

Biological Resources Memorandum

Dry Creek Estates Project
Sacramento County, CA
April 2022



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Acronyms

°F	Degrees Fahrenheit
ACE	Area of Conservation Emphasis
ARDR	Aquatic Resource Delineation Report
BMPs	Best Management Practices
CDFW	California Department of Fish and Wildlife
CEQA	California Environmental Quality Act
CNDDB	California Natural Diversity Database
CNPS	California Native Plant Society
ESA	Environmentally Sensitive Area
FGC	Fish and Game Code
IPaC	Information, Planning, and Consulting
Madrone	Madrone Ecological Consulting, LLC
NMFS	National Marine Fisheries Service
OHWM	Ordinary High Water Mark
Project	Dry Creek Estates Project
U.S.	United States
USACE	United States Army Corps of Engineers
USFWS	United States Fish and Wildlife Service
USGS	United States Geological Survey

Introduction

The True Life Companies (TTLIC) proposes to construct approximately 147 single family homes, associated utilities service connections, and 13 local roadways on undeveloped land in the Robla Neighborhood of North Sacramento as part of the Dry Creek Estates Project (Project). As part of the development project, the land developer will initiate and complete formation of a maintenance district or annex the project into an existing maintenance district to fund maintenance and repairs of public facilities and improvements. This Biological Resources Memorandum evaluates the existing biological resources located on-site and reviews the Project's potential for impacts on these resources in compliance with the California Environmental Quality Act (CEQA). The proposed Project is located within the United States Geological Survey (USGS) 7.5-minute quadrangle of Rio Linda, 0.7 miles north of Highway 80 (Figure 1. Project Vicinity; Figure 2. Project Location; Figure 3. Project Features).

Project Description

The proposed project would build approximately 147 single family homes on the property. Lot sizes range between 5,900 ft² and 3,800 ft² with a total density of 5.11 dwelling units per acre. Homes will be built in two clusters on either side of the wetland open space corridor with 80 homes on the north side of the open space and 67 on the south side of the open space. The development will connect to existing water, power, sewer, and storm drain utility infrastructure provided by the City of Sacramento, Sacramento County, and the Sacramento Municipal Utility District. The number of new homes is not anticipated to require an expansion of the utility grid. Local distribution lines will be placed underneath the new local roadways.

The Project area is diagonally bisected by a wetland swale. The swale is not a jurisdictional water of the United States but does provide some habitat and scenic value to the property and it will not be developed. The project will preserve this feature as an open space corridor separating the housing development into two halves. TTLIC will also purchase approximately 5.2 acres of additional vacant land and deed that area to the City of Sacramento for future parks and open space. The City's use of this property will be a completely separate project and is not included in this environmental analysis.

As a component of this Project, Main Avenue will be extended by approximately 1,100 feet along the north side of the Project area from its current terminus at Rio Linda Boulevard at the northwestern corner of the Project area to the existing section of Main Avenue at the northeastern corner of the Project area. This roadway gap closure would involve building a bridge over Maggie Creek just east of Rio Linda Boulevard, reconfiguring the existing intersection, and constructing approximately 1,100 linear feet of new two-lane roadway.

As a component of this project, the land developer will initiate and complete formation of a maintenance district or annex the project into an existing maintenance district to fund maintenance and repairs of public facilities and improvements. This maintenance district would levy fees or property taxes to fund maintenance activities in perpetuity.

Methods

Literature Search

Online databases from the United States Fish and Wildlife Service (USFWS), the California Department of Fish and Wildlife's (CDFW) California Natural Diversity Database (CNDDDB), the California Native Plant Society (CNPS), and the National Marine Fisheries Service (NMFS) were queried for the presence of potential threatened, endangered, rare, or special status species within the Project vicinity (USFWS 2021; CDFW 2021a; CNPS 2021; NMFS 2016). A shapefile of the Project area was used to generate an official species list through the Information for Planning and Consultation (IPaC) operated by USFWS (Appendix A. USFWS Species List). A six-quadrangle search of the USGS 7.5-minute quadrangles Carmichael (3812153), Sacramento East (3812154), Sacramento West (3812155), Citrus Heights (3812163), Rio Linda (3812164), and Taylor Monument (3812165) was used to obtain lists from the CNDDDB, CNPS, and NMFS (Appendix B. CNDDDB Species List; Appendix C. CNPS Species List; Appendix D. NFMS Species List).

Personnel and Survey Dates

Biological surveys were completed by Madrone Ecological Consulting in 2020 and 2021 to search for sensitive biological resources and document existing site conditions. A follow up survey was completed by Dokken Engineering in the fall of 2021 to verify that site conditions remained consistent with the earlier Madrone surveys.

On May 1, 2020, Madrone Ecological Consulting, LLC (Madrone) biologists Bonnie Peterson and Matt Hirkala completed a pedestrian rare plant survey and aquatic resource delineation within the Project area. The rare plant survey followed the USFWS' *Guidelines for Conducting and Reporting Botanical Inventories for Federally Listed, Proposed and Candidate Plants* (USFWS 1996), CDFW'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). Delineations were 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 2016). Hydrology was subsequently recorded between January and March of 2021, where percent inundation and maximum depth of each potential aquatic source was recorded.

On November 5, 2020, Madrone biologist Dustin Brown conducted focused dry-season surveys for special status branchiopod species following the *Survey Guidelines for the Listed Large Branchiopods* (USFWS 2017). Wet-season surveys were similarly conducted by Madrone biologists between January and March of 2021. Surveys were conducted under the authority of USFWS Recovery Permit for Bonnie Peterson (TE-205600-1) and Dustin Brown (TE85084C-0)

of Section 10(a)(1)(A) of the Environmentally Sensitive Area (ESA), 16 U.S. Code 1531 et seq. All potential large vernal pool branchiopod habitat was sampled within the Project area.

On October 27, 2021, Dokken Engineering biologists Hanna Sheldon and Clare Favro conducted a supplemental field survey of the Project area to verify that site conditions remained consistent with the earlier Madrone surveys. The survey commenced at approximately 9:15 AM and concluded at 11 AM. The weather was sunny, and the temperature was 62 degrees Fahrenheit (°F). Surveys consisted of walking meandering transects through the Project area, observing present plant and animal species, classifying habitat, and assessing the Project area for suitability to support local special status species.

Limitations That May Influence Results

Biological surveys were conducted within the appropriate season and during ideal weather conditions for the time of year; therefore, these surveys are not subject to climatic limitations. The October 27, 2021 biological survey was performed outside of the typical blooming season for local plant species; however, due to the previous survey efforts conducted onsite, these survey results are not limited.

Description of the Existing Physical and Biological Conditions

The Project area is approximately 29.95 acres in size. It is relatively flat, with an average elevation of approximately 40 feet above sea level. The Project area experiences a Mediterranean climate, with hot, dry summers and cool, wet winters. Temperatures range from average highs of approximately 74°F in the summer months and average lows of approximately 48°F in the winter months (U.S. Climate Data 2021). The soil type within the Project area includes San Joaquin fine sandy loam, 0 to 3 percent slopes (87% of Project area); and San Joaquin silt loam, 0 to 3 percent slopes (13% of Project area) (NRCS 2021; Appendix E. NRCS Soil Resources Report):

Vegetation Communities

Vegetation communities and land cover types within the Project area include disturbed annual grassland, wetland swale, seasonal wetland, urban/barren, willow riparian wetland and creek land cover (Figure 4. Vegetation Communities; Appendix F. Representative Photographs). All plant and wildlife species present within the Project area were identified and listed during biological survey efforts (Appendix G. Species Observed). For further information concerning the wetlands delineated within the Project boundaries, refer to Appendix H. Dry Creek Estates Aquatic Resources Delineation Report (ARDR).

The Project area is within an area of terrestrial wildlife species Area of Conservation Emphasis (ACE) habitat connectivity level 4, indicating that this region includes habitat connectivity linkages that represent the best connections between core natural areas for specific species (CDFW 2021b). Due to the scope of the Project and existing biological conditions of the Project area, habitat connectivity within the Project area is unlikely to be disrupted.

Disturbed Annual Grassland

Disturbed annual grassland habitat makes up a vast majority of the Project area. This habitat type is frequently disturbed and had recently been plowed when the October 2021 biological survey was conducted. Survey efforts within this habitat identified a variety of non-native annual grassland species, including riggut brome (*Bromus diandrus*), soft chess (*Bromus hordaceus*), perennial ryegrass (*Lolium perenne*), medusa head (*Elymus caput-medusae*), and Mediterranean barley (*Hordeum marinum*). Other common species within this habitat include winter-vetch (*Vicia villosa*), wild radish (*Raphanus sativa*), wild mustard (*Brassica nigra*), storks bill (*Erodium botrys*), wild oats (*Avena sp.*), and prickly lettuce (*Lactuca serriola*). This land cover type is diagonally bisected by a wetland swale. Disturbed annual grasslands encompass approximately 26.17 acres (~87%) of the Project area.

Wetland Swale

A wetland swale runs diagonally through the Project area, dividing it into two halves. The swale extends northeast into an adjacent parcel and terminates in the southwest corner of the Project area at a culvert under Grace Avenue. The swale is not a jurisdictional water of the United States; however, the project will preserve this feature as an open space corridor due to the habitat's scenic value and function. Common species within this habitat type include previously identified grassland species as well as broadleaf cattail (*Typha latifolia*) present in the southwest corner of the Project area. Wetland swale habitat comprises approximately 2.26 acres (~8%) of the Project area.

Seasonal Wetland

Seasonal wetlands were identified by Madrone biologists throughout the Project area both north and south of the wetland swale. These seasonal wetlands were determined to have three key characteristics of wetland features – hydrophytic vegetation, hydric soils, and wetland hydrology. Upper margins of the seasonal wetlands were dominated by perennial ryegrass, Mediterranean barley, and curly dock (*Rumex crispus*); deeper portions included hyssop loosestrife (*Lythrum hyssopifolium*), rabbitsfoot grass (*Polypogon monspeliensis*), annual hairgrass (*Deschampsia danthonioides*), Carter's buttercup (*Ranunculus bonariensis*), woolly marbles (*Psilocarphus brevissimus*), and waxy mannagrass (*Glyceria declinate*) (Madrone 2021a). Seasonal wetlands were differentiated from the seasonal wetland swales discussed above by their lack of flow or connectivity. No evidence of surface water or subterranean flow was observed between the seasonal wetlands. During the biological survey conducted on October 27, 2021, these wetland areas were inundated with water. The Project area contains approximately 0.91 acres (~3%) of seasonal wetland habitat.

Urban/Barren

Urban/barren land cover is present near the boundary of the Project area as it approaches Rio Linda Boulevard to the west, Main Avenue to the northeast, and Grace Avenue to the south. This land cover type includes the roads, sidewalks, and bike trail that pass through the Project area. These facilities are barren and regularly disturbed by vehicular or pedestrian activity. Urban/barren land cover is infrequent in the Project area and makes up approximately 0.34 acres (~1%) of the Project area.

Willow Riparian Wetland

A willow riparian wetland occurs as part of the hydrological system of Magpie Creek, located at the northern extent of the Project area near Rio Linda Boulevard. This wetland habitat is dominated by narrowleaf willow (*Salix exigua var. exigua*) and Fremont cottonwood (*Populus fremontii subsp. fremontii*). Willow riparian wetland habitat comprises approximately 0.19 acres (~1%) of the Project area.

Magpie Creek

Magpie Creek flows approximately 156 feet from north to south through the northwest corner of the Project area. This creek was recently realigned as part of the Rio Linda Boulevard Bridge Replacement Project, which renovated the intersection of Main Street and Rio Linda Boulevard adjacent to the proposed Project area. The portion of Magpie Creek within the Project area is a manmade channel bordered by disturbed annual grassland habitat and marginal ruderal vegetation. Additionally, a willow riparian wetland is associated with this portion of the creek. Creek habitat makes up approximately 0.08 acres (<1%) of the Project area.

Discussion of Impacts

Regional Species and Habitats and Natural Communities of Concern

The Project area was assessed for its potential to contain habitats or natural communities, plant species, and wildlife species of special concern. Plant and wildlife species are considered to have special status if they have been listed as such by Federal or State agencies or by one or more special interest groups, such as CNPS. In addition, habitats and natural communities are considered to be of special concern based on Federal, State, or local laws regulating their development, limited distributions, and/or the habitat requirements of special status species occurring onsite.

Database searches identified 26 special status or sensitive wildlife species and 9 special status or sensitive plant species with current or historic occurrences in the region. An analysis of habitat requirements, distribution of recorded observations, and field survey results determined that no special status species are anticipated to occur within the Project area; therefore, no impacts to these species are anticipated. A complete list of these species was compiled, along with discussion and determination of each species' potential of occurring within the Project area (Appendix I. Special Status Species Table).

Within the Project area, the wetland swale, seasonal wetlands, Magpie Creek, and its associated willow riparian wetland were identified as natural communities of special concern. Magpie Creek is considered a water of the U.S. and State jurisdictional under the United States (U.S.) Army Corps of Engineers (USACE), the Regional Water Quality Control Board (RWQCB), and CDFW. In addition, the wetland swale habitat and the willow riparian wetland located within the Project area are considered habitats of special concern and fall under the jurisdiction of the USACE. The seasonal wetlands that occur on-site are isolated depressions that lack connection with federally jurisdictional waters; as such, they do not fall under the jurisdiction of the USACE (Appendix H).

Project impacts specific to these sensitive habitats are detailed in individual sections below (Figure 5. Project Impacts). Additionally, Table 1. Project Impacts to Sensitive Natural Habitats details the cumulative area of these impacts. BIO-1 through BIO-4 outline avoidance and minimization measures to reduce potential Project impacts to these sensitive natural communities.

Measures BIO-5 through BIO-9 outline avoidance and minimization measures surrounding migratory birds, invasive species, and site conduct that must be maintained throughout the duration of the Project.

Table 1. Project Impacts to Sensitive Natural Habitats

Habitat Type	Temporary Impacts	Permanent Impacts
Wetland Swale	0.22 acres	0.01 acres
Seasonal Wetland	--	0.89 acres
Willow Riparian Wetland	0.03 acres	0.16 acres
Magpie Creek	0.02 acres	0.06 acres
Total	0.27 acres	1.12 acres

Wetland Swale

Wetland swale habitat present within the Project area was identified as a natural community of special concern and is jurisdictional under USACE. The large wetland swale that diagonally bisects the Project area will be preserved as an open space corridor dividing the housing development into two halves. The preservation of this large swale will maintain local habitat conditions and provide scenic value to the housing development. The project is expected to have approximately 0.22 acres of temporary impacts and 0.01 acres of permanent impacts to the wetland swale due to the construction of the housing development and the installation of a storm drain (Table 1). The implementation of appropriate avoidance and minimization measures BIO-1 through BIO-3 will serve to reduce any potential Project impacts on this natural community. Any permanent impacts to this habitat will be mitigated via the implementation of BIO-4.

Seasonal Wetland

The seasonal wetlands within the Project area are considered natural communities of special concern; however, these wetlands lack connectivity to adjacent jurisdictional waters of the U.S. and are not considered jurisdictional (Appendix H). The project is anticipated to have approximately 0.89 acres of permanent impacts to seasonal wetland habitat due to the construction of the housing development (Table 1). The implementation of appropriate avoidance and minimization measures BIO-1 through BIO-3 will serve to reduce any potential Project impacts on this natural community. Any permanent impacts to this habitat will be mitigated via the implementation of BIO-4.

Willow Riparian Wetland

The willow riparian wetland within the Project area is considered a natural community of special concern under jurisdiction of the USACE. These wetlands are dominated by narrowleaf willow and Fremont cottonwood. The Project is anticipated to have approximately 0.03 acres of temporary impacts and 0.16 acres of permanent impacts to seasonal wetland habitat due to the expansion of Main Avenue north of the proposed housing development (Table 1). The implementation of appropriate avoidance and minimization measures BIO-1 through BIO-3 will serve to reduce any potential Project impacts on this natural community. Any permanent impacts to this habitat will be mitigated via the implementation of BIO-4.

Magpie Creek

Magpie Creek is a small creek channel present in the northwestern extent of the Project area that is considered a water of the U.S. and State jurisdictional under the USACE, the RWQCB, and CDFW. The creek was recently realigned as part of the Rio Linda Boulevard Bridge Replacement Project, which renovated the intersection of Main Street and Rio Linda Boulevard adjacent to the proposed Project area. The Project would construct a bridge over the existing alignment of Magpie Creek and would result in both temporary and permanent impacts to the creek and an adjacent wetland feature (Figure 6. Potential Impacts to Magpie Creek). The project is anticipated to have approximately 0.02 acres of temporary impacts and 0.06 acres of permanent impacts to creek habitat due to the installation of a bridge as part of the extension of Main Avenue (Table 1). The implementation of appropriate avoidance and minimization measures BIO-1 through BIO-3 will serve to reduce any potential Project impacts on this natural community. Any permanent impacts to this habitat will be mitigated via the implementation of BIO-4.

Avoidance and Minimization Measures

Incorporation of the following avoidance and minimization measures are recommended in order to reduce potential impacts to the greatest extent feasible.

- BIO-1:** The construction managers and the project foreman must attend a biological awareness training session delivered by a biologist. This training program shall include information regarding the sensitive habitats and special-status species occurring or potentially occurring within the Project area, and the importance of avoiding impacts to these species and their habitat.
- BIO-2:** As a first order of work, construction limits within natural communities of special concern (wetland swale, willow riparian wetland, seasonal wetland, Magpie Creek) will be marked with high visibility ESA fencing or staking to ensure construction will not further encroach into sensitive habitat resources.
- BIO-3:** Water Quality BMPs will be incorporated into Project design and Project management to minimize impacts on the environment including erosion and the release of pollutants (e.g. oils, fuels):

- Exposed soils and material stockpiles would be stabilized, through watering or other measures, to prevent the movement of dust at the Project site caused by wind and construction activities such as traffic and grading activities;
- All construction roadway areas would be properly protected to prevent excess erosion, sedimentation, and water pollution;
- All vehicle and equipment fueling/maintenance would be conducted outside of any surface waters;
- Equipment used in and around jurisdictional waters must be in good working order and free of dripping or leaking contaminants;
- Raw cement, concrete or concrete washings, asphalt, paint or other coating material, oil or other petroleum products, or any other substances that could be hazardous to aquatic life shall be prevented from contaminating the soil or entering jurisdictional waters;
- All erosion control measures and storm water control measures would be properly maintained until the site has returned to a pre-construction state;
- All disturbed areas would be restored to pre-construction contours and revegetated, either through hydroseeding or other means, with native or approved non-invasive exotic species;
- All construction materials would be hauled off-site after completion of construction.

BIO-4: Net permanent impacts to sensitive habitat communities (wetland swale, willow riparian wetland, seasonal wetland, Magpie Creek) will be appropriately mitigated for through purchase of credits at an approved mitigation bank, or other approved methods, to be determined during the permitting phase of the Project.

BIO-5: If construction is to occur within the nesting bird season (February 15 to September 30), then at most two weeks prior to the start of construction, a pre-construction nesting bird survey must be conducted by a qualified biologist to identify and locate any active nest within the Project area. A minimum 100-foot no-disturbance buffer will be established around any active nest of migratory birds and a minimum 300-foot no-disturbance buffer will be established around any nesting raptor species. The contractor is prohibited from conducting work within the buffer zone and from conducting activities that would disturb the birds (as determined by the Project biologist) in the buffer area until a qualified biologist determines the young have fledged. A reduced buffer can be established if determined appropriate by the Project biologist.

BIO-6: Prior to arrival at the Project site and prior to leaving the Project site, construction equipment that may contain invasive plants and/or seeds will be cleaned to reduce the spreading of noxious weeds.

- BIO-7:** Initial clearing and grubbing in the Magpie Creek Riparian corridor must be accomplished through the use of hand tools or with equipment operated at 3 miles per hour or less to allow wildlife to escape.
- BIO-8:** The contractor must dispose of all food-related trash in closed containers and must remove it from the Project area each day during construction. Construction personnel must not feed or attract wildlife to the Project area.
- BIO-9:** The contractor must not apply rodenticide or herbicide within the Project area during construction.

Conclusion

True Life Management, Inc. proposes to construct approximately 147 single family homes, associated utilities service connections, and 13 local roadways on undeveloped land in the Robla Neighborhood of North Sacramento as part of the Dry Creek Estates Project. As a component of this project, Main Avenue will be extended by approximately 1,100 feet along the north side of the Project area from its current terminus at Rio Linda Boulevard at the northwestern corner of the Project area to the existing section of Main Avenue at the northeastern corner of the Project area. This roadway gap closure would involve building a bridge over Magpie Creek just east of Rio Linda Boulevard, reconfiguring the existing intersection, and paving approximately 1,100 linear feet of two-lane roadway.

The Project will impact four natural communities of special concern – wetland swale, seasonal wetland, willow riparian wetland, and creek habitat. Magpie Creek is considered a water of the U.S. and State jurisdictional under the USACE, the RWQCB, and CDFW. In addition, the wetland swale habitat and the willow riparian wetland located within the Project area are considered habitats of special concern fall under the jurisdiction of the USACE. The seasonal wetlands that occur on-site are isolated depressions that lack connection with federally jurisdictional waters; as such, they do not fall under the jurisdiction of the USACE (Appendix H).

The Project is anticipated to have a total of 0.27 acres of temporary impacts and 1.12 acres of permanent impacts to these sensitive natural communities (Table 1). With the incorporation of measures BIO-1 through BIO-3, potential Project impacts to these natural communities would be reduced or mitigated. Additionally, any permanent impacts to sensitive habitat communities will be mitigated via the implementation of BIO-4.

No special status species were determined to have the potential to occur within the Project area; therefore, no impacts to special status species are anticipated as a result of this Project and no take is expected. Measures BIO-5 through BIO-9 outline BMPs surrounding migratory birds, invasive species, and site conduct that must be maintained throughout the duration of the Project.

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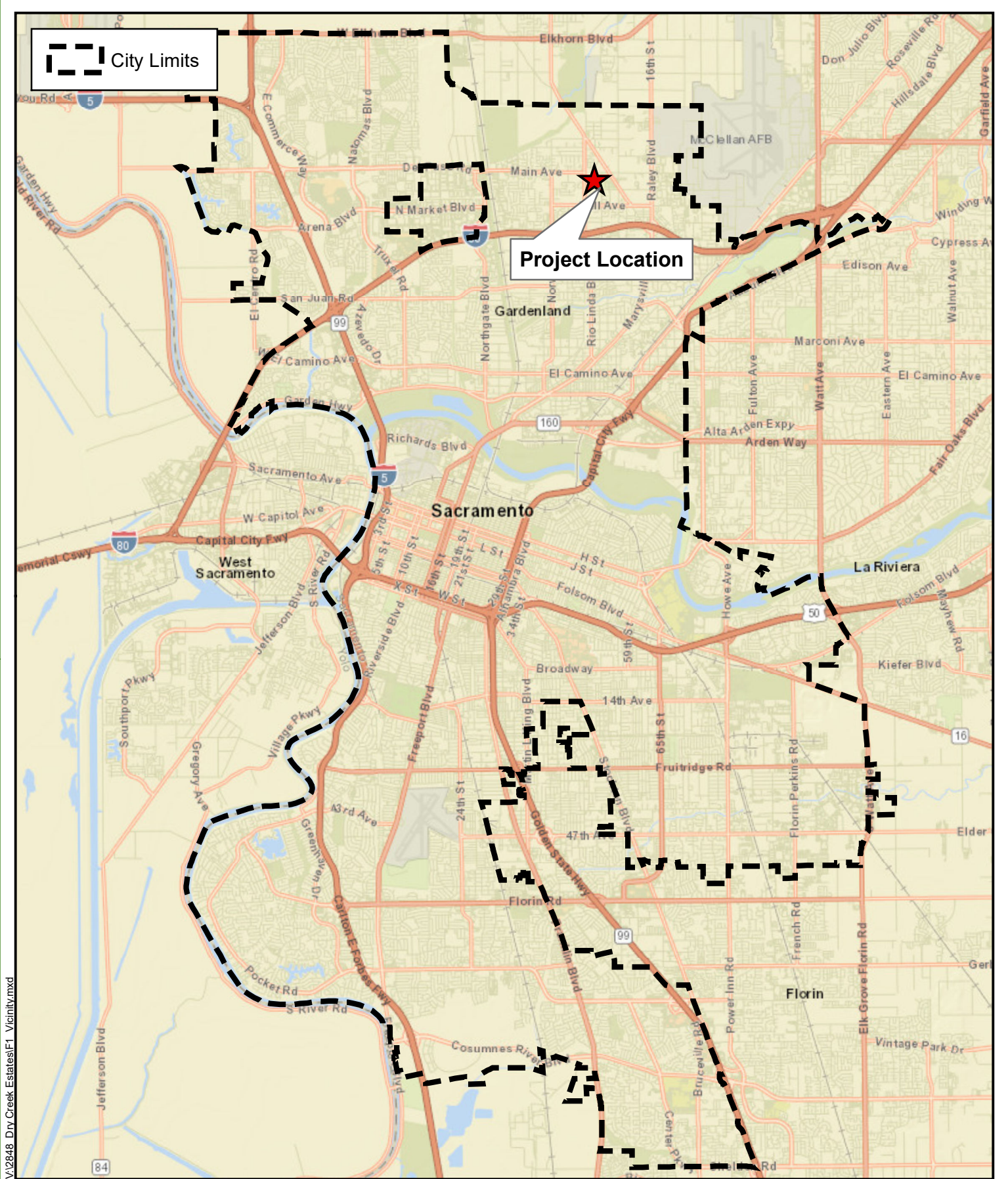
Supporting Attachments

Figures

- Figure 1. Project Location
- Figure 2. Project Vicinity
- Figure 3. Project Features
- Figure 4. Vegetation Communities
- Figure 5. Project Impacts
- Figure 6. Potential Impacts to Magpie Creek

Appendices

- Appendix A. USFWS Species List
- Appendix B. CNDDDB Species List
- Appendix C. CNPS Species List
- Appendix D. NMFS Species List
- Appendix E. NRCS Soil Resources Report
- Appendix F. Representative Photographs
- Appendix G. Species Observed
- Appendix H. Dry Creek Estates ARDR
- Appendix I. Special Status Species Table

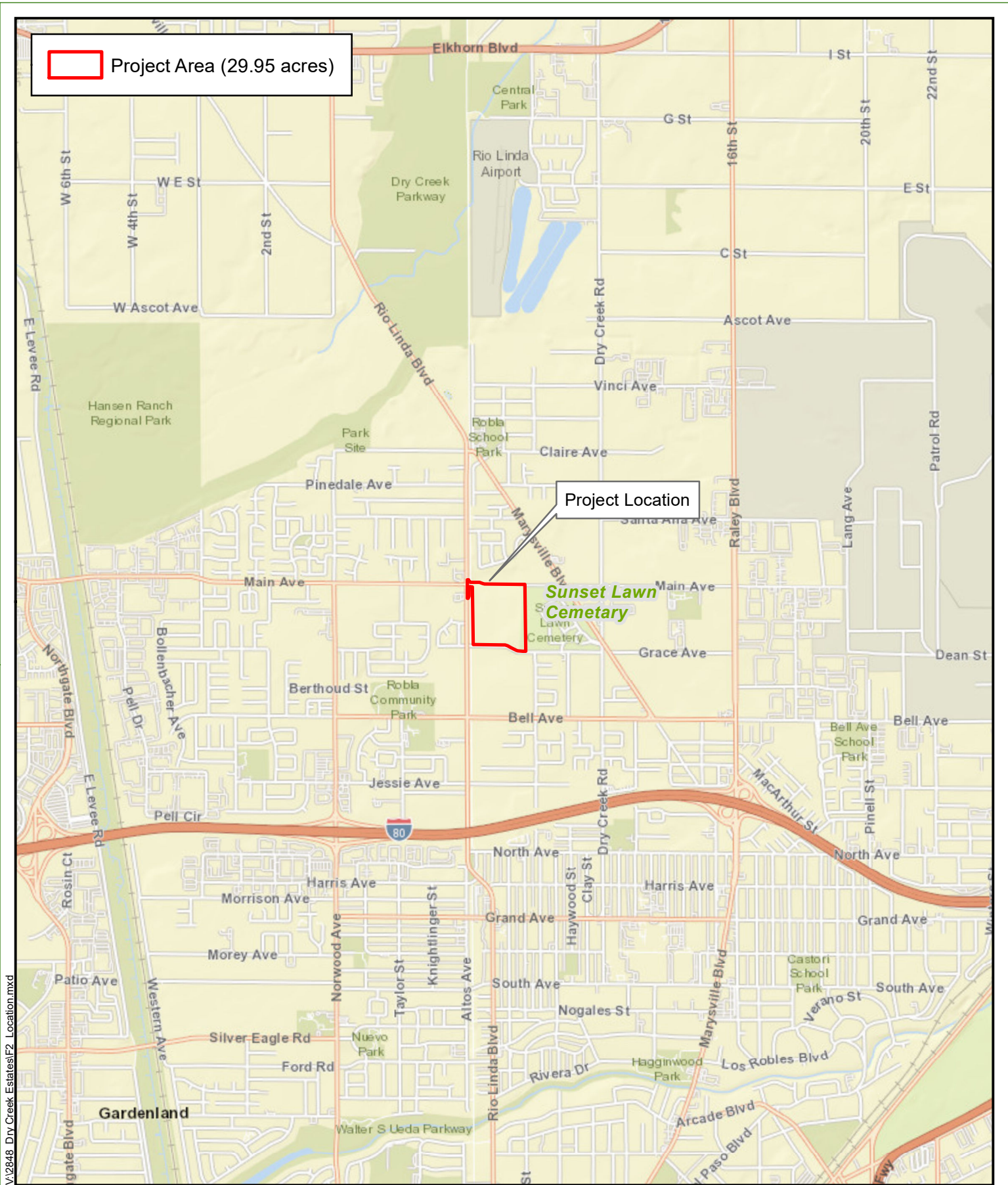


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Source: ESRI 2008; Dokken Engineering 11/30/2021; Created By: vchevreuil

FIGURE 1
Project Vicinity

Dry Creek Estates Project
Sacramento County, California



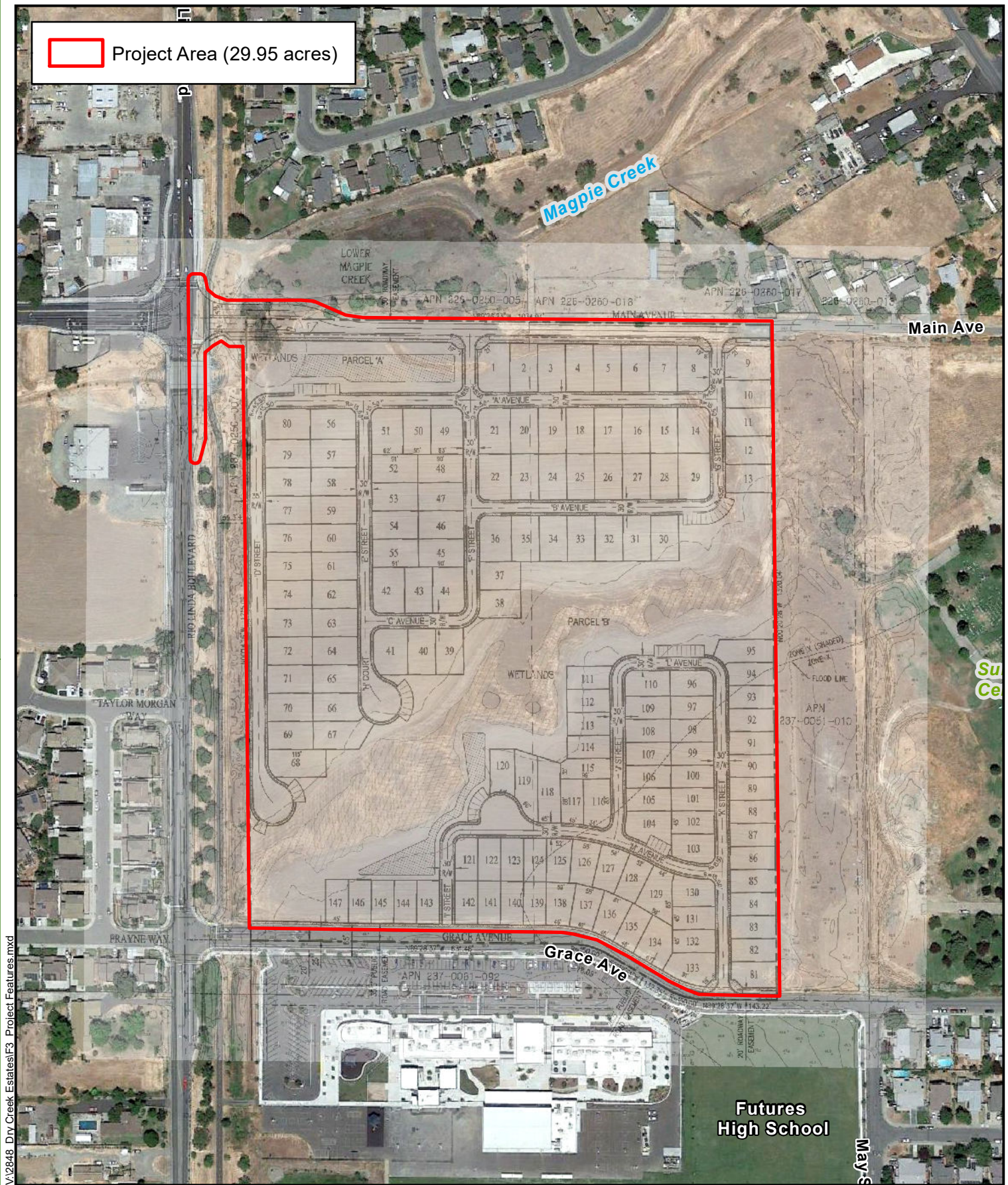
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Source: ESRI 2008; Dokken Engineering 11/30/2021; Created By: vchevreuil

FIGURE 2
Project Location

Dry Creek Estates Project
Sacramento County, California

Project Area (29.95 acres)



V:\2848_Dry Creek Estates\F3_Project Features.mxd

Source: ESRI 2008; Dokken Engineering 3/9/2022; Created By: vchevreuil



1 in = 250 ft

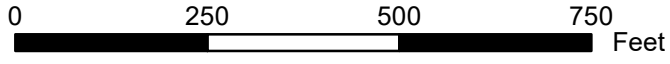
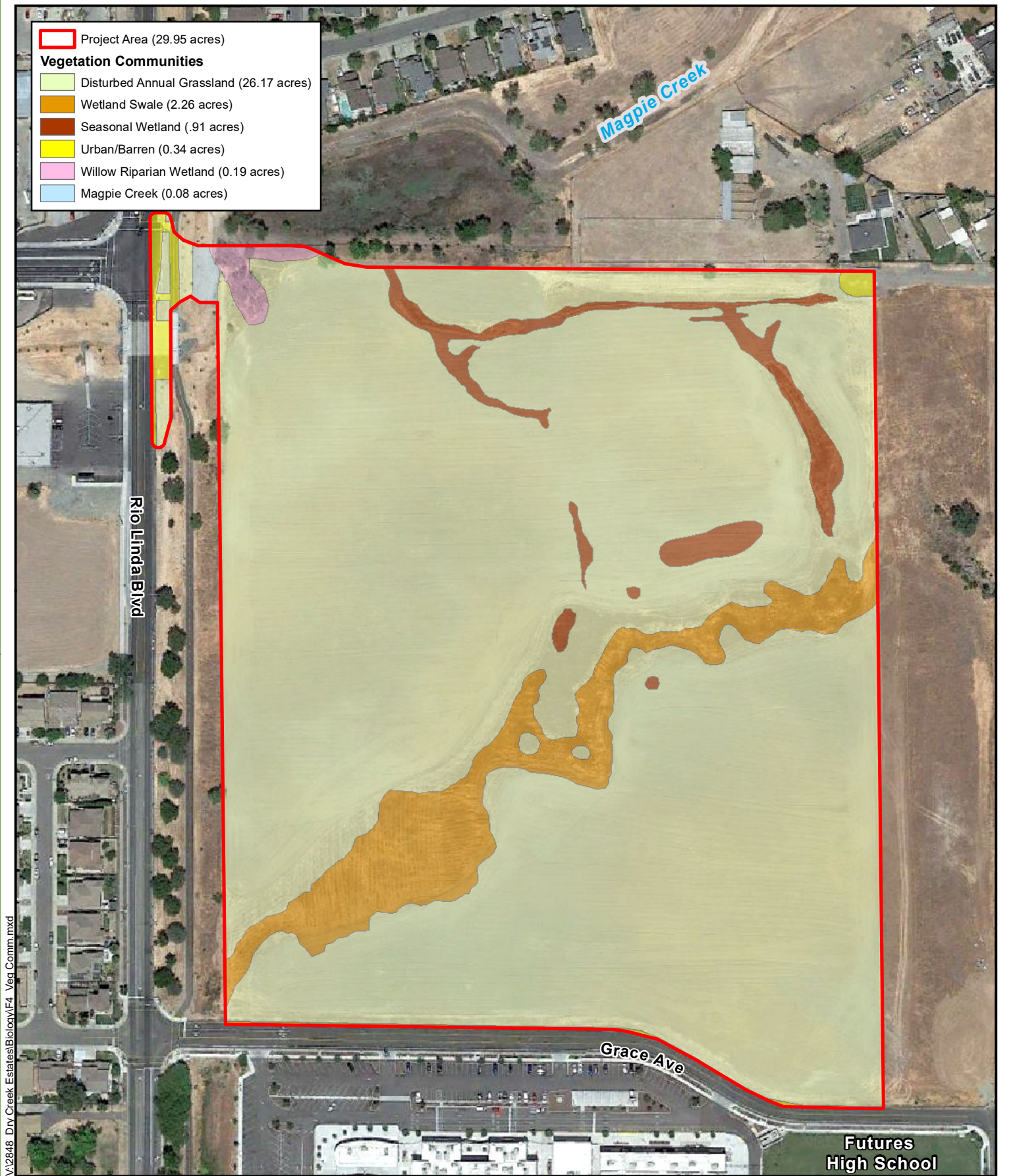


FIGURE 3
Project Features

Dry Creek Estates Project
Sacramento County, California



- Project Area (29.95 acres)
- Vegetation Communities**
- Disturbed Annual Grassland (26.17 acres)
- Wetland Swale (2.26 acres)
- Seasonal Wetland (.91 acres)
- Urban/Barren (0.34 acres)
- Willow Riparian Wetland (0.19 acres)
- Magpie Creek (0.08 acres)

V:\2848_Dry Creek Estates\Biology\F4_Veg Comm.mxd

Source: ESRI 2008; Dokken Engineering 4/7/2022; Created By: vchevreuil



1 in = 200 ft

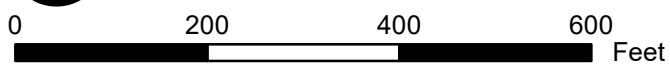
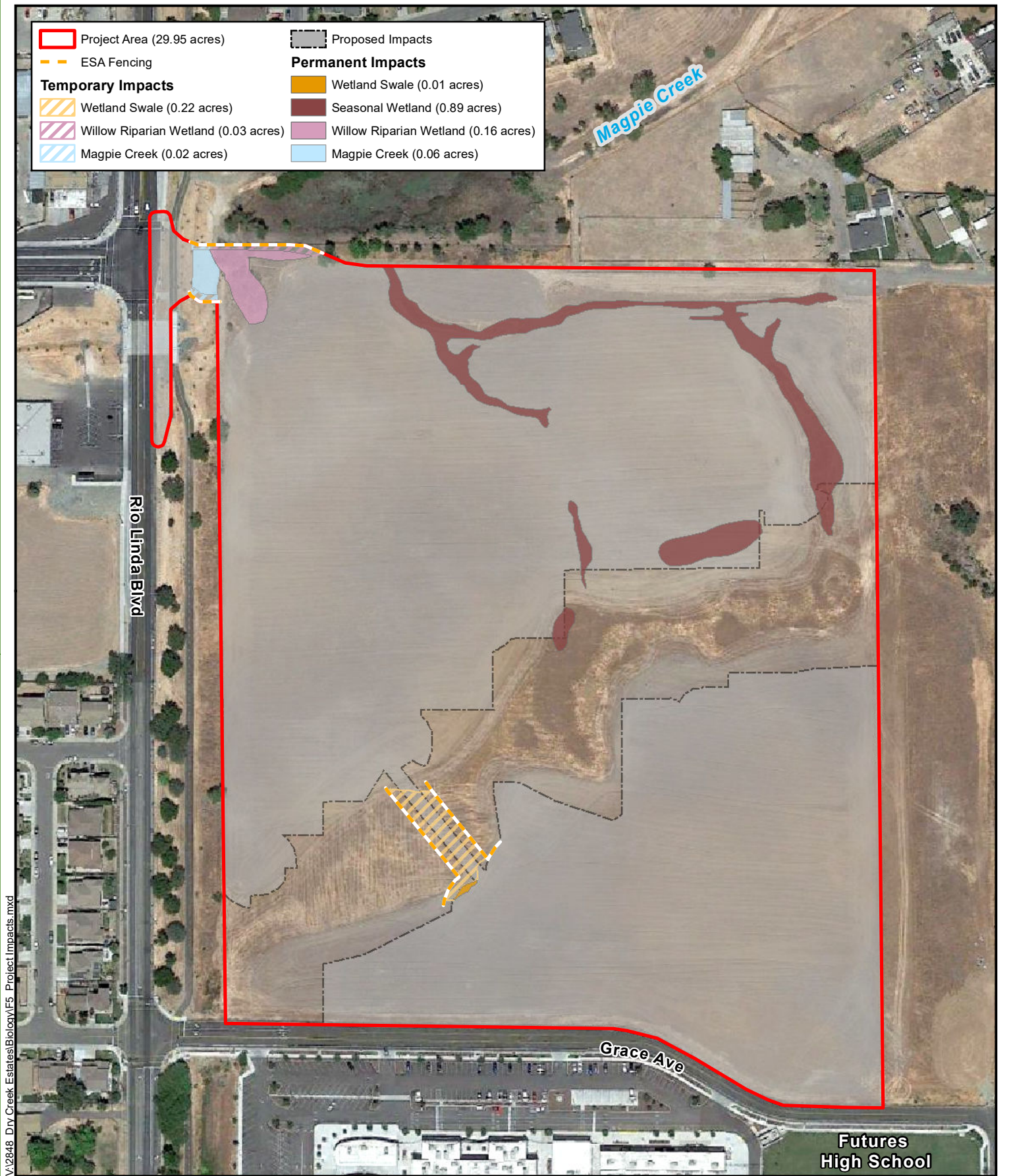


FIGURE 4
Vegetation Communities

Dry Creek Estates Project
Sacramento County, California



Project Area (29.95 acres)	Proposed Impacts
ESA Fencing	Permanent Impacts
Temporary Impacts	Wetland Swale (0.01 acres)
Wetland Swale (0.22 acres)	Seasonal Wetland (0.89 acres)
Willow Riparian Wetland (0.03 acres)	Willow Riparian Wetland (0.16 acres)
Magpie Creek (0.02 acres)	Magpie Creek (0.06 acres)

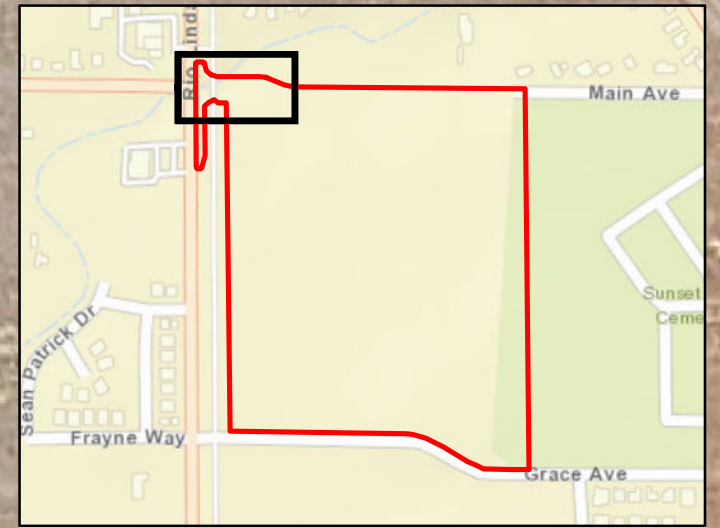
V:\2848_Dry Creek Estates\Biology\F5_Project Impacts.mxd

Source: ESRI 2008; Dokken Engineering 4/7/2022; Created By: vchevreuil

FIGURE 5
Project Impacts

Dry Creek Estates Project
Sacramento County, California

- Project Area (29.95 acres)
- ESA Fencing
- Temporary Impacts**
- Waters of the U.S. (0.003 acres)
- Waters of the State (0.05 acres)
- Permanent Impacts**
- Waters of the U.S. (0.02 acres)
- Waters of the State (0.20 acres)



V:\2848 Dry Creek Estates\Biology\Maple Creek Impacts.mxd

Source: ESRI 2008; Dokken Engineering 3/9/2022; Created By: vchevreuil

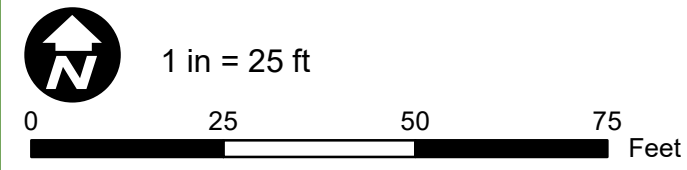


FIGURE 6
Proposed Impacts to Magpie Creek

Dry Creek Estates Project
Sacramento County, California

Appendix A. USFWS Species List



United States Department of the Interior



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

In Reply Refer To:
Consultation Code: 08ESMF00-2022-SLI-0108
Event Code: 08ESMF00-2022-E-00330
Project Name: Dry Creek Estates

October 15, 2021

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

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

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

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

The purpose of the Act is to provide a means whereby threatened and endangered species and the ecosystems upon which they depend may be conserved. Under sections 7(a)(1) and 7(a)(2) of the Act and its implementing regulations (50 CFR 402 *et seq.*), Federal agencies are required to

utilize their authorities to carry out programs for the conservation of threatened and endangered species and to determine whether projects may affect threatened and endangered species and/or designated critical habitat.

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

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

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

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

Guidance for minimizing impacts to migratory birds for projects including communications towers (e.g., cellular, digital television, radio, and emergency broadcast) can be found at:

<http://www.fws.gov/migratorybirds/CurrentBirdIssues/Hazards/towers/towers.htm>;

<http://www.towerkill.com>; and

www.fws.gov/migratorybirds/CurrentBirdIssues/Hazards/towers/comtow.html.

<http://>

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

Attachment(s):

- Official Species List
-

Official Species List

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

This species list is provided by:

Sacramento Fish And Wildlife Office

Federal Building

2800 Cottage Way, Room W-2605

Sacramento, CA 95825-1846

(916) 414-6600

Project Summary

Consultation Code: 08ESMF00-2022-SLI-0108

Event Code: Some(08ESMF00-2022-E-00330)

Project Name: Dry Creek Estates

Project Type: DEVELOPMENT

Project Description: Dry Creek Estates Residential Development Project

Project Location:

Approximate location of the project can be viewed in Google Maps: <https://www.google.com/maps/@38.65298715,-121.44522901578921,14z>



Counties: Sacramento County, California

Endangered Species Act Species

There is a total of 8 threatened, endangered, or candidate species on this species list.

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

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

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

1. [NOAA Fisheries](#), also known as the National Marine Fisheries Service (NMFS), is an office of the National Oceanic and Atmospheric Administration within the Department of Commerce.

Reptiles

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

Amphibians

NAME	STATUS
California Red-legged Frog <i>Rana draytonii</i> There is final critical habitat for this species. The location of the critical habitat is not available. Species profile: https://ecos.fws.gov/ecp/species/2891	Threatened
California Tiger Salamander <i>Ambystoma californiense</i> Population: U.S.A. (Central CA DPS) There is final critical habitat for this species. 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
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.

Appendix B. CNDDDB Species List



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



Query Criteria: Quad IS (Taylor Monument (3812165) OR Rio Linda (3812164) OR Citrus Heights (3812163) OR Carmichael (3812153) OR Sacramento East (3812154) OR Sacramento West (3812155))

Species	Element Code	Federal Status	State Status	Global Rank	State Rank	Rare Plant Rank/CDFW SSC or FP
Ahart's dwarf rush <i>Juncus leiospermus</i> var. <i>ahartii</i>	PMJUN011L1	None	None	G2T1	S1	1B.2
American badger <i>Taxidea taxus</i>	AMAJF04010	None	None	G5	S3	SSC
An andrenid bee <i>Andrena subapasta</i>	IIHYM35210	None	None	G1G2	S1S2	
bank swallow <i>Riparia riparia</i>	ABPAU08010	None	Threatened	G5	S2	
black-crowned night heron <i>Nycticorax nycticorax</i>	ABNGA11010	None	None	G5	S4	
Boggs Lake hedge-hyssop <i>Gratiola heterosepala</i>	PDSCR0R060	None	Endangered	G2	S2	1B.2
burrowing owl <i>Athene cunicularia</i>	ABNSB10010	None	None	G4	S3	SSC
California black rail <i>Laterallus jamaicensis coturniculus</i>	ABNME03041	None	Threatened	G3G4T1	S1	FP
California linderiella <i>Linderiella occidentalis</i>	ICBRA06010	None	None	G2G3	S2S3	
chinook salmon - Central Valley spring-run ESU <i>Oncorhynchus tshawytscha</i> pop. 11	AFCHA0205L	Threatened	Threatened	G5T1T2Q	S2	
chinook salmon - Sacramento River winter-run ESU <i>Oncorhynchus tshawytscha</i> pop. 7	AFCHA0205B	Endangered	Endangered	G5T1Q	S1	
Cooper's hawk <i>Accipiter cooperii</i>	ABNKC12040	None	None	G5	S4	WL
dwarf downingia <i>Downingia pusilla</i>	PDCAM060C0	None	None	GU	S2	2B.2
Elderberry Savanna <i>Elderberry Savanna</i>	CTT63440CA	None	None	G2	S2.1	
Ferris' milk-vetch <i>Astragalus tener</i> var. <i>ferrisiae</i>	PDFAB0F8R3	None	None	G2T1	S1	1B.1
ferruginous hawk <i>Buteo regalis</i>	ABNKC19120	None	None	G4	S3S4	WL
giant gartersnake <i>Thamnophis gigas</i>	ARADB36150	Threatened	Threatened	G2	S2	
golden eagle <i>Aquila chrysaetos</i>	ABNKC22010	None	None	G5	S3	FP
great blue heron <i>Ardea herodias</i>	ABNGA04010	None	None	G5	S4	



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



Species	Element Code	Federal Status	State Status	Global Rank	State Rank	Rare Plant Rank/CDFW SSC or FP
great egret <i>Ardea alba</i>	ABNGA04040	None	None	G5	S4	
Great Valley Cottonwood Riparian Forest <i>Great Valley Cottonwood Riparian Forest</i>	CTT61410CA	None	None	G2	S2.1	
hairy water flea <i>Dumontia oregonensis</i>	ICBRA23010	None	None	G1G3	S1	
hoary bat <i>Lasiurus cinereus</i>	AMACC05030	None	None	G3G4	S4	
least Bell's vireo <i>Vireo bellii pusillus</i>	ABPBW01114	Endangered	Endangered	G5T2	S2	
legenere <i>Legenere limosa</i>	PDCAM0C010	None	None	G2	S2	1B.1
longfin smelt <i>Spirinchus thaleichthys</i>	AFCHB03010	Candidate	Threatened	G5	S1	
midvalley fairy shrimp <i>Branchinecta mesovallensis</i>	ICBRA03150	None	None	G2	S2S3	
Northern Claypan Vernal Pool <i>Northern Claypan Vernal Pool</i>	CTT44120CA	None	None	G1	S1.1	
Northern Hardpan Vernal Pool <i>Northern Hardpan Vernal Pool</i>	CTT44110CA	None	None	G3	S3.1	
Northern Volcanic Mud Flow Vernal Pool <i>Northern Volcanic Mud Flow Vernal Pool</i>	CTT44132CA	None	None	G1	S1.1	
purple martin <i>Progne subis</i>	ABPAU01010	None	None	G5	S3	SSC
Ricksecker's water scavenger beetle <i>Hydrochara rickseckeri</i>	IICOL5V010	None	None	G2?	S2?	
Sacramento Orcutt grass <i>Orcuttia viscida</i>	PMPOA4G070	Endangered	Endangered	G1	S1	1B.1
Sacramento perch <i>Archoplites interruptus</i>	AFCQB07010	None	None	G2G3	S1	SSC
Sacramento splittail <i>Pogonichthys macrolepidotus</i>	AFCJB34020	None	None	GNR	S3	SSC
Sacramento Valley tiger beetle <i>Cicindela hirticollis abrupta</i>	IICOL02106	None	None	G5TH	SH	
Sanford's arrowhead <i>Sagittaria sanfordii</i>	PMALI040Q0	None	None	G3	S3	1B.2
snowy egret <i>Egretta thula</i>	ABNGA06030	None	None	G5	S4	
song sparrow ("Modesto" population) <i>Melospiza melodia</i>	ABPBXA3010	None	None	G5	S3?	SSC
steelhead - Central Valley DPS <i>Oncorhynchus mykiss irideus pop. 11</i>	AFCHA0209K	Threatened	None	G5T2Q	S2	



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



Species	Element Code	Federal Status	State Status	Global Rank	State Rank	Rare Plant Rank/CDFW SSC or FP
stinkbells <i>Fritillaria agrestis</i>	PMLIL0V010	None	None	G3	S3	4.2
Suisun Marsh aster <i>Symphyotrichum lentum</i>	PDASTE8470	None	None	G2	S2	1B.2
Swainson's hawk <i>Buteo swainsoni</i>	ABNKC19070	None	Threatened	G5	S3	
tricolored blackbird <i>Agelaius tricolor</i>	ABPBXB0020	None	Threatened	G1G2	S1S2	SSC
valley elderberry longhorn beetle <i>Desmocerus californicus dimorphus</i>	IICOL48011	Threatened	None	G3T2	S3	
vernal pool fairy shrimp <i>Branchinecta lynchi</i>	ICBRA03030	Threatened	None	G3	S3	
vernal pool tadpole shrimp <i>Lepidurus packardi</i>	ICBRA10010	Endangered	None	G4	S3S4	
western pond turtle <i>Emys marmorata</i>	ARAAD02030	None	None	G3G4	S3	SSC
western ridged mussel <i>Gonidea angulata</i>	IMBIV19010	None	None	G3	S1S2	
western spadefoot <i>Spea hammondi</i>	AAABF02020	None	None	G2G3	S3	SSC
western yellow-billed cuckoo <i>Coccyzus americanus occidentalis</i>	ABNRB02022	Threatened	Endangered	G5T2T3	S1	
white-tailed kite <i>Elanus leucurus</i>	ABNKC06010	None	None	G5	S3S4	FP
woolly rose-mallow <i>Hibiscus lasiocarpus var. occidentalis</i>	PDMAL0H0R3	None	None	G5T3	S3	1B.2

Record Count: 53

Appendix C. CNPS Species List

Inventory of Rare and Endangered Plants of California



Search Results

12 matches found. Click on scientific name for details

Search Criteria: Quad is one of [3812163:3812164:3812165:3812155:3812154:3812153:]

COMMON NAME	▲ SCIENTIFIC NAME	FAMILY	LIFEFORM	BLOOMING PERIOD	FED LIST	STATE LIST	GLOBAL RANK	STATE RANK	CA RARE PLANT RANK	PHOTO
Ferris' milk-vetch	<i>Astragalus tener</i> var. <i>ferrisiae</i>	Fabaceae	annual herb	Apr-May	None	None	G2T1	S1	1B.1	No Photo Available
valley brodiaea	<i>Brodiaea rosea</i> ssp. <i>vallicola</i>	Themidaceae	perennial bulbiferous herb	Apr-May(Jun)	None	None	G5T3	S3	4.2	No Photo Available
Parry's rough tarplant	<i>Centromadia parryi</i> ssp. <i>rudis</i>	Asteraceae	annual herb	May-Oct	None	None	G3T3	S3	4.2	No Photo Available
dwarf downingia	<i>Downingia pusilla</i>	Campanulaceae	annual herb	Mar-May	None	None	GU	S2	2B.2	No Photo Available
stinkbells	<i>Fritillaria agrestis</i>	Liliaceae	perennial bulbiferous herb	Mar-Jun	None	None	G3	S3	4.2	No Photo Available
Boggs Lake hedge-hyssop	<i>Gratiola heterosepala</i>	Plantaginaceae	annual herb	Apr-Aug	None	CE	G2	S2	1B.2	No Photo Available
woolly rose-mallow	<i>Hibiscus lasiocarpus</i> var. <i>occidentalis</i>	Malvaceae	perennial rhizomatous herb (emergent)	Jun-Sep	None	None	G5T3	S3	1B.2	No Photo Available
Ahart's dwarf rush	<i>Juncus leiospermus</i> var. <i>ahartii</i>	Juncaceae	annual herb	Mar-May	None	None	G2T1	S1	1B.2	No Photo Available
legenere	<i>Legenere limosa</i>	Campanulaceae	annual herb	Apr-Jun	None	None	G2	S2	1B.1	No Photo Available
Sacramento Orcutt grass	<i>Orcuttia viscida</i>	Poaceae	annual herb	Apr-Jul(Sep)	FE	CE	G1	S1	1B.1	No Photo Available
Sanford's arrowhead	<i>Sagittaria sanfordii</i>	Alismataceae	perennial rhizomatous herb (emergent)	May-Oct(Nov)	None	None	G3	S3	1B.2	No Photo Available
Suisun Marsh aster	<i>Symphotrichum lentum</i>	Asteraceae	perennial rhizomatous herb	(Apr)May-Nov	None	None	G2	S2	1B.2	No Photo Available

Showing 1 to 12 of 12 entries

Suggested Citation:

Appendix D. NMFS Species List

From: [Vincent Chevreuil](#)
To: nmfswcrca.specieslist@noaa.gov
Subject: Dry Creek Estates NMFS Species List
Date: Friday, October 15, 2021 3:27:06 PM
Attachments: [image001.png](#)

Quad Name **Rio Linda**

Quad Number **38121-F4**

ESA Anadromous Fish

SONCC Coho ESU (T) -

CCC Coho ESU (E) -

CC Chinook Salmon ESU (T) -

CVSR Chinook Salmon ESU (T) - **X**

SRWR Chinook Salmon ESU (E) - **X**

NC Steelhead DPS (T) -

CCC Steelhead DPS (T) -

SCCC Steelhead DPS (T) -

SC Steelhead DPS (E) -

CCV Steelhead DPS (T) - **X**

Eulachon (T) -

sDPS Green Sturgeon (T) -

ESA Anadromous Fish Critical Habitat

SONCC Coho Critical Habitat -

CCC Coho Critical Habitat -

CC Chinook Salmon Critical Habitat -

CVSR Chinook Salmon Critical Habitat -

SRWR Chinook Salmon Critical Habitat -

NC Steelhead Critical Habitat -

CCC Steelhead Critical Habitat -

SCCC Steelhead Critical Habitat -

SC Steelhead Critical Habitat -

CCV Steelhead Critical Habitat - **X**

Eulachon Critical Habitat -

sDPS Green Sturgeon Critical Habitat -

ESA Marine Invertebrates

Range Black Abalone (E) -

Range White Abalone (E) -

ESA Marine Invertebrates Critical Habitat

Black Abalone Critical Habitat -

ESA Sea Turtles

East Pacific Green Sea Turtle (T) -

Olive Ridley Sea Turtle (T/E) -
Leatherback Sea Turtle (E) -
North Pacific Loggerhead Sea Turtle (E) -

ESA Whales

Blue Whale (E) -
Fin Whale (E) -
Humpback Whale (E) -
Southern Resident Killer Whale (E) -
North Pacific Right Whale (E) -
Sei Whale (E) -
Sperm Whale (E) -

ESA Pinnipeds

Guadalupe Fur Seal (T) -
Steller Sea Lion Critical Habitat -

Essential Fish Habitat

Coho EFH -
Chinook Salmon EFH - **X**
Groundfish EFH -
Coastal Pelagics EFH -
Highly Migratory Species EFH -

MMPA Species (See list at left)

ESA and MMPA Cetaceans/Pinnipeds

**See list at left and consult the NMFS Long Beach office
562-980-4000**

MMPA Cetaceans -
MMPA Pinnipeds -



Vincent Chevreuil

Biologist/Environmental Planner |

Dokken Engineering

Phone: 916.858.0642

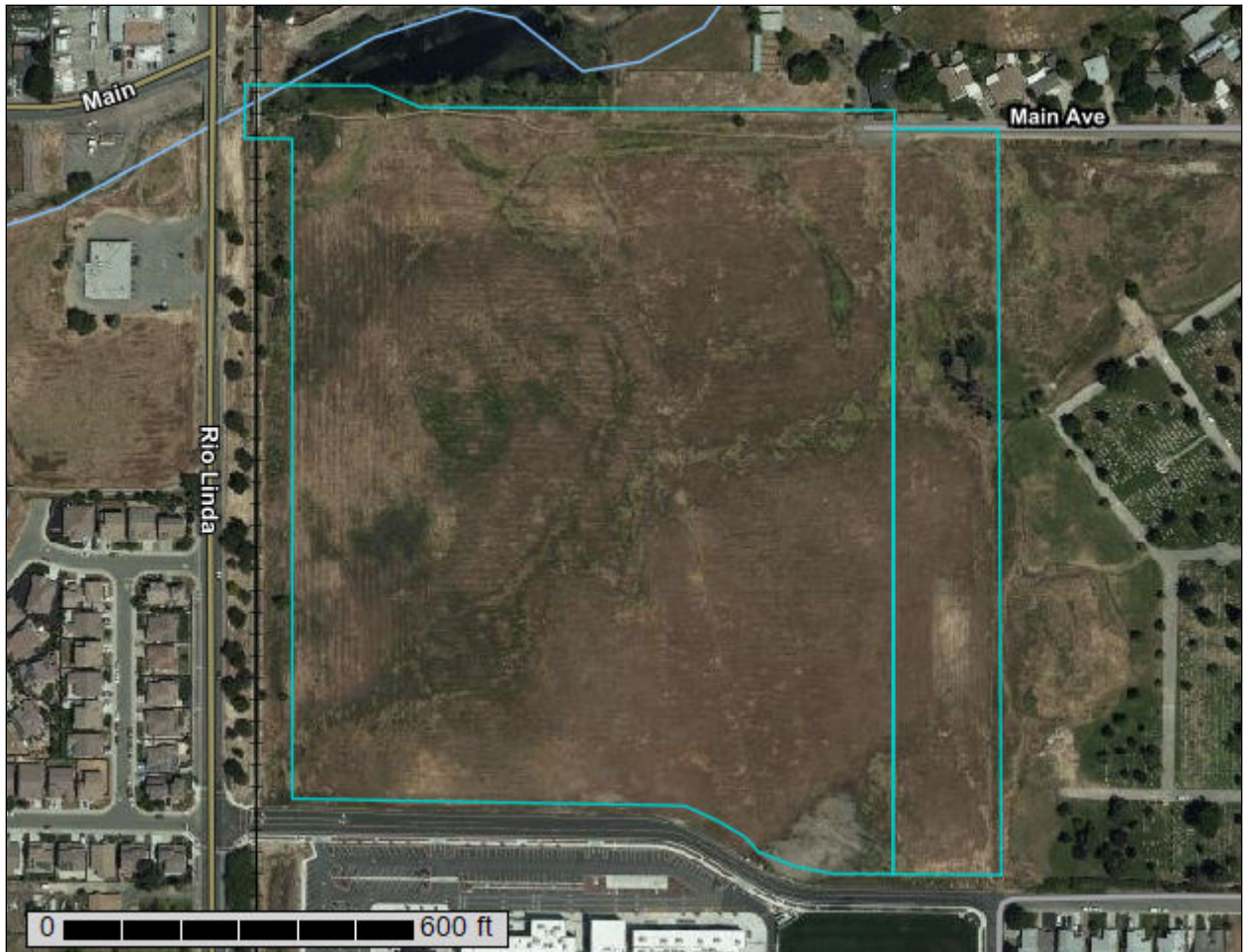
Email: vchevreuil@dokkenengineering.com

110 Blue Ravine Road, Suite 200 | Folsom, CA 95630

www.dokkenengineering.com

Appendix E. NRCS Soil Resources Report

Custom Soil Resource Report for **Sacramento County, California**



Preface

Soil surveys contain information that affects land use planning in survey areas. They highlight soil limitations that affect various land uses and provide information about the properties of the soils in the survey areas. Soil surveys are designed for many different users, including farmers, ranchers, foresters, agronomists, urban planners, community officials, engineers, developers, builders, and home buyers. Also, conservationists, teachers, students, and specialists in recreation, waste disposal, and pollution control can use the surveys to help them understand, protect, or enhance the environment.

Various land use regulations of Federal, State, and local governments may impose special restrictions on land use or land treatment. Soil surveys identify soil properties that are used in making various land use or land treatment decisions. The information is intended to help the land users identify and reduce the effects of soil limitations on various land uses. The landowner or user is responsible for identifying and complying with existing laws and regulations.

Although soil survey information can be used for general farm, local, and wider area planning, onsite investigation is needed to supplement this information in some cases. Examples include soil quality assessments (<http://www.nrcs.usda.gov/wps/portal/nrcs/main/soils/health/>) and certain conservation and engineering applications. For more detailed information, contact your local USDA Service Center (<https://offices.sc.egov.usda.gov/locator/app?agency=nrcs>) or your NRCS State Soil Scientist (http://www.nrcs.usda.gov/wps/portal/nrcs/detail/soils/contactus/?cid=nrcs142p2_053951).

Great differences in soil properties can occur within short distances. Some soils are seasonally wet or subject to flooding. Some are too unstable to be used as a foundation for buildings or roads. Clayey or wet soils are poorly suited to use as septic tank absorption fields. A high water table makes a soil poorly suited to basements or underground installations.

The National Cooperative Soil Survey is a joint effort of the United States Department of Agriculture and other Federal agencies, State agencies including the Agricultural Experiment Stations, and local agencies. The Natural Resources Conservation Service (NRCS) has leadership for the Federal part of the National Cooperative Soil Survey.

Information about soils is updated periodically. Updated information is available through the NRCS Web Soil Survey, the site for official soil survey information.

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Soil Map

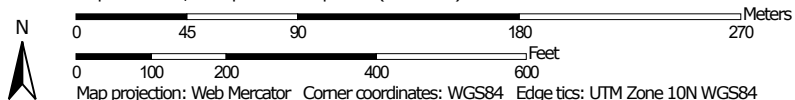
The soil map section includes the soil map for the defined area of interest, a list of soil map units on the map and extent of each map unit, and cartographic symbols displayed on the map. Also presented are various metadata about data used to produce the map, and a description of each soil map unit.

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Soil Map



Soil Map may not be valid at this scale.


Map Scale: 1:3,070 if printed on A portrait (8.5" x 11") sheet.




Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 10N WGS84


MAP LEGEND

Area of Interest (AOI)

 Area of Interest (AOI)

Soils







 Soil Map Unit Polygons

 Soil Map Unit Lines


 Soil Map Unit Points

Special Point Features






-  Blowout
-  Borrow Pit
-  Clay Spot
-  Closed Depression
-  Gravel Pit
-  Gravelly Spot
-  Landfill
-  Lava Flow
-  Marsh or swamp
-  Mine or Quarry
-  Miscellaneous Water
-  Perennial Water
-  Rock Outcrop
-  Saline Spot
-  Sandy Spot
-  Severely Eroded Spot
-  Sinkhole
-  Slide or Slip
-  Sodic Spot

-  Spoil Area
-  Stony Spot
-  Very Stony Spot
-  Wet Spot
-  Other
-  Special Line Features


Water Features

 Streams and Canals

Transportation

-  Rails
-  Interstate Highways
-  US Routes
-  Major Roads
-  Local Roads

Background

 Aerial Photography

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:24,000.

Warning: Soil Map may not be valid at this scale.

Enlargement of maps beyond the scale of mapping can cause misunderstanding of the detail of mapping and accuracy of soil line placement. The maps do not show the small areas of contrasting soils that could have been shown at a more detailed scale.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service
 Web Soil Survey URL:
 Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: Sacramento County, California
 Survey Area Data: Version 20, Sep 3, 2021

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: May 11, 2019—May 12, 2019

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

Map Unit Legend

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
211	San Joaquin fine sandy loam, 0 to 3 percent slopes	30.1	86.9%
214	San Joaquin silt loam, 0 to 3 percent slopes	4.5	13.0%
Totals for Area of Interest		34.7	100.0%

Map Unit Descriptions

The map units delineated on the detailed soil maps in a soil survey represent the soils or miscellaneous areas in the survey area. The map unit descriptions, along with the maps, can be used to determine the composition and properties of a unit.

A map unit delineation on a soil map represents an area dominated by one or more major kinds of soil or miscellaneous areas. A map unit is identified and named according to the taxonomic classification of the dominant soils. Within a taxonomic class there are precisely defined limits for the properties of the soils. On the landscape, however, the soils are natural phenomena, and they have the characteristic variability of all natural phenomena. Thus, the range of some observed properties may extend beyond the limits defined for a taxonomic class. Areas of soils of a single taxonomic class rarely, if ever, can be mapped without including areas of other taxonomic classes. Consequently, every map unit is made up of the soils or miscellaneous areas for which it is named and some minor components that belong to taxonomic classes other than those of the major soils.

Most minor soils have properties similar to those of the dominant soil or soils in the map unit, and thus they do not affect use and management. These are called noncontrasting, or similar, components. They may or may not be mentioned in a particular map unit description. Other minor components, however, have properties and behavioral characteristics divergent enough to affect use or to require different management. These are called contrasting, or dissimilar, components. They generally are in small areas and could not be mapped separately because of the scale used. Some small areas of strongly contrasting soils or miscellaneous areas are identified by a special symbol on the maps. If included in the database for a given area, the contrasting minor components are identified in the map unit descriptions along with some characteristics of each. A few areas of minor components may not have been observed, and consequently they are not mentioned in the descriptions, especially where the pattern was so complex that it was impractical to make enough observations to identify all the soils and miscellaneous areas on the landscape.

The presence of minor components in a map unit in no way diminishes the usefulness or accuracy of the data. The objective of mapping is not to delineate pure taxonomic classes but rather to separate the landscape into landforms or landform segments that have similar use and management requirements. The delineation of such segments on the map provides sufficient information for the development of resource plans. If intensive use of small areas is planned, however,

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onsite investigation is needed to define and locate the soils and miscellaneous areas.

An identifying symbol precedes the map unit name in the map unit descriptions. Each description includes general facts about the unit and gives important soil properties and qualities.

Soils that have profiles that are almost alike make up a *soil series*. Except for differences in texture of the surface layer, all the soils of a series have major horizons that are similar in composition, thickness, and arrangement.

Soils of one series can differ in texture of the surface layer, slope, stoniness, salinity, degree of erosion, and other characteristics that affect their use. On the basis of such differences, a soil series is divided into *soil phases*. Most of the areas shown on the detailed soil maps are phases of soil series. The name of a soil phase commonly indicates a feature that affects use or management. For example, Alpha silt loam, 0 to 2 percent slopes, is a phase of the Alpha series.

Some map units are made up of two or more major soils or miscellaneous areas. These map units are complexes, associations, or undifferentiated groups.

A *complex* consists of two or more soils or miscellaneous areas in such an intricate pattern or in such small areas that they cannot be shown separately on the maps. The pattern and proportion of the soils or miscellaneous areas are somewhat similar in all areas. Alpha-Beta complex, 0 to 6 percent slopes, is an example.

An *association* is made up of two or more geographically associated soils or miscellaneous areas that are shown as one unit on the maps. Because of present or anticipated uses of the map units in the survey area, it was not considered practical or necessary to map the soils or miscellaneous areas separately. The pattern and relative proportion of the soils or miscellaneous areas are somewhat similar. Alpha-Beta association, 0 to 2 percent slopes, is an example.

An *undifferentiated group* is made up of two or more soils or miscellaneous areas that could be mapped individually but are mapped as one unit because similar interpretations can be made for use and management. The pattern and proportion of the soils or miscellaneous areas in a mapped area are not uniform. An area can be made up of only one of the major soils or miscellaneous areas, or it can be made up of all of them. Alpha and Beta soils, 0 to 2 percent slopes, is an example.

Some surveys include *miscellaneous areas*. Such areas have little or no soil material and support little or no vegetation. Rock outcrop is an example.

Sacramento County, California

211—San Joaquin fine sandy loam, 0 to 3 percent slopes

Map Unit Setting

National map unit symbol: hhps
Elevation: 20 to 500 feet
Mean annual precipitation: 10 to 22 inches
Mean annual air temperature: 61 to 63 degrees F
Frost-free period: 250 to 300 days
Farmland classification: Not prime farmland

Map Unit Composition

San joaquin and similar soils: 85 percent
Minor components: 15 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of San Joaquin

Setting

Landform: Terraces
Landform position (two-dimensional): Toeslope
Landform position (three-dimensional): Tread
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Alluvium derived from granite

Typical profile

H1 - 0 to 13 inches: fine sandy loam
H2 - 13 to 30 inches: sandy clay loam
H3 - 30 to 35 inches: clay loam
H4 - 35 to 60 inches: indurated
H5 - 60 to 67 inches: stratified sandy loam to loam

Properties and qualities

Slope: 0 to 3 percent
Depth to restrictive feature: More than 80 inches; 35 to 60 inches to duripan
Drainage class: Moderately well drained
Runoff class: High
Capacity of the most limiting layer to transmit water (Ksat): Very low (0.00 to 0.00 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Calcium carbonate, maximum content: 1 percent
Available water supply, 0 to 60 inches: Low (about 4.4 inches)

Interpretive groups

Land capability classification (irrigated): 3s
Land capability classification (nonirrigated): 3s
Hydrologic Soil Group: C
Hydric soil rating: No

Minor Components

Bruella

Percent of map unit: 4 percent
Hydric soil rating: No

Hedge

Percent of map unit: 3 percent
Hydric soil rating: No

Fiddymment

Percent of map unit: 3 percent
Hydric soil rating: No

Dierssen

Percent of map unit: 3 percent
Hydric soil rating: No

Xerarents

Percent of map unit: 1 percent
Hydric soil rating: No

Durixeralfs

Percent of map unit: 1 percent
Hydric soil rating: No

214—San Joaquin silt loam, 0 to 3 percent slopes

Map Unit Setting

National map unit symbol: hhpw
Elevation: 20 to 500 feet
Mean annual precipitation: 10 to 22 inches
Mean annual air temperature: 61 to 63 degrees F
Frost-free period: 250 to 300 days
Farmland classification: Farmland of statewide importance

Map Unit Composition

San joaquin and similar soils: 85 percent
Minor components: 15 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of San Joaquin

Setting

Landform: Terraces
Landform position (two-dimensional): Toeslope
Landform position (three-dimensional): Tread
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Alluvium derived from granite

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Typical profile

H1 - 0 to 23 inches: silt loam
H2 - 23 to 28 inches: clay loam
H3 - 28 to 54 inches: indurated
H4 - 54 to 60 inches: stratified sandy loam to loam

Properties and qualities

Slope: 0 to 3 percent
Depth to restrictive feature: More than 80 inches; 28 to 54 inches to duripan
Drainage class: Moderately well drained
Runoff class: High
Capacity of the most limiting layer to transmit water (Ksat): Very low (0.00 to 0.00 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Available water supply, 0 to 60 inches: Low (about 3.4 inches)

Interpretive groups

Land capability classification (irrigated): 3s
Land capability classification (nonirrigated): 3s
Hydrologic Soil Group: C
Ecological site: R017XD045CA - LOAMY
Hydric soil rating: No

Minor Components

Galt

Percent of map unit: 4 percent
Landform: Depressions
Hydric soil rating: Yes

Bruella

Percent of map unit: 4 percent
Hydric soil rating: No

Kimball

Percent of map unit: 3 percent
Hydric soil rating: No

Hedge

Percent of map unit: 3 percent
Hydric soil rating: No

Unnamed, rarely flooded

Percent of map unit: 1 percent
Hydric soil rating: No

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Appendix F. Representative Photographs



Photo 1. Photograph of existing site conditions as of October 2021. The Project area consists of frequently disturbed annual grassland that was recently plowed. Notice the inundation of water.



Photo 2. Representative photograph of the seasonal wetlands that are present throughout the Project site. Taken near the northern border of the Project area, facing west (Oct. 2021).



Photo 3. Photograph of the future construction site of Main Avenue, which will expand the existing Main Avenue west to Rio Linda Boulevard, north of the proposed residential community. Taken facing northeast (Oct. 2021).



Photo 4. Representative photograph of the wetland swale habitat as it expands into the adjacent parcel, near Sunset Grove Cemetery. Taken facing south (Oct. 2021).



Photo 5. The Project area as seen from Grace Avenue, near Futures High School. Notice the wetland swale that bisects the Project site. Taken facing north (Oct. 2021).



Photo 5. The terminus of the wetland swale as it approaches the intersection of Rio Linda Boulevard and Grace Avenue in the southeast. Notice the Sacramento Northern Bike Trail running adjacent to the Project area. Taken facing north (Oct. 2021).

Appendix G. Species Observed

Common Name	Scientific Name	Native (N)/Non-Native (X) [Cal-IPC Rating]
Annual blue grass	<i>Poa annua</i>	X
Annual hairgrass	<i>Deschampsia danthonioides</i>	N
Little rattlesnake grass	<i>Briza minor</i>	X
Rabbitsfoot grass	<i>Polypogon monspeliensis</i>	X [Limited]
Arroyo willow	<i>Salix lasiolepis</i>	N
Bermuda grass	<i>Cynodon dactylon</i>	X [Moderate]
Black mustard	<i>Brassica nigra</i>	X [Moderate]
Blue dicks	<i>Dichelostemma capitatum</i>	N
Common hedge-hyssop	<i>Gratiola ebracteata</i>	N
Broad leaved pepperweed	<i>Lepidium latifolium</i>	X [High]
Broadleaf cattail	<i>Typha latifolia</i>	N
Bur clover	<i>Medicago polymorpha</i>	X [Limited]
Carter's buttercup	<i>Ranunculus bonariensis</i> var. <i>trisepalus</i>	N
Chicory	<i>Cichorium intybus</i>	X
Common groundsel	<i>Senecio vulgaris</i>	X
Common tarweed	<i>Centromadia pungens</i>	N
Corn speedwell	<i>Veronica arvensis</i>	X
spike rush	<i>Eleocharis macrostachya</i>	N
Curly dock	<i>Rumex crispus</i>	X [Limited]
Wild geranium	<i>Geranium dissectum</i>	X [Limited]
Narrowleaf cottonrose	<i>Logfia gallica</i>	X
Willow herb	<i>Epilobium densiflorum</i>	N
Dogtail grass	<i>Cynosurus echinatus</i>	X [Moderate]
Leafy bracted dwarf rush	<i>Juncus capitatus</i>	X
Woolly marbles	<i>Psilocarphus brevissimus</i>	N
Field bindweed	<i>Convolvulus arvensis</i>	X
Big heron bill	<i>Erodium botrys</i>	X
Flowering-quillwort	<i>Triglochin scilloides</i>	N
Fremont cottonwood	<i>Populus fremontii</i>	N
Fremont's goldfields	<i>Lasthenia fremontii</i>	N
Slender willow herb	<i>Epilobium ciliatum</i>	N
Crane's bill geranium	<i>Geranium molle</i>	X
Cleavers	<i>Galium aparine</i>	N
Great Valley button celery	<i>Eryngium castrense</i>	N
Hawkbit	<i>Leontodon saxatilis</i>	X
Hairy vetch	<i>Vicia villosa</i>	X
Hood canarygrass	<i>Phalaris paradoxa</i>	X
Horned downingia	<i>Downingia ornatissima</i>	N
Hyssop Loosestrife	<i>Lythrum hyssopifolia</i>	X [Limited]
Interior live oak	<i>Quercus wislizeni</i>	N
Iris-leaved rush	<i>Juncus xiphioides</i>	N
Italian ryegrass	<i>Festuca perennis</i>	X [Moderate]
Italian thistle	<i>Carduus pycnocephalus</i> subsp. <i>pycnocephalus</i>	X
Ithuriel's spear	<i>Triteleia laxa</i>	N
Prostrate knotweed	<i>Polygonum aviculare</i>	X
Lemmon's canarygrass	<i>Phalaris lemmonii</i>	N
Shamrock	<i>Trifolium dubium</i>	X
Waxy mannagrass	<i>Glyceria declinata</i>	X [Moderate]
Mediterranean barley	<i>Hordeum marinum</i> subsp. <i>gussoneanum</i>	X [Moderate]

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Common Name	Scientific Name	Native (N)/Non-Native (X) [Cal-IPC Rating]
Medusa head	<i>Elymus caput-medusae</i>	X [High]
Mexican fan palm	<i>Washingtonia robusta</i>	X [Moderate]
Northern California black walnut	<i>Juglans hindsii</i>	N
Small fescue	<i>Festuca microstachys</i>	N
Pacific foxtail	<i>Alopecurus saccatus</i>	N
Jersey cudweed	<i>Pseudognaphalium luteoalbum</i>	X
Pineapple weed	<i>Matricaria discoidea</i>	N
Prickly Lettuce	<i>Lactuca serriola</i>	X
Ripgut brome	<i>Bromus diandrus</i>	X [Moderate]
Rose clover	<i>Trifolium hirtum</i>	X [Limited]
Narrowleaf willow	<i>Salix exigua var. exigua</i>	N
Seep-Spring Monkeyflower	<i>Mimulus guttatus</i>	N
Stalked Popcornflower	<i>Plagiobothrys stipitatus var. micranthus</i>	N
Narrow tarplant	<i>Holocarpha virgata subsp. virgata</i>	N
Slender oat	<i>Avena barbata</i>	X [Moderate]
Smooth barley	<i>Hordeum murinum subsp. glaucum</i>	X
Smooth cats' ear	<i>Hypochaeris glabra</i>	X [Limited]
Smooth goldfields	<i>Lasthenia glaberrima</i>	N
Soft chess	<i>Bromus hordeaceus</i>	X [Limited]
Spanish lotus	<i>Acmispon americanus var. americanus</i>	N
Spotted knapweed	<i>Centaurea stoebe subsp. micranthos</i>	X [High]
Spring vetch	<i>Vicia sativa</i>	X
Corn spurry	<i>Spergula arvensis</i>	X
Swamp grass	<i>Crypsis schoenoides</i>	X
Toad rush	<i>Juncus bufonius var. bufonius</i>	N
Turkey-mullein	<i>Croton setiger</i>	N
Valley oak	<i>Quercus lobata</i>	N
Narrow-leaved owl's clover	<i>Castilleja attenuata</i>	N
Vinegarweed	<i>Trichostema lanceolatum</i>	N
Water montia	<i>Montia fontana</i>	N
Aquatic pygmy weed	<i>Crassula aquatica</i>	N
White meadowfoam	<i>Limnanthes alba</i>	N
Many flowered brodiaea	<i>Dichelostemma multiflorum</i>	N
Wild oat	<i>Avena sativa</i>	N
Wild radish	<i>Raphanus sativus</i>	X [Limited]
Willow leaved dock	<i>Rumex salicifolius</i>	N
Winged water starwort	<i>Callitriche marginata</i>	N
Yellow star thistle	<i>Centaurea solstitialis</i>	X [High]
Wildlife		
American crow	<i>Corvus brachyrhynchos</i>	N
Northern flicker	<i>Colaptes auratus</i>	N
Red-winged blackbird	<i>Agelaius phoeniceus</i>	N
Killdeer	<i>Charadrius vociferus</i>	N
Turkey vulture	<i>Cathartes aura</i>	N
Lesser goldfinch	<i>Spinus psaltria</i>	N
Mourning dove	<i>Zenaida macroura</i>	N

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Appendix H. Special Status Species Table

Common Name	Species Name	Status	General Habitat Description	Habitat Present	Potential for Occurrence and Rationale
<i>Amphibian Species</i>					
California red-legged frog	<i>Rana draytonii</i>	Fed: T State: -- CDFW: --	The species is endemic to California and northern Baja California. Inhabits lowlands and foothills in or near permanent sources of deep water with dense, shrubby, or emergent riparian vegetation. Associated with humid forests, woodlands, grasslands, coastal scrub, and streamsides. The species requires 11-20 weeks of permanent water for larval development and must have access to estivation habitat; estivation occurs from late summer to early winter. If wetlands are dry, requires animal burrows or other moist refuges. Occurs close to permanent and quiet stream pools, marshes, and ponds. Breeds from March to July in northern regions and January to July in southern regions. Occurs from elevations near sea level to 5,200 feet.	A	Presumed Absent: There are no CNDDDB occurrences of this species within 10 miles of the Project area. Additionally, the Project area does not encompass any permanent sources of deep water and provides marginal emergent riparian vegetation. Due to the absence of potentially suitable habitat features as well as a lack of local occurrences, this species is presumed to be absent from the Project area.
California tiger salamander	<i>Ambystoma californiense</i>	Fed: T State: -- CDFW: --	Inhabits annual grasslands, oak savanna, mixed woodland edges, and lower elevation coniferous forest. Requires underground refuges, especially ground squirrel burrows, vernal pools, or other seasonal water sources for breeding. Breeding occurs December through February in fish-free ephemeral ponds.	A	Presumed Absent: There are no CNDDDB occurrences of this species within 10 miles of the Project area. The Project area does include annual grassland habitat as well as seasonal wetland habitat; however, this area is frequently disturbed via mowing/plowing and does not include any underground refuge habitat. Due to the absence of essential habitat features, the frequent disturbance of the site, and the lack of local occurrences, this species is

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Common Name	Species Name	Status		General Habitat Description	Habitat Present	Potential for Occurrence and Rationale
						presumed to be absent from the Project area.
Western pond turtle	<i>Emys marmorata</i>	Fed: -- State: -- CDFW: SSC	-- -- SSC	A fully aquatic turtle of ponds, lakes, rivers, streams, creeks, marshes, and irrigation ditches with aquatic vegetation. Suitable habitat includes woodland, forests, and grasslands. Requires logs, rocks, cattail mats, and exposed banks for basking. Suitable upland habitat (sandy banks or grassy open field) is required for reproduction, which begins in April and ends with egg laying as late as August (sea level to 4,700 feet).	A	Presumed Absent: There is a local (1995) CNDDDB occurrences of this species approximately 1.5 miles northeast of the Project area. However, this species is fully aquatic, and the Project area does not encompass any permanent water sources. Due to the absence of potentially suitable habitat features, this species is presumed to be absent from the Project area.
Western spadefoot	<i>Spea hammondi</i>	Fed: -- State: -- CDFW: SSC	-- -- SSC	Inhabits open areas with sandy or gravelly soils within mixed woodlands, grasslands, coastal sage scrub, chaparral, sandy washes, lowlands, river floodplains, alluvial fans, playas, alkali flats, foothills, and mountains. Burrows underground from most of the year and is active above ground during rainfall. Requires vernal, shallow, temporary pools formed by heavy winter rains for reproduction. These pools must be free of bullfrogs, fish, and crayfish. Breeds from late winter to March.		Presumed Absent: There are no CNDDDB occurrences of this species within 10 miles of the Project area. The Project area includes temporary pools in the form of swales as well as sandy loam soils; however, there are no burrows present within the Project area and the Project area is frequently disturbed. Despite the presence of a few potentially suitable habitat features, this species is presumed to be absent from the Project area due to the high levels of agricultural disturbance of the site as well as the lack of occurrences.
Bird Species						
Bank swallow	<i>Riparia riparia</i>	Fed: -- State: T CDFW: --	-- T --	A migratory colonial nester inhabiting lowland and riparian habitats west of the deserts during spring through fall. Majority of current breeding populations occur along the Sacramento and Feather Rivers in the north Central Valley. Forages in grassland, brushland, wetlands, and	A	Presumed Absent: There is a (1986) CNDDDB occurrence of this species approximately 4.7 miles south of the Project area. The Project area does not include vertical banks or cliffs suitable for nesting of this species. Additionally, the Project area does not encompass any riparian habitat. Due to the absence of

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Common Name	Species Name	Status		General Habitat Description	Habitat Present	Potential for Occurrence and Rationale
				cropland during migration. Requires vertical banks or cliffs with fine textured/sandy soils for nesting (tunnel and burrow excavations). Nests exclusively near streams, rivers, lakes, or the ocean. Breeds from May through July.		potentially suitable habitat features as well as a lack of local occurrences, this species is presumed to be absent from the Project area.
Burrowing owl	<i>Athene cunicularia</i>	Fed: -- State: -- CDFW: SSC		The species inhabits arid, open areas with sparse vegetation cover such as deserts, abandoned agricultural areas, grasslands, and disturbed open habitats. Can be associated with open shrub stages of pinyon-juniper and ponderosa pine habitats. Nests in old small mammal burrows, but may dig own burrow in soft soil. Nests are lined with excrement, pellets, debris, grass, and feathers. The species may use pipes, culverts, and nest boxes, and even buildings where burrows are scarce. Breeding occurs March through August (below 5,300 feet).	A	Presumed Absent: There is a recent (2007) CNDDDB occurrence of this species approximately 1.6 miles southwest of the Project area. The Project area does include disturbed annual grassland habitat; however, no slopes are present within the Project area and no small mammal burrows were observed due to frequent soil plowing. Due to a lack of potentially suitable habitat features, the species is presumed to be absent from the Project area.
California black rail	<i>Laterallus jamaicensis coturniculus</i>	Fed: -- State: T CDFW: FP		A rare, yearlong California resident of brackish and freshwater emergent wetlands in delta and coastal locations, including the San Francisco Bay area, Sacramento-San Joaquin Delta, Morro Bay, the Salton Sea, and lower Colorado River. The species is extirpated from San Diego County and the majority of coastal southern California. Occurs in tidal emergent wetlands dominated by pickleweed, in brackish marshes dominated by bulrushes with pickleweed, and in freshwater wetlands dominated by bulrushes, cattails, and saltgrass. Species prefers high wetland areas,	A	Presumed Absent: There are no CNDDDB occurrences of this species within 10 miles of the Project area. Additionally, the Project area does not include any high wetlands with emergent aquatic vegetation and as lacks suitable overhead vegetative cover. Due to the lack of potentially suitable habitat features and with no local occurrences, this species is presumed to be absent from the Project area.

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Common Name	Species Name	Status		General Habitat Description	Habitat Present	Potential for Occurrence and Rationale
				away from areas experiencing fluctuating water levels. Requires vegetation providing adequate overhead cover for nesting. Eggs are laid from March through June.		
Least Bell's vireo	<i>Vireo bellii pusillus</i>	Fed: State: CDFW:	E E --	Summer resident of southern California inhabiting low elevation riparian habitats in the vicinity of water and dry river bottoms. Prefers willows, baccharis, mesquite, and other low, dense vegetation as nesting site. Forages in dense brush and occasionally tree tops. The species is known to occur in all four southern California national forests, with the largest population in the Los Padres National Forest (below 2,000 feet).	A	Presumed Absent: Due to the loss of riparian habitat, this species has been locally extirpated from much of Northern California. The only recent occurrence of this species within 50 miles of the Project area is in the Yolo Bypass Wildlife Area, 13 miles southwest of the Project. Additionally, there is a historic (1877) CNDDDB occurrence of this species approximately 5 miles southwest of the Project area. The Project area includes willow riparian habitat; however, suitable habitat is sparse. Due to the absence of sufficient habitat features and with no recent local occurrences, this species is presumed to be absent from the Project area.
Purple martin	<i>Progne subis</i>	Fed: State: CDFW:	-- -- SSC	Present in California as a summer migrant, arriving in March and departing by late September. Inhabits valley foothill and montane hardwood/hardwood-conifer, coniferous habitats, and riparian habitats. Associated with closed-cone pine-cypress, ponderosa pine, Douglas-fir, and redwood. Nests in tall, old, isolated trees or snags in open forest or woodland and in proximity to a body of water. Frequently nests within former woodpecker cavities; may nest in human-made structures such as nesting boxes, under bridges and in culverts. Needs abundant aerial	A	Presumed Absent: There is a recent (2007) CNDDDB occurrence of this species approximately 2.1 miles southeast of the Project area. The Project area does not encompass any woodland habitat. Additionally, the riparian habitat within the Project area does not include suitable tall nesting trees. Due to the absence of potentially suitable habitat features, this species is presumed to be absent from the Project area.

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Common Name	Species Name	Status		General Habitat Description	Habitat Present	Potential for Occurrence and Rationale
				insect prey. Breeds April through August.		
Song Sparrow "Modesto Population"	<i>Melospiza melodia</i>	Fed: -- State: -- CDFW: SSC		An endemic bird found exclusively in the north-central portion of the Central Valley, with highest densities in the Butte Sink and Sacramento-San Joaquin River Delta. The species is usually found in open brushy habitats, along the borders of ponds or streams, abandoned pastures, desert washes, thickets, or woodland edges. In addition, there is a strong affinity for emergent freshwater marshes dominated by tules and cattails, riparian willow thickets, and valley oak forests with a blackberry understory. Nests found in base of shrubs or clumps of grass, requiring low, dense vegetation for cover, usually near water. Breeds from March through August.	A	Presumed Absent: There is a historical (1900) CNDDDB occurrence of this species approximately 0.8 miles southwest of the Project area; however, there are no recent CNDDDB occurrences of this species within 10 miles of the Project area. The Project area does not encompass any open brushy habitat and does not include any freshwater marsh habitat with dense emergent vegetation. Due to the absence of potentially suitable habitat features and with no recent local occurrences, this species is presumed to be absent from the Project area.
Swainson's hawk	<i>Buteo swainsoni</i>	Fed: -- State: T CDFW: --		Inhabits grasslands with scattered trees, juniper-sage flats, riparian areas, savannahs, and agricultural or ranch lands with groves or lines of trees. Requires adjacent suitable foraging areas such as grasslands, alfalfa or grain fields that support a stable rodent prey base. Breeds March to late August.	A	Presumed Absent: There is a recent (2007) CNDDDB occurrence of this species approximately 1.1 miles northwest of the Project area. The Project area encompasses grassland habitat but does not include any riparian habitat or any suitable nesting trees. Therefore, while the species may be transient within the area, there are no opportunities for this species to nest within the Project area. Due to a lack of suitable nesting habitat, this species is presumed to be absent from the Project area.
Tricolored blackbird	<i>Agelaius tricolor</i>	Fed: -- State: T CDFW: SSC		Inhabits freshwater marsh, swamp and wetland communities, but may utilize agricultural or upland habitats that can	A	Presumed Absent: There is a local (1998) CNDDDB occurrence of this species approximately 0.4 miles east of

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Common Name	Species Name	Status		General Habitat Description	Habitat Present	Potential for Occurrence and Rationale
				support large colonies, often in the Central Valley area. Requires dense nesting habitat that is protected from predators, is within 3-5 miles from a suitable foraging area containing insect prey and is within 0.3 miles of open water. Suitable foraging includes wetland, pastureland, rangeland, at dairy farms, and some irrigated croplands (silage, alfalfa, etc.). Nests in dense cattails, tules, willow, blackberry, wild rose, or tall herbs. Nests mid-March to early August, but may extend until October or November in the Sacramento Valley region.		the Project area. Despite the presence of wetland/riparian habitat features, the Project area does not include any dense vegetation that would be suitable for nesting of this species. Due to the lack of suitable nesting habitat, this species is presumed to be absent from the Project area.
Western yellow-billed cuckoo	<i>Coccyzus americanus occidentalis</i>	Fed: State: CDFW:	T E --	Species inhabits riparian forests, along broad, lower flood bottoms of larger river systems. Nests in large blocks of riparian jungles often mixed with cottonwoods. Nesting appears to be preferred in riparian forest habitats with a dense understory; requires water near nesting site. Breeds June to August.	A	Presumed Absent: There is a historical (1900) CNDDDB occurrence of this species approximately 0.8 miles southwest of the Project area; however, there are no recent CNDDDB occurrences of this species within 10 miles of the Project area. The Project area encompasses willow riparian habitat; however, this habitat lacks the dense vegetation typical of a riparian jungle and is not in proximity to a large river. Due to a lack of potentially suitable habitat features as well as a lack of local occurrences, the species is presumed to be absent from the Project area.
White-tailed kite	<i>Elanus leucurus</i>	Fed: State: CDFW:	-- -- FP	Inhabits rolling foothills and valley margins with scattered oaks and river bottomlands or marshes next to deciduous woodland. Prefers open grasslands, meadows or marshes for foraging close to isolated, dense-topped trees for nesting and perching.	A	Presumed Absent: There is a recent (2002) CNDDDB occurrence of this species approximately 1 mile north of the Project area. The Project area does not encompass any woodland habitat and does not include any dense trees for nesting. Due to the lack of necessary

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Common Name	Species Name	Status		General Habitat Description	Habitat Present	Potential for Occurrence and Rationale
				In southern California, will roost in saltgrass and Bermuda grass. Often found near agricultural lands. Nests are placed near the tops of dense oak, willow, or other tree stands. Breeds February through October.		habitat features, this specie is presumed to be absent from the Project area.
Fish Species						
Chinook salmon – Central Valley spring-run ESU	<i>Oncorynchus tshawytscha pop. 11</i>	Fed: T State: T CDFW: --		Spring-run Chinook enter the Sacramento-San Joaquin River system to spawn, requiring larger gravel particle size and more water flow through their redds than other salmonids. Remaining runs occur in Butte, Mill, Deer, Antelope, and Beegum Creeks, tributaries to the Sacramento River. Known to occur in Siskiyou and Trinity counties.	A	Presumed Absent: There is a recent (2004) CNDDDB occurrence of this species within the Sacramento River Deep Water Ship Channel approximately 7.5 miles southwest of the Project area. The Project area does not include any of the water channels where the remaining runs of this species occur; therefore, the species is presumed absent.
Chinook salmon – Sacramento River winter-run ESU	<i>Oncorynchus tshawytscha pop. 7</i>	Fed: E State: E CDFW: --		Winter-run Chinook are currently restricted within the Sacramento River below Keswick dam; species does not spawn in tributaries. Species requires cold water over gravel beds to spawn.	A	Presumed Absent: There is a recent (2004) CNDDDB occurrence of this species within the Sacramento River Deep Water Ship Channel approximately 7.5 miles southwest of the Project area. The Project area does not include any gravel beds or sufficient water flow that could provide habitat for this species; therefore, the species is presumed absent.
Delta smelt	<i>Hypomesus transpacificus</i>	Fed: T State: -- CDFW: --		This species is endemic to California and can tolerate a wide range of salinity and temperatures but is most commonly found in brackish waters. Juveniles require shallow waters with food rich sources. Adults require adequate flow and suitable water quality for spawning in winter and spring. Occurs within the Sacramento-San Joaquin Delta and seasonally within the Suisun Bay, Carquinez	A	Presumed Absent: There are no local CNDDDB occurrences of this species within 10 miles of the Project area. Additionally, the Project area does not include any suitable water channels that could provide habitat for this species, lacking both salinity and sufficient water flow; therefore, the species is presumed absent.

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Common Name	Species Name	Status		General Habitat Description	Habitat Present	Potential for Occurrence and Rationale
Longfin smelt	<i>Spirinchus thaleichthys</i>	Fed: -- State: T CDFW: --		<p>Strait and San Pablo Bay. Most often occurs in partially saline waters.</p> <p>Within California, occurs slightly upstream from Rio Vista (on the Sacramento River in the Delta) including the Cache Slough region and Medford Island (on the San Joaquin River in the Delta) through Suisun Bay and Suisun Marsh, the San Pablo Bay, the main San Francisco Bay, South San Francisco Bay, the Gulf of the Farallones, Humboldt Bay, and the Eel River estuary & local coastal areas. Resides in California and are primarily an anadromous estuarine species that can tolerate salinities ranging from freshwater to nearly pure seawater. Prefers temperatures in the range of 16-18°C and salinities ranging from 15-30 ppt. Their spatial distribution within a bay or estuary is seasonally variable. Longfin smelt may also make daily migrations; remaining deep during the day and rising to the surface at night.</p>	A	<p>Presumed Absent: According to CNDDDB, this species is presumed to be extant within the Sacramento River as of 2004. The Project area does not include any suitable water channels that could provide sufficient aquatic flow for this species; additionally, this species is known to prefer semi-saline aquatic environments near the coast or within the delta. The species is presumed absent.</p>
Sacramento perch	<i>Archoplites interruptus</i>	Fed: -- State: -- CDFW: SSC		<p>Inhabits sloughs, lakes, and slow moving rivers of the Central Valley. Prefers turbid lakes, reservoirs and ponds warmed by summer heat and absent of plants; may occasionally occur in clear water among beds of aquatic vegetation. Species tolerates high temperatures, high salinities, high turbidity, and low water clarity. Young require aquatic and overhanging vegetation for cover. Spawns March-August in water temperatures between 64-84°F</p>	A	<p>Presumed Absent: There are no CNDDDB occurrences of this species within 10 miles of the Project area; additionally, the nearest CNDDDB occurrence of this species is confined to Lake Greenhaven, which is isolated from other water sources. The Project area does not include any suitable water channels that could provide habitat for this species; therefore, the species is presumed absent.</p>

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Common Name	Species Name	Status		General Habitat Description	Habitat Present	Potential for Occurrence and Rationale
Sacramento splittail	<i>Pogonichthys macrolepidotus</i>	Fed: -- State: -- CDFW: SSC		Historically inhabited low moving rivers, sloughs, and alkaline lakes of the Central Valley; now restricted to the Delta, Suisun Bay and associated marshes. Species is adapted to fluctuating environments with tolerance to water salinities from 10-18 ppt., low oxygen levels (< 1.0 mg/L) and temperatures of 41-75°F. Spawns late February- early July, with a peak in March-April; requires flooded vegetation for spawning activity and protective cover for young.	A	Presumed Absent: According to CNDDDB, this species is presumed to be extant within the Sacramento River as of 1995. However, the species now restricted to the Delta, Suisun Bay, and associated marshes. The Project area does not include any applicable water bodies that host this species; therefore, the species is presumed absent.
Steelhead – Central Valley DPS	<i>Oncorhynchus mykiss irideus</i> pop. 11	Fed: T State: -- CDFW: --		Southern California and central California steelhead utilize rivers and creeks from Pajaro River south to Santa Maria River. Spawning occurs in coastal watersheds while rearing occurs in freshwater or estuary habitats prior to emigrating to the ocean in the winter and spring. Preferred spawning sites contain gravel substrate with sufficient water flow and riverine cover. Rearing habitat contains sufficient feeding with associated riparian forest containing willow and cottonwoods. Migration upstream for reproduction occurs from October to May with spawning occurring January to April.	A	Presumed Absent: There is a recent (2007) CNDDDB occurrence of this species approximately 1.1 miles northwest of the Project area within Dry Creek. The Project area does not include any suitable water channels due to a lack of gravel beds, overhead vegetative cover, and sufficient water flow; therefore, the species is presumed absent.
Invertebrate Species						
Valley elderberry longhorn beetle	<i>Desmocerus californicus dimorphus</i>	Fed: T State: -- CDFW: --		Species requires red or blue elderberry (<i>Sambucus</i> sp.) as host plants. Typically occurs in moist valley oak woodlands associated with riparian corridors in the lower Sacramento River and upper San Joaquin River drainages. Adults are active, feeding, and breeding from	A	Presumed Absent: There is a historic (1984) CNDDDB occurrence of this species approximately 3.7 miles southwest of the Project area, as well as multiple occurrences of this species along length of the American River Parkway. The Project area does not include any elderberry bushes, which are

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Common Name	Species Name	Status		General Habitat Description	Habitat Present	Potential for Occurrence and Rationale
				March until June (sea level-3,000 feet).		a requisite for this species; therefore, the species is presumed to be absent due to a lack of necessary habitat features.
Vernal pool fairy shrimp	<i>Branchinecta lynchi</i>	Fed: T State: -- CDFW: --		In California, species inhabits portions of Tehama county, south through the Central Valley, and scattered locations in Riverside County and the Coast Ranges. Species is associated with smaller and shallower cool-water vernal pools approximately 6 inches deep and short periods of inundation. In the southernmost extremes of the range, the species occurs in large, deep cool-water pools. Inhabited pools have low to moderate levels of alkalinity and total dissolved solids. The shrimp are temperature sensitive, requiring pools below 50 F to hatch and dying within pools reaching 75 F. Young emerge during cold-weather winter storms.	A	Presumed Absent: There is a (1996) CNDDDB occurrence of this species located approximately 1.6 miles northeast of the Project area. However, the Project area does not encompass vernal pools and is frequently disturbed by mowing and plowing. Additionally, biologists from Madrone Ecological Consulting reviewed the wetland resources within the Project area for evidence of special status branchiopod species in 2020 and 2021. No federally listed branchiopod species were observed during sampling (Madrone 2020; Madrone 2021b). Due to the frequent disturbance of the Project site, the lack of suitable vernal pool features, and the negative results of focused surveying, this species is presumed to be absent from the Project area.
Vernal pool tadpole shrimp	<i>Lepidurus packardii</i>	Fed: E State: -- CDFW: --		Inhabits vernal pools and swales containing clear to highly turbid waters such as pools located in grass bottomed swales of unplowed grasslands, old alluvial soils underlain by hardpan, and mud-bottomed pools with highly turbid water.	A	Presumed Absent: There is a (1998) CNDDDB occurrence of this species located approximately 1 mile northeast of the Project area. The Project area encompasses a large swath of wetland swale habitat; however, the Project area is frequently disturbed by mowing and plowing. Additionally, biologists from Madrone Ecological Consulting reviewed the wetland resources within the Project area for evidence of special status branchiopod species in 2020 and 2021. No federally listed branchiopod species were observed during sampling (Madrone 2020; Madrone 2021b).

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Common Name	Species Name	Status		General Habitat Description	Habitat Present	Potential for Occurrence and Rationale
						Despite the nearby occurrence of this species as well as the presence of potentially suitable habitat features, this species is presumed to be absent from the Project area due to the negative results of focused surveying as well as the frequent disturbance of the Project site.
Mammal Species						
American badger	<i>Taxidea taxus</i>	Fed: -- State: -- CDFW: --	SSC	Prefers treeless, dry, open stages of most shrub and herbaceous habitats with friable soils and a supply of rodent prey. Species also inhabits forest glades, meadows, marshes, brushy areas, hot deserts, and mountain meadows. Species maintains burrows within home ranges estimated between 338-1,700 acres, dependent on seasonal activity. Burrows are frequently re-used, but new burrows may be created nightly. Young are born in March and April within burrows dug in relatively dry, often sandy, soil, usually in areas with sparse overstory cover. Species is somewhat tolerant of human activity, but is sensitive to automobile mortality, trapping, and persistent poisons (up to 12,000 feet).	A	Presumed Absent: There are no CNDDDB occurrences of this species within 10 miles of the Project area. The Project area does not include herbaceous habitat and the local area lacks the sufficient acreage to support individuals of this species. Additionally, no burrows were observed within the Project area on the biological survey conducted on October 27, 2021. Due to a lack of sufficient habitat features and with no local occurrences, the species is presumed to be absent from the Project area.
Reptile Species						
Giant garter snake	<i>Thamnophis gigas</i>	Fed: T State: T CDFW: --	T T --	A highly aquatic species that inhabits marsh, swamp, wetland (including agricultural wetlands), sloughs, ponds, rice fields, low gradient streams and irrigation/drainage canals adjacent to uplands. Ideal habitat contains both shallow and deep water with variations in topography. Species requires adequate water during the active	A	Presumed Absent: There is a (1998) CNDDDB occurrence of this species approximately 3.3 miles west of the Project area. The Project area does not include permanent water sources that would support a fully aquatic species. Due to a lack of necessary habitat features, the species is presumed to be absent from the Project area.

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Common Name	Species Name	Status		General Habitat Description	Habitat Present	Potential for Occurrence and Rationale
				season (April-November), emergent, herbaceous wetland vegetation, such as cattails and bulrushes, for escape cover and foraging habitat and mammal burrows estivation. Requires grassy banks and openings in waterside vegetation for basking and higher elevation uplands for cover and refuge from flood waters during winter dormant season. Mating occurs in the spring and females bear live young.		
Plant Species						
Ahart's dwarf rush	<i>Juncus leiospermus var. ahartii</i>	Fed: -- State: -- CDFW: 1B.2		An annual herb inhabiting grassland swales, gopher mounds, and vernal pool margins of mesic valley and foothill grassland communities. Flowers March-May (100-750 feet).	HP	Presumed Absent: There are no CNDDDB or Calflora occurrences of this species within 10 miles of the Project area. The Project area includes grassland swale habitat; however, no individuals of this species were observed during the focused rare plant survey performed by Madrone biologists in May of 2020 (Madrone 2021a) or during the general biological survey performed by Dokken biologists in October of 2021. Therefore, the species is presumed to be absent from the Project area.
Bogg's Lake hedge-hyssop	<i>Gratiola heterosepala</i>	Fed: -- State: E CDFW: 1B.2		An annual herb inhabiting clay soils and shallow waters of marshes, swamps, lake margins, and vernal pools. Flowers April-August (30-7,800 feet).	A	Presumed Absent: There is a historic (1960) CNDDDB and Calflora occurrence of this species located approximately 3.8 miles north of the Project area. The Project area includes seasonal wetland and wetland swale habitat that provides potentially suitable habitat for this species; however, no individuals of this species were observed during the focused rare plant survey performed by Madrone biologists in May of 2020 (Madrone 2021a) or during the general biological survey performed by Dokken

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Common Name	Species Name	Status	General Habitat Description	Habitat Present	Potential for Occurrence and Rationale
					biologists in October of 2021. Therefore, the species is presumed to be absent from the Project area.
Dwarf downingia	<i>Downingia pusilla</i>	Fed: -- State: -- CDFW: 2B.2	An annual herb inhabiting vernal pools and other seasonally inundated features within mesic soils in valley and foothill grassland communities. Flowers March-May (0-1,500 feet).		Presumed Absent: There is a (1993) CNDDDB occurrence of this species located approximately 3.8 miles northwest of the Project area as well as a historic (1934) Calflora occurrence located 2.5 miles north of the Project area. The Project area encompasses seasonally inundated wetland features that could provide habitat for this species; however, no individuals of this species were observed during the focused rare plant survey performed by Madrone biologists in May of 2020 (Madrone 2021a) or during the general biological survey performed by Dokken biologists in October of 2021. Therefore, the species is presumed to be absent from the Project area.
Ferris' milk-vetch	<i>Astragalus tener</i> <i>var. ferrisiae</i>	Fed: -- State: -- CDFW: 1B.1	An annual herb inhabiting vernal mesic meadows and seeps and subalkaline flats within valley and foothill grassland communities. Known only from six extant occurrences. Flowers April-May (0-250 feet).	A	Presumed Absent: There is a historic (1954) CNDDDB occurrence of this species located approximately 9.2 miles southwest of the Project area as well as a historic (1905) Calflora occurrence located 5.5 miles southwest of the Project area. The Project area does not include vernal mesic soils or subalkaline flats that could provide potentially suitable habitat for this species; therefore, the species is presumed to be absent from the Project area.
Legenere	<i>Legenere limosa</i>	Fed: -- State: -- CDFW: 1B.1	An annual herb inhabiting wet areas, vernal pools, and ponds. Flowers April-June (0-2,900 feet).	A	Presumed Absent: There is a (1991) CNDDDB occurrence of this species located approximately 0.9 miles north of the Project area. The Project area

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Common Name	Species Name	Status		General Habitat Description	Habitat Present	Potential for Occurrence and Rationale
						includes wetland swale habitat; however, no individuals of this species were observed during the focused rare plant survey performed by Madrone biologists in May of 2020 (Madrone 2021a) or during the general biological survey performed by Dokken biologists in October of 2021. Therefore, the species is presumed to be absent from the Project area.
Sacramento Orcutt grass	<i>Orcuttia viscida</i>	Fed: State: CDFW:	E E 1B.1	An annual herb inhabiting vernal pools. Flowers April-July (100-330 feet).		Presumed Absent: There are no CNDDDB or Calflora occurrences of this species within 10 miles of the Project area. Additionally, the Project area lacks vernal pool habitat that may provide potentially suitable habitat for this species. Due to the absence of potentially suitable habitat features and with no recent or local occurrences, this species is presumed to be absent from the Project area.
Sanford's arrowhead	<i>Sagittaria sanfordii</i>	Fed: State: CDFW:	-- -- 1B.2	A perennial rhizomatous herb inhabiting freshwater marshes, swamps, ponds, and ditches. Flowers May-October (0-2,130 feet).	A	Presumed Absent: There is a recent (2006) CNDDDB occurrence of this species located approximately 1.7 miles northwest of the Project area. The Project area includes a wetland swale that provides marginal habitat for this species; however, no individuals of this species were observed during the focused rare plant survey performed by Madrone biologists in May of 2020 (Madrone 2021a) or during the general biological survey performed by Dokken biologists in October of 2021. Therefore, the species is presumed to be absent from the Project area.
Suisun Marsh aster	<i>Symphotrichum lentum</i>	Fed: State:	-- --	A perennial rhizomatous herb inhabiting swamps, freshwater marsh,		Presumed Absent: There are no CNDDDB or Calflora occurrences of this

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Common Name	Species Name	Status		General Habitat Description	Habitat Present	Potential for Occurrence and Rationale
		CDFW:	1B.2	and brackish-marsh communities. Flowers May-November (0-10 feet).		species within 10 miles of the Project area. The Project area does not include any swamp or marsh habitat that could potentially support this species. Therefore, the species is presumed to be absent from the Project area.
Woolly rose-mallow	<i>Hibiscus lasiocarpus var. occidentalis</i>	Fed: State: CDFW:	-- -- 1B.2	A perennial rhizomatous herb inhabiting freshwater wetlands, wet banks, and marsh communities. Often found in-between riprap on levees. Flowers June-September (0-400 feet).		Presumed Absent: There is a (1988) CNDDDB occurrence of this species located approximately 5.4 miles southwest of the Project area. The Project area includes seasonal wetlands, which provide marginally suitable habitat for this species; however, no individuals of this species were observed during the biological survey conducted by Madrone biologists in May of 2020 (Madrone 2021a) or by Dokken biologists in October of 2021. Therefore, the species is presumed to be absent from the Project area.

¹Status: Endangered (E); Threatened (T); Candidate (C), Fully Protected (FP); Rare (R); State Species of Special Concern (SSC); Wait List (WL).

²Absent [A] - no habitat present and no further work needed. Habitat Present [HP] - habitat is or may be present. The species may be present. Present [P] - the species is present. Critical Habitat [CH] - project footprint is located within a designated critical habitat unit, but does not necessarily mean that appropriate habitat is present.