

APPENDIX C

Biological Resources Assessment and Arborist Report

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Biological Resources Survey Report for the Katherine Johnson Middle School Project

Sacramento County, CA

June 2022

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Prepared for:

San Juan Unified School District
3738 Walnut Avenue
Carmichael, CA 95608

Contact Info:

Nicholas Arps, Director of Facilities Construction & Modernization
San Juan Unified School District
3738 Walnut Avenue
Carmichael, CA 95608
(916) 971-7700
construction@sanjuan.edu

Prepared by:

AECOM
2020 L Street, Suite 300
Sacramento, CA 95811

Contact Info:

Matthew Gerken, AECOM Project Manager
matthew.gerken@aecom.com
(916) 414-5800

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Acronyms and Abbreviations

AMSL	above mean sea level
CDFW	California Department of Fish and Wildlife
CEQA	California Environmental Quality Act
CESA	California state Endangered Species Act
CNDDDB	California Natural Diversity Database
CNPS	California Native Plant Society
CRPRs	California Rare Plant Ranks
District	San Juan Unified School District
ESA	federal Endangered Species Act
MBTA	Migratory Bird Treaty Act
NRCS	Natural Resources Conservation Service
NWI	National Wetlands Inventory
project	Katherine Johnson Middle School project
USFWS	U.S. Fish and Wildlife Service
USGS	U.S. Geological Survey

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Introduction

This report describes the results of a reconnaissance-level biological resources survey for the proposed Katherine Johnson Middle School (project) in Arden-Arcade Community of unincorporated Sacramento County. The purpose of the survey was to evaluate habitats and sensitive biological resources present within and adjacent to the approximately 8.15-acre project. This report discusses the methods and results of AECOM's desktop analysis and biological resources survey of the project footprint and 100-foot buffer. This report defines the extent and type of vegetation communities and land cover types in the project footprint. The report also evaluates the potential impacts of project construction on sensitive biological resources and provides recommendations to avoid and minimize those impacts.

Project Description

The proposed project would involve the redevelopment of the former Creekside Elementary School into the proposed Katherine Johnson Middle School. The existing buildings would be demolished, removed, and replaced with new buildings. These new buildings would be constructed in the central part of the campus, and would include administration, library, and student services; general classrooms, science, art, and special education classrooms; a multi-purpose building including food service; and locker rooms. The existing outdoor playfields would be refurbished and redeveloped to include a hardcourt basketball area, and a soccer/baseball field in the northern open turf area of the campus. All project facilities would be designed to meet the requirements of the Division of State Architect and would be constructed in accordance with current building codes. Existing chain link fencing around the property would be removed and replaced. New landscaping, including shade trees and drought-tolerant shrubs, groundcover, and flowering plants, would be installed around the campus buildings, outdoor learning and gathering areas, and the parking area. The new campus perimeter fence would be set back further from the existing trail along Chicken Ranch Slough, to provide space for vehicular access by the Park District for trail maintenance.

Project Setting

The proposed project site is an existing District-owned property located in the Arden-Arcade Community, an urbanized area of unincorporated Sacramento County. The project site (Assessor's Parcel Number 26802900010000) comprises approximately 8.15 acres southwest at the intersection of Watt Avenue and Marconi Avenue (see Exhibit 1). A small portion of the approximately 0.5-acre Creekside Nature Area, administered by the Fulton-El Camino Recreation and Park District, is adjacent to the project site's northeastern boundary. Chicken Ranch Slough is adjacent to, and runs through a small portion of, the project site's northern boundary. The project site is surrounded on all sides by single-family and multi-family residential development, with the exception of the Town & Country Pre-School and Daycare facility (at 2550 Belpoint Lane), which is immediately south of the project site's southwestern boundary. This property is not within any identified habitat conservation plan, natural communities conservation plan, or other conservation plan.

Methods

Before conducting the biological resources survey, an AECOM biologist searched the California Native Plant Society Rare Plant Inventory (CNPS 2022) and California Natural Diversity Database (CDFW 2022b) for records of special-status species occurring within a nine-quadrangle area containing and surrounding the property, including Sacramento East U.S. Geological Survey (USGS) 7.5-minute quadrangles (USGS 2018a-j). In addition, the biologist reviewed the U.S. Fish and Wildlife Service (USFWS) Information for Planning and Conservation (IPaC) project planning tool (USFWS 2022a), USFWS National Wetlands Inventory (NWI) (USFWS 2022b), and the USFWS Critical Habitat Mapper (USFWS 2022c).

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AECOM biologists A. Brock and D. Greenspan carried out a reconnaissance-level biological survey of the proposed project site on April 20, 2022. The work included mapping land cover types and assessing habitat conditions for potential to support special-status species within the biological study area (BSA), which includes the project footprint plus a 100-foot buffer. A 100-foot buffer was included to display the project site's proximity to Chicken Ranch Slough and associated riparian woodland habitat. Weather conditions during the survey were sunny and clear, with high temperature around 65° Fahrenheit and calm winds. Plant communities in the property were characterized and evaluated for their potential to support the special-status species identified during the pre-field research. Every plant that was encountered in the BSA was identified to the taxonomic level necessary to determine whether it was a special-status species. Wildlife observations included an inventory of all species encountered.

Results

Elevation and Soils

The proposed project site is generally flat, with elevations ranging from approximately 60 to 62 feet above sea level (AMSL), gradually increasing from west to east. Soils in the project site are characterized as San Joaquin-Urban land complex, 0 to 3 percent slopes; Urban land; and Xerarents-Urban land-San Joaquin complex, 0 to 5 percent slopes (NRCS 2022) (Exhibit 2). The San Joaquin series consists of moderately deep to a duripan, moderately well drained soils formed in alluvium derived from mixed but predominantly granitic rock sources on terrace geomorphology (NCSS 1999). The Xerarents series consists of well drained soils formed in alluvium derived from mixed but predominantly granitic rock sources on terrace geomorphology.

Land Cover Types

The acreages of the two land cover types in the proposed project site (managed field and developed) and the three additional land cover types within the BSA (riparian woodland, ruderal, open water) are summarized in Table 1 and depicted in Exhibit 3.

Table 1. Land Cover Types and Acreages in the Proposed Project Site

Land Cover Type	Acres within the project site	Acres within the Biological Study Area
Managed Field	4.81	4.91
Developed	3.34	7.9
Riparian Woodland	-	1.41
Ruderal	-	0.15
Open Water (Chicken Ranch Slough)	-	0.45
Total	8.15	14.82

The sections below describe the dominant vegetation present in each land cover type as observed during the biological survey.

Managed Field

The managed field land cover type is dominated by introduced, non-native species. The proposed project site has been previously filled and graded with turf to be used as a recreational field for students. The vegetation community is dominated by an unidentified planted grass, and ruderal vegetation including pineapple weed (*Matricaria discoidea*), musk stork's bill (*Erodium moschatum*), cheeseweed (*Malva parviflora*), and dandelion (*Taraxacum officinale*). A few grasses are present along the eastern fence line and include wild oats (*Avena* sp.), wall barley (*Hordeum murinum*), and ripgut brome (*Bromus diandrus*). There are multiple valley oak trees (*Quercus lobata*) scattered throughout this managed field, and numerous other riparian trees that line the northern boundary of the project site. The site is used by the

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current students and faculty, as well as members of the public accessing Creekside Nature Area. This area appears to be regularly disturbed, as evidenced by foot trails and observations of people using the area. The vegetation present on this field appears to be maintained by regular mowing. Eastern fox squirrel (*Sciurus niger*), spotted towhee (*Pipilo maculatus*), and mourning dove (*Zenaida macroura*) were observed foraging within the managed field during the survey.

This managed field habitat may provide limited foraging, roosting, resting, and nesting sites for birds and small mammals. Wildlife that may be found in this land cover type includes opportunistic birds like American crow (*Corvus brachyrhynchos*), rock pigeon (*Columba livia*), mourning dove (*Zenaida macroura*), northern mockingbird (*Mimus polyglottos*), California scrub jay (*Aphelocoma californica*), and European starling (*Sturnus vulgaris*). Other wildlife that may use developed areas for cover and foraging include western fence lizard (*Sceloporus occidentalis*) and eastern fox squirrel (*Sciurus niger*).

Developed

Developed land cover is present in the southern portion of the project site and is defined as areas developed by humans and devoid of vegetation, such as concrete sidewalks and other walkways, utility boxes, and concrete bollards. The developed areas within the project site are comprised entirely of the existing schoolyard, which includes paved asphalt and buildings. The developed areas outside of the project site, within the BSA, consist of residential developments (primarily single-family homes). Horticultural landscape is present within the yards of the developed residential areas and is defined as areas planted and maintained with ornamental plant species and that receive supplemental irrigation and maintenance, such as regular pruning and trimming, to maintain the health and aesthetic appeal of planted species. No special-status species are expected to occur within these areas.

Opportunistic bird species that are tolerant of human disturbance commonly use developed areas. Other wildlife that may use developed areas for cover and foraging include western fence lizard and eastern fox squirrel.

Riparian Woodland

Bands of riparian woodland habitat cover are present immediately north of the project site, on both sides of Chicken Ranch Slough. The canopy is comprised of native and nonnative species and is dominated by valley oak (*Quercus lobata*), tree privet (*Ligustrum lucidum*), willow species (*Salix* spp.), and others (see Appendix C). The understory is dominated by ruderal vegetation including wall barley, ripgut brome, wild radish (*Raphanus raphanistrum*), Italian arum (*Arum italicum*), and English plantain (*Plantago lanceolata*). Due to the disturbed nature of this area and proximity to residential areas with heavy human influence, only wildlife species that can successfully coexist alongside human activity are likely to use this area. The potential for this habitat type to be used by special-status species was evaluated on a species-by-species basis; this analysis can be found in Appendix A, Tables A-1 and A-2. Wildlife observed utilizing the riparian woodland include eastern fox squirrel and yellow rumped warbler (*Setophaga coronata*).

Creekside Nature Area occupies the northeast corner of the BSA and is under the purview of the Fulton-El Camino Recreation and Park District. This nature walk area is 0.5 acres in total and features native plants and foliage (FECRPD 2022).

Ruderal

Ruderal land cover is dominated by introduced, non-native species that thrive in disturbed places. There is a small patch of ruderal vegetation to the west of the project site within the BSA. The vegetation community is dominated by nonnative grasses, including wild oats, foxtail barley (*Hordeum murinum*), and ripgut brome. Access to this area is restricted by a chain link fence, and is not open to the public, although appears to be regularly disturbed as evidenced by foot trails and debris and refuse scattered around the site. The ruderal vegetation does not appear to be maintained other than by occasional mowing. No wildlife was observed utilizing the ruderal vegetation at the time of the survey, and no evidence of wildlife use (i.e., tracks, scat, or burrows) was observed.

Open Water

Chicken Ranch Slough is an intermittent stream located immediately north of the project site. At the time of the survey, the section of Chicken Ranch Slough adjacent to the project site contained slow moving

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water. This open water habitat was approximately 3 feet deep at the time of the survey, varying from approximately 6 to 15 feet wide. The banks are steep and vegetated with ruderal species including wall barley, ripgut brome, and English plantain. This feature is surrounded on both sides by riparian woodland, with a nonnative grassland understory.

Due to its adjacency to residential and public uses, this section of Chicken Ranch Slough is heavily disturbed. Trash was observed along the banks and within the stream and one encampment was observed between the schoolyard's fence and the slough.

One mallard (*Anas platyrhynchos*) was observed swimming downstream. Due to the intermittent and highly disturbed nature of this site, it is unlikely that this waterway provides quality habitat for aquatic species. Chicken Ranch Slough is hydrologically connected to the American River. However, Chicken Ranch Slough flows through a manmade channel (classified as an artificial path by the National Hydrography Dataset) immediately before draining into the American River. Chicken Ranch Slough drains into the American River but it appears as though the American River does not hydrologically influence Chicken Ranch Slough, as the slough is elevated from the American River. This elevation difference, the intermittent nature of Chicken Ranch Slough, and the artificial pathway likely impedes any fish species from swimming upstream through the slough. Additionally, no fish or other aquatic life were observed within Chicken Ranch Slough at the time of the survey.

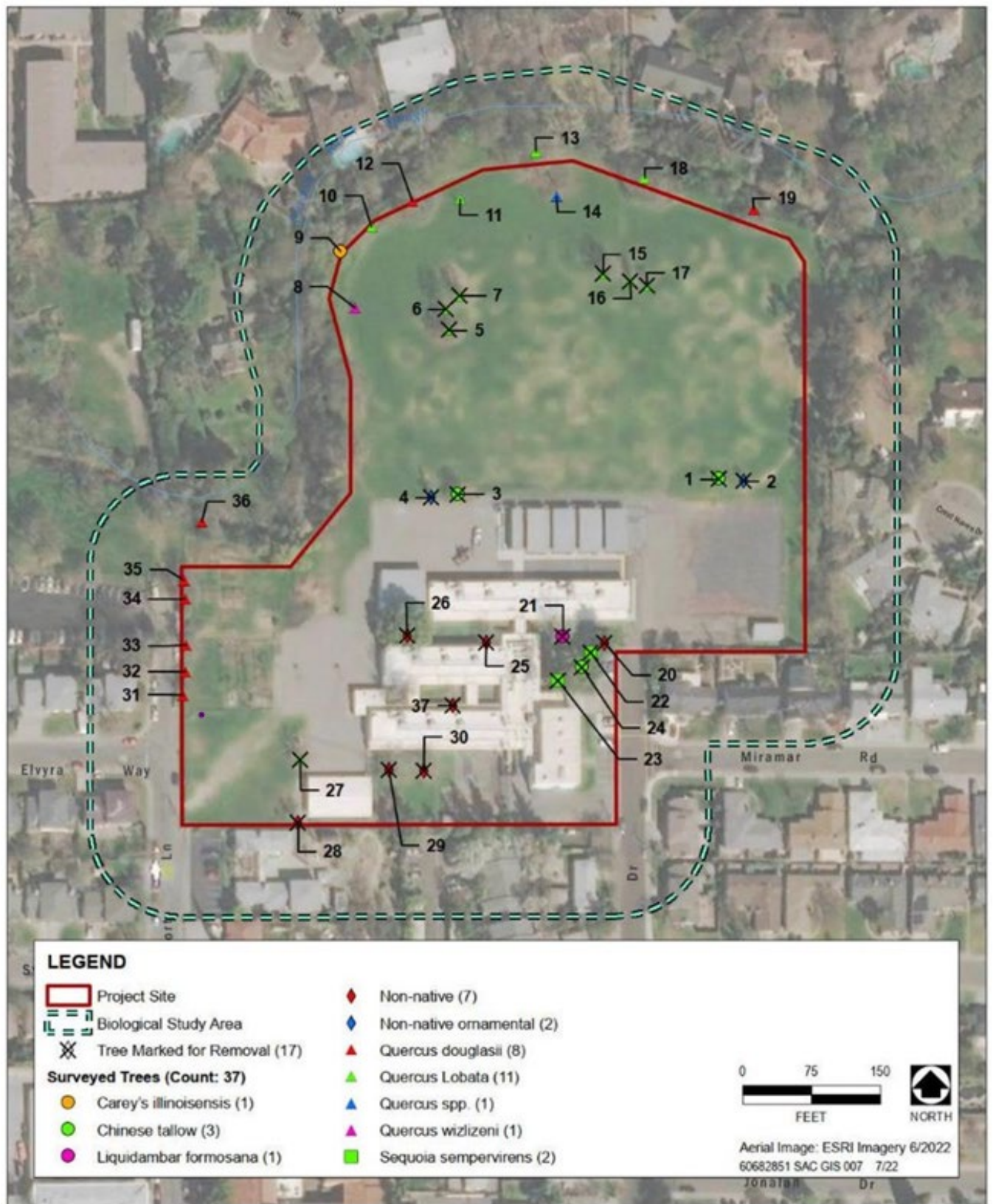
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Source: NRCS 2022

Exhibit 2. Soils Map

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Source: AECOM 2022

Exhibit 3. Land Cover Map

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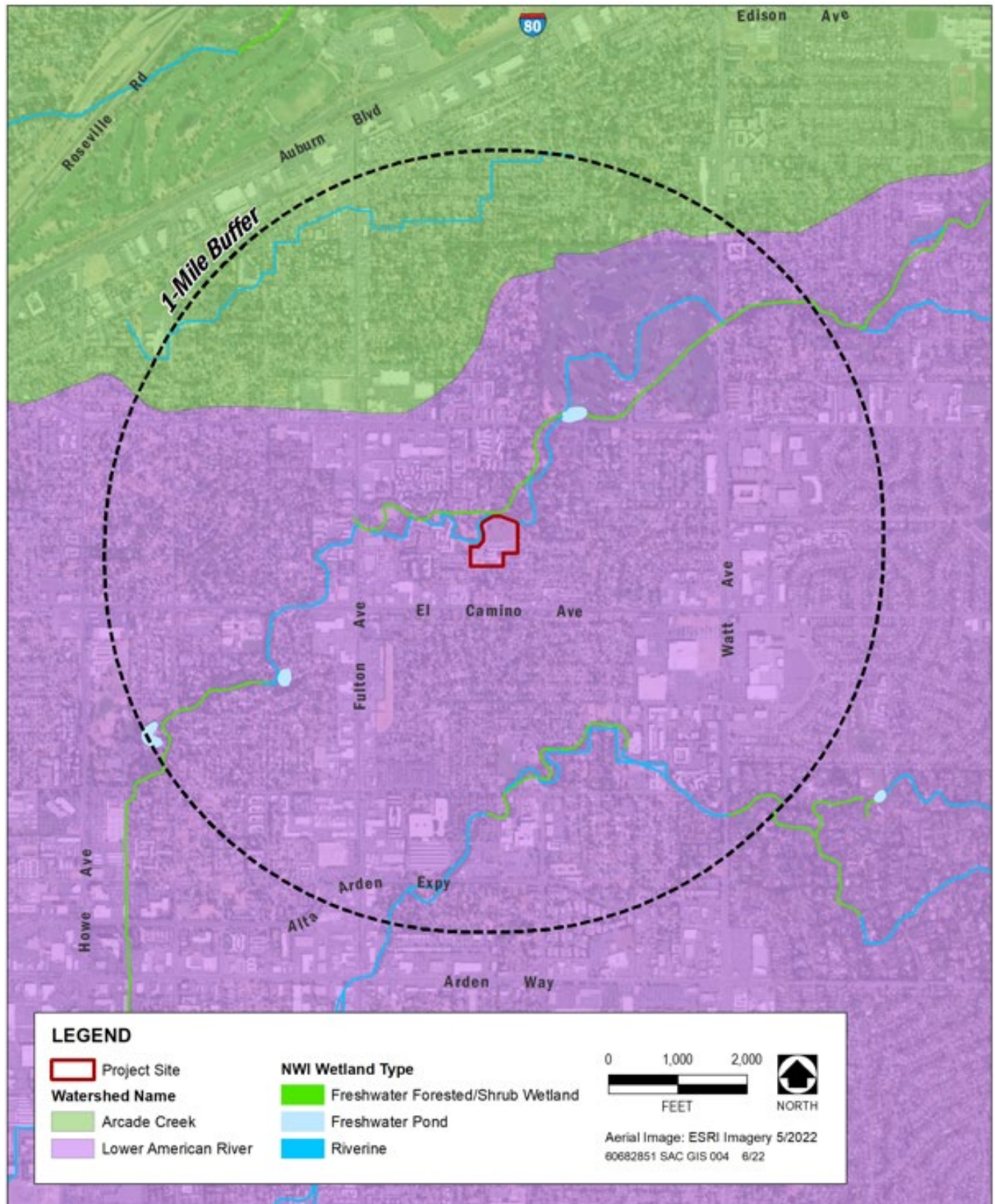
Aquatic Features

The project site is immediately south of Chicken Ranch Slough, within the Lower American River Watershed (USFWS 2022b) (Exhibit 4). NWI classifies this water feature as R4SBC (Riverine, Intermittent, Streambed, Seasonally Flooded). As described previously, this aquatic feature is disturbed by human activities. Chicken Ranch Slough begins in Carmichael near the intersection of Whitney Avenue and Garfield Avenue, flows from east to west for approximately 3.1 miles until it reaches Del Paso Country Club, at which point it begins to flow south for 5 miles until it converges with Strong Ranch Slough and drains into the American River. This point at which Chicken Ranch Slough drains into the American River is approximately 2.5 miles southwest of the project site. No aquatic features or indicators of wetland hydrology (e.g., depressional areas, saturated or cracked soil, hydrophytic plants) were observed within the project site during the biological reconnaissance survey. Project construction activities could impact the water quality of Chicken Ranch Slough in the event of a spill, or as a result of excess airborne dirt resulting from excavation and fill. These impacts and recommended mitigation measures are described below.

Special-Status Species

No special-status species were observed in or near the proposed project site during the survey. Appendix A summarizes the special-status plant and animal species evaluated for potential to occur in the general project region based on the pre-field investigation (database and literature review). For this analysis, special-status species are plants and animals in any of the following categories:

- Species that are listed under the federal Endangered Species Act (ESA) and/or California Endangered Species Act as rare, threatened, or endangered;
- Species considered to be candidates and proposed for federal or state listing as threatened or endangered;
- Wildlife designated by California Department of Fish and Wildlife (CDFW) as fully protected and/or species of special concern and/or watchlist; and
- Birds protected under the federal Migratory Bird Treaty Act (MBTA) and/or California Fish and Game Code Sections 3503, 3503.5, 3800(a), and 3513.



Source: USFWS 2022b

Exhibit 4. Watershed and National Wetlands Inventory Map

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Plants ranked by the California Native Plant Society to be rare, threatened, or endangered in California, including plants on Lists 1A, 1B, and 2 of the California Native Plant Society's (CNPS) California Rare Plant Ranks (CRPRs), defined as follows:

- List 1A—plant species presumed to be extinct in California;
- List 1B—plant species considered to be rare, threatened, or endangered in California and elsewhere; and
- List 2—plant species considered to be rare, threatened, or endangered in California but more common elsewhere.

Each CRPR category may include an extension indicating the level of endangerment in California, as follows:

1. Seriously endangered in California (more than 80 percent of occurrences are threatened and/or high degree and immediacy of threat);
2. Fairly endangered in California (20–80 percent of occurrences are threatened); and
3. Not very endangered in California

Exhibit 5 shows California Natural Diversity Database (CNDDB) records of special-status species within a 3-mile radius of the project site (CDFW 2022a).

Special-Status Plant Species

The database searches resulted in 17 special-status plant species being evaluated for their potential to occur in the proposed project site or vicinity (Appendix A). No special-status plant species were observed in the proposed project area during the reconnaissance survey. No suitable habitat for special-status plants is present within or adjacent to the project site.

Special-Status Wildlife Species

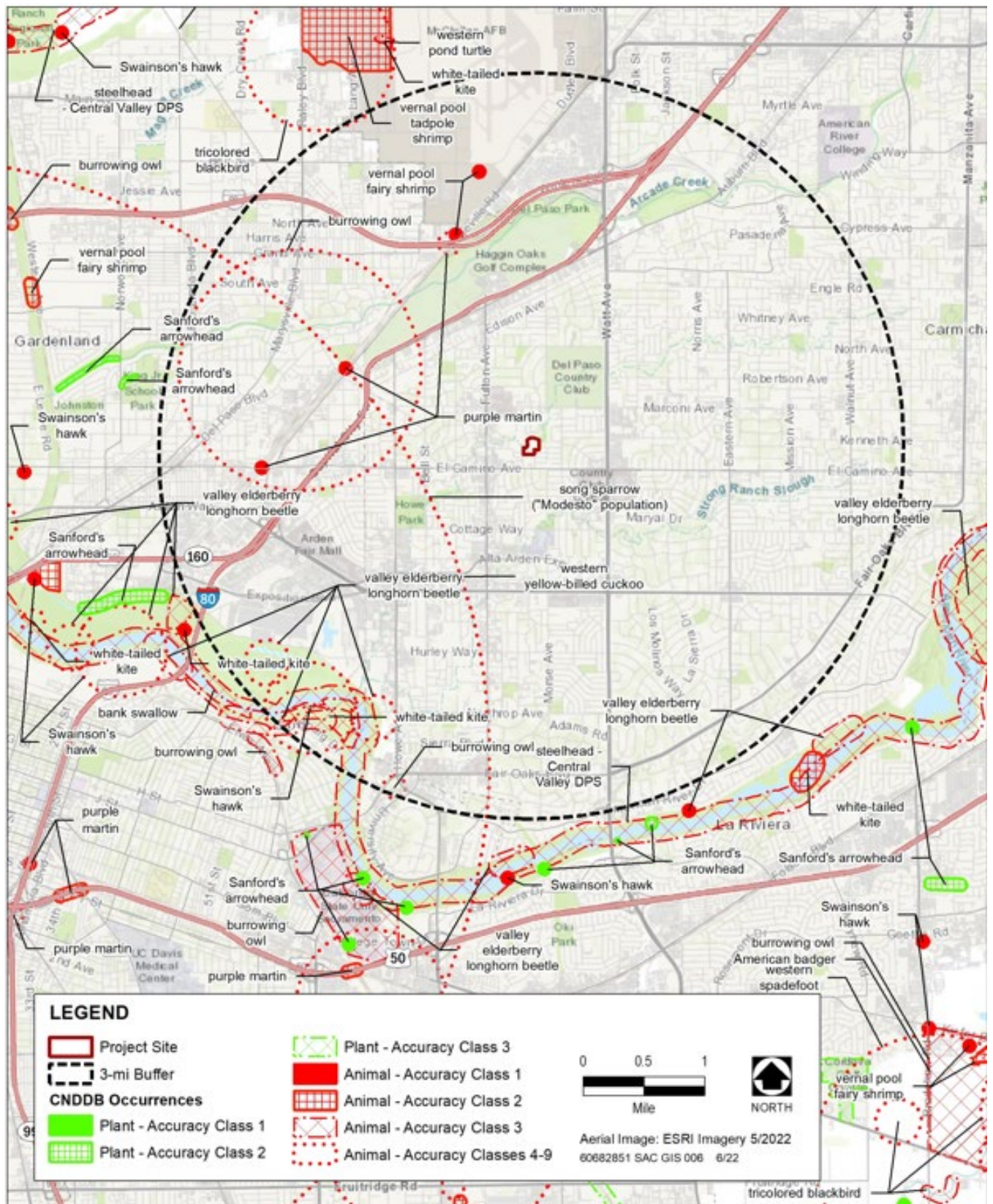
The database searches resulted in 32 special-status animal species being evaluated for their potential to occur in the proposed project site or vicinity (Appendix A). Due to a lack of suitable habitat combined with the highly disturbed nature of the ruderal vegetation and trees within the project site, and the proximity of this vegetation community to the busy Watt Avenue and neighboring residences, it is unlikely that special-status wildlife species would occur in or near the project site.

Based on the results of the biological reconnaissance survey and database searches, the trees, and ruderal vegetation present in the proposed project site, as well as the riparian and aquatic habitat adjacent to the project site, could provide marginally suitable nesting substrate for migratory birds covered by the MBTA. The MBTA prohibits the killing, possessing, or trading of migratory birds, and essentially all native bird species in California are covered by the MBTA. Migratory bird and raptor nests are protected further by Sections 3503 and 3503.5, respectively, of the California Fish and Game code.

Sensitive Natural Communities

California natural communities are categorized by CDFW and partner organizations, such as CNPS, based on vegetation type classification, and are ranked using the same system to assign global and state rarity ranks for plant and animal species in the CNDDB. Natural communities that are ranked S1–S3 are considered sensitive natural communities by CDFW, to be addressed in the environmental review processes. Riparian habitat is defined separately in the context of Section 1600 of the California Fish and Game Code. According to guidance provided in *A Field Guide to Lake and Streambed Alteration Agreements: Section 1600 Fish and Game Code*, the outer edge of riparian vegetation is a reasonable and identifiable boundary for the lateral extent of a stream, the protection of which should result in preserving the fish and wildlife at risk within a stream or drainage, and therefore may constitute the limits of CDFW jurisdiction along waterways.

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Source: CDFW 2022
Exhibit 5. CNDDB Map

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There are no sensitive natural communities within the project site and there are two sensitive natural communities present within the BSA:

- **Wetlands and waters** are considered sensitive communities because of their specific State and federal protections under Section 1602 of the CFGC, Section 404 of the CWA, and the Porter-Cologne Water Quality Control Act. Wetlands and waters are considered “special aquatic sites” for the functions and values they provide to wildlife as well as their water detention/recharge properties. A portion of the Chicken Ranch Slough flows through the northern portion of the BSA. No impacts on this habitat type are expected as discussed below.
- **Riparian plant communities** are considered sensitive because of their high value to wildlife, importance to stream bank stability and water quality, and because of the substantial historical loss and degradation of these communities statewide. Furthermore, any potentially substantial changes to wildlife or fish resources associated with alterations in riparian communities from any change to the bed or bank of a river, stream, or lake are regulated by CDFW. Riparian habitat is present adjacent to the project site on the north side. The riparian extends to the northernmost boundary of the project site, however, there is no riparian habitat within the project site itself. This riparian woodland can be best described as a mixed riparian woodland with many native and nonnative riparian trees, including valley oak (*Quercus lobata*)(native), glossy privet (*Ligustrum lucidum*)(nonnative), various species of willow (*Salix* spp.) (native/nonnative), black wattle (*Acacia mearnsii*) (nonnative), California bay (*Umbellularia californica*)(native), and many others. No impacts on this habitat type are expected and is described further in “Impacts.”

Critical Habitat

The USFWS designates critical habitats for species listed as threatened or endangered under the ESA. These habitats include specific geographic areas that contain features essential for the conservation of a threatened or endangered species and may include an area that will be needed for a species' recovery. There are no designated critical habitats in the proposed project site or vicinity (Exhibit 6). The nearest critical habitats are those designated for the valley elderberry longhorn beetle (*Desmocerus californicus dimorphus*) associated with oak woodland riparian, approximately 3.6 miles to the west of the project site (USFWS 2022c) (Exhibit 6).

Impacts

No special-status species or sensitive natural communities will be affected by project construction. Nonnative ornamental trees such as sweetgum (*Liquidambar formosana*) and Chinese tallow (*Traidica sebifera*) and 7 native valley oak (*Quercus lobata*) trees may be removed during demolition of the existing buildings and construction of the proposed buildings. None of these trees are covered under Sacramento County's tree ordinance.

Construction activities could have direct or indirect impacts to nesting migratory birds. Direct impacts could occur through removal of vegetation containing nests, and also through noise and other disturbance during demolition and construction activities. Construction activities could potentially result in nest abandonment by the adults and mortality of chicks and eggs. Loss of the nests of common bird species (those not meeting the definition of special-status as provided above) would not be a significant impact under the California Environmental Quality Act because it would not result in a substantial impact on local or regional populations; however, destruction of bird nests is a violation of the Migratory Bird Treaty Act and Section 3503 of the California Fish and Game Code. Measures to avoid the loss of active nests of these species is required for compliance with these regulations and are described below. Demolition and construction activities may introduce or spread non-native invasive weeds such as ripgut brome. Implementation of BMPs described below would avoid and minimize these potential activities.

The construction activities taking place will be restricted to the project site, which is void of any wetland or aquatic features. However, the project site is within 25 feet of Chicken Ranch Slough, a tributary to the American River. Construction activities could have direct or indirect impacts on the water quality of Chicken Ranch Slough in the event of a spill, or as a result of excess airborne dirt resulting from excavation and fill. Introduction of sediments or hazardous materials (e.g., fuels, oils, and solvents) from

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construction activities could adversely affect aquatic resources downstream of the project site. Implementation of BMPs described below would avoid and minimize these potential impacts.

The project construction activities would not:

- Interfere with native resident or migratory fish or wildlife movement corridors or use of native wildlife nursery sites because project impacts are temporary, minor, and will not occur in areas that have been identified as movement corridors or nursery sites.
- Conflict with the provisions of a Habitat Conservation Plan, Natural Community Conservation Plan, or other conservation plan.
- Result in a loss or modification of riparian habitat that would result in deteriorated water quality of Chicken Ranch Slough or deteriorated habitat for any wildlife that may use this habitat. The riparian habitat is not present within the project site, only the BSA. Further, the riparian habitat borders the northern portion of the project site, which is currently a managed field and will remain a managed field under the current project design. The construction activities in this portion of the project site are expected to be minimal. Canopies of trees within the riparian habitat may cross over the fence-line into the project site, but the need for pruning is not anticipated.

Avoidance and Minimization Measures

To avoid and minimize impacts to biological resources within or near the project sites, AMM-1 and AMM-2 (all measures) should be implemented during project activities.

AMM-1: Implement Best Management Practices. The contractor will implement the following Best Management Practices during demolition and construction activities at the proposed project site to protect water quality and to avoid the spread of non-native invasive weeds:

- Discharge of pollutants into storm drains or watercourses from vehicle and equipment cleaning will be prohibited.
- Maintenance and refueling areas for equipment will be located a minimum of 50 feet from active stream channels in predesignated staging areas, except at an established commercial gas station or vehicle maintenance facility.
- Spill containment kits will be maintained onsite at all times during demolition and construction operations and/or during staging or fueling of equipment.
- Dust control measures will include the use of water trucks and dust palliatives to control dust in excavation-and-fill areas, and to cover temporary stockpiles when weather conditions warrant such action.
- All equipment will be maintained to prevent leaks of automotive fluids, such as gasoline, oils, or solvents, and a spill response plan will be prepared.
- Hazardous materials, such as fuels, oils, and solvents, will be stored in sealable containers in a designated location that is located at least 100 feet from wetlands and aquatic habitats.
- To limit the introduction and spread of invasive nonnative plant species construction vehicles and equipment will be cleaned inside and out at an authorized washing facility before arrival at the site. If invasive or noxious weeds are already present in portions of the project site, vehicles will be cleaned before moving from infested areas to areas that are weed free. In addition, all imported materials (e.g., fill soil, gravel, rock, mulch) used in project construction will be weed-free, including straw and/or hay bales used for sediment control or mulch distribution.

AMM-2: Avoid Impacts on Special-Status and Common Nesting Migratory Birds

The contractor will implement the following measures during demolition and construction activities to avoid adverse effects to special-status nesting birds and common nesting birds.

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Measure 1: Wherever feasible, the contractor will conduct construction activities that could potentially affect special-status nesting birds and common nesting birds during the nesting season (Table 1). If construction activities are completed outside of the nesting seasons specified in Table 1, no additional measures are required to avoid adverse effects on nesting birds.

Table 2. Nesting Season for Special-Status Nesting Birds and Common Nesting Birds

Species	Nesting Season
Swainson's hawk	March 1 to September 15
Common nesting birds (raptors, passerines)	February 1 to August 31

Measure 2: If construction activities that could affect suitable habitat for nesting birds cannot be conducted outside of the nesting seasons listed in Table 1, the contractor will complete pre-activity surveys for nesting birds (including raptor and passerine nest surveys). Surveys will be conducted by a qualified biologist within suitable nesting habitat that could be affected by construction activities (e.g., staging areas, access routes) and will include a 500-foot buffer area (or larger area if required by established survey protocol) surrounding these areas. Surveys for Swainson's hawk nests will extend 0.25 miles beyond the project boundaries.

The qualified biologist will complete preconstruction surveys within 1 week of the start of construction activities, and will be repeated if construction activities lapse for more than 1 week. If no nesting birds are detected during preconstruction surveys, no additional measures are required.

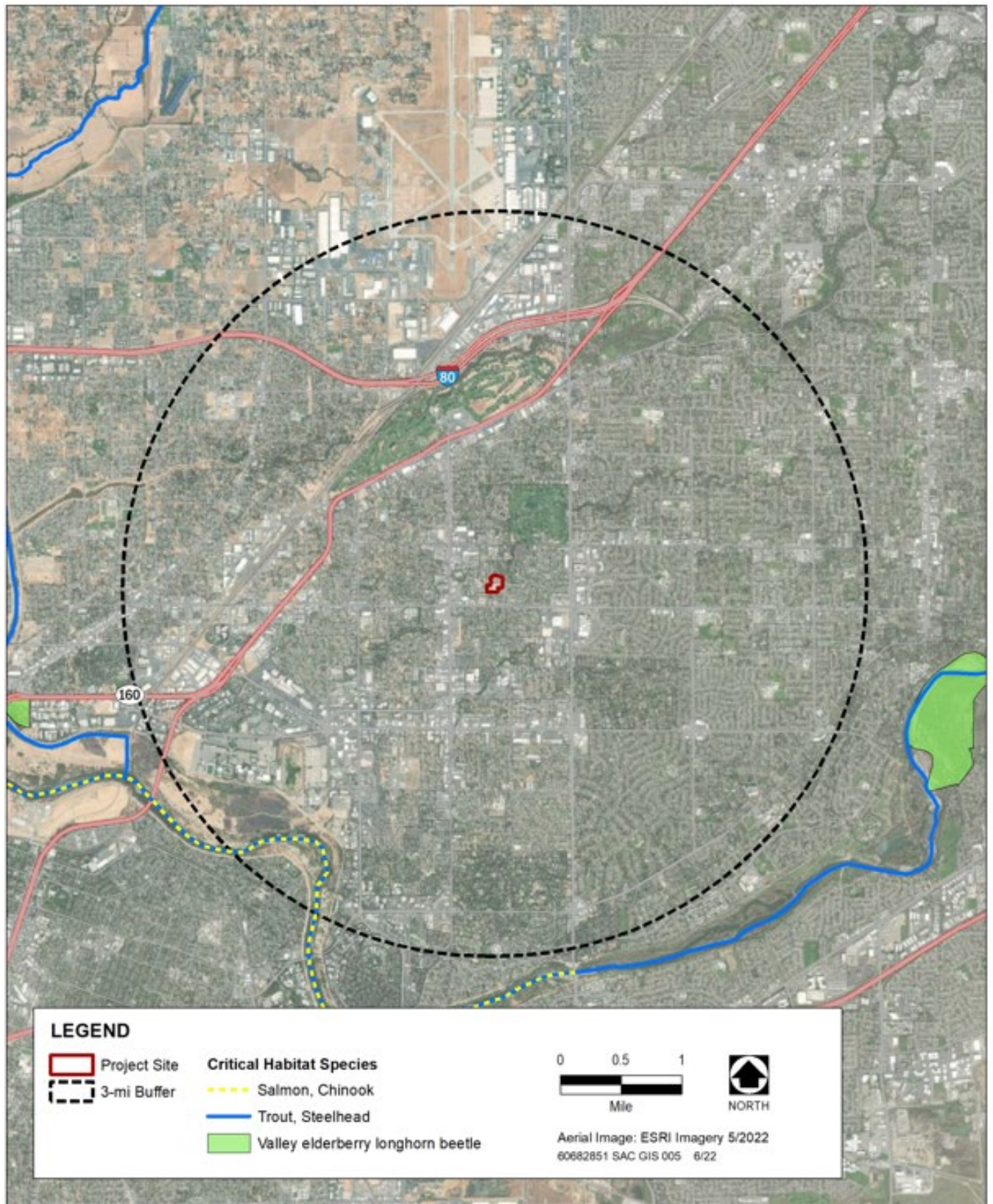
Measure 3: If nesting birds have been identified by a qualified biologist in or adjacent to a construction area, the qualified biologist will establish a non-disturbance buffer as indicated in Table 2 for construction activities that would potentially affect the nesting birds.

Table 3. Required Buffer Distances for Nesting Birds

Resource	Buffer Distance
Swainson's hawk	0.25 mile (urban); 0.5 mile (rural or during use of heavy equipment)
Common nesting birds	100 feet (passerines); 300 feet (raptors); 200 feet (heron or egret rookeries)

Buffers will be marked on plans and specifications and in the field by a qualified biologist using temporary fencing, high-visibility flagging, or other means that are equally effective in clearly delineating the buffers.

Construction activities will not occur within the buffer unless the qualified biologist determines that such construction activities would not adversely affect nesting activities. Construction activities that may impact special-status nesting birds occurring within the avoidance buffer indicated in Table 2 will be monitored by a qualified biologist either continuously or periodically during work, as determined by the qualified biologist. The qualified biologist will be empowered to stop construction activities that, in the biologist's opinion, threaten to cause unanticipated and/or unpermitted adverse effects on nesting birds (e.g., nest abandonment). Buffers will be maintained until there is no longer a threat of disturbance to the nesting bird (e.g., young have fledged, individuals have moved out of the area), as determined by a qualified biologist.



Source: USFWS 2022c

Exhibit 6. Critical Habitat Map

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- . 2018b. Taylor Monument Quadrangle, California, 7.5-minute series.
- . 2018c. Rio Linda Quadrangle, California, 7.5-minute series.
- . 2018d. Citrus Heights Quadrangle, California, 7.5-minute series.
- . 2018e. Carmichael Quadrangle, California, 7.5-minute series.
- . 2018f. Sacramento West, California, 7.5-minute series.
- . 2018g. Clarksburg Quadrangle, California, 7.5-minute series.
- . 2018h. Elk Grove Quadrangle, California, 7.5-minute series.
- . 2018i. Florin Quadrangle, California, 7.5-minute series.
- . 2022. National Hydrography Dataset. Available: <https://apps.nationalmap.gov/viewer/>. Accessed 24 May 2022.

Appendix A | Special Status Species Occurrence Tables

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Table A-1. Special-Status Plant Species with Potential to Occur in the Project Biological Study Area

Scientific Name	Common Name	Regulatory Status ¹			Habitat Requirements	Elevation Range (ft AMSL ²)	Bloom Period	Potential for Occurrence ³
		Federal	State	CRPR				
<i>Astragalus tener</i> var. <i>ferrisiae</i>	Ferris's milk-vetch	–	–	1B.1	Subalkaline flats on overflow land in the Central Valley; usually seen in dry, adobe soil in meadows and seeps (wetlands) in valley and foothill grassland.	10 to 250 feet	April to May	No potential to occur; no suitable habitat (adobe soil) in the project site.
<i>Carex comosa</i>	bristly sedge	–	–	2B.1	Coastal prairie, marshes and swamps, and other wet areas.	0 to 2,050 feet	May to September	No potential to occur; no suitable habitat (marshes, swamps, coastal prairie) within the project site.
<i>Centromadia parryi</i> ssp. <i>parryi</i>	pappose tarplant	–	–	1B.2	Valley and foothill grassland, meadows and seeps, marshes and swamps, coastal prairie. Often on alkaline soils.	0 to 1,380 feet	May to November	No potential to occur; no suitable habitat (valley and foothill grassland, seeps, marshes) in the project site.
<i>Cuscuta obtusiflora</i> var. <i>glandulosa</i>	Peruvian dodder	–	–	2B.2	Marshes and swamps	50 to 920 feet	July to October	No potential to occur; no suitable habitat (marshes and swamps) present within the project site.
<i>Downingia pusilla</i>	dwarf downingia	–	–	2B.2	Vernal lake and pool margins in valley and foothill grassland.	0 to 1,460 feet	March to May	No potential to occur; no suitable habitat (vernal pools or lakes) in the project site.
<i>Gratiola heterosepala</i> *	Boggs Lake hedge hyssop	–	SE	1B.2	Clay soils; usually in vernal pools, sometimes on the margins of lakes, stock ponds, borrow pits, marshes or swamps.	30 to 7,790 feet	April to August.	No potential to occur; no suitable habitat (vernal pools, marshes, lake margins) in the project site.
<i>Hibiscus lasiocarpus</i> var. <i>occidentalis</i>	woolly rose-mallow	–	–	1B.2	Moist, freshwater-soaked riverbanks and low peat islands in sloughs; also, can occur on riprap and levees. In California, known from the Delta watershed.	0 to 395 feet	June to September	No potential to occur; no suitable habitat (riverbanks, peat islands, riprap, levees) in the project site.
<i>Juncus leiospermus</i> var. <i>ahartii</i>	Ahart's dwarf rush	–	–	1B.2	Valley and foothill grasslands. Restricted to edges of vernal pools.	10 to 30 feet	March to May	No potential to occur; no suitable habitat (vernal pools) in the project site.
<i>Lasthenia chrysantha</i>	alkali-sink goldfields	–	–	1B.1	Vernal pools in alkaline soils.	0 to 655 feet	February to April	No potential to occur; no suitable habitat (vernal pools, meadows or seeps in chaparral, grassland, or cismontane woodland) in the project site.
<i>Legenere limosa</i> *	legenere	–	–	1B.1	In beds of vernal pools; wet places; ponds.	0 to 2,885 feet	April to June	No potential to occur; no suitable habitat (vernal pools) in the project site.
<i>Lepidium latipes</i> var. <i>heckardii</i>	Heckard's pepper-grass	–	–	1B.2	Margins of vernal pools, edges of salt marshes, alkaline flats, pastures, and mud-wet fields.	5 to 655 feet	March to May	No potential to occur; no suitable habitat (vernal pools, salt marshes, etc.) within the project site.

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Table A-1. Special-Status Plant Species with Potential to Occur in the Project Biological Study Area

Scientific Name	Common Name	Regulatory Status ¹			Habitat Requirements	Elevation Range (ft AMSL ²)	Bloom Period	Potential for Occurrence ³
		Federal	State	CRPR				
<i>Lilaeopsis masonii</i>	Mason's lilaeopsis	–	–	1B.1	Marshes and swamps, Riparian scrub	5 to 2,885 feet	April to June	No potential to occur; no suitable habitat (marshes, swamps, or riparian scrub) present within the project site.
<i>Orcuttia tenuis</i>	slender Orcutt grass	FT	SE	1B.1	Vernal pools	0 to 35 feet	April to November	No potential to occur; no suitable habitat (vernal pools) in the project site.
<i>Orcuttia viscida</i> *	Sacramento Orcutt grass	FE	SE	1B.1	Species is only known from fewer than ten occurrences, all in Sacramento County. Deep vernal pools that remain flooded for relatively long periods of time in ancient alluvial soils, such as prehistoric floodplains.	100 to 350 feet	April to July (September)	No potential to occur; no suitable habitat (vernal pools) in the project site, and the project site is outside the elevational range of the species.
<i>Sagittaria sanfordii</i> *	Sanford's arrowhead	–	–	1B.2	In standing or slow-moving freshwater ponds, marshes, and ditches.	0 to 2,135 feet	May to October (November)	No potential to occur; no suitable habitat (standing or slow-moving water) in the project site.
<i>Symphyotrichum lentum</i>	Suisun Marsh aster	–	–	1B.2	Marshes and swamps (brackish and freshwater); most often seen along sloughs with <i>Phragmites</i> , <i>Scirpus</i> , <i>Typha</i> , etc.	0 to 10 feet	(April) May to November	No potential to occur; no suitable habitat (marshes or swamps) in the project site.
<i>Trifolium hydrophilum</i>	Saline clover	–	–	1B.2	Found in salt marshes, open areas in alkaline soils in marshes and swamps, mesic alkaline soils in valley and foothill grassland, and vernal pools.	0 to 984 feet.	April to June.	No potential to occur; no suitable habitat (salt marshes, mesic grasslands) in the project site.

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Table A-1. Special-Status Plant Species with Potential to Occur in the Project Biological Study Area

Scientific Name	Common Name	Regulatory Status ¹			Habitat Requirements	Elevation Range (ft AMSL ²)	Bloom Period	Potential for Occurrence ³
		Federal	State	CRPR				
NOTES: *Species denoted with an asterisk are Covered Species under the Natomas Basin Habitat Conservation Plan (Natomas Basin Conservancy No Date). ¹ Regulatory Status Definitions: Federal Status Categories FE = Listed as endangered under the Federal Endangered Species Act California State Status Categories SE = Listed as endangered under California Endangered Species Act California Rare Plant Rank (CRPR) Categories: 1B = Plant species considered rare or endangered in California and elsewhere (protected under CEQA, but not legally protected under ESA or CESA) CRPR Threat Rank Extensions: .1 Seriously endangered in California (>80% of occurrences are threatened and/or high degree and immediacy of threat) .2 Fairly endangered in California (20 to 80% of occurrences are threatened) ² ft AMSL = feet above mean sea level ³ Potential for Occurrence: No Potential to Occur: The study area is outside the species' range or suitable habitat for the species is absent from the study area and adjacent areas. Sources: CDFW 2022, CNPS 2022								

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Table A-2. Special-Status Wildlife Species with Potential to Occur in the Proposed Project Site

Scientific Name	Common Name	Regulatory Status ¹			Habitat Requirements	Distribution	Potential for Occurrence ²
		Federal	State	CDFW			
Crustaceans							
<i>Branchinecta lynchi</i>	vernal pool fairy shrimp	FT	–	–	Vernal pools in valley and foothill grassland; small, clear-water sandstone-depression pools and grassed swale, earth slump, or basalt-flow depression pools.	Endemic to the grasslands of the Central Valley, Central Coast mountains, and South Coast mountains.	No potential to occur; no suitable habitat (vernal pools) in the BSA.
<i>Lepidurus packardii</i>	vernal pool tadpole shrimp	FE	–	–	Vernal pools in valley and foothill grassland; pools commonly found in grass-bottomed swales of unplowed grasslands. Some pools are mud-bottomed and highly turbid.	Sacramento Valley	No potential to occur; no suitable habitat (vernal pools) in the BSA.
Insects							
<i>Danaus plexippus</i>	monarch butterfly	FC	–	–	Globally distributed; depends upon larval host plant, milkweed. Adult monarch butterflies during breeding and migration require a diversity of blooming nectar resources. Two North American populations, east and west of the Rocky Mountains, are declining.	Native to North and South America, but are globally distributed.	Not likely to occur; host plant (milkweed) was not found within the BSA.
<i>Desmocerus californicus dimorphus</i>	valley elderberry longhorn beetle	FT	–	–	Riparian scrub, elderberry savannah. Host plant is the elderberry shrub (<i>Sambucus nigra</i> ssp. <i>cerulea</i>). Prefers to lay eggs in elderberries 2–8 inches in diameter; some preference shown for “stressed” elderberries.	Occurs only in the Central Valley.	No potential to occur; no suitable habitat (elderberry shrubs) in the BSA. The nearest records of this species is approximately 2.5 miles south and east, along the American River Parkway.
Fish							
<i>Archoplites interruptus</i>	Sacramento Perch	–	–	SSC	Aquatic; prefers warm water. Aquatic vegetation is essential for young. Tolerates wide range of physio-chemical water conditions.	Historically found in the sloughs, slow-moving rivers, and lakes of the Central Valley.	No potential to occur; no suitable aquatic habitat or aquatic vegetation in the BSA.
<i>Oncorhynchus mykiss irideus</i> pop. 11	Steelhead – Central Valley DPS	FT	–	–	Cool, clear streams with abundant cover and well-vegetated banks, with relatively stable flows. Pool and riffle complexes and cold gravelly streambeds for spawning.	Populations in the Sacramento and San Joaquin rivers and their tributaries.	No potential to occur; no suitable aquatic habitat and aquatic vegetation in the BSA.

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Table A-2. Special-Status Wildlife Species with Potential to Occur in the Proposed Project Site

Scientific Name	Common Name	Regulatory Status ¹			Habitat Requirements	Distribution	Potential for Occurrence ²
		Federal	State	CDFW			
<i>Oncorhynchus tshawytscha</i> pop. 11	Chinook Salmon – Central Valley spring-run ESU	FT	ST	–	Water temperatures greater than 27 degrees Celsius (80.6 degrees Fahrenheit) are lethal to adults. Spring-run Chinook Salmon enter the Sacramento River from late March through September. Adults hold in cool water habitats through the summer, then spawn in the fall from mid-August through early October. The Sacramento River and its tributaries, including Butte, Mill, Deer, Antelope, and Beegum Creeks.	Federal listing refers to populations spawning in the Sacramento River and tributaries.	No potential to occur; no suitable aquatic habitat in the BSA.
<i>Oncorhynchus tshawytscha</i> pop. 7	Chinook Salmon – Sacramento River winter-run ESU	FE	SE	–	Spawn during summer months. Adult winter-run Chinook salmon immigration and holding through the Delta and into the lower Sacramento River occurs from December through July. Spawning occurs between late-April and mid-August. Primarily spawn in the mainstem Sacramento River between Keswick Dam and the Red Bluff Diversion Dam.	Sacramento River below Keswick Dam. Spawns in the Sacramento River, but not in tributary streams.	No potential to occur; no suitable aquatic habitat in the BSA.
<i>Pogonichthys macrolepidotus</i>	Sacramento Splittail	–	–	SSC	Aquatic; estuary, freshwater marsh, Sacramento/San Joaquin flowing waters. Slow moving river sections, dead end sloughs. Requires flooded vegetation for spawning and foraging for young.	Endemic to the lakes and rivers of the Central Valley, but now confined to the Delta, Suisun Bay, and associated marshes.	No potential to occur; no suitable aquatic habitat in the BSA.
<i>Spirinchus thaleichthys</i>	Longfin Smelt	FC	ST	–	Aquatic; found in open waters of estuaries, mostly in middle or bottom of water column. Prefers salinities of 15–30 ppt, but can be found in completely freshwater to almost pure seawater.	Found along the Pacific Coast, from Alaska to California.	No potential to occur; no suitable aquatic habitat in the BSA.
<i>Hypomesus transpacificus</i>	Delta Smelt	FT	SE	–	Aquatic; inhabits estuarine areas in the Sacramento-San Joaquin Delta. Seasonally in Suisun Bay, Carquinez Strait & San Pablo Bay. Seldom found at salinities > 10 ppt. Most often at salinities < 2 ppt.	Endemic to California; only occurs in the San Francisco Estuary.	No potential to occur; no suitable aquatic habitat in the BSA.

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Table A-2. Special-Status Wildlife Species with Potential to Occur in the Proposed Project Site

Scientific Name	Common Name	Regulatory Status ¹			Habitat Requirements	Distribution	Potential for Occurrence ²
		Federal	State	CDFW			
Amphibians							
<i>Ambystoma californiense</i>	California tiger salamander	FT	ST	WL	Need underground refuges, especially ground squirrel burrows, and vernal pools or other seasonal water sources for breeding.	Restricted to California, where it is found mostly in the Central Valley. Small populations also occur around Santa Barbara and Sonoma.	No potential to occur; no suitable vernal pool habitat in the BSA.
<i>Spea hammondi</i>	western spadefoot	-	–	SSC	Occurs primarily in grassland habitats, but can be found in valley–foothill hardwood woodlands. Vernal pools are essential for breeding and egg-laying.	Throughout the Central Valley and adjacent foothills.	No potential to occur; no suitable vernal pool habitat in the BSA.
Reptiles							
<i>Emys marmorata</i>	western pond turtle	–	–	SSC	Aquatic; ponds, marshes, rivers, streams and irrigation ditches, usually with aquatic vegetation. Needs basking sites and suitable (i.e., sandy banks or grassy open fields) upland habitat up to 0.5 km from water for egg-laying.	West of the Sierra-Cascade crest and absent from desert regions, except in the Mojave Desert along the Mojave River and its tributaries. Below 6,000 feet elevation.	No potential to occur; no suitable aquatic or upland habitat in the BSA.
<i>Thamnophis gigas</i>	giant garter snake	FT	ST	–	Prefers freshwater marsh and low gradient streams. Has adapted to drainage canals and irrigation ditches.	Historical range was in the Sacramento and San Joaquin valleys, but its current range is much reduced, and it apparently is extirpated south of Fresno County, except for western Kern County.	No potential to occur; no suitable aquatic or upland habitat in the BSA.
Birds							
<i>Accipiter cooperii</i> (nesting)	Cooper's hawk	–	–	WL	Variety of woodland habitats; nests mainly in riparian growths of deciduous trees, as in canyon bottoms on river flood-plains; also, live oaks.	Breeding resident throughout most of the wooded portion of the state.	Not likely to occur; Riparian woodland habitat within the BSA is not ideal, as it is isolated from other suitable habitat by surrounding residential development. However, in recent years, this species has been found in more urban environments. There are two nesting records of this species within 5 miles, one near downtown Sacramento from 2007 and 2008, and one from 1996 along the American River Parkway. Both records are no presumed to be extant.

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Table A-2. Special-Status Wildlife Species with Potential to Occur in the Proposed Project Site

Scientific Name	Common Name	Regulatory Status ¹			Habitat Requirements	Distribution	Potential for Occurrence ²
		Federal	State	CDFW			
<i>Agelaius tricolor</i> * (nesting colony)	tricolored blackbird	–	ST	SSC	Highly colonial. Requires open water, protected nesting substrate, and foraging area with insect prey within a few kilometers of the colony.	Most numerous in the Central Valley and vicinity. Generally endemic to California.	No potential to occur ; there is no suitable nesting or foraging habitat in or near the project site. The nearest record of nesting tricolored blackbird is approximately 4 miles to the northwest of the study area, recorded in 1988 in Himalayan blackberry thicket habitat (CDFW 2021). The next nearest recorded occurrence is more than 7 miles away. Any sightings of this species within or near the project site would be incidental; there is no suitable habitat near the project site.
<i>Aquila chrysaetos</i>	golden eagle	-	-	FP	Rolling foothills, mountainous areas, sage/juniper flats, and desert. Nesting habitat generally cliff-walled canyons near large trees and open areas.	Year-round resident of the majority of California. Non-breeding resident in the Central Valley and SE portions of the State.	No potential to occur ; there is no suitable nesting or foraging habitat in the BSA. There is only one record of this species in the 9 quadrangles searched, recorded in 1991 and approximately 7 miles southeast of study area.
<i>Athene cunicularia</i> (burrow sites and some wintering sites)	burrowing owl	–	–	SSC	Open, dry, annual or perennial grasslands, deserts, and scrublands characterized by low-growing vegetation. Dependent on burrowing mammals, most notably, the California ground squirrel, for underground nests.	Resident throughout California in suitable habitat.	No potential to occur ; no suitable habitat (i.e., small mammal burrows or other refugia) in the BSA. There are two records of this species within 3 miles of the study area, however these records are from 1901 and 1974; no recent records of this species within 3 miles of the study area.
<i>Buteo regalis</i>	ferruginous hawk	-	-	WL	Open grasslands, sagebrush flats, desert scrub, low foothills. Fringes on Pinyon and Juniper habitats. Populations often coincide with Lagomorph cycles.	Winter Resident of the majority of California, excluding NW and portions of the Sierras.	Not likely to occur ; marginally suitable foraging habitat (open ruderal vegetation) within the BSA. However, the nearest wintering/foraging record of this species is from non-native grassland over 7 miles southeast of study area in 1991.
<i>Buteo swainsoni</i> (nesting)	Swainson's hawk	–	ST	–	Breeds in 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, or alfalfa or grain fields supporting rodent populations.	Uncommon breeding resident and migrant in the Central Valley, Klamath Basin, Northeastern Plateau, Lassen County, and Mojave Desert.	Not likely to occur ; no suitable nest trees and only marginally suitable foraging habitat (open ruderal vegetation) within or adjacent to the BSA. Due to the limited size and highly disturbed nature of the site, and the presence of large expanses of high-value foraging and nesting habitat to the south and west, the species is not likely to use the site for foraging. The nearest records of the species are approximately 2.75 miles to the south, associated with riparian forest nesting habitat along the American River.

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Table A-2. Special-Status Wildlife Species with Potential to Occur in the Proposed Project Site

Scientific Name	Common Name	Regulatory Status ¹			Habitat Requirements	Distribution	Potential for Occurrence ²
		Federal	State	CDFW			
<i>Coccyzus americanus occidentalis</i> (nesting)	western yellow-billed cuckoo	FT	SE	–	Riparian forest nester, along the broad, lower flood-bottoms of larger river systems. Nests in riparian jungles of willow, often mixed with cottonwoods, with lower story of blackberry, nettles, or wild grape.	Valley, foothill, and desert riparian habitats in scattered locations in California.	No potential to occur; the riparian forest habitat present adjacent to the BSA surrounds a shallow, narrow slough. Thus, is not adequate habitat to support this species. There are no recent records of this species within 15 miles of the project area.
<i>Elanus leucurus</i> (nesting)	white-tailed kite	–	–	FP	Open grasslands, meadows, or marshes for foraging, close to dense-topped trees for nesting and perching. Nest trees may be growing in isolation, or at the edge of or within a forest.	Coastal and valley lowlands, and cismontane regions of California.	Not likely to occur; marginally suitable habitat (dense-topped trees and open ruderal vegetation) within or adjacent to the BSA. However, due to the limited size and highly disturbed nature of the site, and the presence of large expanses of high-value foraging and nesting habitat to the south and west, the species is highly unlikely use the site for nesting or foraging. There are multiple records of this species along the American River Parkway to the south and Dry Creek to the north, the closest being approximately 2.75 miles southwest of the project area. These nesting sites are associated with riparian woodland habitat.
<i>Falco columbarius</i>	merlin	–	–	WL	Nest in forested openings, edges, and along rivers across northern North America. May also nest in towns and cities.	Breeds across North America from Alaska to Newfoundland and across Eurasia from Iceland to the Russian Far East.	Not likely to occur; no suitable nesting habitat (forested openings) within or adjacent to the project site. No records of this species within 11 miles of the project area.
<i>Laterallus jamaicensis coturniculus</i> (year-round)	California black rail	–	ST	FP	Inhabits freshwater marshes, wet meadows, and shallow margins of saltwater marshes bordering larger bays. Needs water depths of about 1 inch that do not fluctuate during the year and dense vegetation for nesting habitat.	San Francisco Bay area, the Delta, coastal southern California at Morro Bay and a few other locations, the Salton Sea, and lower Colorado River area.	No potential to occur; no suitable habitat (i.e., marshes or wet meadows) in the BSA. The nearest record of this species is more than 10 miles southwest of the project area near the Sacramento River.
<i>Melospiza melodia</i> (year-round)	song sparrow – “Modesto” population	–	–	SSC	Moderately dense vegetation to supply cover for nest sites, a source of standing or running water, semi-open canopies to allow light, and exposed ground or leaf litter for foraging. Seems to prefer emergent freshwater marshes dominated by tules and cattails as well as riparian willow thickets.	Restricted to California, where it is locally numerous in the Sacramento Valley, the Delta, and northern San Joaquin Valley.	Not likely to occur; preferred habitat (emergent freshwater marshes and willow thickets) not present in the BSA. While there is running water with semi-open canopies adjacent to the project area, dense vegetation is absent. There are no recent records of this species within 10 miles of the project area.

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Table A-2. Special-Status Wildlife Species with Potential to Occur in the Proposed Project Site

Scientific Name	Common Name	Regulatory Status ¹			Habitat Requirements	Distribution	Potential for Occurrence ²
		Federal	State	CDFW			
<i>Nannopterum auritum</i>	double-crested cormorant	–	–	WL	Coasts, bays, lakes, and rivers. May be found in almost any aquatic habitat, from rocky northern coasts to mangrove swamps to large reservoirs to small inland ponds. Nests in trees near or over water, on sea cliffs, or on ground islands. Feeds on fish and other aquatic life.	Widely distributed across North America.	No potential to occur; There is no suitable prey (aquatic life) for this species near the project site and no records of this species within 12 miles of the project area.
<i>Progne subis</i> (nesting)	purple martin	–	–	SSC	Inhabits woodlands, low-elevation coniferous forest of Douglas fir, ponderosa pine, and Monterey pine. Nests mainly in old woodpecker cavities, but also in human-made structures. Nests often are in tall, isolated trees/snags.	Eliminated from much of its previous range in California; in the Sacramento area, nests mostly within the city of Sacramento, as well as limited areas in adjacent Placer and Yolo counties.	No potential to occur; no suitable habitat (i.e., coniferous forests woodlands) or appropriate nesting substrate present in or near the BSA. The only records of nesting purple martin in Sacramento County area are from weep (drain) holes in highway and road overpasses.
<i>Riparia</i> (nesting)	bank swallow	–	ST	–	Colonial nester; nests primarily in riparian and other lowland habitats west of the desert. Requires vertical banks/cliffs with fine-textured/sandy soils near streams, rivers, lakes, and the ocean to dig nesting holes.	Riparian and other lowland habitats in California west of the deserts, during the breeding season.	No potential to occur; no suitable habitat (i.e., vertical sandy banks) in the BSA.
<i>Vireo bellii pusillus</i> (nesting)	least Bell's vireo	FE	SE	–	Rare, local, summer resident below about 2,000 feet in willows and other low, dense, valley foothill riparian habitat and lower portions of canyons. Nests placed along margins of bushes or on twigs projecting into pathways, usually in willow, <i>Baccharis</i> , and mesquite.	Mostly in San Benito and Monterey counties; in coastal southern California from Santa Barbara County south; and along the western edge of the deserts in desert riparian habitat.	No potential to occur; no suitable low, dense riparian habitat occurs within and adjacent to BSA. The species rarely occurs as far north as Sacramento County.
<i>Xanthocephalus xanthocephalus</i>	yellow-headed blackbird	–	–	SSC	Nest in marshes with tall, emergent vegetation (e.g., tules and cattails) adjacent to deep water.	In North America, west of the Mississippi River.	No potential to occur; no suitable habitat (marshes with tall emergent vegetation adjacent to deep water) in the BSA. The nearest record of this species is more than 10 miles from the project area, along the Sacramento River.
Mammals							
<i>Taxidea taxus</i>	American badger	–	–	SSC	Most abundant in drier open stages of most shrub, forest, and herbaceous habitats, with friable soils. Needs sufficient food, friable soils, and open, uncultivated ground. Preys on burrowing rodents. Digs burrows.	Throughout most of the state, except in the northern North Coast area	No potential to occur; no suitable habitat (open habitat with friable soils and burrowing rodent prey) in the BSA. The nearest record of this species is more than 5 miles south of the project area.

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Table A-2. Special-Status Wildlife Species with Potential to Occur in the Proposed Project Site

Scientific Name	Common Name	Regulatory Status ¹			Habitat Requirements	Distribution	Potential for Occurrence ²
		Federal	State	CDFW			
Notes: ESA = federal Endangered Species Act km = kilometer ppt = parts per thousand *Species denoted with an asterisk are Covered Species under the Natomas Basin Habitat Conservation Plan (Natomas Basin Conservancy No Date). ¹ Regulatory Status Definitions: Federal Status Categories FE = Listed as endangered under the Federal Endangered Species Act FT = Listed as threatened under Federal Endangered Species Act FC = Listed as candidate under Federal Endangered Species Act California State Status Categories SE = Listed as endangered under California Endangered Species Act ST = Listed as threatened under California Endangered Species Act California Department of Fish and Wildlife (CDFW) Categories SSC = Species of Special Concern FP = Fully Protected WL = Watch List ² Potential for Occurrence: Not Likely to Occur: No occurrences of the species have been recorded within or near the study area (i.e., within 3 miles), and either habitat for the species is marginal or potentially suitable habitat may occur, but the species' current known range is restricted to areas far from the study area. No Potential to Occur: The study area is outside the species' range or suitable habitat for the species is absent from the study area and adjacent areas.							
Sources: CDFW 2022							

Appendix B | Field Observations: Wildlife

Common Name	Scientific Name
Canada goose (overhead)	<i>Branta canadensis</i>
Eastern fox squirrel	<i>Sciurus niger</i>
Eurasian collared dove	<i>Streptopelia decaocto</i>
mallard (swimming in Chicken Ranch Slough)	<i>Anas platyrhynchos</i>
mourning dove	<i>Zenaida macroura</i>
red tailed hawk (overhead)	<i>Buteo jamaicensis</i>
spotted towhee	<i>Pipilo maculatus</i>
yellow-rumped warbler	<i>Setophaga coronata</i>

Appendix C | Field Observations: Plants

Common Name	Scientific Name
Pineapple weed	<i>Matricaria discoidea</i>
musk stork's bill	<i>Erodium moschatum</i>
English plantain	<i>Plantago lanceolata</i>
barley	<i>Hordeum spp.</i>
annual meadowgrass	<i>Poa annua</i>
cheeseweed	<i>Malva parviflora</i>
rescue brome	<i>Bromus catharticus</i>
cranesbill	<i>Geranium spp.</i>
sand spurries	<i>Spergularia spp.</i>
wall barley	<i>Hordeum murinum</i>
catchweed bedstraw	<i>Galium aparine</i>
ripgut brome	<i>Bromus diandrus</i>
canary islands ivy	<i>Hedera canariensis</i>
star jasmine (SE fence line)	<i>Trachelospermum jasminoides</i>
common soft brome	<i>Bromus hordeaceus</i>
dandelion	<i>Taraxacum officinale</i>
wild radish	<i>Raphanus raphanistrum</i>
docks	<i>Rumex spp.</i>
italian thistle	<i>Carduus pycnocephalus</i>
miner's lettuce	<i>Claytonia perfoliata</i>
Italian arum	<i>Arum italicum</i>
three cornered garlic	<i>Allium triquetrum</i>
tree privet	<i>Ligustrum lucidum</i>
black wattle	<i>Acacia mearnsii</i>
ashes	<i>Fraxinus spp.</i>
valley oak	<i>Quercus lobata</i>
olive tree	<i>Olea europaea</i>
anacua	<i>Ehretia anacua</i>
aspen	<i>Populus tremula</i>
willow spp.	<i>Salix spp.</i>
bay laurel	<i>Laurus nobilis</i>
Fremont cottonwood	<i>Populus fremontii</i>
hickories	<i>Carya spp.</i>
oleander	<i>Nerium oleander</i>
pinos	<i>Pinus spp.</i>
northern catalpa	<i>Catalpa speciosa</i>

Appendix D | Representative Photographs

DRAFT



Photo 1 is taken from the southeastern corner of the project site looking north and depicts the managed field land cover type. Riparian woodland canopy is shown in the background.

DRAFT



Photo 2 is taken on the eastern side of the project site looking west and depicts the managed field land cover type. The canopy of the riparian woodland land cover type is shown in the background.

DRAFT



Photo 3 is taken on the northeastern portion of the BSA, outside of the project site, looking east. This photo depicts the riparian woodland land cover type, nonnative grassland understory, and Chicken Ranch Slough within the Creekside Nature Area. The background features a bridge which connects the schoolyard to neighboring residential areas.

DRAFT



Photo 4 is taken on the northern portion of the BSA, outside of the project site, looking east. This photo depicts the riparian woodland land cover type, nonnative grassland understory, and Chicken Ranch Slough.

DRAFT



Photo 5 is taken on the northwestern boundary of the project side, looking north into the BSA. This photo is taken through a chain link fence and depicts the riparian woodland that borders the project site, along with the minimally vegetated understory.

DRAFT



Photo 6 is taken in the southern portion of the project site looking northeast. This photo depicts a nonnative sequoia tree with the campus facilities displayed in the background.

DRAFT



Photo 7 is taken in the center of the campus buildings, looking east. This photo depicts a planted nonnative tree within a patch of planted nonnative grass in the center of the school campus.

DRAFT

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Delivered.



Katherine Johnson Middle School Project

Arborist Report

San Juan Unified School District

September 6, 2022

Prepared for:

San Juan Unified School District
6135 Sutter Avenue
Carmichael, CA 95608

Contact Info:

Nicholas Arps, Director of Facilities Construction & Modernization
San Juan Unified School District
3738 Walnut Avenue
Carmichael, CA 95608
(916) 971-7700
construction@sanjuan.edu

Prepared by:

AECOM
2020 L Street, Suite 300
Sacramento, CA 95811

Contact Info:

Matthew Gerken
Project Manager
(916) 414-5800
matthew.gerken@aecom.com

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APPENDIX

Appendix A. Tree Survey Photos (April 2022)

LIST OF ACRONYMS

CEQA	California Environmental Quality Act
County's Tree Preservation Ordinance	Sacramento County Municipal Code, Tree Preservation and Protection
dbh	diameter at breast height
GNSS	Global Navigation Satellite System
GPS	Global positioning system
ID	Identification
ISA	International Society of Arboriculture
Proposed project	Katherine Johnson Middle School
RD	Low-Density Residential
SJUSD	San Juan Unified School District

1. INTRODUCTION

San Juan Unified School District (SJUSD) is proposing to redevelop an existing, developed District-owned property in the Arden-Arcade Community at the Creekside Adult School. All existing buildings and facilities would be demolished and removed. A new middle school, Katherine Johnson Middle School (proposed project), would be developed in place of the existing facilities.

SJUSD commissioned AECOM to prepare an arborist report in accordance with Chapter 19.12 of the Sacramento County Code, Tree Preservation and Protection, also referred to as the County's Tree Preservation Ordinance (County of Sacramento 2022).

1.1 Location and Setting

The proposed project is situated at a SJUSD school property located at 2641 Kent Drive, Sacramento, CA 95821 in Sacramento County, California. The proposed project is located on Assessor Parcel Number 268-0290-001. It is bounded to the east by Belpoint Lane, to the south by residential development, to the west by Kent Drive, and to the north by a recreation area and residential neighborhood.

In addition to building facilities, the campus includes outdoor playfields, a faculty parking, and a bus drop-off and pick-up area. Land surrounding the school campus is a mix of residential and commercial uses. There is a riparian area and ephemeral stream adjacent to the proposed project.

Existing trees include a variety of ornamental plantings adjacent to campus buildings. A mix of ornamental and native trees are located within a managed grass playfield and along fence lines bordering a riparian corridor.

2. METHODS

The tree inventory was conducted on April 2, 2022 by AECOM biologists under the guidance of International Society of Arboriculture (ISA) Certified Arborist, Keith Wright (#WE-10700A). All trees in the project site with a single trunk diameter at breast height (dbh) of 6" or greater, or multi-trunked tree having an aggregate diameter of ten inches or greater were included in the inventory. The project site is defined as the boundary shown on labeled "Project Site". Trees with more than 1/3 of their canopy overhanging the project site were included in the inventory. The inventory consisted of visual assessments from ground level. Data collected for inventoried trees included:

- Global positioning system (GPS) location (latitude/longitude)
- Unique Tree Identification (ID)
- Common name and genus/species
- Number of stems
- Dbh: the minimum dbh for measurement is >6 inches per tree or >10 -inches combined dbh for trees with multiple stems.
- Approximate height: Height was estimated in 5-foot increments.
- Tree Health: Alive or Dead
- Approximate Canopy Diameter

Trunk diameters were measured using a diameter tape. Trunk diameter measurements were taken at 4.5 feet (54 inches) above the ground, with the following exception. In cases where a tree's trunk split into multiple stems at approximately 4.5 feet above ground, the measurement was made by taking the diameter of each individual stem and calculating the aggregate total. The location of each tree was mapped with a handheld GPS controller paired with Trimble R1 Global Navigation Satellite System (GNSS) receiver capable of sub-meter accuracy.

Native oak trees are protected under the County's Tree Preservation Ordinance. The ordinance defines tree with protections as follows:

"As used in this chapter, a "tree" shall mean any living native oak tree having at least one trunk of six inches or more in diameter measured four and one-half feet above the ground, or a multi-trunked native oak tree having an aggregate diameter of ten inches or more, measured four and one-half feet above the ground (dbh). As used in this chapter, a "tree" shall mean any living native oak tree having at least one trunk of six inches or more in diameter measured four and one-half feet above the ground, or a multi-trunked native oak tree having an aggregate diameter of ten inches or more, measured four and one-half feet above the ground (dbh)." (Sacramento County 2022)

2.1 Tree Impact Analysis

The results of the tree inventory were compared with conceptual site plans to determine which trees may require removal to accommodate project development. Where possible, trees were evaluated for retention and inclusion in the post-development landscape. Based on this assessment, one of two impact status categories were assigned to each protected tree: (1) retain on site; or (2) remove to accommodate construction. A summary of project-related impacts on protected trees is presented in Section 3. A map of impacted trees is provided in Figure 1.

2.2 Scope of Work Limitations

This report presents conditions as observed in the field on April 2, 2022. Locations of trees are approximate. This is because geospatial accuracy of handheld GPS units is subject to anomalies such as obstructions from tree canopy or poor satellite geometry, which can reduce accuracy by 1 to 3 meters. Root crown excavation or investigation, internal probing, or aerial canopy inspections were not performed. Therefore, the presence or absence of internal decay or other hidden or inaccessible inferiorities in individual trees could not be confirmed. It is recommended that any tree proposed for preservation in an urban setting be thoroughly inspected for internal or subterranean decay by a qualified arborist before finalizing any on-site preservation plans. Furthermore, tree removal recommendations are based on a desktop review of conceptual plans. Final grading and utilities plans were not available to evaluate construction impacts to individual trees.

3. RESULTS

AECOM inventoried and evaluated 37 trees total, 22 of which may be subject to removal to accommodate the proposed project. Table 1 shows the tree inventory list which includes all trees inventoried at the project site. The table shows data recorded in the field, lists trees that will potentially be removed by project construction, and lists if the tree is protected by the County's Tree Preservation Ordinance. Seven County protected native oak trees may be removed (Tree ID# 5, 6, 7, 15, 16, 17, 27). Figure 1 depicts the locations of each inventoried tree and shows proposed removal recommendations. Photos are provided in Appendix A.

Native oak trees with a dbh measuring 6 inches or greater are considered protected trees under the County's Tree Preservation and Protection Ordinance (County of Sacramento 2022). Seven protected native oaks are proposed for removal, these are all valley oaks (*Quercus lobata*). Six of the oaks are within the managed grass field and are proposed for removal to accommodate a sports field/facility (i.e., Tree ID #5, 6, 7, 15, 16, 17). The remaining oak tree proposed for removal is located adjacent campus buildings in the southwestern portion of the project site (i.e., Tree ID #27).

Other tree species documented during the survey proposed for removal include native and non-native trees, such as Chinese tallow (*Traidica sebifera*), sweetgum (*Liquidambar formosana*), coast redwood (*Sequoia sempervirens*), and nonnative ornamental species which were not identified in the field because they were devoid of indicative flowers.

Protected trees present within and bordering the northern "managed" play fields were predominantly Blue (*Quercus douglasii*) and Valley Oak (*Quercus lobata*) and will not be adversely affected or removed due to proposed construction activities. Most of the trees proposed for removal were documented within and directly bordering existing facilities and structures.

Table 1. Tree Inventory List

Tree ID	Species		Number of Stems	Diameter at Breast Height (DBH) (inches)	Approx. Height (Feet)	Approx. Canopy Cover (Feet)	Tree Health	Protection Status (Y/N)	Remove or Preserve
	Common Name	Scientific Name							
1	Chinese tallow	<i>Traidica sebifera</i>	2	14	25	10	Alive	No	Remove
2	Nonnative ornamental	N/A	1	5	20	10	Alive	No	Remove
3	Chinese tallow	<i>Traidica sebifera</i>	1	13	25	10	Alive	No	Remove
4	Nonnative ornamental	N/A	1	12	15	10	Alive	No	Remove
5	Valley Oak	<i>Quercus lobata</i>	1	15	25	15	Alive	Yes	Remove
6	Valley oak	<i>Quercus lobata</i>	1	13	25	15	Alive	Yes	Remove
7	Valley oak	<i>Quercus lobata</i>	1	12	30	10	Alive	Yes	Remove
8	Interior live oak	<i>Quercus wizlizeni</i>	1	4	7	N/A	Poor	Yes	Preserve
9	Pecan	<i>Carya illinoensis</i>	1	15	50	25	Alive	No	Preserve
10	Valley oak	<i>Quercus lobata</i>	1	17	50	60	Alive	Yes	Preserve
11	Valley oak	<i>Quercus lobata</i>	1	2	10	5	Alive	Yes	Preserve
12	Blue oak	<i>Quercus douglasii</i>	1	27	55	50	Alive	Yes	Preserve
13	Valley oak	<i>Quercus lobata</i>	1	38	65	50	Alive	Yes	Preserve
14	Blue oak hybrid	<i>Quercus spp.</i>	1	22	50	45	Alive	Yes	Preserve
15	Valley oak	<i>Quercus lobata</i>	1	12	25	15	Alive	Yes	Remove
16	Valley oak	<i>Quercus lobata</i>	1	8	20	10	Alive	Yes	Remove
17	Valley oak	<i>Quercus lobata</i>	1	6	20	10	Alive	Yes	Remove
18	Valley oak	<i>Quercus lobata</i>	1	38	50	45	Alive	Yes	Preserve
19	Blue oak	<i>Quercus douglasii</i>	2	41	35	40	Alive	Yes	Preserve
20	Nonnative ornamental	N/A	2	4	15	5	Alive	No	Remove
21	Sweetgum	<i>Liquidambar formosana</i>	1	24	60	25	Alive	No	Remove
22	Coast redwood	<i>Sequoia sempervirens</i>	3	77	80	35	Alive	No	Remove
23	Chinese tallow	<i>Traidica sebifera</i>	1	26	50	30	Alive	No	Remove
24	Coast redwood	<i>Sequoia sempervirens</i>	1	36	80	35	Alive	No	Remove
25	Nonnative ornamental	N/A	1	13	25	10	Alive	No	Remove

Tree ID	Species		Number of Stems	Diameter at Breast Height (DBH) (inches)	Approx. Height (Feet)	Approx. Canopy Cover (Feet)	Tree Health	Protection Status (Y/N)	Remove or Preserve
	Common Name	Scientific Name							
26	Nonnative ornamental	N/A	1	31	40	15	Alive	No	Remove
27	Valley oak	<i>Quercus lobata</i>	1	13	25	10	Alive	Yes	Remove
28	Nonnative ornamental	N/A	1	14	15	10	Dead	No	Remove
29	Nonnative ornamental	N/A	1	28	25	15	Alive	No	Remove
30	Nonnative ornamental	N/A	1	26	25	10	Alive	No	Remove
31	Blue oak	<i>Quercus douglasii</i>	1	14	25	15	Alive	Yes	Preserve
32	Blue oak	<i>Quercus douglasii</i>	2	8	15	10	Alive	Yes	Preserve
33	Blue oak	<i>Quercus douglasii</i>	2	35	25	15	Alive	Yes	Preserve
34	Blue oak	<i>Quercus douglasii</i>	5	63	30	45	Alive	Yes	Preserve
35	Blue oak	<i>Quercus douglasii</i>	1	18	25	15	Dead	Yes	Preserve
36	Blue oak	<i>Quercus douglasii</i>	1	38	60	35	Alive	Yes	Preserve
37	Nonnative Ornamental	N/A	1	6	15	5	Alive	No	Remove

Source: AECOM 2022

ID = identification

N/A = not applicable

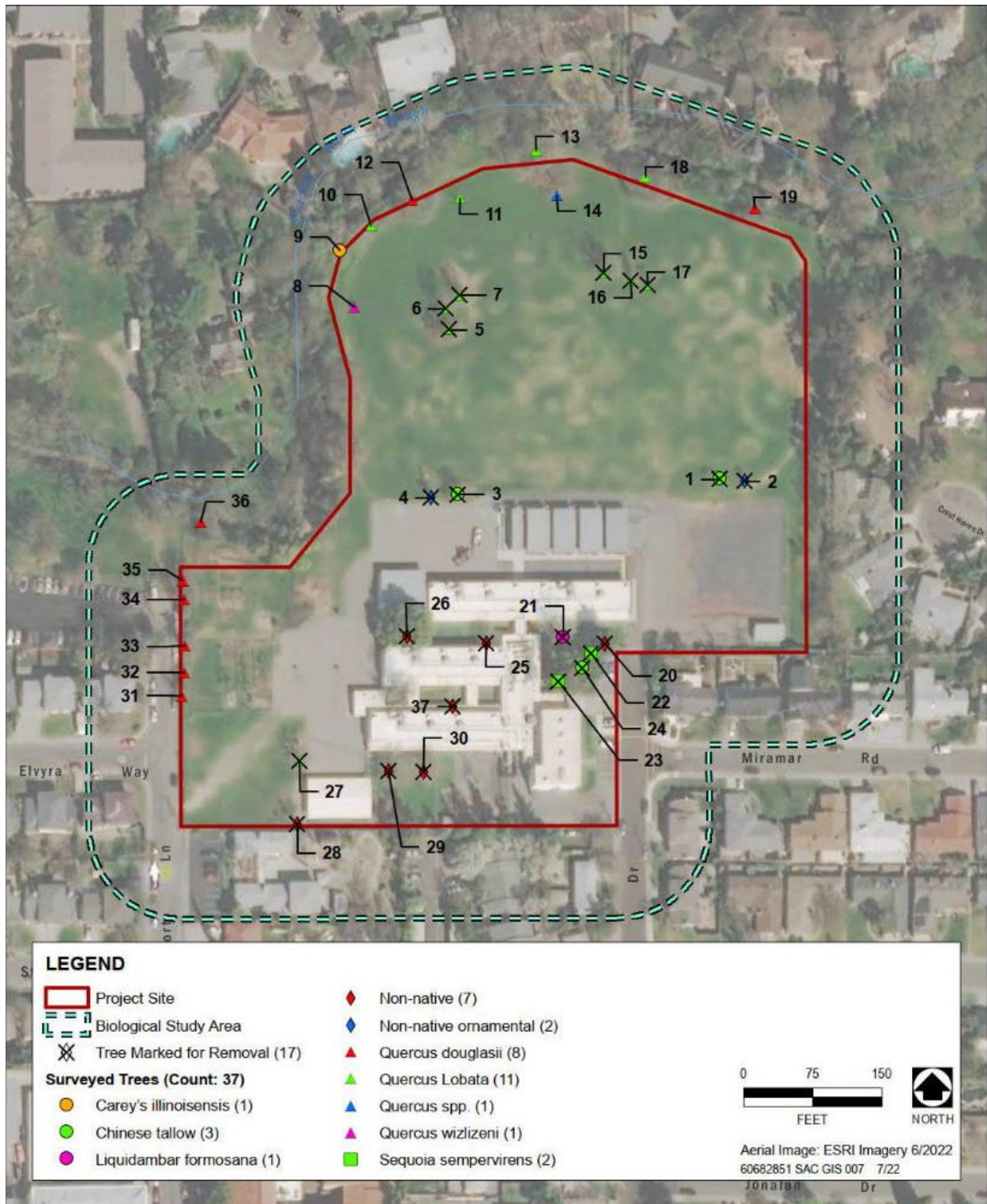


Figure 1. Tree Survey Results, April 2022 Katherine Johnson Middle School Project

4. REFERENCES

Sacramento County. 2022. Sacramento County Code Chapter 19.12 Tree Preservation and Protection. Published by Quality Code Publishing, Seattle, Washington. Available at: https://library.qcode.us/lib/sacramento_county_ca/pub/county_code/item/title_19-chapter_19_12. Accessed on: 04 June 2022.

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APPENDIX A
TREE SURVEY PHOTOS (APRIL 2022)



Photo 1. Tree #1 Chinese tallow



Photo 2. Tree #2 Nonnative ornamental



Photo 3. Tree #3 Chinese tallow



Photo 4. Perspective looking east towards oaks within the managed soccer field.



Photo 5. Perspective looking north; native oak trees within managed soccer field and riparian area.



Photo 6. Tree #22, coast redwood.



Photo 7. Tree #24, coast redwood and view of south facing portion of current campus.

