narrow-leaf milkweed (*Asclepias fascicularis*), horseweed (*Erigeron canadensis*), prickly lettuce (*Lactuca serriola*), and alkali mallow (*Malvella leprosa*). A walking trail runs through the northeastern portion of the site and within the annual grassland. Scattered trees occur along the trail, dominated by valley oak (*Quercus lobata*); other associated tree and shrub species include California buckeye (*Aesculus californica*), toyon (*Heteromeles arbutifolia*), Northern California black walnut (*Juglans hindsii*), western sycamore (*Platanus racemosa*), and California rose (*Rosa californica*). The Study Area is situated on mostly flat terrain at an elevation of approximately 30 feet to 40 feet above mean sea level (MSL).

Mixed willow alliance occurs along Covell Drain where it crosses the Study Area. This community is dominated by Goodding's black willow (*Salix gooddingii*) and California wild grape (*Vitis californica*).

3.0 METHODOLOGY

Madrone ISA Certified Arborist Daria Snider (#WE-8666A) conducted the arborist survey on 12 and 21 September 2022. The survey was conducted in accordance with the City of Davis Code Chapter 37 - Tree Planting, Preservation, and Protection (Tree Ordinance).

All trees with a Diameter at Breast Height (DBH) of 5 inches or more (as detailed below) were inventoried. In accordance with the Tree Ordinance, a "tree" is defined as any woody perennial plant having one or several main stems commonly achieving ten or more feet in height and capable of being pruned to develop a branch free trunk at least nine feet in height. A number of woody plant species that are typically considered shrubs, but have been pruned into a tree shape were observed within the Study Area; however, in many cases, the branches/trunks were numerous and slender. As such, Ms. Snider inventoried only plants with at least one trunk that was 5" DBH or greater.

For each tree inventoried, Ms. Snider nailed aluminum tags with a unique identification number into the trunk, recorded the tree identification number, tree species, DBH, approximate dripline radius, and general health and structure. The location of each tree was recorded with a GPS unit capable of sub-meter accuracy (Arrow 100). Note that the health and structure ratings recorded during the course of this survey may be used for general planning purposes, but shall not be considered to be a hazard assessment for public safety purposes.

The Tree Ordinance protects a number of different categories of trees, as follows: street trees, city trees, landmark trees, trees of significance, parking lot trees, and certain private trees. The following categories occur within the Study Area:

- Street Trees are "any tree planted and/or maintained by the city, or recorded as a street tree, adjacent to a street or within a city easement or right-of-way on private property, within the street tree easement." The Street Tree Easement is "the ten-foot zone behind the sidewalk or between curb and sidewalk." Street Trees occur along either side of East Covell Boulevard, and in the median.
- City Trees are "trees in parks, greenbelts, open spaces, on city property or easements, etc." These occur in the northern "arm" of the Study Area.
- Trees of Significance/Private Trees are all trees greater than 5 inches DBH. Where they occur on unimproved property zoned for single-family or duplex development, they are considered "Trees of Significance," and where they occur on properties with single-family or duplex dwellings already present, they are considered "Private Trees." Both categories are subject to the same requirements if a grading permit or other discretionary permit application is submitted. These occur in the remainder of the Study Area.

4.0 RESULTS

A total of 125 trees with a DBH of five inches or greater were inventoried within the Study Area. The data are summarized in **Table 1** and a map of the inventoried trees is included as **Attachment A**.

Table 1. Trees within the Study Area

Tree Species	Number of City Trees (DBH)		Number of Private Trees (DBH)		Number of Street Trees (DBH)		Total Number (DBH)
	Fair or Better	Poor to Dead	Fair or Better	Poor to Dead	Fair or Better	Poor to Dead	
Apricot			1 (10.6)				1 (10.6)
Black willow	4 (207.2)		1 (20.7)				5 (227.9)
California black walnut	1 (13)		8 (231.9)			2 (77.1)	11 (322)
California buckeye	1 (30.4)						1 (30.4)
Canary Island Pine				1 (24.7)	1 (15.9)		2 (40.6)
Chinaberry	1 (16.5)		1 (53)				2 (69.5)
Chinese pistache	1 (11)				10 (106.7)	2 (17.1)	13 (134.8)
Common hackberry			2 (60.4)				2 (60.4)
English walnut			6 (83.5)	10 (156.7)	3 (75.7)	6 (177.1)	25 (493)
European olive			3 (52.1)	1 (28.5)			4 (80.6)
Fig			1 (20.9)	1 (22.3)			2 (43.2)
Golden rain tree					3 (34.8)		3 (34.8)
Holm oak			1 (6.2)	1 (10)			2 (16.2)
Italian cypress			5 (58.6)				5 (58.6)
Mexican fan palm			16 (383.3)				16 (383.3)
Myoporum			2 (32.6)	2 (81.7)			4 (114.3)
Privet			2 (14.5)				2 (14.5)
Toyon	1 (15.4)						1 (15.4)
Valley oak	11 (141.9)	2 (28.3)			3 (36.2)		16 (206.4)
Western sycamore	7 (66)		1 (18.1)				8 (84.1)
Total	27 (501.4)	2 (28.3)	50 (1,046.4)	16 (323.9)	20 (269.3)	10 (271.3)	125 (2,440.6)

As noted in Section 3.0, three categories of trees were inventoried within the Study Area: 29 City Trees along the public trail in the northern portion of the Study Area, 30 Street Trees along either side of East Covell Boulevard, and 66 Private Trees within the private parcels.

Detailed tree inventory data is included in **Attachment B**. Again, please note that the condition ratings provided in **Attachment B** are for impact and mitigation analysis purposes only. We recommend that if any trees are to be retained following construction, that a detailed hazard analysis of those trees be conducted. In particular, the walnuts along East Covell Road have been experiencing limb failure, and additional branches appear to be in imminent danger of failure.

5.0 REFERENCES

U.S. Geological Survey (USGS). 2018. "*Davis, California*" 7.5-Minute Series Topographic Quadrangle. U. S. Geological Survey. Denver, Colorado.

Figures

Figure 1. Vicinity Map

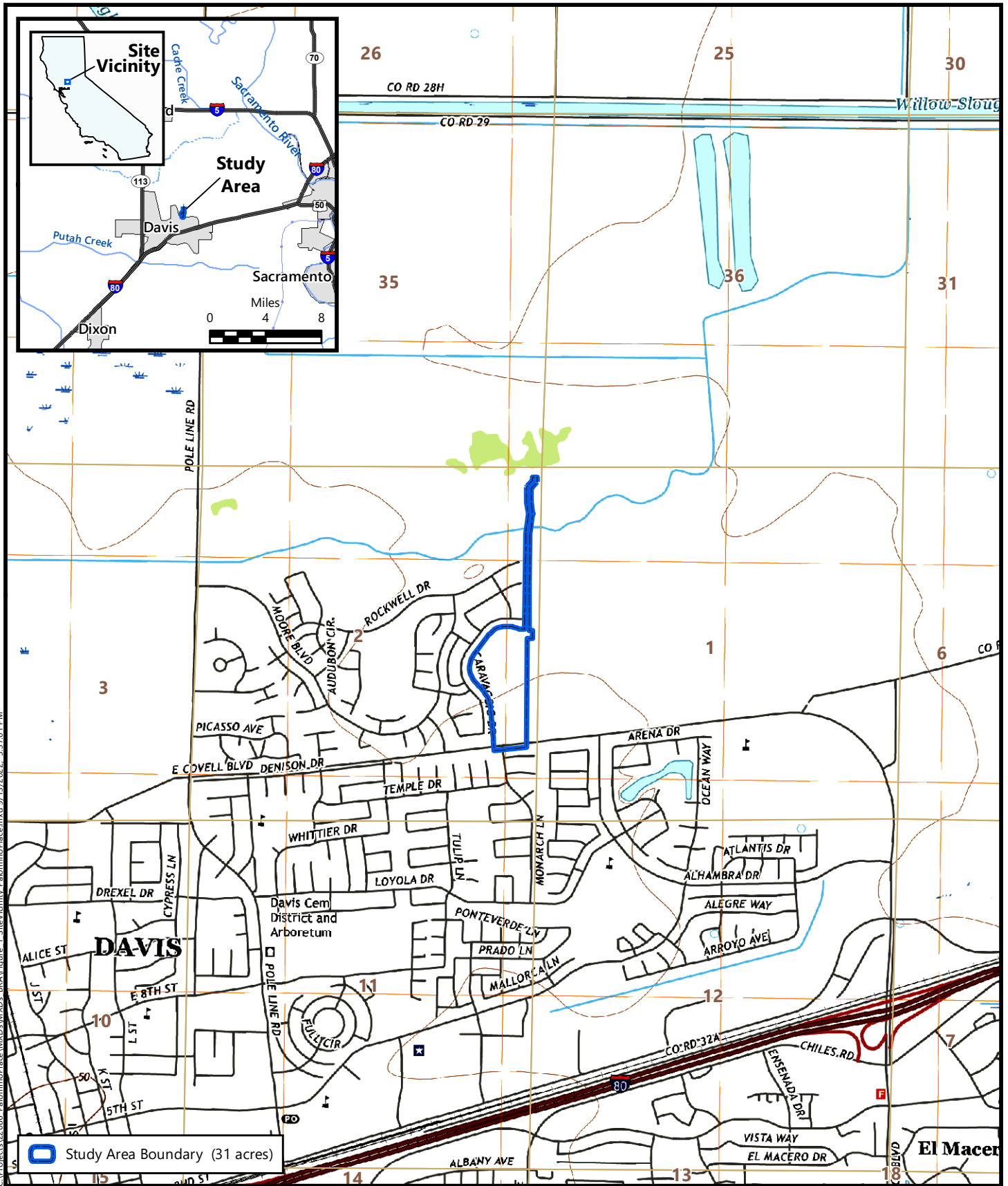


Figure 1
Site and Vicinity

Palomino Place
 Yolo County, California



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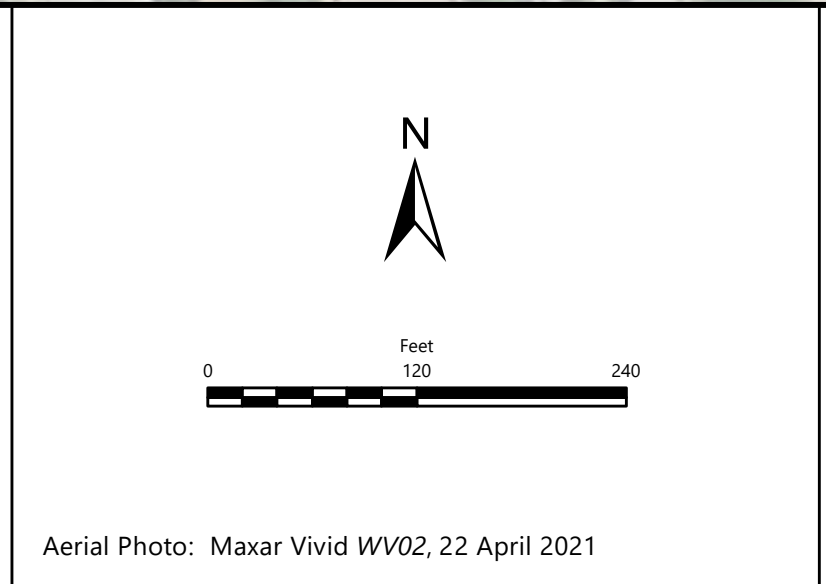
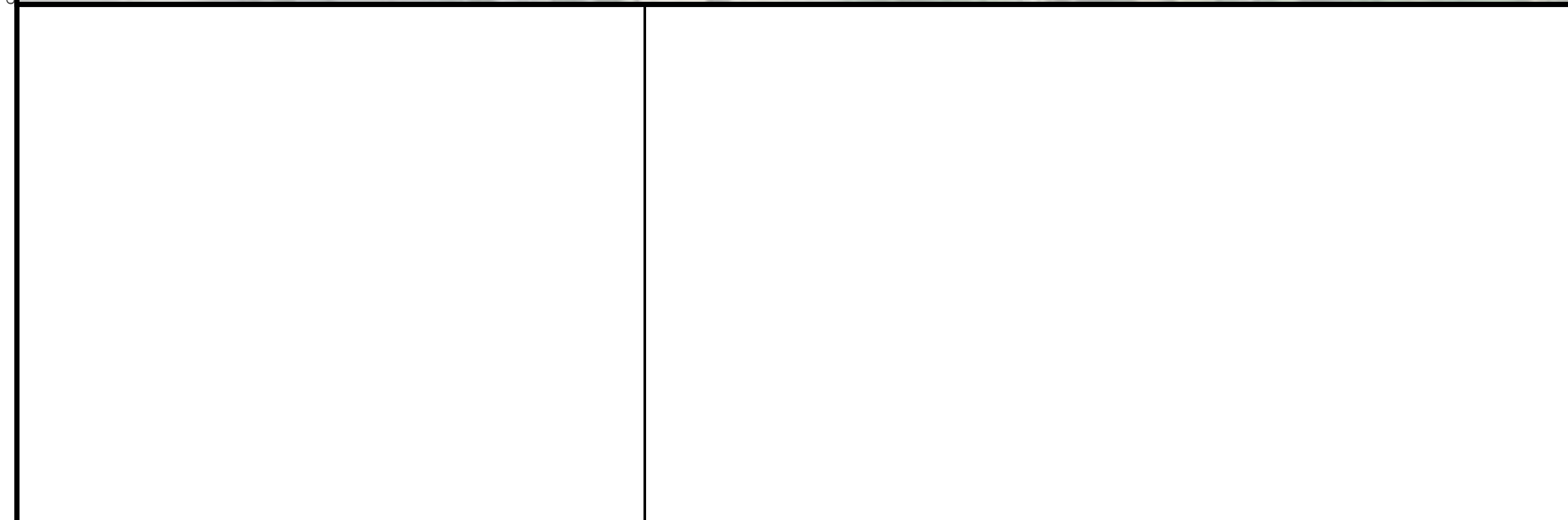
Attachments

Attachment A: Tree Inventory Map

Attachment B: Arborist Survey Data

Attachment A

Tree Inventory Map



[Dashed Line] Study Area Boundary (31 acres)
 [Dotted Line] Approximate Dripline Radius

Tree Species	
● Apricot	● Italian cypress
● Black willow	● Mexican fan palm
● California black walnut	● Myoporum
● California buckeye	● Privet
● Canary Island Pine	● Toyon
● Chinaberry	● Valley oak
● Chinese pistache	● Western sycamore
● Common hackberry	
● English walnut	
● European olive	
● Fig	
● Golden rain tree	
● Holm oak	

Tree Inventory

Palomino Place
Yolo County, California

9423 Auburn Boulevard, Suite 208
Citrus Heights, California 95626
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Attachment B

Arborist Survey Data

Tree Number	Common Name	Scientific Name	DBH (in)	Dripline Radius (ft)	Condition	Notes	Multistem DBH	Native?	Type
401	European olive	<i>Olea europea</i>	19.3	15	Fair or Better	health and structure good	4.7, 5.8, 8.8	Non-Native	Private Trees
402	California black walnut	<i>Juglans hindsii</i>	7.8	16	Fair or Better	health good structure fair		Native	Private Trees
403	Holm oak	<i>Quercus ilex</i>	10	7	Poor to Dead	health good, structure poor, branches on one whole side gone, extensive included bark	5.2, 4.8	Non-Native	Private Trees
404	California black walnut	<i>Juglans hindsii</i>	11.2	14	Fair or Better	health and structure fair	3.7, 3.0, 4.5	Native	Private Trees
405	California black walnut	<i>Juglans hindsii</i>	28	15	Fair or Better	health and structure fair	5.3, 3.2, 4.4, 4.7, 3.2, 3.5, 3.7	Native	Private Trees
406	English walnut	<i>Juglans regia</i>	16	0	Poor to Dead	dead		Non-Native	Private Trees
407	English walnut	<i>Juglans regia</i>	16.5	18	Poor to Dead	almost dead		Non-Native	Private Trees
408	English walnut	<i>Juglans regia</i>	20.3	20	Poor to Dead	health good structure poor (extensive cavities in trunk)		Non-Native	Private Trees
409	English walnut	<i>Juglans regia</i>	16.6	20	Poor to Dead	health fair, structure poor; cavities in trunk extensive areas of bark coming off		Non-Native	Private Trees
410	European olive	<i>Olea europea</i>	28.5	15	Poor to Dead	health good, structure poor (shrub like)	5.0, 5.4, 4.5, 4.2, 4.4, 5.0	Non-Native	Private Trees
411	English walnut	<i>Juglans regia</i>	16.9	23	Poor to Dead	health fair structure fair/poor - big cavity in trunk at base, extensive trunk wounds that are healing		Non-Native	Private Trees
412	European olive	<i>Olea europea</i>	9.5	10	Fair or Better	health good structure fair	3.8, 5.7	Non-Native	Private Trees
413	Holm oak	<i>Quercus ilex</i>	6.2	8	Fair or Better	health good, structure fair		Non-Native	Private Trees
414	California black walnut	<i>Juglans hindsii</i>	55.6	35	Fair or Better	health and structure good	13.6, 17.4, 11.6, 13.0	Native	Private Trees
415	English walnut	<i>Juglans regia</i>	14.7	22	Fair or Better	health and structure fair		Non-Native	Private Trees
416	English walnut	<i>Juglans regia</i>	15	25	Poor to Dead	health poor, structure good. approx 1/3 of branches appear dead, and black stains on trunk		Non-Native	Private Trees
417	Mexican fan palm	<i>Washingtonia robusta</i>	22	7	Fair or Better	health and structure good		Non-Native	Private Trees
418	Fig	<i>Ficus carica</i>	22.3	22	Poor to Dead	health fair, structure poor; 2 largest trunks have a significant lean	8.0, 6.6, 7.7	Non-Native	Private Trees
419	English walnut	<i>Juglans regia</i>	11.7	20	Fair or Better	health and structure fair		Non-Native	Private Trees
420	Canary Island Pine	<i>Pinus canariensis</i>	24.7	26	Poor to Dead	health and structure fair/poor. numerous removed branches, lots of oozing sap, canopy is very uneven.		Non-Native	Private Trees
421	Mexican fan palm	<i>Washingtonia robusta</i>	100	12	Fair or Better	cluster of 5 trunks - could not get DBH due to density, but all 14 - 22". structure poor, and currently pushing over adjacent propane tank		Non-Native	Private Trees
422	Mexican fan palm	<i>Washingtonia robusta</i>	19.8	8	Fair or Better	health and structure good		Non-Native	Private Trees
423	Mexican fan palm	<i>Washingtonia robusta</i>	21.7	7	Fair or Better	health and structure good		Non-Native	Private Trees
424	Mexican fan palm	<i>Washingtonia robusta</i>	23	7	Fair or Better	health and structure good		Non-Native	Private Trees
425	Mexican fan palm	<i>Washingtonia robusta</i>	18.5	6	Fair or Better	health and structure good		Non-Native	Private Trees
426	Mexican fan palm	<i>Washingtonia robusta</i>	20.5	7	Fair or Better	health and structure good		Non-Native	Private Trees
427	European olive	<i>Olea europea</i>	23.3	18	Fair or Better	health and structure good	3.5, 4.2, 4.5, 4.6, 6.5	Non-Native	Private Trees
428	Mexican fan palm	<i>Washingtonia robusta</i>	22	7	Fair or Better	health and structure good		Non-Native	Private Trees
429	English walnut	<i>Juglans regia</i>	17.1	25	Fair or Better	health and structure good		Non-Native	Private Trees
430	English walnut	<i>Juglans regia</i>	18.4	20	Fair or Better	health and structure good		Non-Native	Private Trees
431	English walnut	<i>Juglans regia</i>	9.7	16	Fair or Better	health and structure fair		Non-Native	Private Trees
432	Common hackberry	<i>Celtis occidentalis</i>	13.6	22	Fair or Better	health fair, structure good		Non-Native	Private Trees
433	Common hackberry	<i>Celtis occidentalis</i>	46.8	20	Fair or Better	health and structure good	8.6, 10.4, 8.5, 9.9, 9.4	Non-Native	Private Trees
434	Myoporum	<i>Myoporum species</i>	35.4	25	Poor to Dead	health fair, structure poor; appears to be suffering from thrips. large cavity under trunk, numerous burls on trunk and substantial lean to entire tree	8.1, 5.6, 8.7, 6.0, 7.0	Non-Native	Private Trees

Tree Number	Common Name	Scientific Name	DBH (in)	Dripline Radius (ft)	Condition	Notes	Multistem DBH	Native?	Type
435	Fig	<i>Ficus carica</i>	20.9	18	Fair or Better	health good, structure fair; trunk is comprised of two trunks fused together with included bark between	11.6, 9.3	Non-Native	Private Trees
437	California black walnut	<i>Juglans hindsii</i>	16.6	20	Fair or Better	health and structure fair		Native	Private Trees
438	California black walnut	<i>Juglans hindsii</i>	26.6	18	Fair or Better	health and structure fair, portions of tree are dead, but remainder looks decent	12.8, 13.8	Native	Private Trees
439	English walnut	<i>Juglans regia</i>	15.1	20	Poor to Dead	health and structure poor; extensive included bark, large cavities, dead portions of canopy, brown and black stains on trunk.		Non-Native	Private Trees
439	Myoporum	<i>Myoporum species</i>	9.4	14	Fair or Better	health and structure good; foliage suffering from thrips	5.3, 4.1	Non-Native	Private Trees
440	California black walnut	<i>Juglans hindsii</i>	30.8	18	Fair or Better	health and structure fair	4.3, 5.3, 6.4, 4.3, 3.9, 6.6	Native	Private Trees
441	English walnut	<i>Juglans regia</i>	14.1	20	Poor to Dead	health poor, structure good; canopy is approximately half dead. brown stains on trunk		Non-Native	Private Trees
442	Myoporum	<i>Myoporum species</i>	23.2	8	Fair or Better	health and structure fair; foliage suffering from thrips	4.5, 4.9, 5.8, 4.0, 4.0	Non-Native	Private Trees
443	Myoporum	<i>Myoporum species</i>	46.3	20	Poor to Dead	health and structure poor; infested with an aggressive case of thrips, numerous criss-crossing branches	9.5, 3.0, 5.6, 4.1, 4.0, 3.1, 3.3, 3.0, 5.3, 5.4	Non-Native	Private Trees
444	English walnut	<i>Juglans regia</i>	17.1	25	Poor to Dead	health and structure fair/poor. large cavities in trunk, large portions of canopy dead, and black sap oozing from lesions on trunk. however much of canopy is still vigorous and is fruiting well		Non-Native	Private Trees
445	Mexican fan palm	<i>Washingtonia robusta</i>	17.2	6	Fair or Better	health and structure fair. trunk buttress is being damaged		Non-Native	Private Trees
446	Mexican fan palm	<i>Washingtonia robusta</i>	20.6	6	Fair or Better	health and structure good		Non-Native	Private Trees
447	Mexican fan palm	<i>Washingtonia robusta</i>	20	6	Fair or Better	health and structure good		Non-Native	Private Trees
448	Black willow	<i>Salix goodingii</i>	20.7	15	Fair or Better	health and structure good	3.9, 9.5, 3.3, 4.0	Native	Private Trees
449	English walnut	<i>Juglans regia</i>	9.1	13	Poor to Dead	health and structure poor; at least half of trunk is missing.		Non-Native	Private Trees
450	Western sycamore	<i>Platanus racemosa</i>	18.1	25	Fair or Better	health and structure good		Native	Private Trees
451	Privet	<i>Ligustrum species</i>	9.4	12	Fair or Better	health and structure good	6.0, 3.4	Non-Native	Private Trees
452	Privet	<i>Ligustrum species</i>	5.1	8	Fair or Better	health and structure good		Non-Native	Private Trees
453	Mexican fan palm	<i>Washingtonia robusta</i>	15	8	Fair or Better	health and structure good		Non-Native	Private Trees
454	Chinaberry	<i>Melia azedarach</i>	53	12	Fair or Better	health and structure good	5.5, 4.8, 4.8, 3.4, 2.1, 3.1, 3.0, 3.7, 3.9, 4.4, 4.8, 4.2, 5.3	Non-Native	Private Trees
455	Mexican fan palm	<i>Washingtonia robusta</i>	15	6	Fair or Better	health and structure good		Non-Native	Private Trees
456	English walnut	<i>Juglans regia</i>	11.9	18	Fair or Better	health and structure fair. large cavity, rodents undercutting trunk, fair number of dead branch tips		Non-Native	Private Trees
457	California black walnut	<i>Juglans hindsii</i>	55.3	35	Fair or Better	health and structure good	12.2, 17.0, 15.3, 10.8	Native	Private Trees
458	Valley oak	<i>Quercus lobata</i>	18.2	28	Fair or Better	health good, structure fair (lots of included bark at branch unions)		Native	City Trees
459	California buckeye	<i>Aesculus californica</i>	30.4	18	Fair or Better	health and structure good	4.4, 3.6, 3.6, 6.0, 2.8, 2.7, 3.3, 4.0	Native	City Trees
460	Valley oak	<i>Quercus lobata</i>	8.4	15	Fair or Better	health and structure good		Native	City Trees
461	Valley oak	<i>Quercus lobata</i>	21.6	22	Fair or Better	health fair, structure good	9.8, 11.8	Native	City Trees
462	Valley oak	<i>Quercus lobata</i>	8	10	Fair or Better	5.7 at 3'. health and structure good	4.5, 3.5	Native	City Trees
463	Valley oak	<i>Quercus lobata</i>	8.3	16	Fair or Better	health and structure good		Native	City Trees
464	Valley oak	<i>Quercus lobata</i>	17.5	22	Poor to Dead	health and structure poor/fair (several major branches have died, main trunk has included bark almost all the way down to ground)	7.9, 9.6	Native	City Trees

Tree Number	Common Name	Scientific Name	DBH (in)	Dripline Radius (ft)	Condition	Notes	Multistem DBH	Native?	Type
465	Western sycamore	<i>Platanus racemosa</i>	6.5	12	Fair or Better	health and structure fair		Native	City Trees
466	Western sycamore	<i>Platanus racemosa</i>	11.3	16	Fair or Better	health good, structure fair (rodent burrow undercutting roots)		Native	City Trees
467	Toyon	<i>Heteromeles arbutifolia</i>	15.4	14	Fair or Better	health and structure good	5.7, 6.5, 3.2	Native	City Trees
468	Western sycamore	<i>Platanus racemosa</i>	14.9	15	Fair or Better	health good, structure fair	8.8, 6.1	Native	City Trees
469	Western sycamore	<i>Platanus racemosa</i>	6	10	Fair or Better	health and structure fair		Native	City Trees
470	Black willow	<i>Salix goodingii</i>	44.2	45	Fair or Better	health and structure good	6.4, 4.3, 16.5, 17.0	Native	City Trees
471	Black willow	<i>Salix goodingii</i>	89.9	45	Fair or Better	many DBHs estimated due to density of branches; health and structure good	7.4, 12.5, 22.0, 13.2, 3.8, 14.2, 16.8	Native	City Trees
472	Western sycamore	<i>Platanus racemosa</i>	9.3	15	Fair or Better	health and structure good		Native	City Trees
473	Valley oak	<i>Quercus lobata</i>	5.3	7	Fair or Better	health fair, structure good		Native	City Trees
473	Black willow	<i>Salix goodingii</i>	53.9	30	Fair or Better	health and structure good	13.2, 8.8, 3.2, 2.7, 4.0, 7.9, 7.5, 6.6	Native	City Trees
474	Black willow	<i>Salix goodingii</i>	19.2	18	Fair or Better	health and structure good	6.7, 3.1, 3.3, 3.0, 3.1	Native	City Trees
475	Western sycamore	<i>Platanus racemosa</i>	8.4	18	Fair or Better	health and structure good		Native	City Trees
476	Western sycamore	<i>Platanus racemosa</i>	9.6	15	Fair or Better	health fair and structure fair		Native	City Trees
477	Valley oak	<i>Quercus lobata</i>	10.8	20	Poor to Dead	health fair structure poor (biggest half of tree has 90 degree bend in trunk and sparse and browning foliage)	6.1, 4.7	Native	City Trees
478	Valley oak	<i>Quercus lobata</i>	21.5	16	Fair or Better	health good, structure fair	9.0, 6.0, 6.5	Native	City Trees
480	Valley oak	<i>Quercus lobata</i>	8	14	Fair or Better	health fair, structure fair; DBH estimated - re-collect if we visit site again		Native	City Trees
481	Valley oak	<i>Quercus lobata</i>	24.2	15	Fair or Better	health good, structure fair	11.0, 3.7, 3.9, 5.6	Native	City Trees
482	Valley oak	<i>Quercus lobata</i>	9	12	Fair or Better	health and structure good		Native	City Trees
483	Valley oak	<i>Quercus lobata</i>	9.4	15	Fair or Better	health good, structure fair (numerous branches off of main trunk from ground up, but does not compromise viability of tree)		Native	City Trees
509	English walnut	<i>Juglans regia</i>	18.5	30	Fair or Better	health and structure good		Non-Native	Street Trees
559	Apricot	<i>Prunus armeniaca</i>	10.6	18	Fair or Better	health and structure good	5.5, 5.1	Non-Native	Private Trees
560	English walnut	<i>Juglans regia</i>	44	30	Poor to Dead	health poor structure fair; roughly 1/3 of canopy is dead, bark has separated from one major trunk, which appears ready to fail	10.1, 13.6, 7.8, 12.5	Non-Native	Street Trees
561	English walnut	<i>Juglans regia</i>	39.4	28	Poor to Dead	health and structure poor; numerous dead branches, several of which are broken, black staining etc	11.6, 11.7, 11.2, 4.9	Non-Native	Street Trees
562	California black walnut	<i>Juglans hindsii</i>	41.1	35	Poor to Dead	health and structure fair/poor. originally planted as a grafted English walnut but rootstock has dominated the growth. English part appears half dead. black looks better but still has extensive dead branch tips, and alot of mistletoe	10.1 (english), 31.0 (black)	Native	Street Trees
563	Chinese pistache	<i>Pistache chinensis</i>	12.2	20	Fair or Better	health and structure good		Non-Native	Street Trees
564	Chinese pistache	<i>Pistache chinensis</i>	8.8	18	Poor to Dead	health and structure poor; foliage sparse, and crown has extensive watersprouts		Non-Native	Street Trees
565	Chinese pistache	<i>Pistache chinensis</i>	11.1	18	Fair or Better	health and structure good		Non-Native	Street Trees
566	Chinese pistache	<i>Pistache chinensis</i>	11.2	16	Fair or Better	health and structure good		Non-Native	Street Trees
567	Chinese pistache	<i>Pistache chinensis</i>	11.6	18	Fair or Better	health and structure good		Non-Native	Street Trees
568	Chinese pistache	<i>Pistache chinensis</i>	10.2	18	Fair or Better	health and structure good		Non-Native	Street Trees
569	Golden rain tree	<i>Koelreuteria paniculata</i>	9.4	16	Fair or Better	health and structure fair; thousands of soapberry bugs		Non-Native	Street Trees
570	Golden rain tree	<i>Koelreuteria paniculata</i>	12.8	22	Fair or Better	health and structure fair; thousands of soapberry bugs		Non-Native	Street Trees

Tree Number	Common Name	Scientific Name	DBH (in)	Dripline Radius (ft)	Condition	Notes	Multistem DBH	Native?	Type
571	Golden rain tree	<i>Koelreuteria paniculata</i>	12.6	18	Fair or Better	health and structure fair; thousands of soapberry bugs		Non-Native	Street Trees
572	Chinese pistache	<i>Pistache chinensis</i>	9.6	20	Fair or Better	health and structure good		Non-Native	Street Trees
573	Chinese pistache	<i>Pistache chinensis</i>	8.9	20	Fair or Better	health and structure good		Non-Native	Street Trees
574	Chinese pistache	<i>Pistache chinensis</i>	11.6	18	Fair or Better	health and structure good		Non-Native	Street Trees
575	Canary Island Pine	<i>Pinus canariensis</i>	15.9	12	Fair or Better	health and structure good		Non-Native	Street Trees
576	Valley oak	<i>Quercus lobata</i>	18.2	20	Fair or Better	health and structure good		Native	Street Trees
577	Valley oak	<i>Quercus lobata</i>	12	14	Fair or Better	health and structure good		Native	Street Trees
578	California black walnut	<i>Juglans hindsii</i>	36	25	Poor to Dead	health poor, structure fair: extensive dead foliage, including one entirely dead major branch	7.5, 10.5, 18.0	Native	Street Trees
579	Chinese pistache	<i>Pistache chinensis</i>	11.1	18	Fair or Better	health and structure good		Non-Native	Street Trees
580	Chinese pistache	<i>Pistache chinensis</i>	8.3	15	Poor to Dead	health poor, structure good		Non-Native	Street Trees
581	Chinese pistache	<i>Pistache chinensis</i>	9.2	15	Fair or Better	health fair, structure good		Non-Native	Street Trees
582	Valley oak	<i>Quercus lobata</i>	6	8	Fair or Better	health and structure good		Native	Street Trees
583	English walnut	<i>Juglans regia</i>	26.8	25	Poor to Dead	health and structure poor; most foliage dead, black staining on trunk, dead branch failure likely to occur soon	11.5, 7.9, 7.4	Non-Native	Street Trees
584	English walnut	<i>Juglans regia</i>	31.8	30	Poor to Dead	health poor structure poor - extensive areas of dead foliage large cavities black staining on trunk, one major branch appears ready to fail	12.8, 19.0	Non-Native	Street Trees
585	English walnut	<i>Juglans regia</i>	16.3	30	Poor to Dead	health poor, structure fair. large branch has broken off mushrooms on trunk black staining, dead foliage etc		Non-Native	Street Trees
586	English walnut	<i>Juglans regia</i>	42.2	28	Fair or Better	health and structure fair	13.3, 11.2, 6.5, 11.2	Non-Native	Street Trees
587	English walnut	<i>Juglans regia</i>	15	25	Fair or Better	health and structure fair		Non-Native	Street Trees
588	English walnut	<i>Juglans regia</i>	18.8	20	Poor to Dead	health and structure fair/poor - large areas of bark falling off black staining on bark, all foliage brown edged		Non-Native	Street Trees
N 1	Chinaberry	<i>Melia azedarach</i>	16.5	12	Fair or Better	dbh estimated and no tag due to dense thicket of roses surrounding tree. health and structure good	5, 5, 6.5	Non-Native	City Trees
N 10	Italian cypress	<i>Cupressus sempervirens</i>	11	5	Fair or Better	no Tag and dbh estimated due to density of foliage; health and structure good	11	Non-Native	Private Trees
N 11	Italian cypress	<i>Cupressus sempervirens</i>	11	5	Fair or Better	no Tag and dbh estimated due to density of foliage; health and structure good	11	Non-Native	Private Trees
N 2	California black walnut	<i>Juglans hindsii</i>	13	20	Fair or Better	dbh estimated and no tag due to dense rose thicket surrounding tree. health and structure fair		Native	City Trees
N 3	Chinese pistache	<i>Pistache chinensis</i>	11	16	Fair or Better	dbh estimated and no tag due to dense rose thicket surrounding tree. health and structure good		Non-Native	City Trees
N 4	Mexican fan palm	<i>Washingtonia robusta</i>	15	6	Fair or Better	DBH estimated and no tag due to dense, untrimmed old leaves. health and structure good		Non-Native	Private Trees
N 5	Mexican fan palm	<i>Washingtonia robusta</i>	15	6	Fair or Better	DBH estimated and no tag due to dense, untrimmed old leaves. health and structure good		Non-Native	Private Trees
N 6	Mexican fan palm	<i>Washingtonia robusta</i>	18	7	Fair or Better	no tag and DBH estimated due to no frond maintenance; health and structure good		Non-Native	Private Trees
N 7	Italian cypress	<i>Cupressus sempervirens</i>	14.6	5	Fair or Better	no Tag and dbh estimated due to density of foliage; health and structure good	10.5, 4 1	Non-Native	Private Trees
N 8	Italian cypress	<i>Cupressus sempervirens</i>	11	5	Fair or Better	no Tag and dbh estimated due to density of foliage; health and structure good	11	Non-Native	Private Trees
N 9	Italian cypress	<i>Cupressus sempervirens</i>	11	5	Fair or Better	no Tag and dbh estimated due to density of foliage; health and structure good	11	Non-Native	Private Trees



Attachment H

**Arborist Survey Map and Results
(Including Additional Area)**



 Study Area (30.8 acres)

Tree Inventory



City Trees

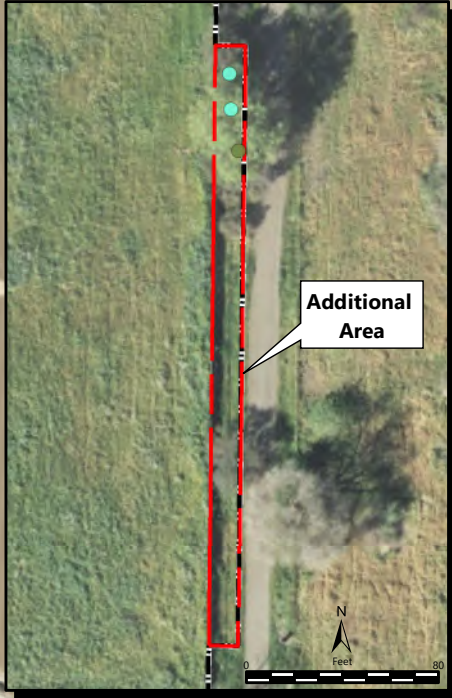
-  Fair or Better (29)
-  Poor to Dead (3)

Private Trees

-  Fair or Better (50)
-  Poor to Dead (16)

Street Trees

-  Fair or Better (20)
-  Poor to Dead (10)



P:\Palomino Place - 220861\Maps\WXDs\WXDs_BRA_Supplemental\Attach_Trees_PalominoPlace_BRA_Supp_v1.mxd (5/16/2024)



**Palomino Place
Arborist Survey**

Palomino Place
Yolo County, California



Boundary Source: Cunningham Civil Engineering
Aerial Source:ESRI/SACOG, 18 March 2022

Table 1. Trees within the Study Area

Tree Species	Number of City Trees (DBH)		Number of Private Trees (DBH)		Number of Street Trees (DBH)		Total Number (DBH)
	Fair or Better	Poor to Dead	Fair or Better	Poor to Dead	Fair or Better	Poor to Dead	
Apricot			1 (10.6)				1 (10.6)
Black willow	4 (207.2)		1 (20.7)				5 (227.9)
California black walnut	1 (13)		8 (231.9)			2 (77.1)	11 (322)
California buckeye	1 (30.4)						1 (30.4)
Canary Island Pine				1 (24.7)	1 (15.9)		2 (40.6)
Chinaberry	1 (16.5)		1 (53)				2 (69.5)
Chinese pistache	1 (11)				10 (106.7)	2 (17.1)	13 (134.8)
Common hackberry			2 (60.4)				2 (60.4)
English walnut			6 (83.5)	10 (156.7)	3 (75.7)	6 (177.1)	25 (493)
European olive			3 (52.1)	1 (28.5)			4 (80.6)
Fig			1 (20.9)	1 (22.3)			2 (43.2)
Golden rain tree					3 (34.8)		3 (34.8)
Holm oak			1 (6.2)	1 (10)			2 (16.2)
Interior Live Oak	1 (9.8)						1 (9.8)
Italian cypress			5 (58.6)				5 (58.6)
Mexican fan palm			16 (383.3)				16 (383.3)
Myoporum			2 (32.6)	2 (81.7)			4 (114.3)
Privet			2 (14.5)				2 (14.5)
Toyon	1 (15.4)	1 (29.1)					2 (44.5)
Valley oak	12 (170.0)	2 (28.3)			3 (36.2)		17 (234.5)
Western sycamore	7 (66)		1 (18.1)				8 (84.1)
Total	29 (539.3)	2 (57.4)	50 (1,046.4)	16 (323.9)	20 (269.3)	10 (271.3)	128 (2,507.6)

Attachment I

Tree Removal Sheet

Trees to be Impacted

Number	Common Name	DBH (in)	Dripline Radius (ft)	Condition
0	TOYON	29.1	0	POOR TO DEAD
401	EUROPEAN OLIVE	19.0	15	FAIR OR BETTER
402	CALIFORNIA BLACK WALNUT	7.8	16	FAIR OR BETTER
403	HOLM OAK	10.0	7	POOR TO DEAD
404	CALIFORNIA BLACK WALNUT	11.2	14	FAIR OR BETTER
405	CALIFORNIA BLACK WALNUT	28.0	15	FAIR OR BETTER
406	ENGLISH WALNUT	16.0	0	POOR TO DEAD
407	ENGLISH WALNUT	16.5	18	POOR TO DEAD
408	ENGLISH WALNUT	20.3	20	POOR TO DEAD
409	ENGLISH WALNUT	16.6	20	POOR TO DEAD
410	EUROPEAN OLIVE	28.5	15	POOR TO DEAD
411	ENGLISH WALNUT	16.9	23	POOR TO DEAD
412	EUROPEAN OLIVE	9.5	10	FAIR OR BETTER
413	HOLM OAK	6.2	8	FAIR OR BETTER
414	CALIFORNIA BLACK WALNUT	55.6	35	FAIR OR BETTER
415	ENGLISH WALNUT	14.7	22	FAIR OR BETTER
416	ENGLISH WALNUT	15.0	25	POOR TO DEAD
417	MEXICAN FAN PALM	22.0	7	FAIR OR BETTER
418	FIG	22.3	22	POOR TO DEAD
419	ENGLISH WALNUT	11.7	20	FAIR OR BETTER
420	CANARY ISLAND PINE	24.7	26	POOR TO DEAD
421	MEXICAN FAN PALM	100.0	12	FAIR OR BETTER
422	MEXICAN FAN PALM	19.8	8	FAIR OR BETTER
423	MEXICAN FAN PALM	21.7	7	FAIR OR BETTER
424	MEXICAN FAN PALM	23.0	7	FAIR OR BETTER
425	MEXICAN FAN PALM	18.5	6	FAIR OR BETTER
426	MEXICAN FAN PALM	20.5	7	FAIR OR BETTER
427	EUROPEAN OLIVE	23.3	18	FAIR OR BETTER
428	MEXICAN FAN PALM	22.0	7	FAIR OR BETTER
429	ENGLISH WALNUT	17.1	25	FAIR OR BETTER
430	ENGLISH WALNUT	18.4	20	FAIR OR BETTER
431	ENGLISH WALNUT	9.7	16	FAIR OR BETTER
433	COMMON HACKBERRY	46.8	20	FAIR OR BETTER
434	MYOPONUM	35.4	25	POOR TO DEAD
435	FIG	20.9	18	FAIR OR BETTER
437	CALIFORNIA BLACK WALNUT	16.6	20	FAIR OR BETTER
438	CALIFORNIA BLACK WALNUT	26.6	18	FAIR OR BETTER
439	ENGLISH WALNUT	15.1	20	POOR TO DEAD
440	CALIFORNIA BLACK WALNUT	30.8	18	FAIR OR BETTER
441	ENGLISH WALNUT	14.1	20	POOR TO DEAD
442	MYOPORUM	23.2	8	FAIR OR BETTER
443	MYOPORUM	46.3	20	POOR TO DEAD
444	ENGLISH WALNUT	17.1	25	POOR TO DEAD
445	MEXICAN FAN PALM	17.2	6	FAIR OR BETTER
446	MEXICAN FAN PALM	20.6	6	FAIR OR BETTER
447	MEXICAN FAN PALM	20.0	6	FAIR OR BETTER
448	BLACK WILLOW	20.7	15	FAIR OR BETTER
449	ENGLISH WALNUT	9.1	13	POOR TO DEAD
450	WESTERN SYCAMORE	18.1	25	FAIR OR BETTER
453	MEXICAN FAN PALM	15.0	8	FAIR OR BETTER
454	CHINABERRY	53.0	12	FAIR OR BETTER
455	MEXICAN FAN PALM	15.0	6	FAIR OR BETTER
456	ENGLISH WALNUT	11.9	18	FAIR OR BETTER
457	CALIFORNIA BLACK WALNUT	55.3	35	FAIR OR BETTER
460	VALLEY OAK	8.4	15	FAIR OR BETTER
461	VALLEY OAK	21.6	22	FAIR OR BETTER
462	VALLEY OAK	8.0	10	FAIR OR BETTER
463	VALLEY OAK	8.3	16	FAIR OR BETTER
464	VALLEY OAK	17.5	22	POOR TO DEAD
475	WESTERN SYCAMORE	8.4	18	FAIR OR BETTER
479	VALLEY OAK	5.3	7	FAIR OR BETTER
481	VALLEY OAK	24.2	15	FAIR OR BETTER
482	VALLEY OAK	9.0	12	FAIR OR BETTER
483	VALLEY OAK	9.4	15	FAIR OR BETTER
484	MYOPORUM	9.4	14	FAIR OR BETTER
559	APRICOT	10.6	18	FAIR OR BETTER
560	ENGLISH WALNUT	44.0	30	POOR TO DEAD
581	CHINESE PISTACHE	9.2	15	FAIR OR BETTER
582	VALLEY OAK	6.0	8	FAIR OR BETTER
697	INTERIOR LIVE OAK	9.8	20	FAIR OR BETTER
698	VALLEY OAK	28.1	30	FAIR OR BETTER
N1	CHINABERRY	16.5	12	FAIR OR BETTER
N2	CALIFORNIA BLACK WALNUT	13.0	20	FAIR OR BETTER
N3	CHINESE PISTACHE	11.0	16	FAIR OR BETTER
N4	MEXICAN FAN PALM	15.0	6	FAIR OR BETTER
N5	MEXICAN FAN PALM	15.0	6	FAIR OR BETTER
N6	MEXICAN FAN PALM	18.0	7	FAIR OR BETTER
N7	ITALIAN CYPRESS	14.6	5	FAIR OR BETTER
N8	ITALIAN CYPRESS	11.0	5	FAIR OR BETTER
N9	ITALIAN CYPRESS	11.0	5	FAIR OR BETTER
N10	ITALIAN CYPRESS	11.0	5	FAIR OR BETTER
N11	ITALIAN CYPRESS	11.0	5	FAIR OR BETTER

Trees to Be Preserved

Number	Common Name	DBH (in)	Dripline Radius (ft)	Condition
432	COMMON HACKBERRY	13.6	22	FAIR OR BETTER
451	PRIVET	9.4	12	FAIR OR BETTER
452	PRIVET	5.1	8	FAIR OR BETTER
458	VALLEY OAK	18.2	28	FAIR OR BETTER
459	CALIFORNIA BUCKEYE	30.4	18	FAIR OR BETTER
465	WESTERN SYCAMORE	6.5	12	FAIR OR BETTER
466	WESTERN SYCAMORE	11.3	16	FAIR OR BETTER
467	TOYON	15.4	14	FAIR OR BETTER
468	WESTERN SYCAMORE	14.9	15	FAIR OR BETTER
469	WESTERN SYCAMORE	6.0	10	FAIR OR BETTER
470	BLACK WILLOW	44.2	45	FAIR OR BETTER
471	BLACK WILLOW	19.2	18	FAIR OR BETTER
472	WESTERN SYCAMORE	9.3	15	FAIR OR BETTER
473	BLACK WILLOW	53.9	30	FAIR OR BETTER
474	BLACK WILLOW	19.2	18	FAIR OR BETTER
476	WESTERN SYCAMORE	9.6	15	FAIR OR BETTER
477	VALLEY OAK	10.8	20	POOR TO DEAD
478	VALLEY OAK	21.5	16	FAIR OR BETTER
480	VALLEY OAK	8.0	14	FAIR OR BETTER
561	ENGLISH WALNUT	39.4	28	POOR TO DEAD
562	CALIFORNIA BLACK WALNUT	41.1	35	POOR TO DEAD
563	CHINESE PISTACHE	12.2	20	FAIR OR BETTER
564	CHINESE PISTACHE	8.8	18	POOR TO DEAD
565	CHINESE PISTACHE	11.1	18	FAIR OR BETTER
566	CHINESE PISTACHE	11.2	16	FAIR OR BETTER
567	CHINESE PISTACHE	11.6	18	FAIR OR BETTER
568	CHINESE PISTACHE	10.2	18	FAIR OR BETTER
569	GOLDEN RAIN TREE	9.4	16	FAIR OR BETTER
570	GOLDEN RAIN TREE	12.8	22	FAIR OR BETTER
571	GOLDEN RAIN TREE	12.6	18	FAIR OR BETTER
572	CHINESE PISTACHE	9.6	20	FAIR OR BETTER
573	CHINESE PISTACHE	8.9	20	FAIR OR BETTER
574	CHINESE PISTACHE	11.6	18	FAIR OR BETTER
575	CANARY ISLAND PINE	15.9	12	FAIR OR BETTER
576	VALLEY OAK	18.2	20	FAIR OR BETTER
577	VALLEY OAK	12.0	14	FAIR OR BETTER
578	CALIFORNIA BLACK WALNUT	36.0	25	POOR TO DEAD
579	CHINESE PISTACHE	11.1	18	FAIR OR BETTER
580	CHINESE PISTACHE	8.3	15	POOR TO DEAD
583	ENGLISH WALNUT	26.8	25	POOR TO DEAD
584	ENGLISH WALNUT	31.8	30	POOR TO DEAD
585	ENGLISH WALNUT	16.3	30	POOR TO DEAD
586	ENGLISH WALNUT	42.2	28	FAIR OR BETTER
587	ENGLISH WALNUT	15.0	25	FAIR OR BETTER
588	ENGLISH WALNUT	18.8	20	POOR TO DEAD



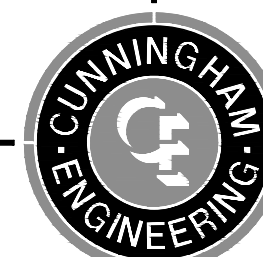
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SCALE
 AS SHOWN

**VESTING TENTATIVE SUBDIVISION MAP NO. 5238
 PALOMINO PLACE
 TREE REMOVAL SHEET**

CITY OF DAVIS

CALIFORNIA



Project Planning • Civil Engineering • Landscape Architecture

• Sacramento Office
 2120 20th Street, Suite Three
 Sacramento, CA 95818
 (916) 455-2026

• Davis Office
 2940 Spafford Street, Suite 200
 Davis, CA 95618
 (530) 758-2026

NO.	DATE	REVISIONS	BY	APPD.

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 DATE: 05/28/2024
 PROJECT NO: 1807.10

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