INITIAL STUDY / MITIGATED NEGATIVE DECLARATION

CARMICHAEL WATER DISTRICT
LA VISTA WATER TANK REPLACEMENT PROJECT

SEPTEMBER 2019

LEAD AGENCY:

Carmichael Water District
7837 Fair Oaks Boulevard
Carmichael, CA 95608
(916) 483-2452

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SUBMITTED BY:

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1.0 INTRODUCTION

Carmichael Water District (CWD) provides domestic water for the community of Carmichael, CA. As part of the CWD's ongoing maintenance and upgrading processes, the La Vista Water Tank is planned for replacement. In an effort to continue to provide reliable and high-quality water, CWD proposes to replace the existing La Vista water tank, improve existing infrastructure, and replace several segments of existing pipeline (Proposed Project). This Initial Study/Mitigated Negative Declaration (ISMND) evaluates the Proposed Project's potential effects on the environment.

1. Project Title	La Vista Water Tank Replacement Project
2. Lead Agency	Carmichael Water District 7837 Fair Oaks Blvd. Carmichael, CA 95608
3. Contact	Mark McClintock, Project Manager (916) 679-0457
4. Project Location	3016 La Vista Avenue Carmichael CA, 95608
5. Applicant	Mark McClintock, Project Manager Carmichael Water District 7837 Fair Oaks Blvd Carmichael, CA 95608
6. Land Use Designation	Transit Oriented Development/Mixed Use Corridor
7. Zoning	SPA – Special Planning Area
8. Surrounding Land Uses	Regional Commercial, Public/Institutional, Medium Density Residential
9. Project Description	Replacement of an existing water tank and improvements to infrastructure and access
10. Date of Initial Study	September 2019

1.1 REGULATORY FRAMEWORK

The Proposed Project meets the definition of a "project" under the California Environmental Quality Act (CEQA). This ISMND was prepared pursuant to CEQA, Public Resources Code § 21000, et seq., as amended, and implementing State CEQA Guidelines, Title 14, Chapter 3 of the California Code of Regulations (CCR). CWD is the Lead Agency for the Proposed Project under CEQA. In addition to the specific regulatory considerations listed ender each issue area in **Section 4.0**, the following guiding documents were reviewed during the preparation of this report:

- Sacramento County General Plan of 2005-2030
- Sacramento County Zoning Map and Code
- Special Planning Area: Fair Oaks Boulevard Corridor Plan

1.2 PERMITS AND APPROVALS

The following permits and approvals may be required prior to implementation of the Proposed Project:

- CWD adoption of this ISMND;
- Encroachment Permit issued by Sacramento County for work within a public right-of-way;
- Diesel Generator Permit to Construct and Operate issued by the appropriate Air Resources Control Board;
- Water Supply Permit Amendment to document changes to La Vista tank site assets;
- Tree Permits issued by Sacramento County for tree trimming and removal;
- Approval of a Stormwater Pollution Prevention Plan (SWPPP) or Construction General Permit Erosivity Waiver from the appropriate Regional Water Quality Control Board; and
- Traffic Management Plan approved by Sacramento County.

2.0 PROJECT DESCRIPTION

2.1 PROJECT BACKGROUND

The 3 million gallon La Vista Storage Tank and Booster Pump Station (BPS) was constructed in 1971, and the structure and output of the facility are now insufficient to meet CWD's needs. The Carmichael Water District's Master Plan identified a strategy for infrastructure maintenance and replacement based on CWD's Capital Improvement Plan and infrastructure need (CWD, 2015). The La Vista tank and booster pump station was evaluated and found to be in poor condition. Since the La Vista tank was constructed in 1971, it has received no major rehabilitation and is showing signs of disrepair (CWD, 2015). The La Vista tank is one of only two water storage tanks in the CWD service area, and has a storage capacity three times greater than that of the secondary tank located on Dewey Drive near Winding Way.

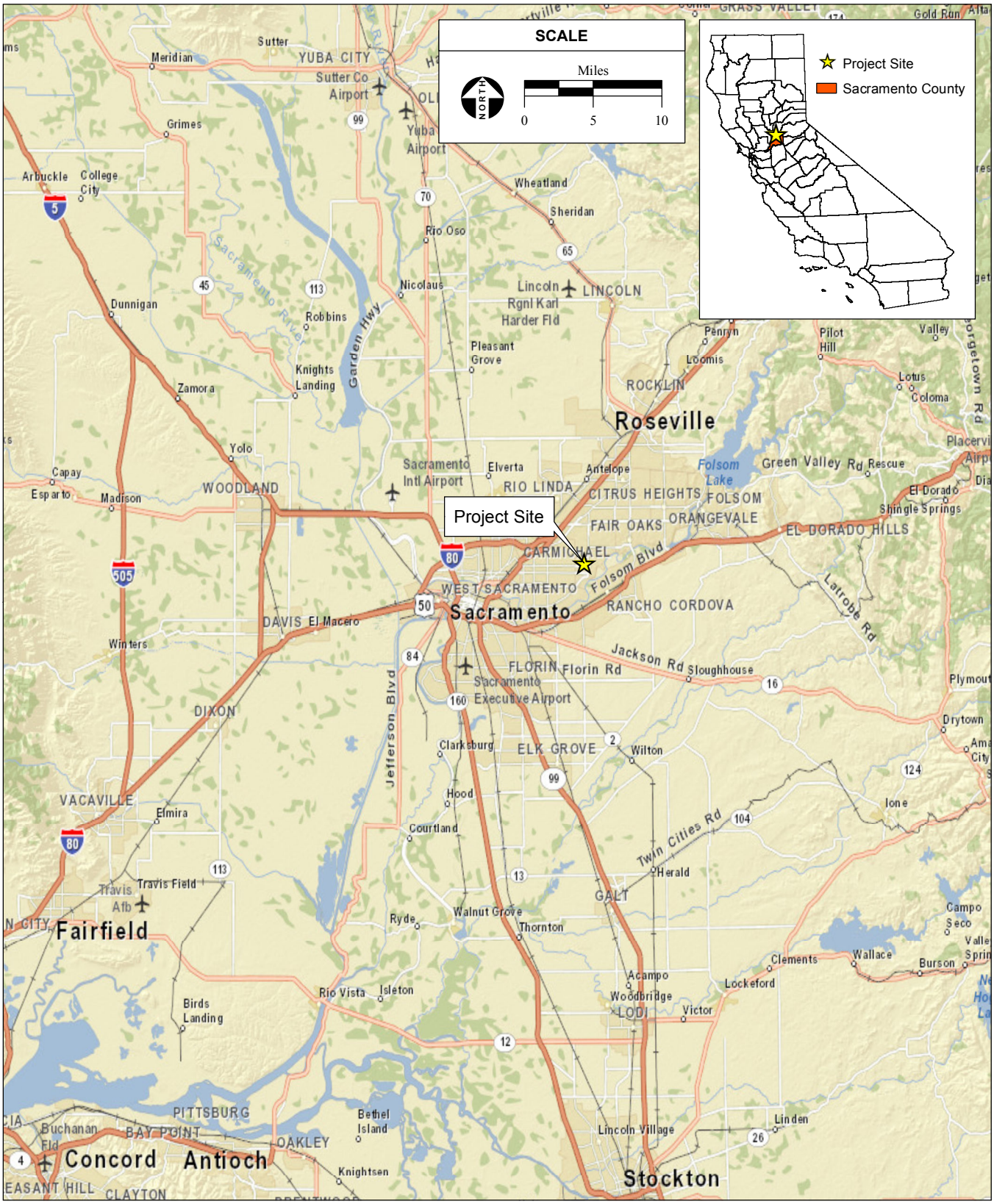
2.2 PROJECT OBJECTIVES

CWD has identified the following objectives for the Proposed Project:

- Continue to provide high-quality water to the Carmichael area;
- Improve the safety of the water storage and distribution infrastructure;
- Assure continued sufficient water quantity to meet demands;
- Improve access to the water tank;
- Add a storm drain connection to preserve environmental quality during runoff events; and
- Update backup power generation equipment in order to continue water provision and site maintenance services during outages.

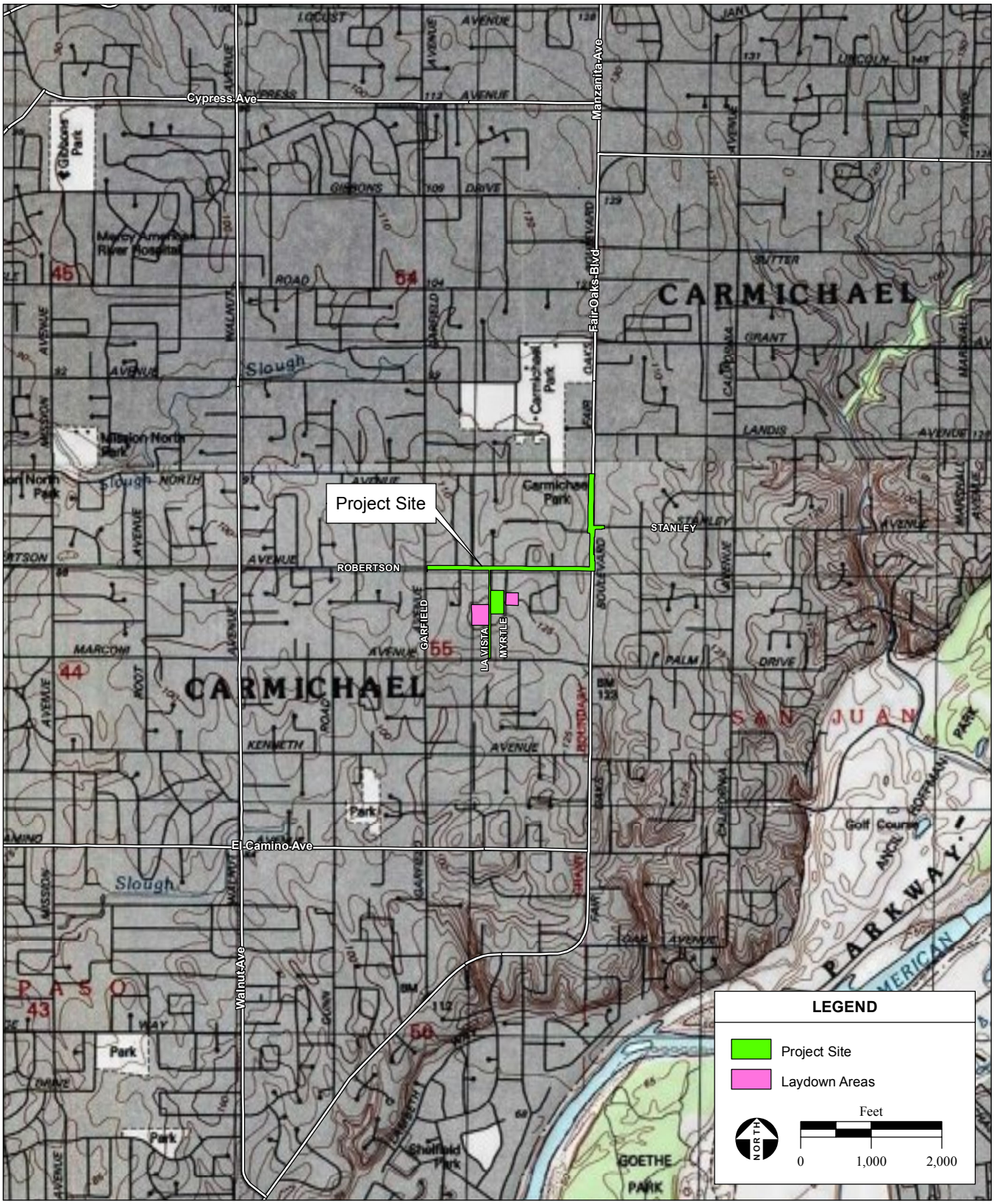
2.3 PROJECT LOCATION

The La Vista Water Tank and BPS is located on approximately 1.5 acres at 3016 La Vista Avenue in Carmichael, CA, assessor parcels 272-0110-028, 272-0110-027, and 272-0110-022. The pipeline segments proposed for replacement are nearby (**Figure 1** and **Figure 2**). Additionally, two construction laydown areas have been identified for the Proposed Project (**Figure 3**). The first is an open field owned by the Carmichael Presbyterian Church (Parcel 272-0110-077; Laydown Area 1), and the second is a vacant County lot behind the Carmichael Library (Parcel 272-0150-022; Laydown Area 2).



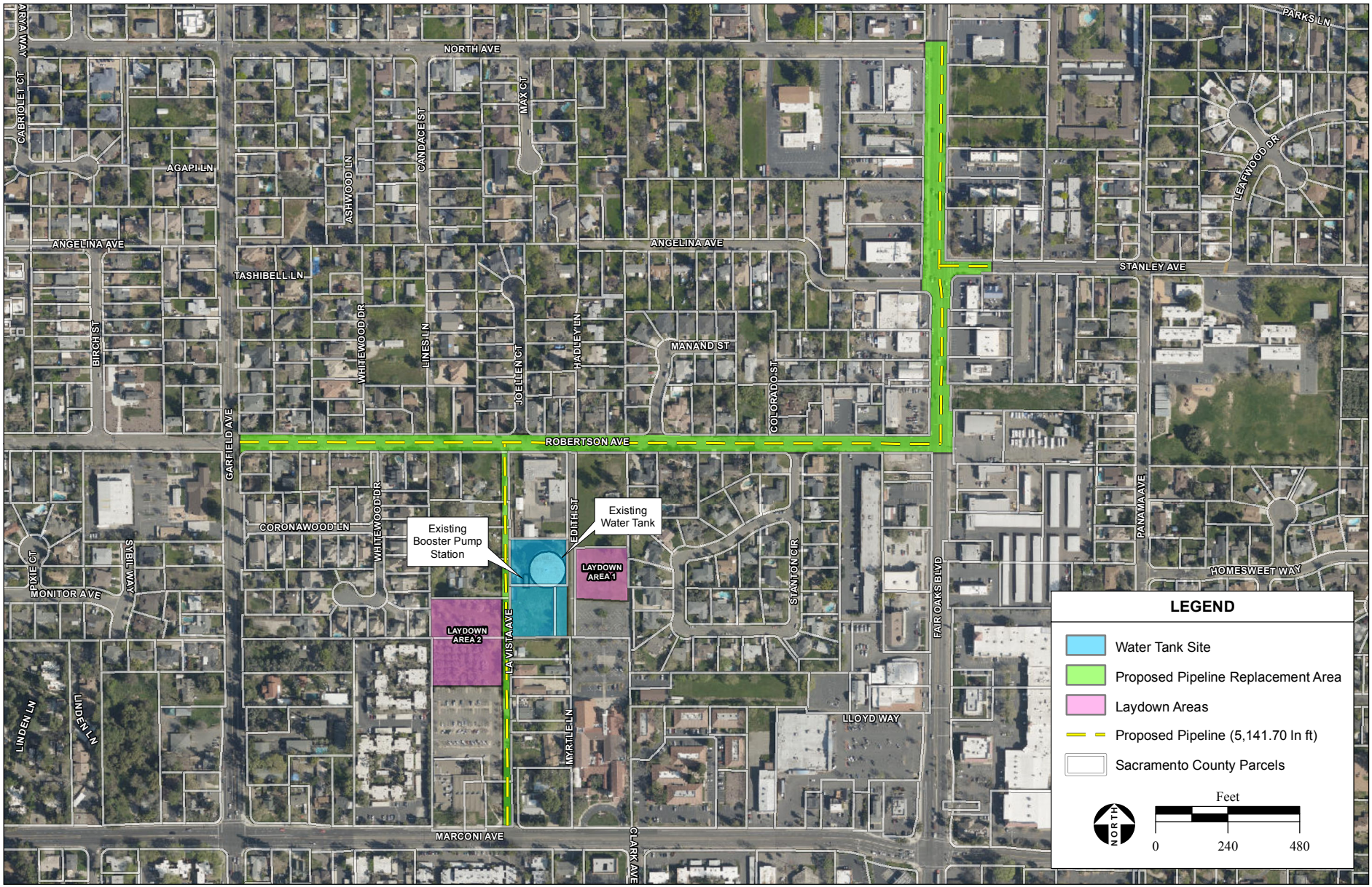
SOURCE: ESRI, 2019; AES, 7/12/2019

Figure 1
Regional Location



SOURCE: "Citus Heights, CA" & "Carmichael, CA" USGS 7.5 Minute Topographic Quadrtangles, T9N, R6E, Unsectioned Areas of Citrus Heights & Carmichael, Mt. Diablo Baseline & Meridian; AES, 8/22/2019

Figure 2
Site and Vicinity



SOURCE: ESRI, 2019; AES, 8/22/2019

Figure 3
Aerial Photograph

The existing water tank, shown in **Figure 3**, is accessed via a gravel driveway. Edith Street bounds the project site to the east, residential housing to the south, and Metro Fire Station 109 to the north. Surrounding areas are urbanized and are developed or disturbed. The water tank area is bounded by chain link fencing with restricted security access.

Topography on the project site is relatively level, with slopes ranging from approximately 120 to 133 feet above mean sea level. Regional climate is characterized as Mediterranean, with cool, wet winters and hot, dry summers. Locally, this pattern consists of approximately 19 inches of annual rainfall, high summer temperatures, and winter lows above freezing on average (U.S. Climate Data, 2019).

2.4 Project Components

The Proposed Project consists of the following components:

- Construction of a new 3 million gallon tank and BPS on the parcels adjacent to the existing tank;
- Improvements to site access by potentially securing an access easement east of the tank;
- Improvements to stormwater drainage via a connection to Sacramento County's drainage and flood control system; and
- Removal of the existing tank and BPS

The Proposed Project also includes the replacement and installation of the following pipeline segments:

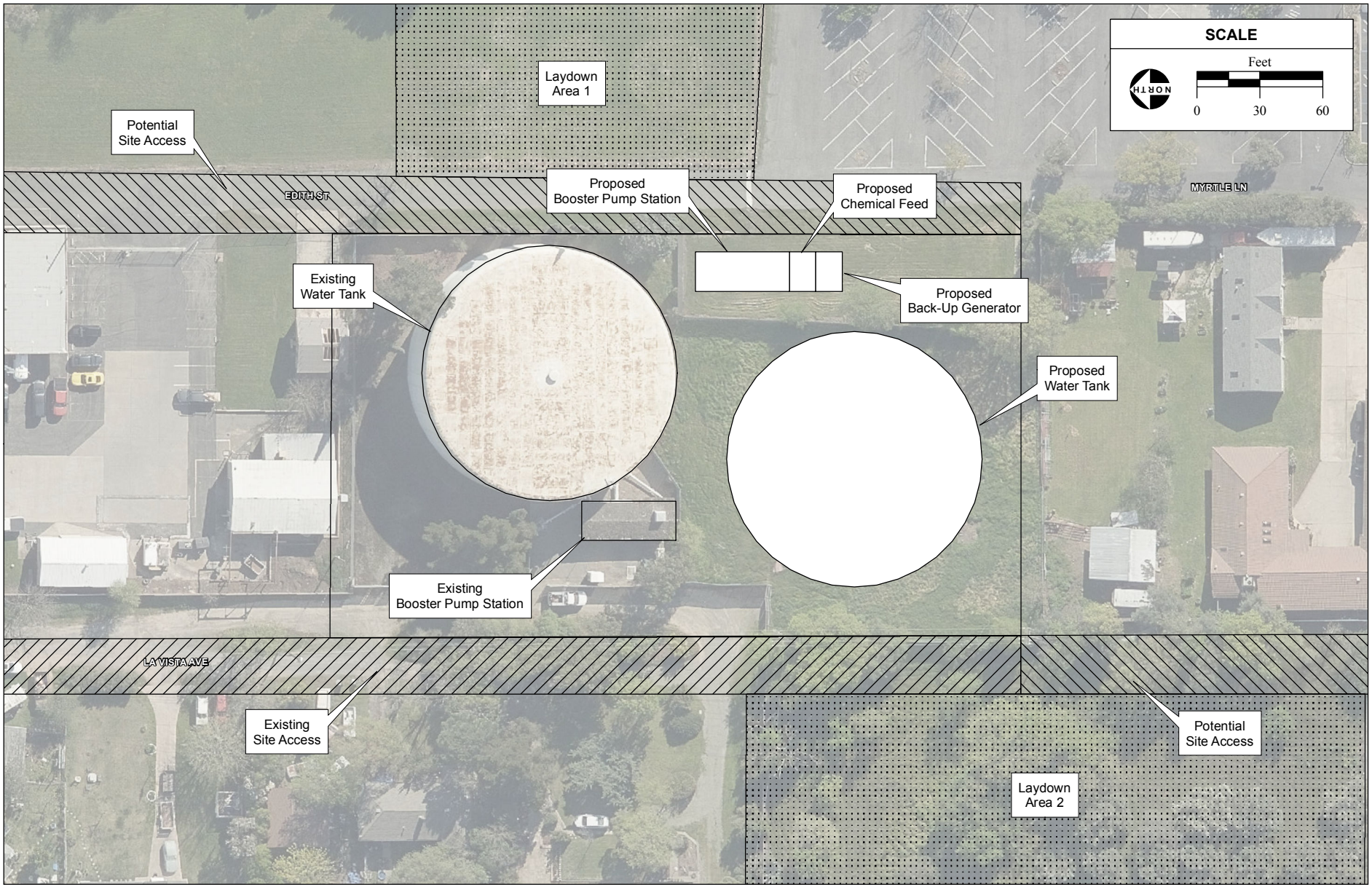
- Robertson Avenue from Garfield Avenue to Fair Oaks Boulevard;
- La Vista Avenue from Robertson Avenue to Marconi Avenue, including the space between the dead end of La Vista Avenue to where it connects with La Vista Avenue adjacent to the Carmichael Library;
- Fair Oaks Boulevard from Robertson Avenue to North Avenue; and
- Stanley Avenue east from Fair Oaks Boulevard for 130 linear feet.

In total, approximately 5,150 feet (0.97 miles) of pipeline would be replaced. Pipelines range from 8 inches to 14 inches in diameter. Minor additional connecting pipelines may also be replaced to preserve functionality and enhance safety. This would most likely occur at the connection of Garfield Avenue and Robertson Avenue as well as along Angelina Avenue. Work would be completed in the same manner as the pipelines listed above, but may also include minor work on back lot pipelines.

A site plan is included as **Figure 4**. Final locations of structures are subject to church permission to utilize Laydown Area 1, easement access of Laydown Area 2, and CWD ability to purchase or otherwise develop on church parcel 272-0110-022. Final placement of structures would maintain safety buffers required for potable water storage and distribution, such as distance from sewer lines.

Construction and Operation

The Proposed Project would rely on standard construction equipment. CWD staff would continue to provide site maintenance such as vegetation management for the area surrounding the tank. Inspections or maintenance activities may be performed as project components reach the end of usable lifetime, or malfunction during use.



SOURCE: ESRI, 2019; AES, 8/16/2019

Figure 4
Site Plan

Schedule

The Proposed Project schedule is subject to the issuance of permits and approvals outlined in **Section 1.2.** The following provides a tentative schedule that outlines the timeframe anticipated for various project components:

- Pipeline Construction – Awarded in fall of 2019, completed spring of 2020;
- Tank and BPS construction – Awarded fall of 2020, completed fall 2021;
- Existing tank and BPS demolition – Beginning following the testing of new tank and BPS, completed winter 2022; and
- Final site and access improvements – Ongoing throughout construction, completed spring of 2022

3.0 ENVIRONMENTAL ISSUE AREAS

Environmental issue areas checked below have the potential to be affected by the Proposed Project, and constitute an effect requiring additional review or mitigation in accordance with Section 15183 of the CEQA Guidelines. Impacts were evaluated using the checklist in **Section 3.0**. Mitigation to reduce effects to less-than-significant levels are recommended where necessary and have been designed to be consistent with federal, State, and local regulatory requirements. The Proposed Project was determined to have a less-than-significant impact or no impact on unchecked issue areas, and these areas do not warrant mitigation.

- ☐ Aesthetics
- ☐ Agriculture and Forestry Resources
- ☒ Air Quality
- ☒ Biological Resources
- ☒ Cultural Resources
- ☐ Geology and Soils
- ☐ Greenhouse Gas Emissions
- ☒ Hazards and Hazardous Materials
- ☐ Hydrology and Water Quality
- ☐ Land Use and Planning
- ☐ Mineral Resources
- ☒ Noise
- ☐ Population and Housing
- ☐ Public Services
- ☐ Recreation
- ☐ Transportation and Circulation
- ☒ Tribal Cultural Resources
- ☐ Utilities and Service Systems
- ☒ Mandatory Findings of Significance

3.1 DETERMINATION

On the basis of the environmental evaluation presented in **Section 3.0**:

☐ I find that the Proposed Project COULD NOT have a significant effect on the environment, and a NEGATIVE DECLARATION would be prepared.

☒ I find that although the Proposed Project could have a significant effect on the environment, there would not be a significant effect in this case because revisions in the project have been made by or agreed to by the project proponent. A NEGATIVE DECLARATION would be prepared.

☐ I find that the Proposed Project MAY have a significant effect on the environment, and an ENVIRONMENTAL IMPACT REPORT is required.

☐ I find that the Proposed Project MAY have a "potentially significant impact" or "potentially significant unless mitigated" impact on the environment, but at least one effect 1) has been adequately analyzed in an earlier document pursuant to applicable legal standards, and 2) has been addressed by mitigation measures based on the earlier analysis as described on attached sheets. An ENVIRONMENTAL IMPACT REPORT is required, but it must analyze only the effects that remain to be addressed

☐ I find that although the Proposed Project could have a significant effect on the environment, because all potentially significant effects (a) have been analyzed adequately in an earlier EIR or NEGATIVE DECLARATION pursuant to applicable standards, and (b) have been avoided or mitigated pursuant to the earlier EIR or NEGATIVE DECLARATION, including revisions or mitigation measures imposed upon the Proposed Project, nothing further is required.

Mark McClintock — 9/24/19

Signature — Date

Mark McClintock — Carmichael Water Dist.

Printed Name — Lead Agency

4.0 ENVIRONMENTAL EFFECTS

Pursuant to CEQA Guidelines Section 15063, an IS should provide the Lead Agency with sufficient information to determine whether to prepare an environmental impact report (EIR), a negative declaration (ND), or a Mitigated ND for a Proposed Project. CEQA Guidelines also state that an IS may identify environmental impacts through a checklist, matrix, or other method, provided that conclusions are briefly explained and supported by evidence. Should it be determined that a physical impact to the environment could occur, the checklist must then indicate whether the impact is "potentially significant", "less-than-significant with mitigation", or "less-than-significant". Findings of "no impact" for issues that are not applicable to a Proposed Project do not require further discussion. Results of technical studies have been incorporated into analysis and are included in **Appendices A** and **B**.

4.1 AESTHETICS	POTENTIALLY SIGNIFICANT IMPACT	LESS-THAN-SIGNIFICANT WITH MITIGATION INCORPORATED	LESS-THAN-SIGNIFICANT IMPACT	NO IMPACT
Would the project:				
a) Have a substantial adverse effect on a scenic vista?	☐	☐	☐	☑
b) Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?	☐	☐	☐	☑
c) Substantially degrade the existing visual character or quality of the site and its surroundings?	☐	☐	☐	☑
d) Create a new source of substantial light or glare that would adversely affect day or nighttime views in the area?	☐	☐	☐	☑

Regulatory Considerations

- National Scenic Byway Program
- California Scenic Highway Program
- Sacramento General Plan of 2005-2030

Questions A-D

Photographs of the project site are shown in **Figure 5**. The project site is located off La Vista Avenue in Carmichael, CA, and includes portions of Robertson Avenue, La Vista Avenue, Fair Oaks Boulevard, and Stanley Avenue. La Vista Avenue is a two-lane, unincorporated dirt and gravel road approximately one tenth of a mile in length that dead ends immediately after the water tank site. A portion of this road resumes adjacent to the Carmichael Library to Marconi Avenue. Robertson Avenue on the project site is a two-lane paved road lined predominantly by medium-density residential. Fair Oaks Boulevard on the project site consists of four lanes plus a turn lane dominated by dense commercial development. Stanley Avenue east from Fair Oaks Boulevard is a two-lane road bordered by commercial development, a school, apartments, and medium-density residential.

The Sacramento County General Plan does not designate scenic vistas on or within view of the project site (County of Sacramento, 2011). The nearest adjacent highways are I-80, and I-50 which are not state-designated scenic highways in this region and are not within view of the project site.

The Proposed Project would consist of the construction of a 3 million gallon tank adjacent to the existing water tank, and associated upgraded infrastructure. Shortly following the construction of the new water tank, the existing tank will be demolished and removed. The new tank would be of the same size and dimensions as the existing tank. Installation of associated pipeline would be underground and therefore not visible following completion of construction. The resulting view of the project site would therefore not change significantly. Landscaping and lighting on the project site would be consistent with current uses. No new significant sources of light or glare would result from the Proposed Project. Surrounding visual character would not be altered by the Proposed Project, and the viewshed would not be impacted. There would be no impact.

PHOTO 1: View of the existing tank and grassy area where the new tank will be constructed.

PHOTO 2: Parcel 272-0110-022 intended for purchase or easement as the new booster pump station location.

PHOTO 3: Laydown Area 1 currently used as church recreational field.

PHOTO 4: Laydown Area 2 currently vacant County lot behind the Carmichael Library.

PHOTO 5: Robertson Avenue facing east along the proposed pipeline replacement.

PHOTO 6: Fair Oaks Boulevard facing south along the proposed pipeline replacement.

SOURCE: AES, 8/16/2019

Figure 5
Site Photographs

4.2 AGRICULTURE AND FORESTRY RESOURCES	POTENTIALLY SIGNIFICANT IMPACT	LESS-THAN-SIGNIFICANT WITH MITIGATION INCORPORATED	LESS-THAN-SIGNIFICANT IMPACT	NO IMPACT
Would the project:				
a) Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping & Monitoring Program of the California Resources Agency, to non-agricultural uses?	☐	☐	☐	☑
b) Conflict with existing zoning for agricultural use, or a Williamson Act contract?	☐	☐	☐	☑
c) Conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code section 12220(g)), timberland (as defined by Public Resources Code section 4526), or timberland zoned Timberland Production (as defined by Government Code section 51104(g))?	☐	☐	☐	☑
d) Result in the loss of forest land or conversion of forest land to non-forest use?	☐	☐	☐	☑
e) Involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland to non-agricultural use or conversion of forest land to non-forest use?	☐	☐	☐	☑

Regulatory Considerations

- Natural Resource Conservation Service Farmland Protection Policy Act
- Williamson Act (California Land Conservation Act 1965, Section 51200)
- Z'berg-Nejedly Forest Practice Act

Questions A-E

The project site is located in an urbanized area and has been previously developed or disturbed. Surrounding areas are also developed and include residential, public, and commercial uses. Current land uses and zoning do not include agricultural or forestry resources or uses (County of Sacramento, 2019). Additionally, the area is not restricted by a Williamson Act contract and is not designated as timberland. The Proposed Project would be contained in an area that has been previously developed or disturbed and would not convert designated forest or farmland to non-forest or non-agricultural uses. There would be no impact.

4.3 AIR QUALITY	POTENTIALLY SIGNIFICANT IMPACT	LESS-THAN-SIGNIFICANT WITH MITIGATION INCORPORATED	LESS-THAN-SIGNIFICANT IMPACT	NO IMPACT
Would the project:				
a) Conflict with or obstruct implementation of the applicable air quality plan?	☐	☑	☐	☐
b) Violate any air quality standard or contribute substantially to an existing or projected air quality violation?	☐	☑	☐	☐
c) Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard (including releasing emissions that exceed quantitative thresholds for ozone precursors)?	☐	☐	☑	☐
d) Expose sensitive receptors to substantial pollutant concentrations?	☐	☑	☐	☐
e) Create objectionable odors affecting a substantial number of people?	☐	☑	☐	☐

Regulatory Considerations

- Federal Clean Air Act
- 2017 SMAQMD CEQA Guide

Questions A-B

The project site is located within the Sacramento Valley Air Basin (SVAB) and is under the jurisdiction of the Sacramento Metropolitan Air Quality Management District (SMAQMD). **Table 1** shows California and National Ambient Air Quality Standards (CAAQS/NAAQS) for ozone and particulate matter ($PM_{2.5}$ and PM_{10}). Sacramento County is designated under the NAAQS as nonattainment for 8-hour ozone and 24-hour $PM_{2.5}$. Sacramento County is designated under the CAAQS as nonattainment for 1- and 8-hour ozone and annual and 24-hour PM_{10} (SMAQMD, 2017). Sacramento County is in attainment or is unclassified for all other criteria pollutants under the NAAQS and the CAAQS.

TABLE 1 - CALIFORNIA AND NATIONAL AMBIENT AIR QUALITY STANDARDS

POLLUTANT	AVERAGING TIME	CAAQS	NAAQS
Ozone	8-hour	0.07 ppm	0.07 ppm
	1 hour	0.09 ppm	-
$PM_{2.5}$	24 hour	-	35 $\mu g/m^3$
	Annual	12 $\mu g/m^3$	12 $\mu g/m^3$
PM_{10}	24 hour	50 $\mu g/m^3$	150 $\mu g/m^3$
	Annual	20 $\mu g/m^3$	-

SOURCE: SMAQMD, 2017
ppm = parts per million by volume
$\mu g/m^3$ = micrograms per cubic meter of air

Air quality impacts potentially associated with the Proposed Project include those resulting from short-term construction activities and from vehicle traffic during construction. Construction-related emissions could include exhaust from construction equipment and fugitive dust from land clearing, earthmoving, movement of vehicles, and wind erosion of exposed soil during construction. **Mitigation Measures AIR-1** to **AIR-8** would be implemented during construction in accordance with the SMAQMD CEQA Air Quality Guidelines to reduce potential impacts on air quality. The Proposed Project would not conflict with implementation of applicable air quality plans, violate air quality standards, or substantially contribute to air quality violations. There would be a less-than-significant impact with mitigation.

Question C

Past, present, and future development projects contribute to a region's air quality on a cumulative basis; thus air pollution is predominantly considered a cumulative impact. A single project is not usually sufficient in size to result in nonattainment of the NAAQS or CAAQS. Should a project's individual emissions contribute toward exceedance of such standards, cumulative impacts on air quality would be considered significant. In developing attainment designations for criteria pollutants, the U.S. Environmental Protection Agency (USEPA) considers the region's past, present, and future emission levels. The Proposed Project would not result in indirect or cumulative growth impacts, would not cause an exceedance of SMAQMD CEQA standards and thresholds, and would not result in a cumulatively considerable net increase in NOx, ROG, PM_{10}, or $PM_{2.5}$ to the extent that SVAB would be in nonattainment. There would be a less-than-significant impact.

Questions D-E

Construction of the Proposed Project could result in temporary emissions of minor odors from equipment and vehicles. The nearest sensitive receptors consist of residences adjacent to the project site. Construction odors often dissipate quickly and are generally not noticeable off-site. **Mitigation Measures AIR-6** and **AIR-7** would be implemented to reduce potential impacts from odors and pollutant concentrations on sensitive receptors. Significant odors would not be emitted during operation of the Proposed Project. There would be a less-than-significant impact with mitigation.

Mitigation

AIR-1 Exposed surfaces such as staging areas, soil piles, and graded areas shall be watered as needed.

AIR-2 Haul trucks transporting soil, sand, or other loose material off-site shall be covered.

AIR-3 Visible mud or dirt tracked onto adjacent public roads shall be removed using wet power vacuum street sweepers as needed. The use of dry power sweeping is prohibited.

AIR-4 Vehicle speeds on unpaved areas shall be limited to 15 mph.

AIR-5 Areas to be paved shall be completed as soon as possible.

AIR-6 Idling times shall be minimized by shutting equipment off when not in use or reducing the maximum idling time to 5 minutes. Clear signage shall be provided for workers at access points.

AIR-7 Construction equipment shall be maintained in accordance with manufacturer's specifications. Equipment shall be checked by a certified mechanic and determined to be running in proper condition prior to operation.

AIR-8 A publicly visible sign shall be posted with the telephone number and person to contact regarding dust complaints. This person shall respond and take corrective action within 48 hours. The Air District's phone number shall be visible to ensure compliance with regulations.

4.4 BIOLOGICAL RESOURCES	POTENTIALLY SIGNIFICANT IMPACT	LESS-THAN-SIGNIFICANT WITH MITIGATION INCORPORATED	LESS-THAN-SIGNIFICANT IMPACT	NO IMPACT
Would the project:				
a) Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special-status species in local or regional plans, policies, or regulations, or by the DFG or USFWS?	☐	☑	☐	☐
b) Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, and regulations, or by the DFG or USFWS?	☐	☐	☐	☑
c) Have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the federal Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption or other means?	☐	☐	☐	☑
d) Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory corridors, or impede the use of native wildlife nursery sites?	☐	☐	☐	☑
e) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?	☐	☐	☑	☐
f) Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?	☐	☐	☐	☑

Regulatory Considerations

- Federal Endangered Species Act
- Migratory Bird Treaty Act
- Bald and Golden Eagle Protection Act
- Clean Water Act Section 404; Wetlands and Other Waters of the U.S.
- California Endangered Species Act
- California Department of Fish and Game Code
- Sacramento County Municipal Code

Question A

Photographs of the project site are included in **Figure 5**. The project site is approximately 1.5 acres and has been previously developed and disturbed. The existing water tank and associated infrastructure cover over half of the water tank site. The remainder of the site is an open field that is mowed and fenced. Ornamental trees and landscaping occur along a portion of the perimeter. Surrounding areas are developed with residential, public, and commercial uses.

Pipelines would be installed within existing paved roadways. Any additional pipeline replacement found to be necessary would occur either within paved roads or along back of lot fence line. The project site provides low habitat value for wildlife and native plant species due to high levels of disturbance, fencing, and adjacent development. Construction laydown areas likewise provide marginal habitat for wildlife. Laydown Area 1 is a mowed and open field used for recreational activities held by the Carmichael Presbyterian Church. Laydown Area 2 is a fenced and vacant County lot that was historically used as an olive orchard. Several olive trees remain as well as multiple oak species. Ground cover consists of ruderal weedy and grassy species.

A desktop search for regionally-occurring special-status species was performed, and site visits were conducted on May 9, 2019 and July 2, 2019. Results of the desktop searches are included in **Appendix A** and consist of the following:

- An official species list from the U.S. Fish and Wildlife Service (USFWS) Information for Planning and Consultation database of federally-protected species with the potential to occur on site (USFWS, 2019);
- A query of the California Natural Diversity Database of special-status species within the Carmichael 7.5' USGS quad (CDFW, 2019); and
- The California Native Plant Society list of regionally-occurring special-status plants within the Carmichael 7.5' USGS quad (CNPS, 2019).

No special-status plants were identified with the potential to occur on site (**Appendix A**), and the project site and laydown areas do not contain designated critical habitat or essential fish habitat. Animals observed on-site include mourning dove (*Zenaida macroura*), house finch (*Haemorhous mexicanus*), northern mockingbird (*Mimus polyglottos*), and western bluebird *(Sialia Mexicana*). Plants observed on-site consisted of ruderal nonnative ground cover such as soft chess (*Bromus hordeaceus L.*), Canadian horseweed (*Erigeron Canadensis*), smooth cat's ear (*Hypochaeris glabra L.*), and curly dock (*Rumex crispus*). Trees observed on site include Aleppo pine (*Pinus halepensis*), Mediterranean cypress (*Cupressus sempervirens*), Arizona Cypress (*Cupressus arizonica*), and several oaks (coast live oak and valley oak) with diameter at breast height of 15 inches or less.

Nesting migratory bird species protected by the federal Migratory Bird Treaty Act have the potential to nest within or adjacent to the project site. Marginal habitat for white-tailed kite and Swainson's hawk may occur on the approximate 0.8 acres of mowed grassy area adjacent to the existing tank. Rodent burrows were observed in the grassy area, however, potential habitat is low quality due to the small size of the site and high levels of disturbance in the surrounding area. **Mitigation Measure BIO-1** would be implemented to reduce potential impacts to Swainson's hawk, white-tailed kite, and nesting migratory birds. There would be a less-than-significant impact with mitigation.

Questions B-C

The project site has been previously developed and disturbed, and does not contain wetlands. Riparian or sensitive habitat does not occur on the project site. There would be no impact.

Question D

The project site is developed and disturbed and pipeline installation would occur along existing roadways. Existing wildlife movement is minimal in the area, and continuous wildlife corridors and nursery sites do not occur in the vicinity of the project site.

Fencing occurs along the perimeter of the water tank site and allows only restricted access due to security measures protecting the water tank. Major roadways exist near the water tank site and act as a further barrier to wildlife movement. There would be no impact.

Question E

Chapter 19.12 of Sacramento County Code: Tree Preservation and Protection Ordinance, applies to the pruning or removal of trees in urban, unincorporated areas of Sacramento County. This ordinance applies to the Proposed Project and requires the approval of a tree permit in order to remove or prune native oak trees present on the property, or to remove or prune any tree on Sacramento County property. Prior to the removal or pruning of trees, specifically native oak trees protected under this ordinance, a removal permit application would be attained. Any necessary pruning or removal of trees on the County-owned Laydown Area 2 site, or along any roadside right-of-way, would be contingent upon approval of a tree permit. The Proposed Project would not conflict with other local policies or ordinances. There would be a less-than-significant impact.

Question F

No sensitive habitats were identified on the project site, and the Proposed Project would not conflict an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan. The project site is outside of Environmental Justice areas and natural resource areas identified in the Sacramento County General Plan. There would be no impact.

Mitigation

BIO-1 Should work occur during the general nesting season (February 1 to September 15), a preconstruction nesting bird survey shall be conducted no more than 7 days prior to the start of ground disturbing activities. Accessible areas within 500 feet of construction or laydown areas shall be surveyed for active nests. Should an active nest be identified, an avoidance buffer shall be established based on the needs of the species identified and as determined by a qualified biologist prior to initiation of ground disturbing activities. Avoidance buffers may vary in size depending on habitat characteristics, project-related activities, and disturbance levels. Buffers shall remain in place until the end of the general nesting season or upon determination by a qualified biologist that young have fledged or the nest has failed. Should ground disturbance commence later than 7 days from the survey date, an additional preconstruction survey shall be conducted prior to reinitiating work. Should work activity cease for 7 days or greater during the breeding season, surveys shall be repeated to ensure birds have not established nests during inactivity.

4.5 CULTURAL RESOURCES	POTENTIALLY SIGNIFICANT IMPACT	LESS-THAN-SIGNIFICANT WITH MITIGATION INCORPORATED	LESS-THAN-SIGNIFICANT IMPACT	NO IMPACT
Would the project:				
a) Cause a substantial adverse change in the significance of a historical resource as defined in §15064.5?	☐	☐	☐	☑
b) Cause a substantial adverse change in the significance of an archaeological resource as defined in §15064.5?	☐	☑	☐	☐
c) Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?	☐	☑	☐	☐
d) Disturb any human remains, including those interred outside of formal cemeteries?	☐	☑	☐	☐

Regulatory Considerations

- CEQA
- Health and Safety Code
- Public Resources Code

CEQA provides directives regarding impacts on historical resources and unique archaeological resources. The State CEQA Guidelines define a "historical resource" to include more than one category of resources. The first category is "resource(s) listed or eligible for listing on the CRHR." (California Code of Regulations [CCR] Section 15064.5[a][1]; see also Public Resources Code Sections 5024.1 and 21084.1.) A historical resource may be eligible for inclusion in the CRHR, as determined by the State Historical Resources Commission or the lead agency, if the resource:

1. Is associated with events that have made a significant contribution to the broad patterns of California's history and cultural heritage; or
2. Is associated with the lives of persons important in our past; or
3. Embodies the distinctive characteristics of a type, period, region, or method of construction, or represents the work of an important creative individual, or possesses high artistic values; or
4. Has yielded, or may be likely to yield, information important in prehistory or history.

In addition, a resource is presumed to constitute a "historical resource" if it is included in a "local register of historical resources" unless "the preponderance of evidence demonstrates that it is not historically or culturally significant" (CCR Section 15064.5[a][2]). In addition to the obligation to consider impacts on "historical resources," CEQA and the State CEQA Guidelines require consideration of unique archaeological sites (Public Resources Code Section 21083.2, 14 CCR Section 15064.5). A "unique archaeological resource" is defined in CEQA (Public Resources Code Section 21083.2[g]) as:

> *…an archaeological artifact, object, or site about which it can be clearly demonstrated that, without merely adding to the current body of knowledge, there is a high probability that it meets any of the following criteria:*

(1) Contains information needed to answer important scientific research questions and that there is a demonstrable public interest in that information.
(2) Has a special and particular quality such as being the oldest of its type or the best available example of its type.
(3) Is directly associated with a scientifically recognized important prehistoric or historic event or person.

In accordance with the California Health and Safety Code, if human remains are encountered, activities near the find will halt and the County Coroner notified in accordance with the provisions of the California Health and Safety Code and Public Resources Code.

Question A

A record search was completed on April 29, 2010 (NCIC File No.: SAC-19-73) at the North Central Information Center (NCIC), at Sacramento State University, Sacramento, California. The search included the project site and the area within a ½-mile radius. The NCIC reported that no resources were noted within the project site, but that 37 resources have been recorded within a ½ mile; each of these is a structure and most were identified during an architectural assessment of the Fair Oaks Boulevard corridor. The NCIC also noted that 10 cultural resource surveys have been completed within ½-mile of the project site, but that only the Fair Oaks Boulevard architectural assessment included part of the project site.

An archaeological survey of the project site was completed by AES archaeologist Charlane Gross, M.A., RPA on May 9, 2019. The existing water tank is on an elevated pad approximately 1.5 feet above the surrounding ground surface. The bulk of the surrounding area was covered in dense seasonal weeds, precluding ground surface visibility except in minimal localized exposures caused by animal burrowing. The water tank itself was built in 1971 and is therefore less than 50 years old.

A second survey was completed on July 2, 2019 for the two construction laydown areas and the water line corridors along La Vista Avenue, Robertson Avenue, Fair Oaks Boulevard, and Stanley Avenue. Pipeline construction would occur along road edges. Road corridors were developed and, where not hardscaped, were covered with road gravel, lawns, or other thick vegetation. There was no ground surface visibility along any road corridor. Construction Laydown Area 1 was a thickly grassed and mowed field; there was no ground surface visibility. Construction Laydown Area 2 was enclosed by a locked fence and so was not subject to an intensive survey. From outside the fence, it appeared that the entire parcel was covered in dense seasonal weeds and grasses, preventing ground surface visibility.

No resources were identified during the record search or survey and therefore there would be no impact to known historical resources as defined in §15064.5. There would be no impact.

Question B

There are no nearby water sources or other obvious resources (e.g. tool stone quarries) that would have enhanced the environment or attracted prehistoric exploitation of the area immediately surrounding the project site. However, it may be that previous construction has covered archaeological sites, removing them from view. Such sites could be impacted by construction of the new water tank or water lines. Impacts to archaeological sites uncovered during construction would be potentially significant. Treatment of unanticipated finds as described in **Mitigation Measure CUL-1** would minimize impacts to as-yet unknown archaeological sites. There would be a less-than-significant impact with mitigation.

Question C

The project site is located on recent alluvial deposits underlain by Pleistocene alluvial fans, and construction impacts are unlikely to penetrate deep enough to encounter underlying formations that would include paleontological materials. Further, an online search of the University of California Museum of Paleontology on May 10, 2019 failed to identify fossil localities in or near the project site. In the unlikely event that fossils are uncovered during construction, implementation of **Mitigation Measure CUL-1** would minimize potential impacts to these resources. There would be a less-than-significant impact with mitigation.

Question D

Because of the low potential for prehistoric exploitation of the project site, there is a correspondingly low potential for human remains to be exposed during project construction. However, in the unlikely event that remains are uncovered, implementation of **Mitigation Measure CUL-2** would reduce impacts to burial sites uncovered by construction. There would be a less-than-significant impact with mitigation.

Mitigation

CUL-1 If Construction Laydown Area 2 is going to be used, it shall be surveyed prior to the beginning of construction. This may be accomplished by gaining access to the property or by monitoring while any ground clearing measures are implemented prior to use of the site for construction laydown. If the pipeline must be extended beyond areas previously surveyed for this IS due to new infrastructure needs, repairs, etc. the new corridor shall be surveyed for cultural and paleontological resources prior to construction or demolition.

If previously unrecorded cultural resources (e.g., unusual amounts of shell, animal bone, bottle glass, ceramics, structure/building remains, etc.) are encountered in Construction Laydown Area 2 or elsewhere, ground-disturbing activities shall cease within a 100-foot radius of the find. A qualified professional archaeologist shall be retained to identify the materials, determine their possible significance, and formulate appropriate measures for their treatment in consultation with the CWD. Potential treatment methods may include, but would not be limited to, avoidance of the resource through changes in construction methods, changes in project design, consultation under the provisions of Assembly Bill 52, or implementation of a program of testing and data recovery. Project activities shall not resume until mitigation has been completed. Efforts shall be documented according to current professional standards in a report that shall be submitted to the NCIC.

If vertebrate fossils are discovered during project activities, work shall cease within 100 feet of the find until a qualified professional paleontologist as defined by the Society of Vertebrate Paleontology's Conformable Impact Mitigation Guidelines Committee (2011) can assess the nature and importance of the find and recommend appropriate treatment. CWD shall also be notified of the discovery and the qualified professional paleontologist's opinion within 48 hours of the initial finding. Treatment may include preparation and recovery of fossil materials, so that they can be housed in an appropriate museum or university collection, and also may include preparation of a report for publication describing the finds. Project activities shall not resume until after the qualified professional paleontologist has given clearance and evidence of such clearance has been submitted to CWD.

CUL-2 If human remains are uncovered during ground-disturbing activities, all activities within a 100-foot radius of the find shall cease immediately. The procedures for the treatment of human remains are contained in California Health and Safety Code §7050.5 and §7052 and California Public Resources Code §5097. In accordance with the California Health and Safety Code, the county coroner shall be notified immediately; at the same time, CWD shall also be notified. The coroner is required to examine discoveries of human remains within 48 hours of receiving notice of a discovery on private or state lands (Health and Safety Code Section 7050.5[b]). If the coroner determines that the remains are those of a Native American, he or she must contact the NAHC by phone within 24 hours of making that determination (Health and Safety Code Section 7050[c]). The project applicant or its appointed representative shall contact the Most Likely Descendent (MLD), as determined by the Native American Heritage Commission, regarding the remains. The MLD, in cooperation with CWD, shall determine the ultimate disposition of the remains.

4.6 GEOLOGY AND SOILS	POTENTIALLY SIGNIFICANT IMPACT	LESS-THAN SIGNIFICANT WITH MITIGATION INCORPORATED	LESS-THAN-SIGNIFICANT IMPACT	NO IMPACT
Would the project:				
a) Expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving:	☐	☐	☑	☐
i) Rupture of a known earthquake fault, as delineated in the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault? Refer to Division of Mines & Geology Special Publication 42.	☐	☐	☑	☐
ii) Strong seismic ground shaking?	☐	☐	☑	☐
iii) Seismic-related ground failure, including liquefaction?	☐	☐	☑	☐
iv) Landslides?	☐	☐	☑	☐
b) Result in substantial soil erosion or the loss of topsoil?	☐	☐	☑	☐
c) Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction, or collapse?	☐	☐	☑	☐
d) Be located on expansive soils, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial risks to life or property?	☐	☐	☑	☐
e) Have soils incapable of adequately supporting the use of septic tanks or alternate wastewater disposal systems where sewers are not available for the disposal of wastewater?	☐	☐	☐	☑

Regulatory Considerations

- National Earthquake Hazards Reduction Program
- Alquist-Priolo Earthquake Fault Zoning Act
- Seismic Hazards Mapping Act

Question A

The project site is not within a Hayward Fault Zone as designated by the Alquist-Priolo Earthquake Fault Zoning Act (USGS, 2019). The nearest faults are the Foothills Fault System and the Midland Fault Zone. Both of these faults are over 20 miles away from the project site (USGS, 2019). Risk to individuals and structures from seismic-related events are extremely low due to the distance from fault zones and the relatively flat topography of the project site. The existing La Vista Water Tank was evaluated and found to be lacking sufficient seismic protections (Kennedy Jenks Consultants, 2019).

Construction of a new water tank and support structures would conform to modern building codes that would provide additional security and remove outdated and deteriorating features. There would be a less-than-significant impact.

Question B-D

Soils on the water tank site consist of Fiddyment-Urban land complex (approximately 1.3 acres; 86.9 percent), and Urban land (approximately 0.2 acres; 13.1 percent). A soil report provided by the Natural Resources Conservation Service (NRCS) classify soils on site as well-drained (**Appendix B**). These soils, along with Urban Land soils, are found along the portions of Fair Oaks Boulevard, Robertson Avenue, La Vista Avenue, and Stanley Avenue that exist within the project site. Pipelines would be buried five to ten feet deep to avoid conflict with exiting utilities present. The Proposed Project would not alter the stability of soils on site, and with the level topography of the site there is minimal risk of exposure to people or structures due to soil instability. Additionally, the Proposed Project will not result in a significant loss of topsoil. There would be a less-than-significant impact.

Question E

The project site currently does not have restroom facilities, and the Proposed Project does not include the addition of septic tanks or wastewater disposal systems. There would be no impact.

4.7 GREENHOUSE GAS EMISSIONS	POTENTIALLY SIGNIFICANT IMPACT	LESS-THAN-SIGNIFICANT WITH MITIGATION INCORPORATED	LESS-THAN-SIGNIFICANT IMPACT	NO IMPACT
Where available, the significance criteria established by the applicable air quality management or air pollution control district may be relied upon to make the following determinations. Would the project:				
a) Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?	☐	☐	☑	☐
b) Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases?	☐	☐	☑	☐

Regulatory Considerations

- Federal Clean Air Act
- 2017 SMAQMD CEQA Guide
- Assembly Bill 32
- Executive Order B-30-15

Questions A-B

Climate change is the change in average weather that can be measured by wind patterns, storms, precipitation, and temperature. AB 32 established the first comprehensive greenhouse gas (GHG) regulatory program in the U.S. and requires GHG emissions to be reduced to 1990 levels by 2020. Executive Order (EO) B-30-15 was signed by the Governor on April 29, 2015, and established a state GHG reduction target of 40 percent below 1990 levels by 2030. This intermediate GHG emissions reduction target would make it possible to meet the ultimate GHG emissions reduction target of 80 percent below 1990 levels by 2050, as established in EO S-3-05.

SMAQMD published updated CEQA Air Quality Guidelines in 2018 to assist lead agencies in evaluating air quality impacts of projects in the Sacramento County. SMAQMD Guidelines established a Threshold of Significance for construction and operational GHG emissions of 1,100 annual metric tons CO^2 equivalent (MTCO2e). If annual GHG emissions exceed these levels, the Proposed Project would result in a cumulatively considerable contribution of GHG emissions and a cumulatively significant impact to global climate change.

The Proposed Project would directly generate limited amounts of GHGs during short-term construction activities. Emissions would occur from vehicle exhaust due to the combustion of natural gas and fuel. GHG emissions would include carbon dioxide (CO_2), methane (CH_4), and nitrous oxide (N_2O). Given the small scale of the Proposed Project, significant emissions of GHGs would not be produced during construction or operation. The Proposed Project would not significantly generate GHGs or conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of GHGs. There would be a less-than-significant impact.

4.8 HAZARDS AND HAZARDOUS MATERIALS	POTENTIALLY SIGNIFICANT IMPACT	LESS-THAN-SIGNIFICANT WITH MITIGATION INCORPORATED	LESS-THAN-SIGNIFICANT IMPACT	NO IMPACT
Would the project:				
a) Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?	☐	☑	☐	☐
b) Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?	☐	☑	☐	☐
c) Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within ¼ mile of an existing or proposed school?	☐	☑	☐	☐
d) Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code §65962.5 and, as a result, would it create a significant hazard to the public or to the environment?	☐	☐	☐	☑
e) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or a public use airport, would the project result in a safety hazard for people residing or working in the project area?	☐	☐	☐	☑
f) For a project within the vicinity of a private airstrip, would the project result in a safety hazard for people residing or working in the project area?	☐	☐	☐	☑
g) Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?	☐	☐	☑	☐
h) Expose people or structures to a significant risk of loss, injury, or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands?	☐	☑	☐	☐

Regulatory Considerations

- Resource Conservation and Recovery Act
- Toxic Substances Control Act
- Comprehensive Environmental Response, Compensation, and Liability Act
- California Environmental Protection Agency
- California Code of Regulations, Title 22, Division 4.5
- California Health and Safety Code, Division 20, Chapter 6.95

QUESTIONS A-B

Limited quantities of miscellaneous hazardous substances, such as fuel and paints, may be transported to, used at, or disposed of at a designated location during construction of the Proposed Project.

Workers would be required to comply with applicable federal and State environmental and workplace safety laws, including OSHA and Uniform Building Codes. The risk of reasonably foreseeable upset and accident conditions involving the release of hazardous materials associated with the Proposed Project would be reduced through implementation of **Mitigation Measure HAZ-1**. There would be a less-than-significant impact with mitigation.

QUESTION C

The project site is located in a highly urbanized and developed area. The nearest existing school to the project site is Victory Christian School, which is within ¼ mile of the project site. The pipeline installation would occur on the roadside in front of residences, commercial development, and the Sunrise School of Nursing, as well as within ¼ mile of Deterding Elementary School. The Proposed Project would not produce acutely hazardous emissions. However, limited quantities of hazardous substances would be handled on the project site, and there is potential for lead-based paints to be present on the existing tank structure. Implementation of **Mitigation Measure HAZ-1** would reduce potential impacts associated with potentially hazardous emissions or handling of hazardous materials. There would be a less-than-significant impact with mitigation.

QUESTION D

The project site is not listed on hazardous materials sites compiled pursuant to Government Code §65962.5. Therefore, the Proposed Project would not create a significant hazard to the public or to the environment through known hazardous materials sites. There would be no impact.

QUESTIONS E-F

The project site is not located within two miles of a public airport or a public use airport, or within the vicinity of a private airstrip. The nearest public airports, public use airports, or private airstrips are Mather and McClellan airports, located approximately 4.0 miles from the project site. Therefore, the Proposed Project would not result in a safety hazard for people residing or working in the project area. There would be no impact.

QUESTION G

Construction activities would not interfere with emergency access in the vicinity of the project site. The Proposed Project would not interfere with an adopted emergency response plan or emergency evacuation plan. Pipeline installation would require temporary one-lane closure for the laying of pipe with one lane flagger-controlled traffic at various times on Garfield Avenue, Robertson Avenue, La Vista Avenue, Angelina Avenue, and Stanley Avenue. Pipeline installation would be completed such that emergency response access would not be restricted, and emergency response delays would not be generated. Driveway access to the Metro Fire Station 109 will be maintained at a minimum 50 percent to prevent interference with emergency vehicles. There would be a less-than-significant impact.

QUESTION H

Fire hazard severity has been mapped by the California Department of Forestry and Fire Protection (Calfire). The project site is located in a local responsibility area (Calfire, 2008). The area is also located within a non-very high fire hazard severity zone (Calfire 2008). With implementation of **Mitigation Measures HAZ-1** to **HAZ-4**, the Proposed Project would not expose people or structures to a significant risk involving wildland fires. There would be a less-than-significant impact with mitigation.

MITIGATION

HAZ-1 Hazardous materials such as fuels and solvents shall be stored in covered containers and protected from rainfall, runoff, vandalism, and accidental release to the environment. Stored fuels and solvents shall be contained in an area of impervious surface with containment capacity equal to or greater than the volume of materials stored with secondary containment. Hazardous wastes produced as a result of the Proposed Project will be stored as described above until they can be properly transported to an appropriate removal site.

HAZ-2 Fire suppression materials or water source pumps shall be made available during construction in case of fire.

HAZ-3 Construction equipment staged overnight shall be parked within a secure area away from combustible materials.

HAZ-4 Prior to construction, spark arresters on construction vehicles shall be checked to ensure they are in working order.

4.9 HYDROLOGY AND WATER QUALITY	POTENTIALLY SIGNIFICANT IMPACT	LESS-THAN-SIGNIFICANT WITH MITIGATION INCORPORATED	LESS-THAN-SIGNIFICANT IMPACT	NO IMPACT
Would the project:				
a) Violate any water quality standards or waste discharge requirements?	☐	☐	☐	☑
b) Substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level (*e.g.*, the production rate of pre-existing nearby wells would drop to a level which would not support existing land uses or planned uses for which permits have been granted)?	☐	☐	☑	☐
c) Substantially alter the existing drainage pattern of the site, including through alteration of the course of a stream or river, in a manner which would result in substantial erosion or siltation on- or off-site?	☐	☐	☑	☐
d) Substantially alter the existing drainage pattern of the site or area, including through the alternation of the course of a stream or river or substantially increase the rate or amount of surface runoff in a matter which would result in flood on- or off-site?	☐	☐	☑	☐
e) Create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff?	☐	☐	☑	☐
f) Otherwise substantially degrade water quality?	☐	☑	☐	☐
g) Place housing or other structures, which would impede or re-direct flood flows within a 100-yr. flood hazard area as mapped on a federal Flood Hazard Boundary or Flood Insurance Rate Map or other flood hazard delineation map?	☐	☐	☐	☑
h) Place within a 100-year flood hazard area structures which would impede or redirect flood flows?	☐	☐	☐	☑
i) Expose people or structures to a significant risk of loss, injury, or death involving flooding, including flooding as a result of a failure of a levee or dam?	☐	☐	☐	☑
j) Inundation by seiche, tsunami, or mudflow?	☐	☐	☐	☑

Regulatory Considerations

- Federal Clean Water Act
- Safe Drinking Water Act
- Disaster Relief Act
- National Pollutant Discharge Elimination System Permitting Program
- Porter-Cologne Water Quality Control Act

- Regional Water Quality Control Board Anti-degradation Policy
- California Water Code
- California Code of Regulations, Title 22
- California Department of Water Resources Sustainable Groundwater Management Act

Question A

The Proposed Project would utilize portable restrooms during construction and would not generate wastewater. There would be no impact.

Question B

Water use on site would be extremely minimal. There is an emergency eye wash station and similar safety-related connections present, however there are no daily water consumption activities associated with the operation of the facility or vegetation on site. As discussed in **Mitigation Measure AIR-1**, exposed surfaces such as staging areas, soil piles, and graded areas would be watered as needed to reduce dust during construction. Dust-control watering would be limited and temporary and would not continue after construction.

The project site currently operates a groundwater pump that provides the water to be stored in the La Vista Water Tank for eventual distribution to customers in the Carmichael area. The groundwater well would be evaluated as part of the Proposed Project to determine if current pumping uses are sustainable, and if increased pumping - should it in the future be necessary- is sustainably feasible. The existing Booster Pump Station (BPS) is equipped with two duty pumps; one operating at 750 gallons per minute (gpm), and the other at 1,200 gpm. The Proposed Project would result in the construction of three duty pumps capable of operating in the 1,500- 1,700 gpm range in order to meet peak water demands. The evaluation of the groundwater well would ensure that pumping does not result in substantial depletion of groundwater supplies or interfere with groundwater recharge. There would be a less-than-significant impact.

Questions C-E

The project site is within an area serviced by Sacramento County's stormwater drainage and flood control system. This system is currently sufficient to handle the drainage needs of the region, including the project site. The Proposed Project would result in an increase to on-site hardscaping on the project site. In order to accommodate potential increases in stormwater runoff, the Proposed Project includes a direct connection to an existing storm drain approximately 500 feet south of the proposed inlet. This connection would be sufficient to handle stormwater runoff and potential overflow from the tank. Additionally, the Proposed Project would not result in erosion or release of polluted waters. A Stormwater Pollution Prevention Plan (SWPPP) would be prepared, and would contain best management practices to reduce potential impacts associated with stormwater. Alternatively, a Construction General Permit Erosivity Waiver from the appropriate Regional Water Quality Control Board may be obtained. There would be a less-than-significant impact.

Question F

During construction of the Proposed Project, limited quantities of hazardous substances such as fuels, solvents, and paints would be used and stored onsite. A hazardous material spill or leak could pose a hazard to off-site water quality. **Mitigation Measure HAZ-1** would be implemented to reduce potential impacts to water quality during construction.

Implementation of a SWPPP, or approval of an Erosivity Waiver, would further assure reduced potential impacts to water quality. Such substances would not remain after construction. There would be a less-than-significant impact with mitigation.

Questions G-J

The project site is located in Flood Zone X and is not within a Federal Emergency Management Agency (FEMA) 100-year flood zone (FEMA, 2019). Areas within Flood Zone X have a 0.2% probability of flooding each year. The Proposed Project does not include the development of housing and would not place people or structures at risk from flooding. The project site is not located within a tsunami inundation area for emergency planning (CDC, 2009). Based on the location and level topography of the project site and surrounding area, the potential for seiche and mudflows is very low. There would be no impact.

4.10 LAND USE AND PLANNING	POTENTIALLY SIGNIFICANT IMPACT	LESS-THAN-SIGNIFICANT WITH MITIGATION INCORPORATED	LESS-THAN-SIGNIFICANT IMPACT	NO IMPACT
Would the project:				
a) Physically divide an established community?	☐	☐	☐	☑
b) Conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the project (including, but not limited to, the general plan, specific plan, local coastal program, or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect?	☐	☐	☐	☑
c) Conflict with any applicable habitat conservation plan or natural community conservation plan?	☐	☐	☐	☑

Regulatory Considerations

- Sacramento County General Plan of 2005-2030
- Sacramento County Zoning Map and Code
- Special Planning Area: Fair Oaks Boulevard Corridor Plan

Question A

The Proposed Project involves the construction of a new water tank, demolition and removal of the existing water tank, and upgrading associated infrastructure, including pipelines running along adjacent streets. Construction would be confined to the project site, and would not result in the development of a physical barrier that would divide an established community. There would be no impact.

Question B

Land use on the project site is designated by Sacramento County as SPA – Special Planning Area, and is within the Fair Oaks Boulevard Corridor Plan. The project site is currently operated as a water storage tank with supporting distribution and maintenance infrastructure. This use will be maintained. Under the Fair Oaks Boulevard Corridor Plan, the project site would be maintained under the Public Utility and Public Services Facility sub-category within the Transportation, Communications, and Infrastructure category. This is a permitted land use allowed for this property that does not require discretionary review. Lane closures associated with the pipeline installation will be held compliant with Sacramento County construction standards, and construction along Fair Oaks Boulevard would occur in coordination with the Sacramento County Fair Oaks Boulevard Restoration Project. There would be no impact.

Question C

The project site was previously built-up and developed, and is surrounded by developed and disturbed areas. No known habitat conservation plans or natural community conservation plans occur within the region of the project site. The Proposed Project would not violate applicable conservation plans. There would be no impact.

4.11 MINERAL RESOURCES	POTENTIALLY SIGNIFICANT IMPACT	LESS-THAN-SIGNIFICANT WITH MITIGATION INCORPORATED	LESS-THAN-SIGNIFICANT IMPACT	NO IMPACT
Would the project:				
a) Result in the loss of availability of a known mineral resource that would be of future value to the region and the residents of the State?	☐	☐	☐	☑
b) Result in the loss of availability of a locally-important mineral resource recovery site delineated on a local general plan, specific plan, or other land use plan?	☐	☐	☐	☑

Regulatory Considerations

- Sacramento County General Plan of 2005-2030
- California Department of Conservation Mineral Resources Program

Questions A-B

The State classifies mineral resources and has designated certain mineral bearing areas as having regional significance. Local agencies must adopt mineral management policies that recognize mineral information provided by the State, assist in the management of land use that affects areas of Statewide and regional significance, and emphasize the conservation and development of identified mineral deposits. The Sacramento County General Plan and U.S. Geological Survey outline the locations of significant mineral resources, the majority of which occur on, along, or south of the American River. Significant mineral resources have not been identified on or near the projects site, and construction would be contained to the project site and potential lay-down areas adjacent to the site. There would be no impact.

4.12 NOISE	POTENTIALLY SIGNIFICANT IMPACT	LESS-THAN-SIGNIFICANT WITH MITIGATION INCORPORATED	LESS-THAN-SIGNIFICANT IMPACT	NO IMPACT
Would the project result in:				
a) Exposure of persons to, or generation of, noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?	☐	☑	☐	☐
b) Exposure of persons to, or generation of, excessive groundborne vibration or groundborne noise levels?	☐	☑	☐	☐
c) A substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project?	☐	☐	☐	☑
d) A substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project?	☐	☑	☐	☐
e) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing in or working in the project area to excessive noise levels?	☐	☐	☐	☑
f) For a project within the vicinity of a private airstrip, would the project expose people residing in or working in the project area to excessive noise levels?	☐	☐	☐	☑

Regulatory Considerations

- The U.S. Department of Housing and Urban Development
- The Federal Interagency Committee on Noise
- Federal Highway Administration Roadway Construction Noise Model
- California Noise Insulation Standards
- Sacramento County Municipal Code
- Sacramento County General Plan of 2005-2030

The County considers residential land uses compatible with noise environments of 60 dBA Ldn/CNEL or less. A significant impact is defined as a project that creates an operational increase of five dB in a baseline of 60dB or less, three dB in a baseline of 60-65 dB, and a 1.5 dB increase in a baseline greater than 65dB (County of Sacramento, 2011). Sacramento County Code Chapter 6.68 also provides regulatory framework for noise control measures.

Question A

Sensitive receptors include land uses that should be given special consideration when evaluating noise impacts, such as hospitals, schools, and residential areas. Many residences line the streets along the proposed pipeline, and several schools including Victory Christian School, Sunrise School of Nursing, and Deterding Elementary occur adjacent to or within ¼ mile of the project site.

Long-term operation of the Proposed Project would not result in an increase in ambient noise levels. Construction on the project site could generate noise levels up to 85 dBA (FHWA, 2006). Construction noise could exceed 60 dBA Leq at sensitive receptors, however, construction would be temporary, and equipment would be used intermittently. Sacramento County Code allows for construction activities to occur during 6 am to 8 pm on weekdays, and 7 am to 8 pm on weekends.

Mitigation Measures NOI-1 to **NOI-6** would be implemented to reduce noise impacts on sensitive receptors during construction. Construction would in accordance with the times designated by Sacramento County Code as defined above. There would be a less-than-significant impact with mitigation.

Question B

The California Department of Transportation recommends a vibration limit of 0.5 in/sec PPV for buildings structurally sound and designed to modern engineering standards, 0.3 in/sec PPV for buildings found to be structurally sound but where structural damage is a major concern, and a conservative limit of 0.08 in/sec PPV for ancient buildings or buildings that are documented to be structurally weakened (FHWA, 2006). The 0.5 in/sec PPV vibration limit would be applicable to properties in the vicinity of the project site. Construction equipment is temporary and expected to include excavators, asphalt pavers, and compactors/rollers. Pile driving, which can cause excessive vibration, is not expected to be utilized.

The nearest structures to the project site are located approximately 90 feet from the water tank site and within 50 feet of the pipeline replacement. At distances of 50 feet, vibration levels during construction could reach 0.05 in/sec PPV. Vibration levels would be well below the 0.5 in/sec PPV vibration limit, and vibration resulting from construction would not result in structural damage to buildings. Therefore, vibrations associated with the Proposed Project would not be considered excessive. No long-term vibration would occur as a result of ongoing operations of the Proposed Project. There would be a less-than-significant impact.

Question C

Impacts would be considered significant if permanent project-generated noise levels exceeded acceptable thresholds outlined by the County. Current operations at the project site do not create noise such that County thresholds are surpassed. Post-construction maintenance and use of the project site would be similar to existing maintenance and operations and would therefore not contribute an increase to ambient noise levels. There would be no impact.

Question D

Construction noise is considered a temporary impact. A temporary noise increase would be considered significant if hourly average noise levels exceeded 60 dBA Leq at residential land uses, 70 dBA Leq at commercial and open space land uses, or ambient noise levels by at least 5 dBA Leq, for a period of more than one year. Construction noise typically ranges from 80 to 90 dBA at 50 feet from the source, and drops off at a rate of approximately 6 dBA per doubling of distance between the source and receptor (FHWA, 2006). Shielding by buildings or terrain can provide an additional 5 to 10 dBA noise reduction at distant receptors. Typical noise levels for different construction equipment at a distance of 50 feet are shown in **Table 2**. Noise levels shown in **Table 2** are consistent with construction noise levels calculated for the Proposed Project in the Federal Highway Administration (FHWA) Roadway Construction Noise Model.

TABLE 2: STANDARD CONSTRUCTION EQUIPMENT NOISE

TYPE OF EQUIPMENT	MAXIMUM DBA AT 50 FEET
Backhoe	80
Bar Bender	80
Concrete Mixer	85
Concrete Pump	82
Concrete Saw	90
Concrete Vibrator	80
Dozer	85
Excavator	85
Front End Loader	80
Generator	82
Generator (25 KVA or less)	70
Grader	85
Grinder Saw	85
Jackhammer	85
Mounted Impact Hammer	90
Paver	85
Pneumatic Tools	85
Rock Drill	85
Scraper	85
Soil Mix Drill Rig	80
Street Sweeper	80
Tractor	84
Truck (dump, delivery)	84
Vibratory Compactor	80
Other equipment with engines larger than 5 HP	85
SOURCE: FHWA, 2006	

The nearest residences are located within 50 feet from the project site, particularly the pipeline replacement. At a distance of 50 feet, construction activities could generate noise levels up to 75 to 85 dBA. Construction noise could exceed 60 dBA Leq at residences and ambient noise levels by 5 dBA Leq, however, construction equipment would be used intermittently and would not occur for more than one year. Sacramento County Code generally permits construction noise during acceptable hours of construction, and **Mitigation Measures NOI-1** to **NOI-6** would be implemented to reduce temporary noise impacts. There would be a less-than-significant impact with mitigation.

Questions E-F

The project site is not located within two miles of a public airport or private airstrip and would not expose individuals residing or working in the project area to excessive aircraft noise levels. The nearest public airports, public use airports, or private airstrips are Mather and McClellan airports, located approximately 4.0 miles away from the project site. There would be no impact.

Mitigation

NOI-1 Unnecessary idling of internal combustion engines will be limited.

NOI-2 Internal combustion engine-driven equipment will be equipped with intake and exhaust mufflers in good condition that are appropriate for the equipment. Air compressors and pneumatic equipment shall be equipped with mufflers, and impact tools shall be equipped with shrouds or shields.

NOI-3 Noise-producing signals, including horns, whistles, alarms, and bells, will be limited to safety warning purposes.

NOI-4 Stationary noise-generating equipment, such as air compressors and portable power generators, will be stationed as far as possible from sensitive receptors. If such equipment must be located near sensitive receptors, muffling shall be utilized. Any enclosure openings or venting shall face away from sensitive receptors.

NOI-5 Noise from worker radios will be limited to volumes not audible at nearby sensitive receptors.

NOI-6 The CWD shall notify neighbors in advance of the construction schedule and designate a disturbance coordinator. The disturbance coordinator may be an employee of CWD and shall be responsible for responding to potential complaints about construction noise, shall determine the cause of the noise complaint, and will require reasonable measures to be implemented to correct the problem. The noise coordinator is also responsible for providing notice of construction activities that may occur outside of standard construction hours. A telephone number for the disturbance coordinator shall be posted at the project site and included the notice sent to neighbors regarding the construction schedule.

4.13 POPULATION AND HOUSING	POTENTIALLY SIGNIFICANT IMPACT	LESS-THAN-SIGNIFICANT WITH MITIGATION INCORPORATED	LESS-THAN-SIGNIFICANT IMPACT	NO IMPACT
Would the project:				
a) Induce substantial population growth in an area either directly (*e.g.*, by proposing new homes and businesses) or indirectly (*e.g.*, through extension of roads or other infrastructure)?	☐	☐	☐	☑
b) Displace substantial numbers of existing housing, necessitating the construction of replacement housing elsewhere?	☐	☐	☐	☑
c) Displace substantial numbers of people, necessitating the construction of replacement housing elsewhere?	☐	☐	☐	☑

Regulatory Considerations

- Executive Order 12898
- Regional Housing Allocation Plan

Questions A-C

The Proposed Project will comprise of the replacement of CWD's existing La Vista Water Tank and adjacent roadside pipeline by construction of a new water tank and updated supporting facilities followed by demolition of the existing tank. The Proposed Project does not involve the development of residences or businesses, and would not result in the displacement of people or housing. Workers are expected to reside locally. Therefore, the Proposed Project would not induce population growth in the region directly or indirectly. There would be no impact.

4.14 PUBLIC SERVICES	POTENTIALLY SIGNIFICANT IMPACT	LESS-THAN-SIGNIFICANT WITH MITIGATION INCORPORATED	LESS-THAN-SIGNIFICANT IMPACT	NO IMPACT
Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service rations, response times or other performance objectives for any of the public services:				
a) Fire protection?	☐	☐	☑	☐
b) Police protection?	☐	☐	☑	☐
c) Schools?	☐	☐	☑	☐
d) Parks?	☐	☐	☑	☐
e) Other public facilities?	☐	☐	☑	☐

Regulatory Considerations

- Assembly Bill 939

Questions A-E

The Sacramento County Sheriff's Department provides police services to the project site and surrounding area. The California Highway Patrol is responsible for traffic-related enforcement. The project site falls within Division 5 of Sacramento Metropolitan Fire, which provides fire protection services to the area (Sacramento Metropolitan Fire, 2019). Permanent operations at the project site would not change. There would be no significant impact to public services. Additionally, the Proposed Project does not involve the development of residences, public roads, or infrastructure that would induce population growth that could affect parks, schools, or other public facilities. There would be a less-than-significant impact.

4.15 RECREATION	POTENTIALLY SIGNIFICANT IMPACT	LESS-THAN-SIGNIFICANT WITH MITIGATION INCORPORATED	LESS-THAN-SIGNIFICANT IMPACT	NO IMPACT
Would the project:				
a) Increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?	☐	☐	☑	☐
b) Include recreational facilities or require the construction or expansion of recreational facilities that might have an adverse physical effect on the environment?	☐	☐	☑	☐

Regulatory Considerations

- Sacramento County General Plan of 2005-2030

Questions A-B

The project site access road is not shared with public parks or recreational facilities. The site currently operates as a groundwater extraction, treatment, storage, and distribution facility. The Proposed Project does not alter the use of the project site and would not require the construction or expansion of recreational facilities that could result in adverse physical effects on the environment. The Proposed Project would be contained on the project site and would not affect public access to existing recreational facilities. The CWD may seek to secure an access easement to use Edith Street along the church for improved future access to the La Vista Water Tank. This easement would not interfere with access to the church property or field. There would be a less-than-significant impact.

4.16 TRANSPORTATION AND CIRCULATION	POTENTIALLY SIGNIFICANT IMPACT	LESS-THAN-SIGNIFICANT WITH MITIGATION INCORPORATED	LESS-THAN-SIGNIFICANT IMPACT	NO IMPACT
Would the project:				
a) Conflict with an applicable plan, ordinance or policy establishing measures of effectiveness for the performance of the circulation system, taking into account all modes of transportation including mass transit and non-motorized travel and relevant components of the circulation system, including but not limited to intersections, streets, highways and freeways, pedestrian and bicycle paths, and mass transit?	☐	☐	☑	☐
b) Conflict with an applicable congestion management program, including, but not limited to level-of-service standards and travel demand measures, or other standards established by the county congestion management agency for designated roads or highways?	☐	☐	☑	☐
c) Result in a change in air traffic patterns, including either an increase in traffic levels or a change in location that result in substantial safety risks?	☐	☐	☐	☑
d) Substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?	☐	☐	☑	☐
e) Result in inadequate emergency access?	☐	☐	☑	☐
f) Conflict with adopted policies regarding public transit, bicycle, or pedestrian facilities, or otherwise decrease the performance of such facilities?	☐	☐	☑	☐

Regulatory Considerations

- Federal Transportation Improvement Program
- California Department of Transportation
- Sacramento County General Plan

Questions A-B

The project site is located on La Vista Avenue in unincorporated Sacramento County. Proposed improvements would take place along the following roadways: Robertson Avenue from Garfield Avenue to Fair Oaks Boulevard; La Vista Avenue from Robertson Avenue to Marconi Avenue; Fair Oaks Boulevard from Robertson Avenue to Stanley Avenue; and Stanley Avenue from Fair Oaks Boulevard to Panama Avenue. Project site access from the greater Sacramento region would predominately occur via I-80 and Garfield Avenue to Robertson Avenue and La Vista Avenue. Site access would also occur via US-50 and Fair Oaks Boulevard to Robertson Avenue and La Vista Avenue. The Sacramento County General Plan classifies Robertson Avenue, La Vista Avenue, and Garfield Avenue as local streets which are typically two-lane undivided roadways. In the vicinity of the project site, Fair Oaks Boulevard is designated as a four-lane arterial roadway. I-80 and US-50 are major east to west highways.

Construction of the Proposed Project would temporarily result in a negligible increase in traffic along Robertson Avenue, La Vista Avenue, Stanley Avenue, and Fair Oaks Boulevard. Vehicular trips from construction include worker trips and deliveries of equipment and materials to and from the project site. The expected increase in traffic would occur weekdays between the hours of 7 am and 6 pm. The maximum estimated increase in trips along Fair Oaks Boulevard would be less than 56 one-way trips per day, based on the conservative approximation of 25 workers and three material delivery trips. Workers are expected to reside locally in the greater Sacramento region. Sacramento County estimated the average daily trips on this section of Fair Oaks Boulevard to be approximately 35,000 total daily in 2016 (Sacramento County, 2018). The projected temporary increase in trips due to the Proposed Project is approximately 0.02 percent. This is not a substantial increase, and would not cause a significant change to the roadway's level of service.

The Proposed Project would require temporary one-lane closure for the laying of pipe with one lane flagger-controlled traffic at various times on Garfield Avenue, Robertson Avenue, La Vista Avenue, and Stanley Avenue. Lane closure and traffic control plans will be in accordance with Sacramento County requirements. Impacts to traffic are negligible and temporary, and no significant impacts to applicable level of service standards or restrictions to emergency access would occur. The CWD will coordinate with Sacramento County to ensure lane closures are done in accordance with requirements of the County and the Fair Oaks Boulevard Restoration Project. Should the County require a Traffic Management Plan for the Proposed Project, one will be prepared compliant with County standards and subject to County approval. There would be a less-than-significant impact.

Question C

The nearest airports to the Proposed Project are Mather and McClellan airports. McClellan Airport is a privately owned, public-use, general aviation airfield located approximately 4.0 miles from the project site. Mather Airport is operated by Sacramento County for general and cargo aviation, and is located approximately 4.0 miles away from the project site. The Proposed Project would not result in a change in air traffic patterns or associated safety risks. There would be no impact.

Question D

The Proposed Project would not modify the design of existing roadways and would not include operational features that would impact traffic or increase hazards. All activities would be held in coordination and compliance with County requirements. There would be a less-than-significant impact.

Question E

The Proposed Project would not introduce factors that would generate new or unanticipated long-term changes in traffic. The projected temporary increase in trips due to construction is approximately 0.02 percent along Fair Oaks Boulevard. Construction impacts to traffic are negligible and temporary, and construction staging would occur on-site. Implementation of the Proposed Project would not significantly impact emergency response or evacuation routes in the vicinity of the project site. There would be a less-than-significant impact.

Question F

Construction parking would be limited to the project site. There would be sufficient parking for construction and operation of the Proposed Project. The projected temporary increase in trips due to construction is approximately 0.02 percent along Fair Oaks. This is not a substantial increase and would not impact public transit, bicycle, or pedestrian facilities. There would be a less-than-significant impact.

4.17 TRIBAL CULTURAL RESOURCES	POTENTIALLY SIGNIFICANT IMPACT	LESS THAN SIGNIFICANT WITH MITIGATION INCORPORATED	LESS THAN SIGNIFICANT IMPACT	NO IMPACT
a) Would the project cause a substantial adverse change in the significance of a tribal cultural resource, defined in Public Resources Code section 21074 as either a site, feature, place, cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American tribe, and that is:	☐	☑	☐	☐
i) Listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources as defined in Public Resources Code section 5020.1(k), or	☐	☑	☐	☐
ii) A resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of Public Resources Code Section 5024.1? In applying the criteria set forth in subdivision (c) of Public Resources Code Section 5024.1, the lead agency shall consider the significance of the resource to a California Native American tribe.	☐	☑	☐	☐

Regulatory Considerations

- CEQA
- Assembly Bill 52

CEQA requires projects financed by or requiring the discretionary approval of public agencies to consider potential effects on Tribal Cultural Resources (PRC Section 5024.1). To identify a Tribal Cultural Resource (TCR), Assembly Bill 52 (AB 52) mandates early tribal consultation prior to and during CEQA review for those tribes which have formally requested, in writing, notification on projects subject to AB 52, i.e. projects which have published Notices of Preparation for EIRs or Notices of Intent to adopt Negative Declarations or Mitigated Negative Declarations since July 1, 2015. The bill established the category of Tribal Cultural Resources for which only tribes are experts; these resources may not necessarily be visible or archaeological, but could be religious or spiritual in nature. Significant impacts to a TCR are considered significant effects on the environment.

Question A

As discussed in **Section 3.5** Cultural Resources, neither the record search nor a field survey uncovered evidence of an archaeological sites within the project area; likewise, a search request sent to the Native American Heritage Commission (NAHC) did not result in the identification of Native American sites. The CWD has not been contacted by Tribes that would require government-to-government consultation under the dictates of Assembly Bill 52.

Letters were sent on May 9, 2019 describing the Proposed Project and its location to individuals on the NAHC contact list. AES received two replies; the first was an email from Mariah Mayberry of Wilton Rancheria dated May 20, 2019 requesting a field visit. After corresponding with Ms. Mayberry on June 24-25, a new email was received on June 25 stating that the field visit was no longer requested. The second reply was an email received from Cherilyn Neider of the United Auburn Indian Rancheria dated June 19. The email asked for contact information for the Lead Agency representative and for information on ground disturbance associated with the tank replacement. AES responded in an email dated June 25 with contact information for the General Manager of CWD and information regarding construction. On June 25, 2019, follow-up telephone calls were made to the remaining individuals on the NAHC list. Messages were left for each one.

No tribal cultural resources were identified by the current investigation for the Proposed Project. However, there is the possibility that discoveries of subsurface archaeological deposits or human remains may occur. Implementation of **Mitigation Measure TRI-1** would minimize impacts to TCRs to a less-than-significant level. There would be a less-than-significant impact with mitigation.

Mitigation

TRI-1 If previously unrecorded cultural resources or human remains are encountered during construction, ground-disturbing activities shall cease within a 100-foot radius of the find. The City shall conduct Native American consultation with appropriate representatives of the Native American community to determine if the resource represents a TCR. If so, the consultation process shall be used to develop appropriate mitigation for the resource; mitigation could include, but would not be limited to, preservation in place, additional construction monitoring, subsurface archaeological testing, data recovery, or recordation. If the find consists of human remains, the procedures contained in **Mitigation Measure CUL-2** shall be followed.

4.18 UTILITIES AND SERVICE SYSTEMS	POTENTIALLY SIGNIFICANT IMPACT	LESS-THAN-SIGNIFICANT WITH MITIGATION INCORPORATED	LESS-THAN-SIGNIFICANT IMPACT	NO IMPACT
Would the project:				
a) Exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board?	☐	☐	☐	☑
b) Require or result in the construction of new water or wastewater treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental impacts?	☐	☐	☐	☑
c) Require or result in the construction of new stormwater drainage facilities or expansion of existing facilities, the construction of which could cause significant environmental impacts?	☐	☐	☑	☐
d) Have sufficient water supplies available to serve the project from existing entitlements and resources, or are new or expanded entitlements needed?	☐	☐	☑	☐
e) Result in a determination by the wastewater treatment provider that serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to existing commitments?	☐	☐	☐	☑
f) Be served by a landfill with sufficient permitted capacity to accommodate the project's solid waste disposal needs?	☐	☐	☑	☐
g) Comply with federal, state, and local statutes and regulations related to solid waste?	☐	☐	☑	☐

Questions A-B, E

The Sacramento Regional County Sanitation District (Regional San) provides wastewater services throughout Sacramento County. Currently, there is no wastewater production associated with the project site. The Proposed Project would utilize portable restrooms during construction that would not remain once construction has been completed. The Proposed Project does not include the construction of additional buildings or structures that would require wastewater services or facilities. The Proposed Project includes updating the water storage facilities present on site and would therefore not result in the need of additional water treatment facilities off site. The pipeline replacement would occur such at depths to prevent interference with existing utilities, and would traverse the road shoulder to shoulder as necessary to avoid placing potable water pipeline within designated setbacks to storm drains or sanitary sewer pipelines. There would be no impact.

Question C

The Proposed Project would result in less than one acre of increased impervious surfaces and increased stormwater runoff. Therefore, a direct connection to the Sacramento County's stormwater drainage and flood control system has been included in the project design.

This would include installation of 500 feet of linear pipe to connect to the existing system. This installation would not result in a significant increase of stormwater runoff, and would not impact environmentally sensitive areas. Additionally, a SWPPP or an Erosivity Waiver approved by the Regional Water Quality Control Board would be adhered to. There would be a less-than-significant impact.

Question D

The Carmichael Water District provides water to the majority of the Carmichael area. The Proposed Project would replace the existing water tank and outdated infrastructure on site so that the CWD can continue to provide reliable and clean water to the area. The existing tank will continue to be maintained and operated throughout construction in order to continue providing water for the site and area. Increases in on-site water demands during construction would be minimal and would be supported by the existing tank. As discussed in **Mitigation Measure AIR-1**, exposed surfaces such as staging areas, soil piles, and graded areas would be watered as needed to reduce dust during construction. Any dust-control watering would be limited and temporary and would not continue after construction. There would be a less-than-significant impact.

Questions F-G

There are multiple landfill areas within a fifteen-mile radius of the project site including the Florin Perkins Public Disposal site and the North Area Recovery Station. Solid waste produced during construction would be removed and disposed of. Long-term maintenance would not result in an increase to solid waste. There would be a less-than-significant impact.

4.19 MANDATORY FINDINGS OF SIGNIFICANCE	POTENTIALLY SIGNIFICANT IMPACT	LESS-THAN-SIGNIFICANT WITH MITIGATION INCORPORATED	LESS-THAN-SIGNIFICANT IMPACT	NO IMPACT
a) Does the project have the potential to degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, reduce the number or restrict the range of a rare or endangered plant or animal or eliminate important examples of the major periods of California history or prehistory?	☐	☑	☐	☐
b) Does the project have impacts that are individually limited, but cumulatively considerable? ("Cumulatively considerable" means that the incremental effects of a project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects)	☐	☑	☐	☐
c) Does the project have environmental effects that would cause substantial adverse effects on human beings, either directly or indirectly?	☐	☑	☐	☐

Questions A

The Proposed Project has the potential to degrade the quality of the environment by potentially resulting in impacts associated with biological resources, cultural resources, air quality, hazardous materials, and tribal cultural resources. However, the project site has been previously developed, and the majority of the site contains either impervious surfaces, or managed vegetation. Surrounding areas are also developed with residential and commercial uses. Therefore, the project site provides very low habitat value for wildlife and native plant species due to high levels of disturbance. With implementation of the mitigation measures discussed, potential impacts associated with the quality of the environment would be minimized. There would be a less-than-significant impact with mitigation.

Question B

The Proposed Project would not result in indirect or cumulative growth impacts. Project-related impacts in combination with impacts of other past, present, and foreseeable future projects could contribute to cumulatively significant effects on the environment. With implementation of the discussed mitigation measures, the Proposed Project would avoid or minimize impacts and would not result in cumulatively considerable environmental impacts. There would be a less-than-significant impact with mitigation.

Question C

The Proposed Project does not include the construction of structures that would put individuals at risk. Potential environmental impacts that could cause adverse effects on human beings either directly or indirectly would be reduced with implementation of the mitigation measures discussed. There would be a less-than-significant impact with mitigation.

5.0 REPORT AUTHORS

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APPENDIX A

SPECIAL-STATUS SPECIES SEARCH AND ANALYSIS

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: May 07, 2019
Consultation Code: 08ESMF00-2019-SLI-1862
Event Code: 08ESMF00-2019-E-05979
Project Name: CWD La Vista Water Tank

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

To Whom It May Concern:

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

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

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

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

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

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

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

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

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

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

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

Attachment(s):

- Official Species List

Official Species List

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

This species list is provided by:

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

Project Summary

Consultation Code: 08ESMF00-2019-SLI-1862

Event Code: 08ESMF00-2019-E-05979

Project Name: CWD La Vista Water Tank

Project Type: WATER SUPPLY / DELIVERY

Project Description: Water tank

Project Location:

Approximate location of the project can be viewed in Google Maps: https://www.google.com/maps/place/38.6194659503538N121.33311255221335W

Counties: Sacramento, CA

Endangered Species Act Species

There is a total of 10 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 Fisheries[1], 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.

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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 *Thamnophis gigas* 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 *Rana draytonii* There is **final** critical habitat for this species. Your location is outside the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/2891	Threatened
California Tiger Salamander *Ambystoma californiense* Population: U.S.A. (Central CA DPS) There is **final** critical habitat for this species. Your location is outside the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/2076	Threatened

Fishes

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

Insects

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

Crustaceans

NAME	STATUS
Conservancy Fairy Shrimp *Branchinecta conservatio* There is **final** critical habitat for this species. Your location is outside the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/8246	Endangered
Vernal Pool Fairy Shrimp *Branchinecta lynchi* There is **final** critical habitat for this species. Your location is outside the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/498	Threatened
Vernal Pool Tadpole Shrimp *Lepidurus packardi* There is **final** critical habitat for this species. Your location is outside the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/2246	Endangered

Flowering Plants

NAME	STATUS
Sacramento Orcutt Grass *Orcuttia viscida* There is **final** critical habitat for this species. Your location is outside the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/5507	Endangered
Slender Orcutt Grass *Orcuttia tenuis* There is **final** critical habitat for this species. Your location is outside the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/1063	Threatened

Critical habitats

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

CALIFORNIA DEPARTMENT OF FISH and WILDLIFE RareFind

Query Summary:
Quad IS (Carmichael (3812153))

Print Close

CNDDB Element Query Results

Scientific Name	Common Name	Taxonomic Group	Element Code	Total Occs	Returned Occs	Federal Status	State Status	Global Rank	State Rank	CA Rare Plant Rank	Other Status	Habitats
Accipiter cooperii	Cooper's hawk	Birds	ABNKC12040	117	1	None	None	G5	S4	null	CDFW_WL-Watch List, IUCN_LC-Least Concern	Cismontane woodland, Riparian forest, Riparian woodland, Upper montane coniferous forest
Agelaius tricolor	tricolored blackbird	Birds	ABPBXB0020	952	17	None	Candidate Endangered	G2G3	S1S2	null	BLM_S-Sensitive, CDFW_SSC-Species of Special Concern, IUCN_EN-Endangered, NABCI_RWL-Red Watch List, USFWS_BCC-Birds of Conservation Concern	Freshwater marsh, Marsh & swamp, Swamp, Wetland
Aquila chrysaetos	golden eagle	Birds	ABNKC22010	321	1	None	None	G5	S3	null	BLM_S-Sensitive, CDF_S-Sensitive, CDFW_FP-Fully Protected, CDFW_WL-Watch List, IUCN_LC-Least Concern, USFWS_BCC-Birds of Conservation Concern	Broadleaved upland forest, Cismontane woodland, Coastal prairie, Great Basin grassland, Great Basin scrub, Lower montane coniferous forest, Pinon & juniper woodlands, Upper montane coniferous forest, Valley & foothill grassland
Ardea alba	great egret	Birds	ABNGA04040	43	1	None	None	G5	S4	null	CDF_S-Sensitive, IUCN_LC-Least Concern	Brackish marsh, Estuary, Freshwater marsh, Marsh & swamp, Riparian forest, Wetland
Ardea herodias	great blue heron	Birds	ABNGA04010	155	1	None	None	G5	S4	null	CDF_S-Sensitive, IUCN_LC-Least Concern	Brackish marsh, Estuary, Freshwater marsh, Marsh & swamp, Riparian forest, Wetland
Athene cunicularia	burrowing owl	Birds	ABNSB10010	1984	9	None	None	G4	S3	null	BLM_S-Sensitive, CDFW_SSC-Species of Special Concern, IUCN_LC-Least Concern, USFWS_BCC-Birds of Conservation Concern	Coastal prairie, Coastal scrub, Great Basin grassland, Great Basin scrub, Mojavean desert scrub, Sonoran desert scrub, Valley & foothill grassland
Branchinecta lynchi	vernal pool fairy shrimp	Crustaceans	ICBRA03030	767	11	Threatened	None	G3	S3	null	IUCN_VU-Vulnerable	Valley & foothill grassland,

												Vernal pool, Wetland
Branchinecta mesovallensis	midvalley fairy shrimp	Crustaceans	ICBRA03150	128	6	None	None	G2	S2S3	null	null	Vernal pool, Wetland
Buteo regalis	ferruginous hawk	Birds	ABNKC19120	107	1	None	None	G4	S3S4	null	CDFW_WL-Watch List, IUCN_LC-Least Concern, USFWS_BCC-Birds of Conservation Concern	Great Basin grassland, Great Basin scrub, Pinon & juniper woodlands, Valley & foothill grassland
Buteo swainsoni	Swainson's hawk	Birds	ABNKC19070	2473	4	None	Threatened	G5	S3	null	BLM_S-Sensitive, IUCN_LC-Least Concern, USFWS_BCC-Birds of Conservation Concern	Great Basin grassland, Riparian forest, Riparian woodland, Valley & foothill grassland
Desmocerus californicus dimorphus	valley elderberry longhorn beetle	Insects	IICOL48011	271	5	Threatened	None	G3T2	S2	null	null	Riparian scrub
Dumontia oregonensis	hairy water flea	Crustaceans	ICBRA23010	2	1	None	None	G1G3	S1	null	null	Vernal pool
Elanus leucurus	white-tailed kite	Birds	ABNKC06010	179	9	None	None	G5	S3S4	null	BLM_S-Sensitive, CDFW_FP-Fully Protected, IUCN_LC-Least Concern	Cismontane woodland, Marsh & swamp, Riparian woodland, Valley & foothill grassland, Wetland
Emys marmorata	western pond turtle	Reptiles	ARAAD02030	1362	2	None	None	G3G4	S3	null	BLM_S-Sensitive, CDFW_SSC-Species of Special Concern, IUCN_VU-Vulnerable, USFS_S-Sensitive	Aquatic, Artificial flowing waters, Klamath/North coast flowing waters, Klamath/North coast standing waters, Marsh & swamp, Sacramento/San Joaquin flowing waters, Sacramento/San Joaquin standing waters, South coast flowing waters, South coast standing waters, Wetland
Gratiola heterosepala	Boggs Lake hedge-hyssop	Dicots	PDSCR0R060	99	1	None	Endangered	G2	S2	1B.2	BLM_S-Sensitive	Freshwater marsh, Marsh & swamp, Vernal pool, Wetland
Hydrochara ricksecker i	Ricksecker's water scavenger beetle	Insects	IICOL5V010	13	1	None	None	G2?	S2?	null	null	Aquatic, Sacramento/San Joaquin flowing waters, Sacramento/San Joaquin standing waters
Juncus leiospermus var. ahartii	Ahart's dwarf rush	Monocots	PMJUN011L1	13	1	None	None	G2T1	S1	1B.2	null	Valley & foothill grassland
Legenere limosa	legenere	Dicots	PDCAM0C010	83	6	None	None	G2	S2	1B.1	BLM_S-Sensitive	Vernal pool, Wetland
Lepidurus packardi	vernal pool tadpole shrimp	Crustaceans	ICBRA10010	325	25	Endangered	None	G4	S3S4	null	IUCN_EN-Endangered	Valley & foothill grassland, Vernal pool, Wetland
Linderiella occidentalis	California linderiella	Crustaceans	ICBRA06010	438	26	None	None	G2G3	S2S3	null	IUCN_NT-Near Threatened	Vernal pool
Northern Hardpan Vernal Pool	Northern Hardpan Vernal Pool	Herbaceous	CTT44110CA	126	7	None	None	G3	S3.1	null	null	Vernal pool, Wetland

Oncorhynchus mykiss irideus pop. 11	steelhead - Central Valley DPS	Fish	AFCHA0209K	31	1	Threatened	None	G5T2Q	S2	null	AFS_TH-Threatened	Aquatic, Sacramento/San Joaquin flowing waters
Orcuttia viscida	Sacramento Orcutt grass	Monocots	PMPOA4G070	12	1	Endangered	Endangered	G1	S1	1B.1	null	Vernal pool, Wetland
Riparia riparia	bank swallow	Birds	ABPAU08010	298	1	None	Threatened	G5	S2	null	BLM_S-Sensitive, IUCN_LC-Least Concern	Riparian scrub, Riparian woodland
Sagittaria sanfordii	Sanford's arrowhead	Monocots	PMALI040Q0	126	8	None	None	G3	S3	1B.2	BLM_S-Sensitive	Marsh & swamp, Wetland
Spea hammondii	western spadefoot	Amphibians	AAABF02020	818	3	None	None	G3	S3	null	BLM_S-Sensitive, CDFW_SSC-Species of Special Concern, IUCN_NT-Near Threatened	Cismontane woodland, Coastal scrub, Valley & foothill grassland, Vernal pool, Wetland
Taxidea taxus	American badger	Mammals	AMAJF04010	588	1	None	None	G5	S3	null	CDFW_SSC-Species of Special Concern, IUCN_LC-Least Concern	Alkali marsh, Alkali playa, Alpine, Alpine dwarf scrub, Bog & fen, Brackish marsh, Broadleaved upland forest, Chaparral, Chenopod scrub, Cismontane woodland, Closed-cone coniferous forest, Coastal bluff scrub, Coastal dunes, Coastal prairie, Coastal scrub, Desert dunes, Desert wash, Freshwater marsh, Great Basin grassland, Great Basin scrub, Interior dunes, Ione formation, Joshua tree woodland, Limestone, Lower montane coniferous forest, Marsh & swamp, Meadow & seep, Mojavean desert scrub, Montane dwarf scrub, North coast coniferous forest, Oldgrowth, Pavement plain, Redwood, Riparian forest, Riparian scrub, Riparian woodland, Salt marsh, Sonoran desert scrub, Sonoran thorn woodland, Ultramafic, Upper montane coniferous forest, Upper Sonoran scrub, Valley & foothill grassland

CNPS California Native Plant Society

Plant List

Inventory of Rare and Endangered Plants

5 matches found. *Click on scientific name for details*

Search Criteria

Found in Quad 3812153

Modify Search Criteria Export to Excel Modify Columns Modify Sort Display Photos

Scientific Name	Common Name	Family	Lifeform	Blooming Period	CA Rare Plant Rank	State Rank	Global Rank
Brodiaea rosea ssp. vallicola	valley brodiaea	Themidaceae	perennial bulbiferous herb	Apr-May(Jun)	4.2	S3	G5T3
Gratiola heterosepala	Boggs Lake hedge-hyssop	Plantaginaceae	annual herb	Apr-Aug	1B.2	S2	G2
Juncus leiospermus var. ahartii	Ahart's dwarf rush	Juncaceae	annual herb	Mar-May	1B.2	S1	G2T1
Legenere limosa	legenere	Campanulaceae	annual herb	Apr-Jun	1B.1	S2	G2
Sagittaria sanfordii	Sanford's arrowhead	Alismataceae	perennial rhizomatous herb (emergent)	May-Oct(Nov)	1B.2	S3	G3

Suggested Citation

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REGIONALLY OCCURRING SPECIAL-STATUS SPECIES

SCIENTIFIC NAME COMMON NAME	FEDERAL/STATE /CNPS LIST	DISTRIBUTION	HABITAT REQUIREMENTS	PERIOD OF IDENTIFICATION	POTENTIAL TO OCCUR ON-SITE
PLANTS					
Gratiola heterosepala Boggs Lake hedge-hyssop	--/CE/1B.2	Known to occur in Fresno, Lake, Lassen, Madera, Merced, Mendocino, Modoc, Placer, Sacramento, Shasta, Siskiyou, San Joaquin, Solano, Sonoma, and Tehama counties in CA and in Oregon.	Annual herb found on clay soils along the lake margins of marshes and swamps, shallow water, and margins of vernal pools. Elevations range from from 10 to 2,375 meters.	April-September	**No,** suitable habitat for this species not present on site.
Juncus leiospermus var. ahartii Ahart's dwarf rush	--/--/1B.2	Known to occur in Butte, Calaveras, Placer, Sacramento, Tehama, and Yuba counties.	An annual, grasslike herb that occurs in wetlands, specifically vernal pools. Predominantly found in wetlands that are part of a larger grassland or riparian community. Elevations rangs from 30 to 229 meters	March-May	**No**, suitable habitat for this species not present on site.
Legenere limosa Legenere	--/--/1B.1	Known to occur in Alameda, Lake, Monterey, Napa, Placer, Sacramento, Santa Clara, Shasta, San Joaquin, San Mateo, Solano, Sonoma, Stanislaus, Tehama, and Yuba counties.	Annual herb occurs in wet areas, ponds, and vernal pools. Elevations range from 1-950 meters.	April-June	**No**, suitable habitat for this species not present on site.
Orcuttia tenuis Slender Orcutt grass	FT/CE/1B.1	Known from Butte, Lake, Lassen, Modoc, Plumas, Sacramento, Shasta, Siskiyou, and Tehama counties.	Annual herb found in gravelly vernal pools from 35 to 1760 meters.	May-October	**No**, suitable habitat for this species not present on site.
Orcuttia viscida Sacramento orcutt grass	FE/CE/1B.1	Range of this species is restricted to Sacramento County (CNPS, 2013).	An annual herb in the grass family (Poaceae). It is found in vernal pools from 30 to 100 meters above mean sea level.	April-July	**No**, suitable habitat for this species not present on site.
Sagittaria sanfordii Sanford's arrowhead	--/--/1B.2	Known to occur in Butte, Del Norte, El Dorado, Fresno, Merced, Mariposa, Orange, Placer, Sacramento, San Bernardino, Shasta, San Joaquin, Solano, Tehama, Ventura, and Yuba counties. However, it is presumed extirpated in Orange and Ventura counties.	Found in marshes and swamps (assorted shallow freshwater). Elevations range from 0-650 meters.	May-August	**No**, suitable habitat for this species not present on site.
ANIMALS					
Amphibians					

SCIENTIFIC NAME COMMON NAME	FEDERAL/STATE /CNPS LIST	DISTRIBUTION	HABITAT REQUIREMENTS	PERIOD OF IDENTIFICATION	POTENTIAL TO OCCUR ON-SITE
Ambystoma californiense California tiger salamander	FT/CT/--	Occurs in Alameda, Butte, Contra Costa, Fresno, Glenn, Kern, Madera, Merced, Monterey, Sacramento, San Benito, San Joaquin, San Luis Obispo, San Mateo, Santa Barbara, Santa Clara, Solano, Sonoma, Stanislaus, Tulare, and Yolo counties.	Occurs in vernal pools, ephemeral wetlands, and seasonal ponds, including constructed stockponds, in grassland and oak savannah plant communities. Elevations; 0-460 meters.	November-February (adults) March 15-May15 (larvae)	**No**, suitable habitat for this species not present on site.
Rana draytonii California red-legged frog	FT/CSC/--	Known to occur along the Coast from Mendocino County to Baja California, and inland through the northern Sacramento Valley into the foothills of the Sierra Nevada mountains, south to eastern Tulare County, and possibly eastern Kern County. Currently accepted range excludes the Central Valley.	Occurs in permanent and temporary pools of streams, marshes, and ponds with dense grassy and/or shrubby vegetation. Elevations range from 0-1160 meters.	November – March (breeding) June - August (non-breeding)	**No**, suitable habitat for this species not present on site.
Spea hammondii western spadefoot toad	--/CSC/--	Known to occur from the north end of California's great central valley near Redding, south, east of the Sierras and the deserts, into northwest Baja California.	Mostly below 3,000 feet in elevation. Their aquatic habitat is vernal pools, temporary wetlands, rivers creeks, or temporary rain pools. Their terrestrial habitat is typically lowland habitats such as washes, river floodplains, alluvial fans, playas, alkali flats, foothills, or mountains. They prefer sandy or gravelly soil with open vegetation and short grasses (often in valley and foothill grasslands, open chaparral, and pine-oak woodland) (Butte HCP, 2011).	November-March	**No**, suitable habitat for this species not present on site.
Birds					
Agelaius tricolor Tricolored blackbird	--/CCE, CSC/--	California and Baja California, Mexico.	Nests in dense thickets of cattails, tules, willow, blackberry, wild rose, and other tall herbs near fresh water.	All Year	**No**, suitable habitat for this species not present on site.
Aquila chrysaetos Golden eagle	--/FP, WL/--	Known to occur in Alameda, Colusa, Contra Costa, El Dorado*, Fresno, Humboldt, Kern, Lake, Lassen, Los Angeles , Madera, Merced, Modoc, Mono, Monterey, Napa, Orange, Riverside, Sacramento, San Bernardino, San Diego, San Joaquin, San Luis Obispo, Santa Clara, Siskiyou, Solano, Stanislaus, Trinity, Tulare, and Ventura counties.	Generally open country, in prairies, arctic and alpine tundra, open wooded country, and barren areas, especially in hilly or mountainous regions.	February-March	**No**, suitable habitat for this species not present on site.

SCIENTIFIC NAME COMMON NAME	FEDERAL/STATE /CNPS LIST	DISTRIBUTION	HABITAT REQUIREMENTS	PERIOD OF IDENTIFICATION	POTENTIAL TO OCCUR ON-SITE
Athene cunicularia Burrowing owl	--/CSC/--	Formerly common within the described habitats throughout the state except the northwest coastal forests and high mountains.	Yearlong resident of open, dry grassland and desert habitats, as well as in grass, forb and open shrub stages of pinyon-juniper and ponderosa pine habitats.	All Year	**No**, suitable habitat for this species not present on site.
Buteo swainsoni Swainson's hawk	--/CT/--	In California, breeds in the Central Valley, Klamath Basin, Northeastern Plateau, Lassen County, and Mojave Desert. Very limited breeding reported from Lanfair Valley, Owens Valley, Fish Lake Valley, Antelope Valley, and in eastern San Luis Obispo County.	Breeds in stands with few trees in juniper-sage flats, riparian areas, and in oak savannah. Requires adjacent suitable foraging areas such as grasslands, alfalfa, or grain fields supporting rodent populations.	March – October	**Yes,** marginal habitat present on site.
Elanus leucurus White-tailed kite	--/FP/--	Permanent resident of coastal and Valley lowlands.	Habitats include savannah, open woodland, marshes and swamps, partially cleared lands and cultivated fields, mostly in lowland habitats. Open groves, river valleys, marshes, grasslands. Nesting occurs in trees. Found in a wide variety of open habitats in North America, including open oak grassland, desert grassland, farm country, marshes. Main requirements seem to be trees for perching and nesting, and open ground with high populations of rodents.	All Year	**Yes,** marginal habitat present on site.
Riparia riparia Bank swallow	--/CT/--	About 50-60 colonies remain along the middle Sacramento River and 15-25 colonies occur along lower Feather River where the rivers meanders still in a mostly natural state. Other colonies persist along the central coast from Monterey to San Mateo counties, and northeastern California in Shasta, Siskiyou, Lassen, Plumas, and Modoc counties.	Colonial nester; nests primarily in riparian scrub, riparian woodland, and other lowland habitats west of the desert. Requires vertical banks/cliffs with fine-textured/sandy soils near streams, rivers, lakes, ocean to dig nesting hole.	All year	**No**, suitable habitat for this species not present on site.
Fish					
Hypomesus transpacificus Delta smelt	FT/CE/--	Occurs almost exclusively in the Sacramento-San Joaquin estuary, from the Suisun Bay upstream through the Delta in Contra Costa, Sacramento, San Joaquin, Solano, and Yolo counties. May also occur in the San Francisco Bay.	Estuarine waters. Majority of life span is spent within the freshwater outskirts of the mixing zone (saltwater-freshwater interface) within the Delta.	Consult Agency	**No**, suitable habitat for this species not present on site.

SCIENTIFIC NAME COMMON NAME	FEDERAL/STATE /CNPS LIST	DISTRIBUTION	HABITAT REQUIREMENTS	PERIOD OF IDENTIFICATION	POTENTIAL TO OCCUR ON-SITE
Oncorhynchus mykiss irideus pop. 11 [Steelhead-Central Valley DPS]	FT/--/--	Spawn in the Sacramento and San Joaquin rivers and tributaries before migrating to the Delta and Bay Area.	Found in cool, clear, fast-flowing permanent streams and rivers with riffles and ample cover from riparian vegetation or overhanging banks. Spawning: streams with pool and riffle complexes. For successful breeding, require cold water and gravelly streambed.	Consult Agency	**No**, suitable habitat for this species not present on site.
Invertebrates					
Branchinecta conservatio Conservancy fairy shrimp	FE/--/--	The species is currently known from several disjunct populations: the Vina Plains in Tehama County, south of Chico in Butte County, the Jepson Prairie Preserve and surrounding area in Solano County, Sacramento National Wildlife Refuge in Glenn County, Mapes Ranch west of Modesto, San Luis National Wildlife Refuge and the Haystack Mountain/Yosemite Lake area in Merced County, and two locations on the Los Padres National Forest in Ventura County.	Endemic to vernal pools in the northern two-thirds of the Central Valley.	December-May	**No**, suitable habitat for this species not present on site.
Branchinecta lynchi Vernal pool fairy shrimp	FT/--/--	Vernal pool fairy shrimp are known from a total of 32 populations located in an area extending from Shasta County through most of the length of the Central Valley to Tulare County, and along the central coast range from northern Solano County to Pinnacles in San Benito County. Five additional, disjunctive populations exist near Soda Lake in San Luis Obispo County, in the mountain grasslands of northern Santa Barbara County, on the Santa Rosa Plateau in Riverside County, near Rancho California in Riverside County.	Vernal pools in the Central Valley, coast ranges, and a limited number of sites in the Transverse Ranges and Riverside County, California.	December-May	**No**, suitable habitat for this species not present on site.

SCIENTIFIC NAME COMMON NAME	FEDERAL/STATE /CNPS LIST	DISTRIBUTION	HABITAT REQUIREMENTS	PERIOD OF IDENTIFICATION	POTENTIAL TO OCCUR ON-SITE
Branchinecta mesovallensis midvalley fairy shrimp	--/--/--	Endemic to California Central Valley grassland vernal pools. From Mather Field area of Sacramento south through Galt from Sacramento County; the Jepson Prairie, Travis Air Force Base, and Vacaville areas in Solano County; from Lodi north to the county border in San Joaquin County.	Found in vernal pools, seasonally ponded areas within vernal swales, rock outcrop ephemeral pools, playas, and alkali flats. Require ephemeral habitats that pool in the winter or spring.	Wet season: typically December – May (adults) Dry season: typically June-November (cysts)	**No**, suitable habitat for this species not present on site.
Desmocerus californicus dimorphus Valley elderberry longhorn beetle (VELB)	FT/--/--	Restricted to the Central Valley from Redding to Bakersfield. Counties include Amador, Butte, Calaveras, Colusa, El Dorado, Fresno, Glenn, Kern, Madera, Mariposa, Merced, Napa, Placer, Sacramento, San Joaquin, Shasta, Solano, Stanislaus, Sutter, Tehama, Tulare, Yolo, and Yuba counties; 0-762 meters elevation.	Riparian forest communities. Exclusive host plant is elderberry (*Sambucus* species), which must have stems ≥ 1-inch diameter for the beetle.	Year-round	**No**, suitable habitat for this species not present on site.
Lepidurus packardi Vernal pool tadpole shrimp	FE/--/--	Known from 18 populations in the Central Valley, ranging from east of Redding in Shasta County south to the San Luis National Wildlife Refuge in Merced County, also from a single vernal pool complex on the San Francisco Bay National Wildlife Refuge in the City of Fremont.	Life cycle within vernal pools and valley foothill grassland swales.	December-May	**No**, suitable habitat for this species not present on site.
Reptiles					

SCIENTIFIC NAME COMMON NAME	FEDERAL/STATE /CNPS LIST	DISTRIBUTION	HABITAT REQUIREMENTS	PERIOD OF IDENTIFICATION	POTENTIAL TO OCCUR ON-SITE
Thamnophis gigas Giant garter snake	FT/CT/--	Endemic to the San Joaquin and Sacramento Valley floors. Counties include Butte, Colusa, Contra Costa, Fresno, Glenn, Kern, Madera, Merced, Sacramento, San Joaquin, Solano, Sutter, Yolo, and Yuba.	Inhabits agricultural wetlands and other waterways such as irrigation and drainage canals, sloughs, ponds, small lakes, low gradient streams, and adjacent uplands. Requires adequate water during its active season (early spring through mid-fall) to provide food and cover, emergent, herbaceous wetland vegetation for foraging and cover, grassy banks and openings in waterside vegetation for basking, and higher elevation uplands for cover and refuge from flood waters during its dormant season (winter). Inhabits small mammal burrows and other soil crevices with sunny exposure along south and west facing slopes, above prevailing flood elevations when dormant.	March-October	**No,** suitable habitat for this species not present on site.

SOURCES:

STATUS CODES:

FEDERAL: United States Fish and Wildlife Service
FE Federally Endangered
FT Federally Threatened
FC Candidate for Federal Listing

STATE: California Department of Fish and Game
CE California Listed Endangered
CT California Listed Threatened
CSC California Species of Special Concern

CNPS: California Native Plant Society (California Rare Plant Rank [CRPR])
1A Plants Presumed Extinct in California
1B Plants Rare, Threatened, or Endangered in California and Elsewhere
2B Plants Rare, Threatened, or Endangered in California, But More Common Elsewhere
3 Plants About Which We Need More Information – A Review List
4 Plants of Limited Distribution – A Watch List

CNPS Threat Ranks:
0.1 Seriously Threatened in California (Over 80% of occurrences threatened/high degree and immediacy of threat)
0.2 Fairly Threatened in California (20-80% occurrences threatened/moderate degree and immediacy of threat)
0.3 Not Very Threatened in California (<20% of occurrences threatened/low degree and immediacy of threat or no current threats known)

APPENDIX B

NRCS CUSTOM SOIL REPORT

United States Department of Agriculture

NRCS

Natural Resources Conservation Service

A product of the National Cooperative Soil Survey, a joint effort of the United States Department of Agriculture and other Federal agencies, State agencies including the Agricultural Experiment Stations, and local participants

Custom Soil Resource Report for Sacramento County, California

April 25, 2019

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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How Soil Surveys Are Made

Soil surveys are made to provide information about the soils and miscellaneous areas in a specific area. They include a description of the soils and miscellaneous areas and their location on the landscape and tables that show soil properties and limitations affecting various uses. Soil scientists observed the steepness, length, and shape of the slopes; the general pattern of drainage; the kinds of crops and native plants; and the kinds of bedrock. They observed and described many soil profiles. A soil profile is the sequence of natural layers, or horizons, in a soil. The profile extends from the surface down into the unconsolidated material in which the soil formed or from the surface down to bedrock. The unconsolidated material is devoid of roots and other living organisms and has not been changed by other biological activity.

Currently, soils are mapped according to the boundaries of major land resource areas (MLRAs). MLRAs are geographically associated land resource units that share common characteristics related to physiography, geology, climate, water resources, soils, biological resources, and land uses (USDA, 2006). Soil survey areas typically consist of parts of one or more MLRA.

The soils and miscellaneous areas in a survey area occur in an orderly pattern that is related to the geology, landforms, relief, climate, and natural vegetation of the area. Each kind of soil and miscellaneous area is associated with a particular kind of landform or with a segment of the landform. By observing the soils and miscellaneous areas in the survey area and relating their position to specific segments of the landform, a soil scientist develops a concept, or model, of how they were formed. Thus, during mapping, this model enables the soil scientist to predict with a considerable degree of accuracy the kind of soil or miscellaneous area at a specific location on the landscape.

Commonly, individual soils on the landscape merge into one another as their characteristics gradually change. To construct an accurate soil map, however, soil scientists must determine the boundaries between the soils. They can observe only a limited number of soil profiles. Nevertheless, these observations, supplemented by an understanding of the soil-vegetation-landscape relationship, are sufficient to verify predictions of the kinds of soil in an area and to determine the boundaries.

Soil scientists recorded the characteristics of the soil profiles that they studied. They noted soil color, texture, size and shape of soil aggregates, kind and amount of rock fragments, distribution of plant roots, reaction, and other features that enable them to identify soils. After describing the soils in the survey area and determining their properties, the soil scientists assigned the soils to taxonomic classes (units). Taxonomic classes are concepts. Each taxonomic class has a set of soil characteristics with precisely defined limits. The classes are used as a basis for comparison to classify soils systematically. Soil taxonomy, the system of taxonomic classification used in the United States, is based mainly on the kind and character of soil properties and the arrangement of horizons within the profile. After the soil

scientists classified and named the soils in the survey area, they compared the individual soils with similar soils in the same taxonomic class in other areas so that they could confirm data and assemble additional data based on experience and research.

The objective of soil mapping is not to delineate pure map unit components; the objective is to separate the landscape into landforms or landform segments that have similar use and management requirements. Each map unit is defined by a unique combination of soil components and/or miscellaneous areas in predictable proportions. Some components may be highly contrasting to the other components of the map unit. The presence of minor components in a map unit in no way diminishes the usefulness or accuracy of the data. The delineation of such landforms and landform segments on the map provides sufficient information for the development of resource plans. If intensive use of small areas is planned, onsite investigation is needed to define and locate the soils and miscellaneous areas.

Soil scientists make many field observations in the process of producing a soil map. The frequency of observation is dependent upon several factors, including scale of mapping, intensity of mapping, design of map units, complexity of the landscape, and experience of the soil scientist. Observations are made to test and refine the soil-landscape model and predictions and to verify the classification of the soils at specific locations. Once the soil-landscape model is refined, a significantly smaller number of measurements of individual soil properties are made and recorded. These measurements may include field measurements, such as those for color, depth to bedrock, and texture, and laboratory measurements, such as those for content of sand, silt, clay, salt, and other components. Properties of each soil typically vary from one point to another across the landscape.

Observations for map unit components are aggregated to develop ranges of characteristics for the components. The aggregated values are presented. Direct measurements do not exist for every property presented for every map unit component. Values for some properties are estimated from combinations of other properties.

While a soil survey is in progress, samples of some of the soils in the area generally are collected for laboratory analyses and for engineering tests. Soil scientists interpret the data from these analyses and tests as well as the field-observed characteristics and the soil properties to determine the expected behavior of the soils under different uses. Interpretations for all of the soils are field tested through observation of the soils in different uses and under different levels of management. Some interpretations are modified to fit local conditions, and some new interpretations are developed to meet local needs. Data are assembled from other sources, such as research information, production records, and field experience of specialists. For example, data on crop yields under defined levels of management are assembled from farm records and from field or plot experiments on the same kinds of soil.

Predictions about soil behavior are based not only on soil properties but also on such variables as climate and biological activity. Soil conditions are predictable over long periods of time, but they are not predictable from year to year. For example, soil scientists can predict with a fairly high degree of accuracy that a given soil will have a high water table within certain depths in most years, but they cannot predict that a high water table will always be at a specific level in the soil on a specific date.

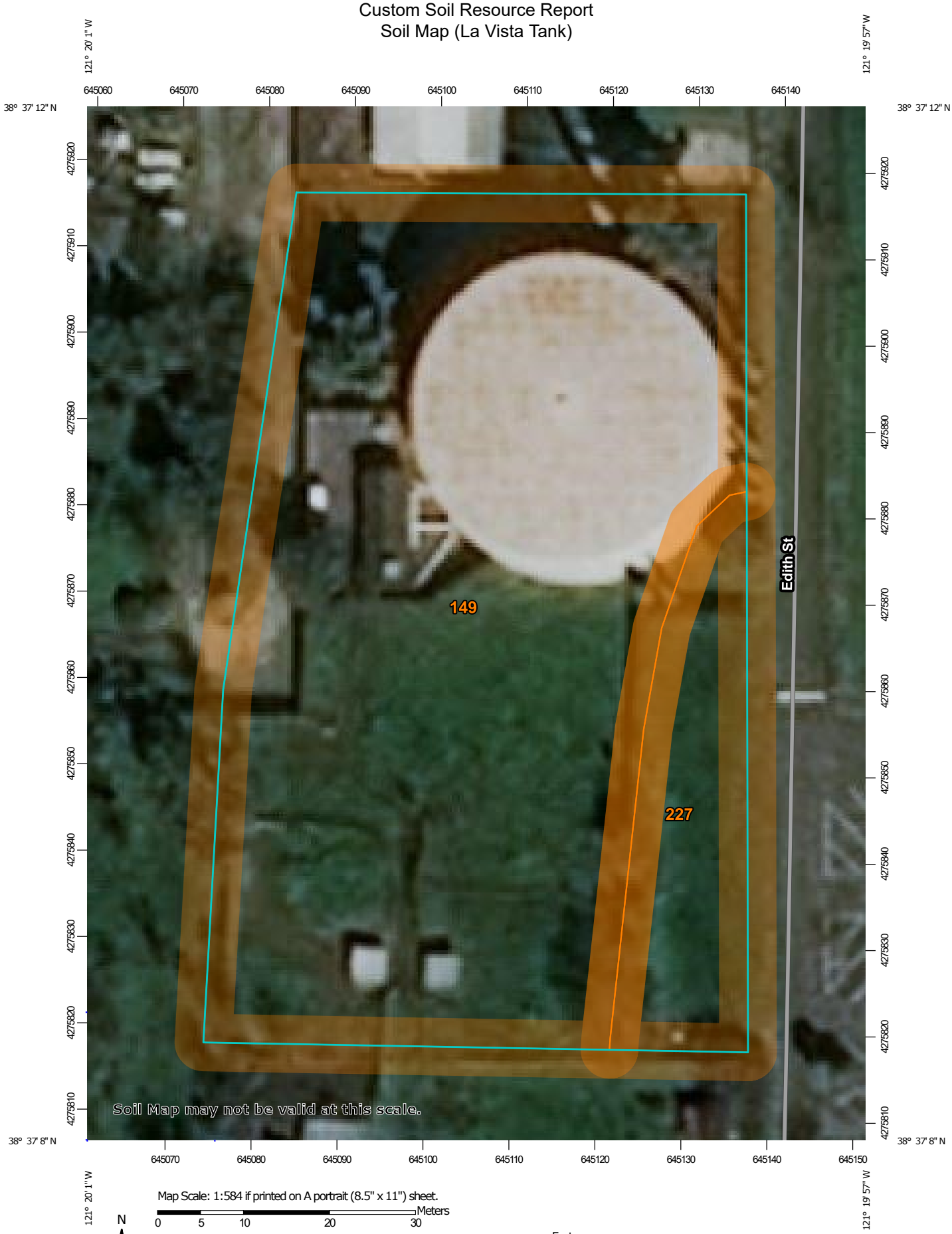
After soil scientists located and identified the significant natural bodies of soil in the survey area, they drew the boundaries of these bodies on aerial photographs and

identified each as a specific map unit. Aerial photographs show trees, buildings, fields, roads, and rivers, all of which help in locating boundaries accurately.

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.

Custom Soil Resource Report
Soil Map (La Vista Tank)



Map Scale: 1:584 if printed on A portrait (8.5" x 11") sheet.

N

Meters: 0 5 10 20 30

Feet: 0 25 50 100 150

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 17, Sep 14, 2018

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

Date(s) aerial images were photographed: Oct 12, 2016—Mar 28, 2017

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 (La Vista Tank)

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
149	Fiddyment-Urban land complex, 1 to 8 percent slopes	1.3	86.9%
227	Urban land	0.2	13.1%
Totals for Area of Interest		**1.4**	**100.0%**

Map Unit Descriptions (La Vista Tank)

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,

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

149—Fiddyment-Urban land complex, 1 to 8 percent slopes

Map Unit Setting

National map unit symbol: hhms
Elevation: 50 to 280 feet
Mean annual precipitation: 19 inches
Mean annual air temperature: 61 degrees F
Frost-free period: 230 to 300 days
Farmland classification: Not prime farmland

Map Unit Composition

Fiddyment and similar soils: 70 percent
Urban land: 20 percent
Minor components: 10 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Fiddyment

Setting

Landform: Hills
Landform position (two-dimensional): Backslope
Landform position (three-dimensional): Side slope
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Residuum weathered from sedimentary rock

Typical profile

H1 - 0 to 8 inches: fine sandy loam
H2 - 8 to 15 inches: loam
H3 - 15 to 28 inches: sandy clay loam
H4 - 28 to 40 inches: indurated
H5 - 40 to 44 inches: weathered bedrock

Properties and qualities

Slope: 1 to 8 percent
Depth to restrictive feature: 28 to 40 inches to duripan; 40 to 44 inches to paralithic bedrock
Natural drainage class: Well drained
Runoff class: Very 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 storage in profile: Very low (about 2.7 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 4e
Hydrologic Soil Group: D
Hydric soil rating: No

Description of Urban Land

Typical profile

H1 - 0 to 6 inches: variable

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 8
Hydric soil rating: No

Minor Components

Kaseberg

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

Orangevale

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

Xerarents

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

Unnamed, deeper

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

227—Urban land

Map Unit Composition

Urban land: 100 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Urban Land

Typical profile

H1 - 0 to 6 inches: variable

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 8
Hydric soil rating: No

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