MITIGATED NEGATIVE DECLARATION

Groveland Community Services District Drought Improvements Project

February 2023

PREPARED FOR:

Groveland Community Services District
18966 Ferretti Road
Groveland, CA 95321

PREPARED BY:

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Initial Study/Mitigated Negative Declaration

Groveland Community Services District
Drought Improvements Project

Prepared for:

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18966 Ferretti Road
Groveland, CA 95321

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February 2023

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Chapter 1

INTRODUCTION

INTRODUCTION

1.1 Project Summary

This document is the Initial Study/Mitigated Negative Declaration describing the potential environmental effects of the proposed Groveland Community Services District's (CSD) Drought Improvements Project. The CSD is proposing to implement improvements to the drinking water infrastructure in Big Oak Flat, Groveland, and the Pine Mountain Lake communities in Tuolumne County, CA. The proposed Project involves installing two new groundwater wells, installing a new water storage tank and distribution line, relocating the alternate water supply water treatment system, and improving the alternate water supply intake. The purpose of the Project is to ensure an adequate water supply during drought conditions. The proposed Project is more fully described in Chapter Two – Project Description.

The Groveland Community Services District will act as the Lead Agency for this project pursuant to the *California Environmental Quality Act (CEQA)* and the *CEQA Guidelines.*

1.2 Document Format

This IS/MND contains five chapters, and appendices. Section 1, Introduction, provides an overview of the project and the CEQA environmental documentation process. Chapter 2, Project Description, provides a detailed description of project objectives and components. Chapter 3, Initial Study Checklist, presents the CEQA checklist and environmental analysis for all impact areas, mandatory findings of significance, and feasible mitigation measures. If the proposed project does not have the potential to significantly impact a given issue area, the relevant section provides a brief discussion of the reasons why no impacts are expected. If the project could have a potentially significant impact on a resource, the issue area discussion provides a description of potential impacts, and appropriate mitigation measures and/or permit requirements that would reduce those impacts to a less than significant level. Chapter 4, Mitigation Monitoring and Reporting Program, provides the proposed mitigation measures, completion timeline, and person/agency responsible for implementation and Chapter 5, List of Preparers, provides a list of key personnel involved in the preparation of the IS/MND.

Environmental impacts are separated into the following categories:

Potentially Significant Impact. This category is applicable if there is substantial evidence that an effect may be significant, and no feasible mitigation measures can be identified to reduce

impacts to a less than significant level. If there are one or more "Potentially Significant Impact" entries when the determination is made, an EIR is required.

Less Than Significant After Mitigation Incorporated. This category applies where the incorporation of mitigation measures would reduce an effect from a "Potentially Significant Impact" to a "Less Than Significant Impact." The lead agency must describe the mitigation measure(s), and briefly explain how they would reduce the effect to a less than significant level (mitigation measures from earlier analyses may be cross-referenced).

Less Than Significant Impact. This category is identified when the project would result in impacts below the threshold of significance, and no mitigation measures are required.

No Impact. This category applies when a project would not create an impact in the specific environmental issue area. "No Impact" answers do not require a detailed explanation if they are adequately supported by the information sources cited by the lead agency, which show that the impact does not apply to the specific project (e.g., the project falls outside a fault rupture zone). A "No Impact" answer should be explained where it is based on project-specific factors as well as general standards (e.g., the project will not expose sensitive receptors to pollutants, based on a project-specific screening analysis.)

Regardless of the type of CEQA document that must be prepared, the basic purpose of the CEQA process as set forth in the CEQA Guidelines Section 15002(a) is to:

(1) Inform governmental decision makers and the public about the potential, significant environmental effects of proposed activities.
(2) Identify ways that environmental damage can be avoided or significantly reduced.
(3) Prevent significant, avoidable damage to the environment by requiring changes in projects through the use of alternatives or mitigation measures when the governmental agency finds the changes to be feasible.
(4) Disclose to the public the reasons why a governmental agency approved the project in the manner the agency chose if significant environmental effects are involved.

According to Section 15070(b), a Mitigated Negative Declaration is appropriate if it is determined that:

(1) Revisions in the project plans or proposals made by or agreed to by the applicant before a proposed mitigated negative declaration and initial study are released for public review would avoid the effects or mitigate the effects to a point where clearly no significant effects would occur, and

(2) There is no substantial evidence, in light of the whole record before the agency, that the project as revised may have a significant effect on the environment.

The Initial Study contained in Section Three of this document has determined that with mitigation measures and features incorporated into the project design and operation, the environmental impacts are less than significant and therefore a Mitigated Negative Declaration will be adopted.

Chapter 2

PROJECT DESCRIPTION

Project Description

2.1 Location

The proposed Project will take place in three adjacent communities; Big Oak Flat, Groveland, and Pine Mountain Lake, in western Tuolumne County, CA (see Figure 1). The three communities are within the Groveland Community Services District (CSD). Big Oak Flat and Groveland lie along State Route 120 and east of State Route 49. Pine Mountain Lake is located north of State Route 120 and west of Groveland. Yosemite National Park lies approximately 23 miles southeast of the Project sites. Project elevation ranges from approximately 2800 feet to approximately 3100 feet above mean sea level. The proposed Project is located in Township 1S, Range 16E, Sections 20, 21, 23, 27, 29 and 30, MDB&M and proposed improvements are shown in Figures 2 through 5. The locations of each Project component are described in more detail in the Setting and Surrounding Land Use discussion below.

2.2 Setting and Surrounding Land Use

The Project is in and adjacent to Big Oak Flat, Groveland, and the Pine Mountain Lake subdivision of Groveland in Tuolumne County, California (Figure 1). Specifically, the groundwater well and 140,000-gallon water storage tank will be constructed at the existing Tank 5 site at 18790 Vernal Drive (Figure 2). An 8-inch water distribution pipeline will run from the new water storage tank to Big Oak Flat via Vernal Drive, Merrell Road, Harper Road, and Black Road (Figure 3). The existing trailer mounted alternate water supply treatment system will be relocated from the Pine Mountain Lake maintenance yard at 12756 Mueller Drive to a new location adjacent to an abandoned baseball field at 19000 Ferretti Road (Figure 4). An interconnection pipeline will run between the new and existing locations via Par Court, Mueller Drive, Ferretti Road, and Flint Court. A new hard rock groundwater well will also be installed at the 19000 Ferretti Road work site. A slide gate will be installed on the alternate water supply intake adjacent to Pine Mountain Lake at Dunn Court Beach in the Pine Mountain Lake subdivision (Figure 5).

2.3 Project Description

The Groveland CSD is proposing to improve drinking water infrastructure in Big Oak Flat, Groveland and Pine Mountain Lake. The proposed Project consists of the following components:

- Installing a hard rock groundwater well adjacent to an existing storage tank (Tank 5).
- Installing a 140,000-gallon storage tank next to Tank 5 and 5500 linear feet of 8-inch water distribution pipeline from Tank 5 to Big Oak Flat.
- Relocating the existing trailer mounted alternate water supply treatment system to a permanent location and installing an interconnection pipeline between the new and existing locations.
- Installing a hard rock groundwater well at the alternate water supply treatment system permanent location.
- Installing a slide gate on the alternate water supply intake.

2.4 Objectives

The primary objectives of the proposed Project are as follows:

- The CSD's primary objective is to improve existing drinking water infrastructure for three neighboring subdivisions/Districts, Big Oak Flat, Groveland, and Pine Mountain Lake.
- The CSD seeks to ensure adequate potable water supply to residents during drought conditions.
- The CSD seeks to construct and operate the proposed groundwater wells, water storage tanks, and distribution pipelines with the most cost-effective methods available that meet the District's objectives and regulatory compliance requirements.

2.5 Other Required Approvals

The proposed Project will include, but not be limited to, the following regulatory requirements:

- The adoption of a Mitigated Negative Declaration by the Groveland Community Services District
- Tuolumne County Air Pollution Control District (permit to construct)

Figure 1 – Regional Location Map

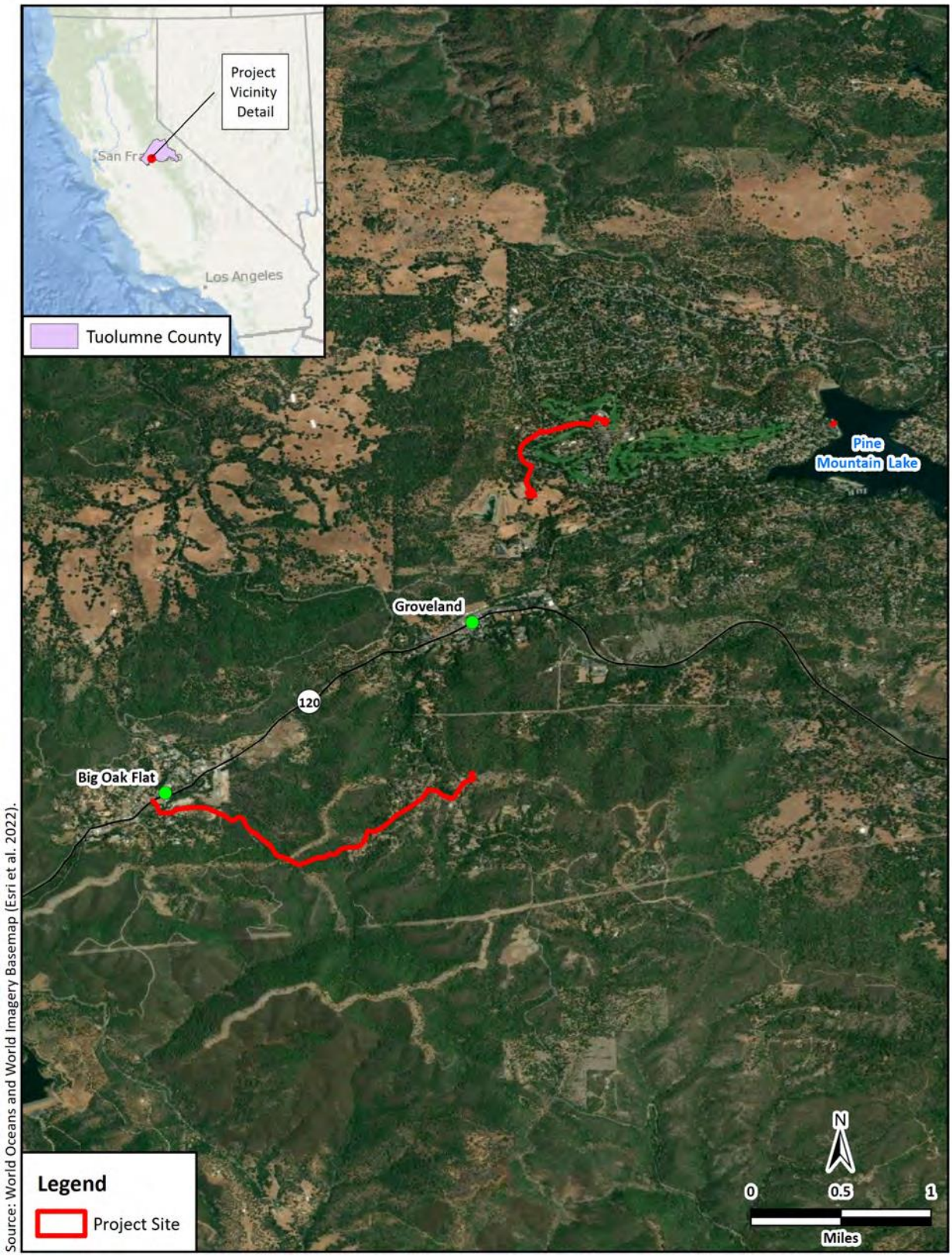

Figure 2 – Groundwater Well and Water Storage Tank Site Map

Figure 3 – Water Distribution Pipeline Site Map

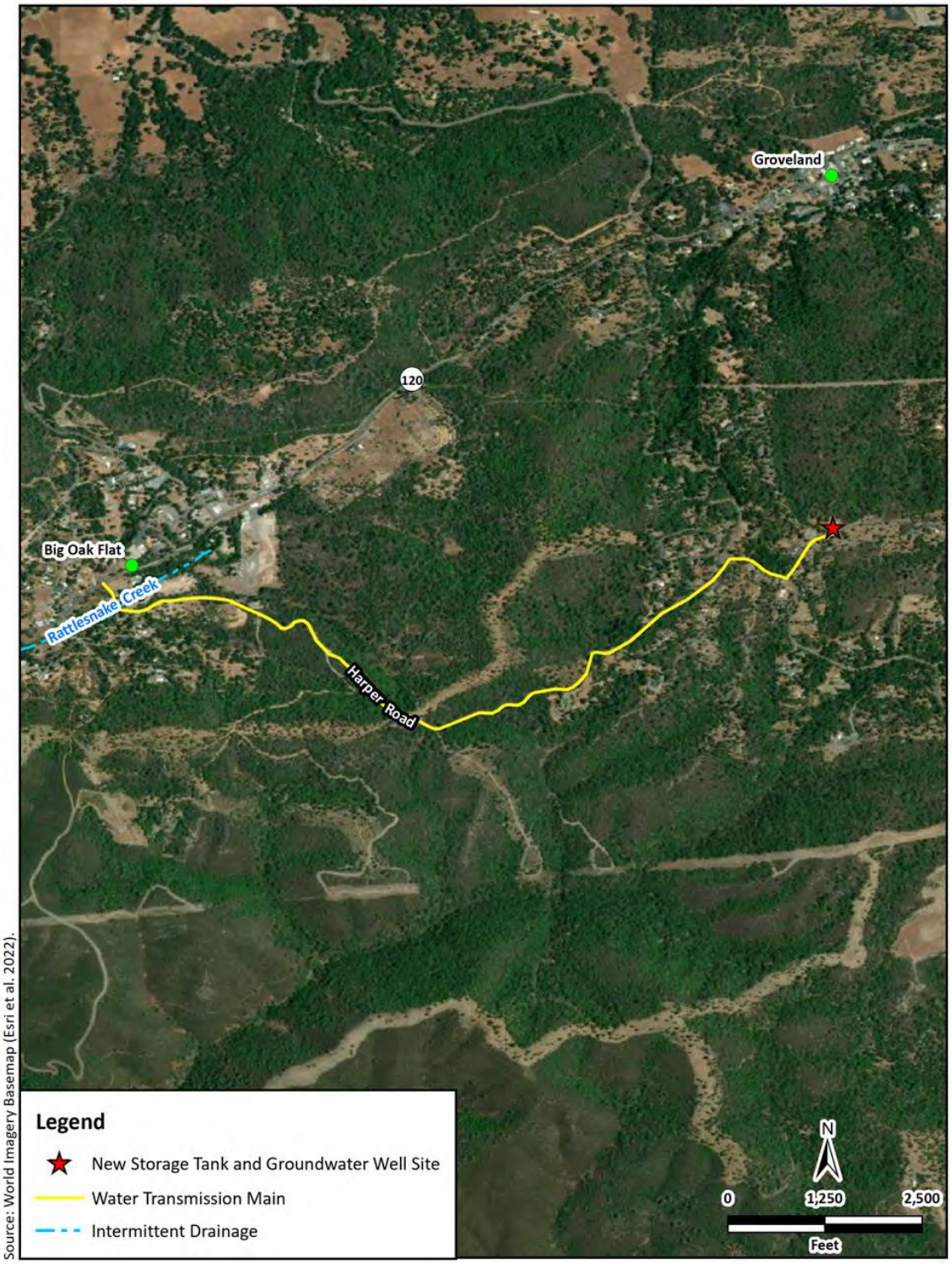

Figure 4 – Alternate Water Supply Treatment and Groundwater Well Site Map

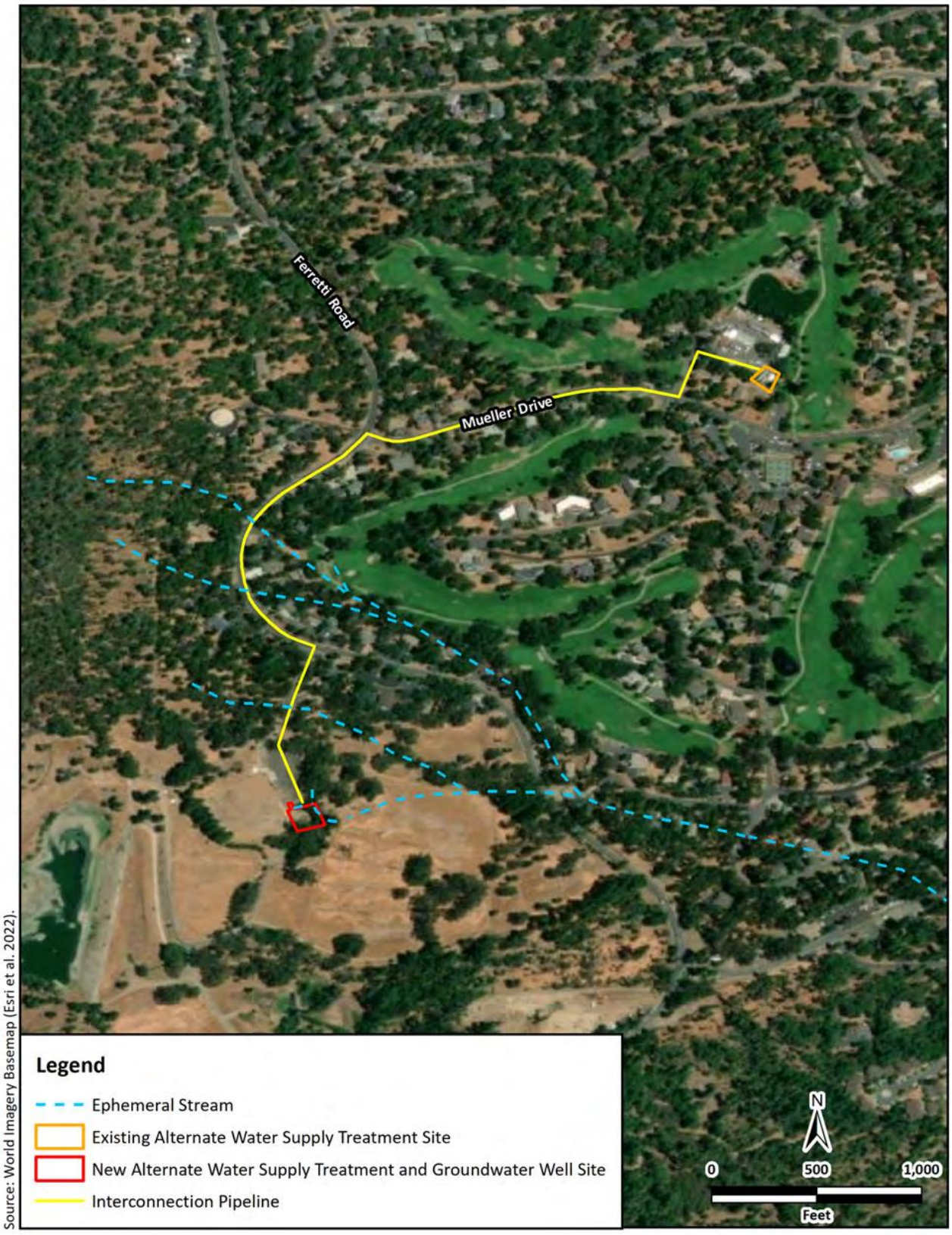

Figure 5 – Alternative Water Supply Intake Site Map

Chapter 3

IMPACT ANALYSIS

Initial Study Checklist

3.1 Environmental Checklist Form

Project title:

Groveland Drought Improvements Project

Lead agency name and address:

Groveland Community Services District
18966 Ferretti Road
Groveland, CA 95321

Contact person and phone number:

Peter Kampa, General Manager: (209) 962-7161, ext. 1024
Alfonso Manrique, PE: (559) 473-1371

Project location:

See Section 2.1

Project sponsor's name/address:

Groveland Community Services District

General plan designation:

Various, Project across multiple areas

Zoning:

Various, Project across multiple areas

Description of project:

See Section 2.3

Surrounding land uses/setting:

See Section 2.2

Other public agencies whose approval or consultation is required (e.g., permits, financing approval, participation agreements):

See Section 2.6

California Native American Tribal Consultation:

Have California Native American tribes traditionally and culturally affiliated with the project area requested consultation pursuant to Public Resources Code section 21080.3.1? If so, has consultation begun or is there a plan for consultation that includes, for example, the determination of significance of impacts to tribal cultural resources, procedures regarding confidentiality, etc.?

In accordance with Assembly Bill (AB) 52, potentially affected Tribes were formally notified of this Project and were given the opportunity to request consultation on the Project. The Native American Heritage Commission was contacted, requesting a contact list of applicable Native American Tribes, which was provided. Letters were provided to the listed Tribes, notifying them of the Project and requesting consultation, if desired. No further consultation was requested. See Section XVIII – Tribal Cultural Resources for more information.

3.2 Environmental Factors Potentially Affected

The environmental factors checked below would be potentially affected by this project, involving at least one impact that is a "Potentially Significant Impact" as indicated by the checklist on the following pages.

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

3.3 Determination

Based on this initial evaluation:

☐ I find that the proposed project COULD NOT have a significant effect on the environment, and a NEGATIVE DECLARATION will be prepared.

☒ I find that although the proposed project could have a significant effect on the environment, there will 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 MITIGATED NEGATIVE DECLARATION will 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 that earlier EIR or NEGATIVE DECLARATION, including revisions or mitigation measures that are imposed upon the proposed project, nothing further is required.

February 10, 2023

(Travis Crawford, Environmental Consultant) for
Peter Kampa
General Manager
Groveland Community Services District

Date

I. AESTHETICS

Except as provided in Public Resources Code Section 21099, would the project:	Potentially Significant Impact	Less than Significant With Mitigation Incorporation	Less than Significant Impact	No Impact
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. In non-urbanized areas, substantially degrade the existing visual character or quality of public views of the site and its surroundings? (Public views are those that are experienced from publicly accessible vantage point). If the project is in an urbanized area, would the project conflict with applicable zoning and regulations governing scenic quality?	☐	☐	☒	☐
d. Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?	☐	☐	☒	☐

RESPONSES

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?

Less Than Significant Impact. A scenic vista is defined as a viewpoint that provides expansive views of highly valued landscape for the benefit of the general public. The Sierra Nevada Mountains are the main natural and visual resources in the proposed Project area. Distant views of the Sierra Nevada Mountains would largely be unaffected by the development of the Project because of the nature of the Project, distance and limited visibility of these features. The proposed Project involves construction and operation of two new groundwater wells, a water storage tank and water distribution

pipelines, a water supply treatment system, and a slide gate on the alternate water supply intake across the communities of Big Oak Flat, Groveland, and Pine Mountain Lake in Tuolumne County.

Construction of groundwater wells, water storage tanks, water distribution pipelines, and alternate water treatment systems will be similar to existing facilities and will not introduce features that are atypical of a built environment in the area. Many of the proposed improvements will be installed at ground level and views of surrounding areas will not be substantially impacted by the Project. As such, the proposed Project will not substantially impede any scenic vistas.

Construction activities will occur over a two year period and will be visible from the adjacent residences, businesses, and roadsides; however, the construction activities will be temporary in nature and will not affect a scenic vista, as described above.

There are no state designated scenic highways within the vicinity of the proposed Project site.[1] California Department of Transportation Scenic Highway Mapping System identifies portions of State Routes 49 and 108 in Tuolumne County (north and west of the Project site) as being eligible for state scenic highway designation, but they are not officially designated. The proposed Project would not damage any trees, rock outcroppings or historic buildings within a State scenic highway corridor. Therefore, there is a ***less than significant impact.***

Mitigation Measures: None are required.

c. In non-urbanized areas, substantially degrade the existing visual character or quality of public views of the site and its surroundings? (Public views are those that are experienced from publicly accessible vantage point). If the project is in an urbanized area, would the project conflict with applicable zoning and regulations governing scenic quality?

Less Than Significant Impact. The proposed Project would result in minor alterations to the existing visual character of public views of the site. The groundwater wells will be small above-ground structure surrounded by fencing. The wells will not be visually imposing or at a height that is impedes visibility from surrounding areas. The water distribution pipelines will not be visible (once installed) as they will be below grade and the land will be restored to pre-Project conditions following construction.

[1] California State Scenic Highway Map, California Department of Transportation. https://dot.ca.gov/programs/design/lap-landscape-architecture-and-community-livability/lap-liv-i-scenic-highways. Accessed January 2023.

The water storage tank will be installed at an existing storage tank site at 18790 Vernal Drive. The storage tank will be visible to travelers along Vernal Drive. However, the storage tank will be painted a neutral color and will use non-reflective surfaces to minimize visual impact. For the Project as a whole, most of the improvements will not be visible outside of the immediate Project areas and the improvements will have similar aesthetic features to other urban structures and developments in the areas. Because these improvements are not visually imposing and do not represent atypical development in the Big Oak Flat, Groveland, Pine Mountain Lake and the surrounding areas, the visual character and quality of views in the area will not be significantly impacted.

Construction activities will be seen by the residences and businesses within the immediate vicinity and by vehicles driving in the District; however, construction activities will be temporary.

As such, the proposed Project will not substantially degrade the existing visual character or quality of the area or its surroundings.

The impact will be ***less than significant***.

Mitigation Measures: None are required.

d. Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?

Less Than Significant Impact. Currently the sources of light in the Project areas are from building lights, the vehicles traveling along surrounding roads, and some security lighting at nearby businesses and some residences. No lighting will be associated with pipeline installation. Some security lighting may be installed at the proposed new water well and water storage tank locations. However, any additional lighting would not be expected to appreciably change any existing glare or lighting conditions because the visibility of the site from residential areas and public spaces and roadways is limited. This lighting will be directed downward and will not result in light "spillage" onto adjacent properties. Accordingly, the proposed Project would not create substantial new sources of light or glare. Accordingly, there is a ***less than significant impact.***

Mitigation Measures: None are required.

II. AGRICULTURE AND FOREST RESOURCES

Would the project:

	Potentially Significant Impact	Less than Significant With Mitigation Incorporation	Less than Significant Impact	No Impact
a. Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use?	☐	☐	☐	☒
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?	☐	☐	☐	☒

RESPONSES

a. Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use?

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?

No Impact. The Farmland Mapping and Monitoring Program has not mapped farmland in Tuolumne County and as such, the Project does not include conversion of designated farmland to non-farmland. The proposed Project involves construction and operation of groundwater wells, water storage tanks and water distribution pipelines, relocating the alternate water supply water treatment system, and improving the alternate water supply intake.

The groundwater wells and water storage tanks will be constructed on previously disturbed land with similar uses. The disturbance areas of the Project components are considered Urban and Built-Up Land or Grazing Land by the State Farmland Mapping and Monitoring Program.[2] The Project will not change any land uses. The proposed Project does not have the potential to result in the conversion of farmland to non-agricultural uses or forestland uses to non-forestland. There are no agricultural lands in the District under a Williamson Act Contract. The proposed Project does not include lands under a Williamson Act Contract. No conversion of forestland, as defined under Public Resource Code or General Code, as referenced above, would occur as a result of the proposed Project. There is ***no impact***.

Mitigation Measures: None are required.

[2] California Important Farmland Finder, California Department of Conservation. https://maps.conservation.ca.gov/DLRP/CIFF/. Accessed January 2023.

III. AIR QUALITY

Would the project:

	Potentially Significant Impact	Less than Significant With Mitigation Incorporation	Less than Significant Impact	No Impact
a. Conflict with or obstruct implementation of the applicable air quality plan?	☐	☐	☒	☐
b. 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?	☐	☐	☒	☐
c. Expose sensitive receptors to substantial pollutant concentrations?	☐	☐	☒	☐
d. Result in other emissions (such as those leading to odors or adversely affecting a substantial number of people)?	☐	☐	☒	☐

RESPONSES

a. Conflict with or obstruct implementation of the applicable air quality plan?

b. 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?

c. Expose sensitive receptors to substantial pollutant concentrations?

Less Than Significant Impact. The proposed Project involves construction and operation of two new groundwater wells, a water storage tank and water distribution pipelines, a water supply treatment system, and a slide gate on the alternate water supply intake across the Big Oak Flat, Groveland, and Pine Mountain Lake area in Tuolumne County. The Tuolumne County Air Pollution Control District (TCAPCD) is designated nonattainment of state air quality standards for ozone.[3] Because of the region's non-attainment status for ozone, if the project-generated emissions of either of the ozone precursor pollutants (ROG or NOx) were to exceed the TCAPCD's significance thresholds of 100 tons per year of

[3] Section 4.3 Air Quality. Tuolumne County General Plan Update EIR. https://www.tuolumnecounty.ca.gov/DocumentCenter/View/5789/43-Air-Quality, pg 4.3-4

ROG or NOX[4], then the project uses would be considered to conflict with the attainment plan. In addition, if the project uses were to result in a change in land use and corresponding increases in vehicle miles traveled, they may result in an increase in vehicle miles traveled that is unaccounted for in regional emissions inventories contained in regional air quality control plans.

As discussed below, predicted construction and operational emissions would not exceed the TCAPCD's significance thresholds for ROG, NOx, PM_{10}, and $PM_{2.5}$. As a result, the Project uses would not conflict with emissions inventories contained in regional air quality attainment plans, and would not result in a significant contribution to the region's air quality non-attainment status. Additionally, the Project would comply with all applicable rules and regulations.

The proposed Project would generate emissions associated with the construction of groundwater wells, water storage tanks, water distribution pipelines, and water treatment plant both from worker vehicle trips and from construction equipment. Construction emissions would be considered short-term and temporary emissions because construction emissions would cease following completion of installation. Operational emissions would occur from the new groundwater wells and various pumps used to get water to the storage tank. Operational emissions would occur during each employee vehicle trips associated with operation and maintenance of the wells, pumps, and treatment system.

The nonattainment pollutant for the TCAPCD is ozone. Therefore, the pollutants of concern for this impact are ozone precursors. Ozone is a regional pollutant formed by chemical reaction in the atmosphere, and the Project's incremental increase in ozone precursor generation is used to determine the potential air quality impacts.

The annual significance thresholds to be used for the Project emissions are as follows[5]:

- Reactive Organic Gases (ROG) – 1,000 lbs/day or 100 tons per year
- Oxides of Nitrogen (NOx) – 1,000 lbs/day or 100 tons per year
- Particulate Matter (PM10) – 1,000 lbs/day or 100 tons per year
- Carbon Monoxide (CO) – 1,000 lbs/day or 100 tons per year

The estimated annual construction and operational emissions are provided below. The California Emissions Estimator (CalEEMod) version 2020.4.0 was used to estimate the construction and operational emissions of the proposed Project components, excluding water distribution pipelines. The Sacramento

[4] Tuolumne County Air Pollution Control District. CEQA Thresholds of Significance. https://www.tuolumnecounty.ca.gov/DocumentCenter/View/1072/TCAPCD_Significance_Thresholds__2_.

[5] Tuolumne County Air Pollution Control District. CEQA Thresholds of Significance. https://www.tuolumnecounty.ca.gov/DocumentCenter/View/1072/TCAPCD_Significance_Thresholds__2_.

Metropolitan Air Quality Management District's Road Construction Emissions Model version 9.0.0 was utilized to estimate emissions from the construction of water distribution pipelines. A conservative approach was utilized when modeling emissions. It was assumed that construction activities would take place across the entirety of the Project footprints. Modeling results are provided in Table 1 with the complete CalEEMod report and Road Construction Emissions Model output files provided in Appendix A.

Table 1
Proposed Project Emissions Estimate

Pollutant/ Precursor	Construction Emissions maximum (excluding pipeline) (tons/yr)	Construction Emissions total (for distribution pipeline only) (lbs/day)	Operational Emissions total (tons/yr)	Threshold (tons/yr) / (lbs/day)	Threshold Exceeded?
CO	1.54	1.2	2.93	100 / 1000	**N**
NOx	1.43	0.1	0.52	100 / 1000	**N**
ROG	0.94	0.12	0.77	100 / 1000	**N**
PM_{10}	0.12	10.05	0.4	100 / 1000	**N**

As demonstrated in Table 1, estimated construction and operational emissions would not exceed the TCAPCD's significance thresholds for CO, NOx, ROG, and PM_{10}. As a result, the Project uses would not conflict with emissions inventories contained in regional air quality attainment plans and would not result in a significant contribution to the region's air quality non-attainment status. The proposed Project will comply with all applicable air quality plans. Therefore, no violations of air quality standards will occur and no net increase of pollutants will occur.

Any impacts would be considered ***less than significant***.

Mitigation Measures: None are required.

e. Result in other emissions (such as those leading to odors adversely affecting a substantial number of people?

Less Than Significant Impact. During construction, the various diesel-powered vehicles and equipment in use on-site could create localized odors. These odors would be temporary and are not likely to be noticeable for extended periods of time beyond the Project site. In addition, once the proposed Project is

operational, there would be no source of odors from the Project. Therefore, the impact is ***less than significant.***

Mitigation Measures: None are required.

IV. BIOLOGICAL RESOURCES

Would the project:

	Potentially Significant Impact	Less than Significant With Mitigation Incorporation	Less than Significant Impact	No Impact
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 California Department of Fish and Game or U.S. Fish and Wildlife Service?	☐	☒	☐	☐
b. Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service?	☐	☒	☐	☐
c. Have a substantial adverse effect on state or federally protected wetlands (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 wildlife corridors, or impede the use of native wildlife nursery sites?	☐	☒	☐	☐

IV. BIOLOGICAL RESOURCES

Would the project:

	Potentially Significant Impact	Less than Significant With Mitigation Incorporation	Less than Significant Impact	No Impact
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?	☐	☐	☐	☒

RESPONSES

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 California Department of Fish and Game or U.S. Fish and Wildlife Service?

b. Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service?

Less Than Significant Impact With Mitigation. A Biological Resource Evaluation (BRE) for the Groveland Drought Improvements Project was prepared by Colibri Ecological Consulting LLC in January 2023 for the proposed Project (See Appendix B). The results of the BRE are summarized herein.

Environmental Setting

The Project is in and adjacent to the communities of Big Oak Flat, Groveland, and Pine Mountain Lake in Tuolumne County. The Project site consists of developed and disturbed land cover surrounded by oak and pine forest. Land uses include commercial, residential, and recreational.

The existing alternate water supply treatment facility is in a paved parking lot surrounded by commercial development. The new alternate water supply treatment and groundwater well site consists of a graveled

parking lot and disturbed oak forest. An ephemeral drainage was along the north and east boundaries of the new alternate water supply treatment and groundwater well site. The new water storage tank and groundwater well site was a flat, graveled area adjacent to a communication tower surrounded by oak and pine forest. The alternate water supply intake was adjacent to a paved parking lot, a maintained lawn, and a reservoir. The proposed pipelines are underneath paved roads surrounded by oak and pine forest. The pipelines cross several unnamed ephemeral drainages and Rattlesnake Creek, an intermittent drainage with herbaceous riparian vegetation (Figures 11–17 of Appendix B).

Effects Determination

As part of the BRE Reconnaissance Survey, a total of 53 plant species (36 native and 17 nonnative), 36 bird species, and two mammal species were observed during the survey (Table 2 of Appendix B). The BRE concludes that the Project may affect but is not likely to adversely affect the state listed as endangered and fully protected bald eagle, the state species of special concern northwestern pond turtle, and the state species of special concern western red bat. The Project is not expected to affect any other special-status species due to the lack of habitat or known occurrence records for those species near the Project site.

The Project could adversely affect, either directly or through habitat modifications, three special-status animals that occur or may occur on or near the Project site. Construction activities such as excavating, trenching, or using other heavy equipment that disturbs or harms a special-status species or substantially modifies its habitat could constitute a significant impact. Therefore, Mitigation Measures BIO-1 – BIO-3 will be included in the conditions of approval to reduce the potential impact to a ***less than significant*** level.

Mitigation Measures:

BIO-1: Protect Northwestern Pond Turtle.

1. A pre-construction clearance survey shall be conducted by a qualified biologist to ensure that northwestern pond turtle will not be impacted during Project construction. The pre-construction clearance survey shall be conducted no more than 14 days prior to the start of construction activities within 300 feet of potential aquatic habitat (Rattlesnake Creek and adjacent pond) for northwestern pond turtle. During this survey, the qualified biologist shall search all aquatic habitat for turtles and all potential nesting habitat on the Project site for active turtle nests. If a turtle is found, it will be allowed to the leave the area on its own. If an active turtle nest is found, the qualified biologist shall determine the extent of a construction-

free buffer to be established and maintained around the nest for the duration of the nesting cycle. The biologist shall then work with construction personnel to install wildlife exclusion fencing along the buffer. This fencing should be a minimum of 36 inches tall and towed-in 6 inches below ground prior to construction activities. If fencing cannot be toed-in, the bottom of the fence will be weighted down with a continuous line of long, narrow sand bags or similar, to ensure there are no gaps under the fencing where wildlife could enter. One-way exit funnels directed away from construction activities will be installed to allow turtles and other small wildlife to exit the fenced enclosure.

BIO-2: Protect Nesting Bald Eagle.

1. To the extent practicable, construction shall be scheduled to avoid the nesting season, which extends from February through July.
2. If it is not possible to schedule construction between August and January, preconstruction surveys for nesting bald eagles shall be conducted by a qualified biologist to ensure that no active nests will be disturbed during Project implementation. A pre-construction survey shall be conducted no more than 14 days prior to the initiation of construction activities. During this survey, the qualified biologist shall inspect all potential nest substrates (large trees) within 0.5 miles of the impact areas at Pine Mountain Lake for nests. If an active nest is found close enough to the construction area to be disturbed by Project activities, the qualified biologist in consultation with the CDFW shall determine the extent of a construction-free buffer to be established around the nest. If work cannot proceed without disturbing the nesting eagles, work may need to be halted or redirected to other areas until nesting and fledging are completed or the nest has otherwise failed for non-construction related reasons.

BIO-3: Protect Western Red Bat.

1. To the extent practicable, construction shall be scheduled to avoid the birthing and pupping season for western red bat, which extends from May through August.
2. If it is not possible to schedule construction between September and April, preconstruction surveys for roosting bats shall be conducted by a qualified biologist to ensure that no active maternal colonies will be disturbed during Project implementation. A pre-construction survey shall be conducted no more than 14 days prior to the initiation of construction activities. During this survey, the qualified biologist shall inspect all potential colony substrates in and immediately adjacent to the impact areas for maternity roosts. If an active maternity roost is found close enough to the construction area to be disturbed by work activities, the qualified biologist shall determine the extent of a construction-free buffer to be established around the colony. If work cannot proceed without disturbing the colony, work

may need to be halted or redirected to other areas until young are able to fly or the colony has otherwise failed for non-construction related reasons.

c. Have a substantial adverse effect on state or federally protected wetlands (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?

Less Than Significant Impact. As part of the BRE, a field reconnaissance survey of the Project site and a 50-foot buffer surrounding the site were walked and thoroughly inspected to evaluate and document the potential for the area to support state- or federally protected resources. The Project site was within 50 feet of several unnamed ephemeral streams and Rattlesnake Creek, an intermittent stream (Figures 3 and 4). As streams in California, they are under the regulatory jurisdiction of the CDFW; as potential surface waters in California, they may be under the regulatory jurisdiction of the SWRCB; and as a potential tributary of the Tuolumne River, a navigable water of the United States, they may be under the regulatory jurisdiction of the USACE. According to the National Wild and Scenic Rivers System, the nearest designated wild and scenic river is the Tuolumne River approximately 2.7 miles north of the Project site (USFWS 2022c).

No marine or estuarine fishery resources or migratory routes to and from anadromous fish spawning grounds were present in the survey area. The streams in the survey area do not contain the perennial or prolonged flows necessary to support fish. In addition, no EFH, defined by the Magnuson-Stevens Act as those resources necessary for fish spawning, breeding, feeding, or growth to maturity, were present in the survey area.

The proposed Project may affect and is likely to adversely affect several regulated habitats. These habitats consist of Rattlesnake Creek, an intermittent stream, and several unnamed ephemeral streams that may be under the regulatory jurisdiction of the USACE, the RWQCB, and the CDFW. As such, Clean Water Act Section 404 permits and 401 certifications as well as California Fish and Game Code Section 1602 notifications may be required if Project activities impact these regulated habitats. However, the project will have **no effect** on state or federally protected wetlands or other regulated habitats under CEQA purview as no such habitats were found in the survey area.

Therefore, there is a ***less than significant impact.***

Mitigation Measures: None are required.

d. Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?

Less Than Significant with Mitigation. The Project has the potential to impede the use of nursery sites for native birds protected under the Migratory Bird Treaty Act and California Fish and Game Code. Migratory birds are expected to nest on and near the Project site. Construction disturbance during the breeding season could result in the incidental loss of fertile eggs or nestlings or otherwise lead to nest abandonment. Disturbance that causes nest abandonment or loss of reproductive effort is considered take by the CDFW. Loss of fertile eggs or nesting birds, or any activities resulting in nest abandonment, could constitute a significant impact if the species is particularly rare in the region. Construction activities such as excavation, trenching, water main or water valve installation, and mobilizing or demobilizing construction equipment that disturb a nesting bird on the site or immediately adjacent to the construction zone could constitute a significant impact.

Therefore, Mitigation Measure BIO-4 will be included in the conditions of approval to reduce the potential impact to a ***less than significant*** level.

BIO-4: Protect Nesting Birds.

1. To the extent practicable, construction shall be scheduled to avoid the nesting season, which extends from February through August.
2. If it is not possible to schedule construction between September and January, preconstruction surveys for nesting birds shall be conducted by a qualified biologist to ensure that no active nests will be disturbed during Project implementation. A pre-construction survey shall be conducted no more than 14 days prior to the initiation of construction activities. During this survey, the qualified biologist shall inspect all potential nest substrates in and immediately adjacent to the impact areas for nests. If an active nest is found close enough to the construction area to be disturbed by these activities, the qualified biologist shall determine the extent of a construction-free buffer to be established around the nest. If work cannot proceed without disturbing the nesting birds, work may need to be halted or redirected to other areas until nesting and fledging are completed or the nest has otherwise failed for non-construction related reasons.

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?

No Impact. The proposed Project, which will result in temporary impacts to developed and disturbed land, will not conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance as no trees or biologically sensitive areas will be impacted. The proposed Project will not conflict with the provisions of an adopted Habitat Conservation Plan, Natural Communities Conservation Plan, or other approved local, regional, or state habitat conservation plan as no such plan has been adopted. As such, there is ***no impact.***

Mitigation Measures: None are required.

V. CULTURAL RESOURCES

Would the project:

	Potentially Significant Impact	Less than Significant With Mitigation Incorporation	Less than Significant Impact	No Impact
a. Cause a substantial adverse change in the significance of a historical resource pursuant to §15064.5?	☐	☒	☐	☐
b. Cause a substantial adverse change in the significance of an archaeological resource pursuant to §15064.5?	☐	☒	☐	☐
c. Disturb any human remains, including those interred outside of formal cemeteries?	☐	☒	☐	☐

RESPONSES

a. Cause a substantial adverse change in the significance of a historical resource pursuant to §15064.5?

b. Cause a substantial adverse change in the significance of an archaeological resource pursuant to §15064.5?

c. Disturb any human remains, including those interred outside of formal cemeteries?

Less Than Significant Impact With Mitigation. A Phase I Cultural Survey and Report (Cultural Report) was prepared by ASM Affiliates, Inc. (ASM) for the proposed Project in February 2023 (See Appendix C).

The Report included: (1) a records search at the Central California Information Center (CCIC), California State University, Stanislaus to identify previously recorded cultural resources and prior studies in the APE and surrounding 0.5-mile radius of the APE; (2) a search of the Native American Heritage Commission's (NAHC) Sacred Lands File for known sacred resources and request for contact information for individuals and tribal representatives who may have information about the Project; (3) desktop archival research; (4) an archaeological and built environment pedestrian survey of the APE; (5) an National Register of Historic Places (NRHP) and California Register of Historical

Resources (CRHR) eligibility evaluation of a historical archaeological site; and (6) a buried site sensitivity assessment.

Summary of findings:

Records Search Results

A records search of site files and maps was conducted by the Central California Information Center (CCIC), California State University, Stanislaus on November 28, 2022, for the Project study area. Results provided by the CCIC note a total of 8 previous projects that have been completed within the study area, and a total of 3 previously recorded sites have been documented. The record search also indicated that an additional 40 studies have been completed with a 0.5-mi radius of the study area with an additional 96 resources located within that same radius.

Native American Consultation

A search of the NAHC *Sacred Lands File* was completed on December 12, 2022. Based on the NAHC records, no sacred sites or traditional cultural places had been identified within or adjacent to the study area. Outreach letters were sent to tribal organizations on the NAHC contact list on January 10th, 2023. No responses have been received as of the writing of this report.

Field Methodology

Interior's Standards and Guidelines. ASM completed an intensive, on-foot examination of the ground surface by walking parallel 15-m transects, looking for evidence of archaeological sites in the form of artifacts, surface features (such as house pits), and archaeological indicators (e.g., anthropogenic soils or burnt animal bone). The identification and location of any new or previously discovered sites; tabulation and recording of surface diagnostic artifacts; site photography and sketch mapping; preliminary evaluation of site integrity; and site recording or, in the case of previously recorded sites, site record updating followed the California OHP Instructions for Recording Historic Resources and Department of Parks and Recreation (DPR) 523 forms for site recording. GPS data was collected with an Apple iPad mini using the ArcGIS Field Maps app paired with an Arrow 100 receiver unit capable of sub-foot accuracy.

Description of Findings

One new archaeological site, temporary field designation GROVE-SITE-1, a historic refuse scatter consisting of 60 tin cans, was identified and recorded during the current study. Additionally, portions of three previously recorded resources (P-55-005093, P-55-006492, and P-55-007318) located within the study area were investigated during the current study. Of the three previously recorded resources, P-55-006492 and P-55-007318 are historic mining related sites, while the remaining resource, P-55-005093, is California Registered Historical Landmark #406.

Site P-55-005093 is a monument for California Registered Historical Landmark #406. It is located outside of the study area and will be avoided by the proposed Project. Additionally no recorded features for site P-55-006492 are located within the study area. As the proposed Project will follow the paved Harper Road in the vicinity of the recorded site, the site will not be impacted by the Project.

Site P-55-007318 consists of a historic mining site located immediately adjacent to Harper Road along the proposed new water distribution line. An evaluation for eligibility to the CRHR was outside of the scope of this study; however, since the proposed Project will follow the paved Harper Road through the site there will be no impact to the site as a result of the project.

Site GROVE-SITE-1 is a small historic refuse deposit. While it does meet the age requirements for eligibility to the CRHR, it shows no association with important events or persons (Criterion 1 and 2); does not embody characteristics of a type, period, region, or method of construction, or represent the work of an important person (Criterion 3); and consists of mass-produced items thereby precluding the ability to yield important information in history (Criterion 4). For those reasons, site GROVE-SITE-1 is recommended as not eligible for inclusion in the CRHR.

The proposed Project does not have the potential to result in adverse impacts to unique or significant historical resources. A determination of no significant impacts for cultural resources is therefore recommended.

Although unlikely given the recent Phase I cultural resources survey, the highly disturbed nature of the sites and the records search did not indicate the presence of such resources, subsurface construction activities associated with the proposed Project could potentially disturb previously undiscovered human burial sites. Accordingly, this is a potentially significant impact. The California Health and Safety Code Section 7050.5 states that if human remains are discovered on-site, no further disturbance shall occur until the Tuolumne County Coroner has made a determination of origin and disposition. If the Coroner determines that the remains are not subject to his or her authority and if the Coroner recognizes the human remains to be those of a Native American, or has reason to believe that they are those of a Native American, he or she shall contact, by telephone within 24 hours, the NAHC. The NAHC shall identify the person or persons it believes to be the "most likely descendant"

(MLD) of the deceased Native American. The MLD may make recommendations to the landowner or the person responsible for the excavation work, for means of treating or disposing of, with appropriate dignity, the human remains and any associated grave goods as provided in Public Resource Code Section 5097.98.

No other cultural resources were identified within the APE as a result of this study. Therefore, it is unlikely that the proposed action will have an effect on important archaeological, historical, or other cultural resources. No further cultural resources investigation is therefore recommended. In the unlikely event that buried archaeological deposits are encountered within the project area, the finds must be evaluated by a qualified archaeologist. Unidentified cultural resources could be uncovered during proposed Project construction which could result in a potentially significant impact; however, implementation of Mitigation Measure CUL-1 would ensure that significant impacts remain ***less than significant with mitigation incorporation.***

Mitigation Measures:

CUL-1: In the event that archaeological remains are encountered at any time during development or ground-moving activities within the entire Project area, all work in the vicinity of the find should be halted until a qualified archaeologist can assess the discovery and take appropriate actions as necessary.

VI. ENERGY

Would the project:

	Potentially Significant Impact	Less than Significant With Mitigation Incorporation	Less than Significant Impact	No Impact
a. Result in potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during project construction or operation?	☐	☐	☒	☐
b. Conflict with or obstruct a state or local plan for renewable energy or energy efficiency?	☐	☐	☒	☐

RESPONSES

a. Result in potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during project construction or operation?

b. Conflict with or obstruct a state or local plan for renewable energy or energy efficiency?

Less Than Significant Impact. The proposed Project involves construction and operation of two new groundwater wells, a water storage tank and water distribution pipelines, a water supply treatment system, and a slide gate on the alternate water supply intake.

During construction, the Project would consume energy in two general forms: (1) the fuel energy consumed by construction vehicles and equipment; and (2) bound energy in construction materials, such as asphalt, steel, concrete, pipes, and manufactured or processed materials such as lumber and glass. Title 24 Building Energy Efficiency Standards would provide guidance on construction techniques for the plant house to maximize energy conservation and it is expected that contractors and the District have a strong financial incentive to use recycled materials and products originating from nearby sources in order to reduce materials costs. As such, it is anticipated that materials used in construction and construction vehicle fuel energy would not involve the wasteful, inefficient, or unnecessary consumption of energy.

Operational Project energy consumption would be minimal, as the main source of energy use would be for the new lighting associated with the Project. Energy efficient lighting systems would be installed and

would not represent a wasteful and inefficient use of energy. Operational energy would also be consumed during each vehicle trip associated with the proposed use for maintenance or otherwise.

As discussed in Impact XVII – Transportation/Traffic, the proposed Project would not generate on-going daily vehicle trips. Vehicle trips would occur sporadically for maintenance and inspection. The length of these trips and the individual vehicle fuel efficiencies are not known; therefore, the resulting energy consumption cannot be accurately calculated. Adopted federal vehicle fuel standards have continually improved since their original adoption in 1975 and assists in avoiding the inefficient, wasteful, and unnecessary use of energy by vehicles.

As discussed previously, the proposed Project would be required to implement and be consistent with existing energy design standards at the local and state level, such as Title 24. The Project would also be subject to energy conservation requirements in the California Energy Code and CALGreen. Adherence to state code requirements would ensure that the Project would not result in wasteful and inefficient use of non-renewable resources due to building operation.

Therefore, any impacts are ***less than significant***.

Mitigation Measures: None are required.

VII. GEOLOGY AND SOILS

Would the project:

	Potentially Significant Impact	Less than Significant With Mitigation Incorporation	Less than Significant Impact	No Impact
a. Directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving:				
i. Rupture of a known earthquake fault, as delineated on 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 and 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 soil, as defined in Table 18-1-B of the most recently adopted Uniform Building Code creating substantial direct or indirect risks to life or property?	☐	☐	☒	☐

VII. GEOLOGY AND SOILS

Would the project:

	Potentially Significant Impact	Less than Significant With Mitigation Incorporation	Less than Significant Impact	No Impact
e. Have soils incapable of adequately supporting the use of septic tanks or alternative waste water disposal systems where sewers are not available for the disposal of waste water?	☐	☐	☐	☒
f. Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?	☐	☐	☒	☐

RESPONSES

a-i. Expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving rupture of a known earthquake fault, as delineated on 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 and Geology Special Publication 42.

Less Than Significant Impact. The proposed Project site is not located within a designated Alquist-Priolo Earthquake Fault zone or a seismically active zone.[6]**;** thus, the risk of surface fault ruptures within the area is low. Any impacts would be l***ess than significant.***

Mitigation Measures: None are required.

a (ii-iv). Expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving strong seismic ground shaking, liquefaction or landslides?

[6] California Department of Conservation. California Geological Survey. CGS Information Warehouse: Regulatory Maps. https://maps.conservation.ca.gov/cgs/informationwarehouse/. Accessed January 2023.

Less Than Significant Impact. The proposed Project site is not in an area recognized for severe seismic ground shaking, landslides or liquefaction.[7] Additionally, the project does not include the construction of substantial structures that would expose people or structures to adverse effects involving rupture of a known earthquake fault. Impacts would be ***less than significant.***

Mitigation Measures: None are required.

b. Result in substantial soil erosion or the loss of topsoil?

Less Than Significant Impact. Construction activities associated with the Project involves excavation of soil for new groundwater wells, water storage tank, pipelines, water treatment system, slide gate, and installation of related components. These activities could expose barren soils to sources of wind or water, resulting in the potential for erosion and sedimentation on and off the Project site. During construction, nuisance flow caused by minor rain could flow off-site. The District and/or contractor would be required to employ appropriate sediment and erosion control BMPs as part of a Stormwater Pollution Prevention Plan (SWPPP) that would be required in the California National Pollution Discharge Elimination System (NPDES). In addition, soil erosion and loss of topsoil would be minimized through implementation of the Air District's fugitive dust control measures. Once construction is complete, the Project would not result in soil erosion or loss of topsoil. Therefore, the impact is ***less than significant.***

Mitigation Measures: None are required.

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 soil, as defined in Table 18-1-B of the most recently adopted Uniform Building Code creating substantial risks to life or property?

Less Than Significant Impact. As described in Impact VI (aii-aiv), the potential for landslides, liquefaction, settlement or other seismically related hazards in the proposed Project area is low. Therefore, the potential for liquefaction induced lateral spreading is also low. Causes of soil instability include, but are not limited to, withdrawal of groundwater, pumping of oil and gas from underground,

[7] Ibid.

liquefaction, and hydro-compaction.[8] The proposed Project does not include the on-site withdrawal of groundwater and the project site is not located in an area that has been subjected to activities that might cause soil instability. Because the project site has not been subject to activities that may cause soil instability, the risk of subsidence or collapse is expected to be low. Any impacts would be ***less than significant.***

Mitigation Measures: None are required.

e. Have soils incapable of adequately supporting the use of septic tanks or alternative waste water disposal systems where sewers are not available for the disposal of waste water?

No Impact. The proposed Project involves improvements to drinking water supply and storage for the Groveland area. The proposed Project will not require installation of a septic tank or alternate wastewater disposal system. Therefore, there would be ***no impact.***

Mitigation Measures: None are required.

f. Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?

Less Than Significant Impact. Paleontological resources are the fossilized remains of plants and animals and associated deposits. The Society of Vertebrate Paleontology has identified vertebrate fossils, their taphonomic and associated environmental indicators, and fossiliferous deposits as significant nonrenewable paleontological resources. Botanical and invertebrate fossils and assemblages may also be considered significant resources.

CEQA requires that a determination be made as to whether a project would directly or indirectly destroy a unique paleontological resource or site or unique geological feature (CEQA Appendix G(v)(c)). If an impact is significant, CEQA requires feasible measures to minimize the impact (CCR Title 14(3) §15126.4 (a)(1)). California Public Resources Code §5097.5 (see above) also applies to paleontological resources.

There are no unique geological features or known fossil-bearing sediments in the vicinity of the proposed Project site. However, there remains the possibility for previously unknown, buried paleontological

[8] USGS. California Water Science Center. Land Subsidence: Cause & Effect. https://www.usgs.gov/centers/land-subsidence-in-california/science/cause-and-effect. Accessed January 2023.

resources or unique geological sites to be uncovered during subsurface construction activities. Implementation of Mitigation Measure CUL-1 would require inadvertently discovery practices to be implemented should previously undiscovered paleontological resources be located. As such, impacts to undiscovered paleontological resources would be ***less than significant.***

VIII. GREENHOUSE GAS EMISSIONS

Would the project:	Potentially Significant Impact	Less than Significant With Mitigation Incorporation	Less than Significant Impact	No Impact
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?	☐	☐	☒	☐

RESPONSES

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?

Less Than Significant Impact. The proposed Project would generate exhaust-related GHG emissions during construction resulting from construction equipment operation, material haul and delivery trucks, and by trips by construction worker vehicles. Construction-related GHG emissions would occur for approximately two years and would cease following completion of the Project.

The proposed Project is not a significant land-use development project that would generate significant vehicle trips and is not a roadway capacity increasing project that could carry additional VMT. Therefore, the proposed Project would not result in a net increase in operational GHG emissions. As such, the proposed Project would not interfere or obstruct implementation of an applicable GHG emissions reduction plan. The proposed Project would be consistent with all applicable local plans, policies, and regulations for reducing GHG emissions. Any impacts related to GHG emissions would be ***less than significant.***

Mitigation Measures: None are required.

IX. HAZARDS AND HAZARDOUS MATERIALS

Would the project:

	Potentially Significant Impact	Less than Significant With Mitigation Incorporation	Less than Significant Impact	No Impact
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 one-quarter 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 Section 65962.5 and, as a result, would it create a significant hazard to the public or 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 public use airport, would the project result in a safety hazard or excessive noise for people residing or working in the project area?	☐	☐	☒	☐
f. Impair implementation of or physically interfere with an adopted emergency	☐	☐	☒	☐

IX. HAZARDS AND HAZARDOUS MATERIALS

Would the project:	Potentially Significant Impact	Less than Significant With Mitigation Incorporation	Less than Significant Impact	No Impact
response plan or emergency evacuation plan?				
g. Expose people or structures either directly or indirectly to a significant risk of loss, injury or death involving wildland fires?	☐	☐	☐	☒

RESPONSES

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?

Less Than Significant Impact. While grading and construction activities may involve the limited transport, storage, use or disposal of hazardous materials, such as the fueling/servicing of construction equipment onsite, the activities would be short-term or one-time in nature and would be subject to federal, state, and local health and safety regulations.

Long-term operation of the proposed Project would not involve transport, storage, use or disposal of hazardous materials other than for maintenance of the facilities during operation. Water treatment chemicals may be utilized at the proposed new water supply treatment system. With implementation of the proposed Project, there are no reasonably foreseeable upset and accident conditions that would create a significant hazard to the public due to the release of hazardous materials. Impacts are considered ***less than significant***.

Mitigation Measures: None are required.

c. Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?

Less Than Significant Impact. The nearest school to the proposed Project area is Tenaya Elementary School, located off Main Street within the CSD. Once operational, the groundwater wells, water storage tanks, water treatment systems, and pipelines will be sealed and would involve little or no hazardous materials. Due to intervening distance and lack of hazardous materials associated with the Project, there is a ***less than significant impact.***

Mitigation Measures: None are required.

d. Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment?

No Impact. A database search was conducted to identify recorded hazardous materials incidents in the proposed Project area. The search included recorded incidents on the National Priorities List (NPL), State Priority List (SPL), the Superfund Comprehensive Environmental Response Compensation and Liability Information System List (CERLIS), the EPA's emergency response notification system list (ERNS), and other federal, state, and local agency databases. The proposed Project sites are not located on a list of hazardous materials sites complied pursuant to Government Code Section 65962.5 (EnviroStor[9] and GeoTracker[10] databases). As such, there is ***no impact.***

Mitigation Measures: None are required.

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 result in a safety hazard or excessive noise for people residing or working in the project area?

Less Than Significant Impact. The closest airport to the water intake site adjacent to Pine Mountain Lake at Dunn Court is the Pine Mountain Lake Airport, located approximately 1.3 miles east of the Project site. There are no land uses associated with the proposed Project that would impact any airport operations. Therefore, the Project has ***a less than significant impact*** on any airport land use plans or airport noise.

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[9] California Department of Toxic Substance Control. EnviroStor. https://www.envirostor.dtsc.ca.gov/public/map/?myaddress=groveland+CA Accessed January 2023.

[10] California State Water Resources Control Board. GeoTracker. https://geotracker.waterboards.ca.gov/map/?CMD=runreport&myaddress=groveland+ca. Accessed January 2023.

Mitigation Measures: None are required.

f. Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?

Less Than Significant Impact. The proposed Project consists of construction and operation of two new groundwater wells, a 140,000-gallon storage tank, 5500 linear feet of 8-inch water distribution pipeline, a water supply treatment system along with an interconnection pipeline between the new and existing locations, and a slide gate on the alternate water supply intake. Project construction will be temporary in nature and would not require any road closures nor would they interfere with any adopted emergency response or evaluation plan. Construction schedules pertaining to pipelines within roadways will be coordinated with police/fire/emergency services. Adequate emergency access will be maintained at all times. As such, any impacts will be ***less than significant***.

Mitigation Measures: None are required.

g. Expose people or structures either directly or indirectly to a significant risk of loss, injury or death involving wildland fires?

Less Than Significant Impact. Implementation of the Project would not change the degree of exposure to wildfires because no new housing or businesses will be constructed. Therefore, there is a ***less than significant impact.***

Mitigation Measures: None are required.

X. HYDROLOGY AND WATER QUALITY

Would the project:

	Potentially Significant Impact	Less than Significant With Mitigation Incorporation	Less than Significant Impact	No Impact
a. Violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or ground water quality?	☐	☐	☒	☐
b. Substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin?	☐	☐	☒	☐
c. Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner which would:	☐	☐	☒	☐
i. Result in substantial erosion or siltation on- or off- site;	☐	☐	☒	☐
ii. substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or offsite;	☐	☐	☒	☐
iii. 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; or	☐	☐	☒	☐
iv. impede or redirect flood flows?	☐	☐	☒	☐

X. HYDROLOGY AND WATER QUALITY

Would the project:	Potentially Significant Impact	Less than Significant With Mitigation Incorporation	Less than Significant Impact	No Impact
d. In flood hazard, tsunami, or seiche zones, risk release of pollutants due to project inundation?	☐	☐	☐	☒
e. Conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan?	☐	☐	☐	☒

RESPONSES

a. Violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or ground water quality?

Less Than Significant Impact. The proposed Project consists of construction and operation of two new groundwater wells, a 140,000-gallon storage tank, 5500 linear feet of 8-inch water distribution pipeline, a water supply treatment system along with an interconnection pipeline between the new and existing locations, and a slide gate on the alternate water supply intake.

Construction

Excavation, removal of vegetation cover, and soil-impacting activities associated with construction of the Project could temporarily increase runoff, erosion, and sedimentation. Construction activities also could result in soil compaction and wind erosion effects that could adversely affect soils and reduce the revegetation potential at construction sites and staging areas.

Three general sources of potential short-term construction-related stormwater pollution associated with the proposed Project are: 1) the handling, storage, and disposal of construction materials containing pollutants; 2) the maintenance and operation of construction equipment; and 3) earth moving activities which, when not controlled, may generate soil erosion and transportation, via storm runoff or mechanical equipment. Generally, routine safety precautions for handling and storing construction materials may effectively mitigate the potential pollution of stormwater by these materials. These same types of

common sense, "good housekeeping" procedures can be extended to non-hazardous stormwater pollutants such as sawdust and other solid wastes.

Poorly maintained vehicles and heavy equipment leaking fuel, oil, antifreeze, or other fluids on the construction site are also common sources of stormwater pollution and soil contamination. In addition, grading activities can greatly increase erosion processes. Two general strategies are recommended to prevent construction silt from entering local storm drains. First, erosion control procedures should be implemented for those areas that must be exposed. Secondly, the area should be secured to control offsite migration of pollutants. These best management practices (BMPs) would be required in the Storm Water Pollution Prevention Plan (SWPPP) to be prepared prior to commencement of Project construction activities. When properly designed and implemented, these "good-housekeeping" practices are expected to reduce short-term construction-related impacts to less than significant.

In accordance with the National Pollutant Discharge Elimination System (NPDES) Stormwater Program, the Project will be required to comply with existing regulatory requirements to prepare a Storm Water Pollution Prevention Plan (SWPPP) designed to control erosion and the loss of topsoil to the extent practicable using BMPs that the RWQCB has deemed effective in controlling erosion, sedimentation, runoff during construction activities. The specific controls are subject to the review and approval by the RWQCB and are an existing regulatory requirement. Preparation of a SWPPP is a regulatory requirement of the Project and thus is not listed as a mitigation measure. Compliance with the NPDES and SWPPP would ensure that the proposed Project would have a less than significant impact relative to this topic.

Operation

The Groveland CSD is proposing a drinking water infrastructure improvement project. The purpose of the Project is to ensure an adequate water supply during drought conditions. The water will be treated in compliance with the California State Regional Water Quality Control Board standards. There are no water discharge activities associated with the Project, once constructed. Any impacts would be ***less than significant***.

Mitigation Measures: None are required.

b. <u>Substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin?</u>

Less Than Significant Impact. The purpose of the proposed Project is to ensure an adequate water supply to the communities of Big Oak Flat, Groveland, and Pine Mountain Lake during drought conditions. The Groveland CSD will pursue funding for the Project from the Urban Drought Relief Grant

Program. The Urban Drought Relief Grant Program, administered by the California Department of Water Resources, is a state program that offers low-cost financing for a wide variety of drought relief and water quality projects. The proposed Project is needed to alleviate existing and potential future water supply issues for the CSD. The proposed Project would not substantially deplete groundwater resources such that a significant environmental impact would occur. Therefore, the impact is ***less than significant.***

Mitigation Measures: None are required.

c. Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner which would:

   i. result in substantial erosion or siltation on- or offsite;

   ii. substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or offsite;

   iii. 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; or

   iv. impede or redirect flood flows?

Less Than Significant Impact. The proposed Project consists of construction and operation of two new groundwater wells, a 140,000-gallon storage tank, 5500 linear feet of 8-inch water distribution pipeline, a water supply treatment system along with an interconnection pipeline between the new and existing locations, and a slide gate on the alternate water supply intake. Construction of the new water wells, water storage tank, and water supply treatment system will result in the introduction of new impervious surfaces. However, given the highly disturbed nature of the Project areas, the improvements are not anticipated to significantly alter the drainage pattern of the site. The proposed pipeline will not introduce new non-permeable surfaces. Once constructed, the pipeline will be underground and the surface area will be restored to pre-Project conditions. During construction, the CSD would be required to obtain a Stormwater Pollution Prevention Plan to minimize erosion and potential site runoff. During construction, the District or construction contractor would be required to obtain a Stormwater Pollution Prevention Plan to minimize erosion and potential site runoff. A copy of the SWPPP is retained on-site during construction. All other on-site drainage will be collected and deposited in the District's storm drain system. As such, any impacts resulting from drainage patterns would be ***less than significant.***

Mitigation Measures: None are required.

d. In flood hazard, tsunami or seiche zones, risk release of pollutants due to project inundation?

e. Conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan?

No Impact. The Project site is not in a flood plain (FEMA 2022). The nearest flood plain limit is Priest Reservoir approximately 1.4 miles southwest of the Project site. In addition, the Project does not include any housing or structures that would be subject to flooding either from a watercourse or from dam inundation. There are no bodies of water near the site that would create a potential risk of hazards from seiche, tsunami or mudflow. The Project will not conflict with any water quality control plans or sustainable groundwater management plan. Therefore, there are ***no impacts.***

Mitigation Measures: None are required.

XI. LAND USE AND PLANNING

Would the project:

	Potentially Significant Impact	Less than Significant With Mitigation Incorporation	Less than Significant Impact	No Impact
a. Physically divide an established community?	☐	☐	☐	☒
b. Cause a significant environmental impact due to a conflict with any land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect?	☐	☐	☐	☒

RESPONSES

a. Physically divide an established community?

b. Cause a significant environmental impact due to a conflict with any land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect?

No Impact. The purpose of the proposed Project is to upgrade the existing water infrastructure and ensure an adequate water supply during drought conditions. The proposed Project will take place in the communities of Big Oak Flat, Groveland, and Pine Mountain Lake in western Tuolumne County, and covers multiple land parcels. These communities lie along State Route 120, east of State Route 49 near the Groveland CSD. Construction and operation of the Project itself would not cause any land use changes in the surrounding vicinity nor would it divide an established community. The immediate vicinity of the proposed Project site is comprised of rural undeveloped land uses and existing public utilities. The proposed Project has no characteristics that would physically divide the Groveland CSD. Access to the existing surrounding establishments will remain. ***No impacts*** would occur as a result of Project implementation.

Mitigation Measures: None are required.

XI. MINERAL RESOURCES

Would the project:	Potentially Significant Impact	Less than Significant With Mitigation Incorporation	Less than Significant Impact	No Impact
a. Result in the loss of availability of a known mineral resource that would be of 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?	☐	☐	☐	☒

REPONSES

a. Result in the loss of availability of a known mineral resource that would be of 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?

No Impact. There are no known mineral resources in the proposed Project area.[11] Construction will take place within and around the existing streetscape and public utilities land and not in an area with known mineral resources. Therefore, there is ***no impact***.

Mitigation Measures: None are required.

[11] Mineral Land Classification, California Department of Conservation. https://maps.conservation.ca.gov/cgs/informationwarehouse/index.html?map=mlc. Accessed January 2023.

XII. NOISE

Would the project:

	Potentially Significant Impact	Less than Significant With Mitigation Incorporation	Less than Significant Impact	No Impact
a. Generation of a substantial temporary or permanent increase in ambient noise levels in the vicinity of the project in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?	☐	☐	☒	☐
b. Generation of excessive groundborne vibration or groundborne noise levels?	☐	☐	☒	☐
c. For a project located within the vicinity of a private airstrip or 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 or working in the project area to excessive noise levels?	☐	☐	☐	☒

RESPONSES

a. Generation of a substantial temporary or permanent increase in ambient noise levels in the vicinity of the project in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?

b. Generation of excessive groundborne vibration or groundborne noise levels?

Less Than Significant Impact. The nearest sensitive receptors to the proposed Project would be the rural residences near the water storage tank, and along the water distribution pipelines, as presented in Figures 3 and 4 in Chapter Two. Project construction would involve temporary, short-term noise sources including site preparation and installation of the pipeline and site cleanup work is expected to last for approximately one year. Construction-related short-term, temporary noise levels would be higher than existing ambient noise levels in the Project area, but is temporary and would not occur after construction is completed. The water wells and storage tank will have pumps and motorized equipment. These

mechanisms will be enclosed, which will reduce the noise impact to a less than significant level. However, once operational, the installed equipment will not generate noise significantly above levels that currently exist.

During the proposed Project construction, noise from construction related activities will contribute to the noise environment in the immediate vicinity. Activities involved in construction will generate maximum noise levels, as indicated in Table 2, ranging from 79 to 91 dBA at a distance of 50 feet, without feasible noise control (e.g., mufflers) and ranging from 75 to 80 dBA at a distance of 50 feet, with feasible noise controls.

Table 2

Typical Construction Noise Levels

Type of Equipment	dBA at 50 ft	
	Without Feasible Noise Control	With Feasible Noise Control
Dozer or Tractor	80	75
Excavator	88	80
Scraper	88	80
Front End Loader	79	75
Backhoe	85	75
Grader	85	75
Truck	91	75

The distinction between short-term construction noise impacts and long-term operational noise impacts is a typical one in both CEQA documents and local noise ordinances, which generally recognize the reality that short-term noise from construction is inevitable and cannot be mitigated beyond a certain level. Thus, local agencies frequently tolerate short-term noise at levels that they would not accept for permanent noise sources. A more severe approach would be impractical and might preclude the kind of construction activities that are to be expected from time to time. Most residents recognize this reality and expect to hear construction activities on occasion.

Typical outdoor sources of perceptible ground borne vibration are construction equipment, steel-wheeled trains, and traffic on rough roads. Construction vibrations can be transient, random, or continuous. Construction associated with the proposed Project is earthmoving activities associated installing pipelines and installing equipment.

The approximate threshold of vibration perception is 65 VdB, while 85 VdB is the vibration acceptable only if there are an infrequent number of events per day.[12] Table 3 describes the typical construction equipment vibration levels.

Table 3
Typical Construction Vibration Levels

Equipment	VdB at 25 ft
Small Bulldozer	58
Jackhammer	79

Vibration from construction activities will be temporary and not exceed the Federal Transit Authority threshold for the nearest sensitive receptors.

As such, any impacts resulting from an increase in noise levels or from groundborne noise levels is ***less than significant.***

Mitigation Measures: None are required.

c. For a project located within the vicinity of a private airstrip or 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 or working in the project area to excessive noise levels?

No Impact. The Project is not located within an airport land use plan. The closest airport to the water intake site adjacent to Pine Mountain Lake at Dunn Court is the Pine Mountain Lake Airport, located approximately 1.3 miles east of the Project site.

Mitigation Measures: None are required.

[12] Transit Noise & Vibration Impact Assessment. September 2018. Federal Transit Administration, U.S. Department of Transportation. Page 108.

XIV. POPULATION AND HOUSING

Would the project:

	Potentially Significant Impact	Less than Significant With Mitigation Incorporation	Less than Significant Impact	No Impact
a. Induce substantial unplanned population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure)?	☐	☐	☐	☒
b. Displace substantial numbers of existing people or housing, necessitating the construction of replacement housing elsewhere?	☐	☐	☐	☒

RESPONSE

a. Induce substantial unplanned population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure)?

b. Displace substantial numbers of existing people or housing, necessitating the construction of replacement housing elsewhere?

No Impact. The proposed Project involves construction and operation of two new groundwater wells, a water storage tank, distribution pipelines, water supply treatment system, and a slide gate on the alternate water supply intake across the communities of Big Oak Flat, Groveland, and Pine Mountain Lake in Tuolumne County. There are no new homes or businesses associated with the proposed Project, nor would Project implementation displace people or housing. Therefore no population will be induced from the Project. There will be ***no impact***.

Mitigation Measures: None are required.

XV. PUBLIC SERVICES

Would the project:

	Potentially Significant Impact	Less than Significant With Mitigation Incorporation	Less than Significant Impact	No Impact
a. Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for any of the public services:				
Fire protection?	☐	☐	☒	☐
Police protection?	☐	☐	☒	☐
Schools?	☐	☐	☐	☒
Parks?	☐	☐	☐	☒
Other public facilities?	☐	☐	☐	☒

RESPONSES

a. Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for any of the public services:

Fire Protection?

Police Protection?

Less Than Significant Impact. The purpose of the proposed Project is to upgrade the existing water infrastructure and ensure an adequate water supply during drought conditions. The proposed Project consists of installing a new groundwater well, installing a new water storage tank and distribution line,

relocating the alternate water supply water treatment system, and improving the alternate water supply intake. The proposed Project would not directly or indirectly induce population growth and Tuolumne County Sheriff Station will continue to provide service to Project area. The Groveland Community Services District currently has a cooperative agreement with the California Department of Forestry and Fire Protection (CALFIRE) to provide fire protection services for the community via a Schedule A Agreement. The Groveland Fire Department/CALFIRE and Tuolumne County Fire Department would continue to provide service to the site. As such, there will be ***less than significant impacts.***

Schools, Parks, Other Public Facilities?

The proposed Project would not increase the number of residents in the District, as the Project does not include residential units. Because the demand for schools, parks, and other public facilities is driven by population, the proposed Project would not increase demand for those services. As such, the proposed Project would result in ***no impacts.***

Mitigation Measures: None are required.

XVI. RECREATION

Would the project:

	Potentially Significant Impact	Less than Significant With Mitigation Incorporation	Less than Significant Impact	No Impact
a. Would the project 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. Does the project include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment?	☐	☐	☐	☒

RESPONSES

a. Would the project 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. Does the project include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment?

No Impact. The proposed Project involves construction and operation of groundwater wells, water storage tank, water supply treatment system, and distributions pipelines. The proposed Project does not include the construction of residential uses and would not directly or indirectly induce population growth. Therefore, the proposed Project would not cause physical deterioration of existing recreational facilities from increased usage or result in the need for new or expanded recreational facilities. The Project would have ***no impact*** to existing parks.

Mitigation Measures: None are required.

XVII. TRANSPORTATION/ TRAFFIC

Would the project:	Potentially Significant Impact	Less than Significant With Mitigation Incorporation	Less than Significant Impact	No Impact
a. Conflict with a program plan, ordinance or policy addressing the circulation system, including transit, roadway, bicycle and pedestrian facilities?	☐	☐	☒	☐
b. Would the project conflict or be inconsistent with CEQA Guidelines section 15064.3, subdivision (b)?	☐	☐	☒	☐
c. Substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?	☐	☐	☒	☐
d. Result in inadequate emergency access?	☐	☐	☒	☐

RESPONSES

a. Conflict with a program plan, ordinance or policy addressing the circulation system, including transit, roadway, bicycle and pedestrian facilities?

b. Would the project conflict or be inconsistent with CEQA Guidelines section 15064.3, subdivision (b)?

c. Substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?

d. Result in inadequate emergency access?

Less Than Significant Impact. The proposed Project involves construction and operation of groundwater wells, water storage tank, water supply treatment system, and distributions pipelines. The proposed Project would not cause a substantial increase in traffic, reduce the existing level of service, create any additional congestion at any intersections, or be inconsistent with CEQA Guidelines Section 15064.3. Once constructed, the new wells, storage tank, pipelines, and water treatment system will not generate any substantial additional daily traffic. The Project components would require periodic trips

associated with maintenance and inspection, however, these trips would be sporadic and as such, level of service standards would not be exceeded. In addition, the Project would not modify or impact any existing streets or roadways. Thus, there are no components of the Project that would increase hazards due to a geometric design feature. Construction schedules pertaining to pipelines within roadways will be coordinated with police/fire/emergency services. Adequate emergency access will be maintained at all times. The Project would not conflict with a program plan, ordinance, or policy addressing the circulation system and as such, impacts would be ***less than significant.***

Mitigation Measures: None are required.

XVIII. TRIBAL CULTURAL RESOURCES

Would the project:

	Potentially Significant Impact	Less than Significant With Mitigation Incorporation	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 Resource Code Section 5024.1, the lead agency shall consider the significance of the resource to a California Native American tribe.	☐	☐	☒	☐

RESPONSES

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 Resource Code Section 5024.1, the lead agency shall consider the significance of the resource to a California Native American tribe.

Less Than Significant Impact. A search of the Native American Heritage Ccommission *Sacred Lands File* was completed on December 12, 2022. Based on the NAHC records, no sacred sites or traditional cultural places had been identified within or adjacent to the study area. Outreach letters were sent to tribal organizations on the NAHC contact list on January 10th, 2023. No responses have been received as of the writing of this report. Therefore, the impact is ***less than significant.***

Mitigation Measures: None are required.

XIX. UTILITIES AND SERVICE SYSTEMS

Would the project:

	Potentially Significant Impact	Less than Significant With Mitigation Incorporation	Less than Significant Impact	No Impact
a. Require or result in the relocation or construction of new or expanded water, wastewater treatment or storm water drainage, electric power, natural gas, or telecommunications facilities, the construction or relocation of which could cause significant environmental effects?	☐	☒	☐	☐
b. Have sufficient water supplies available to serve the project and reasonably foreseeable future development during normal, dry and multiple dry years?	☐	☐	☒	☐
c. Result in a determination by the wastewater treatment provider which serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments?	☐	☐	☒	☐
d. Generate solid waste in excess of State or local standards, or in excess of the capacity of local infrastructure, or otherwise impair the attainment of solid waste reduction goals?	☐	☐	☐	☒
e. Comply with federal, state, and local management and reduction statutes and regulations related to solid waste?	☐	☐	☐	☒

RESPONSES

a. Require or result in the relocation or construction of new or expanded water, wastewater treatment or storm water drainage, electric power, natural gas, or telecommunications facilities, the construction or relocation of which could cause significant environmental effects?

Less Than Significant Impact with Mitigation. The primary purpose of the proposed Project is to upgrade the water supply infrastructure for the communities of Big Oak Flat, Groveland, and Pine Mountain Lake to ensure an adequate water supply during drought conditions. The Project itself is the construction of two new groundwater wells, a 140,000 gallon water storage tank, water supply treatment system, distribution pipelines, and a slide gate. All environmental impacts resulting from the improvements are discussed within this document. Therefore, there is a ***less than significant impact with mitigation.***

Mitigation Measures: The Project will require multiple mitigation measures as identified throughout this document.

b. Have sufficient water supplies available to serve the project and reasonably foreseeable future development during normal, dry and multiple dry years?

Less Than Significant Impact. The proposed Project is intended to provide adequate water supplies to the communities of Big Oak Flat, Groveland, and Pine Mountain Lake. The Groveland CSD will pursue funding for the Project from the Urban Drought Relief Grant Program. The Urban Drought Relief Grant Program, administered by the California Department of Water Resources, is a state program that offers low-cost financing for a wide variety of drought relief and water quality projects. The proposed Project would not substantially deplete groundwater resources such that a significant environmental impact would occur. All potential development will be required to adhere to all CSD and State mandated water conservation measures and regulations. As such, any impacts to groundwater supplies will be ***less than significant***.

Mitigation Measures: None are required.

c. Result in a determination by the wastewater treatment provider which serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments?

Less Than Significant Impact. As the proposed Project includes improvements to the CSD's water supply, no component of the proposed Project would generate wastewater. Any impacts would be ***less than significant***.

Mitigation Measures: None are required.

d. Generate solid waste in excess of State or local standards, or in excess of the capacity of local infrastructure, or otherwise impair the attainment of solid waste reduction goals?

e. Comply with federal, state, and local management and reduction statutes and regulations related to solid waste?

Less Than Significant Impact. Proposed Project construction and operation will generate minimal amounts of solid waste. The proposed new facilities will be un-manned and will not generate solid waste on an on-going basis. The proposed Project will comply with all federal, state and local statutes and regulations related to solid waste. Any impacts will be ***less than significant.***

Mitigation Measures: None are required.

XX. WILDFIRE

If located in or near state responsibility areas or lands classified as very high fire hazard severity zones, would the project:	Potentially Significant Impact	Less than Significant With Mitigation Incorporation	Less than Significant Impact	No Impact
a. Substantially impair an adopted emergency response plan or emergency evacuation plan?	☐	☐	☒	☐
b. Due to slope, prevailing winds, and other factors, exacerbate wildfire risks, and thereby expose project occupants to, pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire?	☐	☐	☒	☐
c. Require the installation or maintenance of associated infrastructure (such as roads, fuel breaks, emergency water sources, power lines or other utilities) that may exacerbate fire risk or that may result in temporary or ongoing impacts to the environment?	☐	☐	☒	☐
d. Expose people or structures to significant risks, including downslope or downstream flooding or landslides, as a result of runoff, post-fire slope instability, or drainage changes?	☐	☐	☒	☐

RESPONSES

a. Substantially impair an adopted emergency response plan or emergency evacuation plan?

b. Due to slope, prevailing winds, and other factors, exacerbate wildfire risks, and thereby expose project occupants to, pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire?

c. Require the installation or maintenance of associated infrastructure (such as roads, fuel breaks, emergency water sources, power lines or other utilities) that may exacerbate fire risk or that may result in temporary or ongoing impacts to the environment?

d. Expose people or structures to significant risks, including downslope or downstream flooding or landslides, as a result of runoff, post-fire slope instability, or drainage changes?

Less Than Significant Impact. The proposed Project site consists of developed and disturbed land cover surrounded by oak and pine forest (Figures 11–17 of Appendix B). Land uses include commercial, residential, and recreational. The proposed Project components are located in areas that have been developed with urban uses within a forested area. There is no increased risk or on-going risk of wildfire beyond existing conditions associated with the Project.

As such, any wildfire risk to the Project structures or people would be ***less than significant.***

Mitigation Measures: None are required.

XXI. MANDATORY FINDINGS OF SIGNIFICANCE

Would the project:

	Potentially Significant Impact	Less than Significant With Mitigation Incorporation	Less than Significant Impact	No Impact
a. Does the project have the potential to substantially 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, substantially 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 which will cause substantial adverse effects on human beings, either directly or indirectly?	☐	☒	☐	☐

RESPONSES

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?

Less Than Significant Impact With Mitigation. The analyses of environmental issues contained in this Initial Study indicate that the proposed Project is not expected to have substantial impact on the environment or on any resources identified in the Initial Study. Mitigation measures have been incorporated in the Project to reduce all potentially significant impacts to ***less than significant***.

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)?

Less Than Significant Impact. CEQA Guidelines Section 15064(i) states that a Lead Agency shall consider whether the cumulative impact of a project is significant and whether the effects of the project are cumulatively considerable. The assessment of the significance of the cumulative effects of a project must, therefore, be conducted in connection with the effects of past projects, other current projects, and probable future projects. Due to the nature of the Project and consistency with environmental policies, incremental contributions to impacts are considered less than cumulatively considerable. The proposed Project would not contribute substantially to adverse cumulative conditions, or create any substantial indirect impacts (i.e., increase in population could lead to an increase need for housing, increase in traffic, air pollutants, etc.). The impact is ***less than significant***.

c. Does the project have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly?

Less Than Significant Impact With Mitigation. The analyses of environmental issues contained in this Initial Study indicate that the project is not expected to have substantial impact on human beings, either directly or indirectly. Mitigation measures have been incorporated in the Project to reduce all potentially significant impacts to ***less than significant.***

Chapter 4

MITIGATION MONITORING & REPORTING PROGRAM

MITIGATION MONITORING AND REPORTING PROGRAM

This Mitigation Monitoring and Reporting Program (MMRP) has been formulated based upon the findings of the Initial Study/Mitigated Negative Declaration (IS/MND) for the Groveland Community Services District's Drought Improvements Project (Project). The MMRP lists mitigation measures recommended in the IS/MND for the proposed Project and identifies monitoring and reporting requirements.

The first column of the Table identifies the mitigation measure. The second column, entitled "Party Responsible for Implementing Mitigation," names the party responsible for carrying out the required action. The third column, "Implementation Timing," identifies the time the mitigation measure should be initiated. The fourth column, "Party Responsible for Monitoring," names the party ultimately responsible for ensuring that the mitigation measure is implemented. The last column will be used by the Groveland Community Services District to ensure that individual mitigation measures have been monitored.

Mitigation Measure	Party responsible for Implementing Mitigation	Implementation Timing	Party responsible for Monitoring	Verification (name/date)
Biology				
BIO-1: Protect Northwestern Pond Turtle To A pre-construction clearance survey shall be conducted by a qualified biologist to ensure that northwestern pond turtle will not be impacted during Project construction. The pre-construction clearance survey shall be conducted no more than 14 days prior to the start of construction activities within 300 feet of potential aquatic habitat (Rattlesnake Creek and adjacent pond) for northwestern pond turtle. During this survey, the qualified biologist shall search all aquatic habitat for turtles and all potential nesting habitat on the Project site for active turtle nests. If a turtle is found, it will be allowed to the leave the area on its own. If an active turtle nest is found, the qualified biologist shall determine the extent of a construction-free buffer to be established and maintained around the nest for the duration of the nesting cycle. The biologist shall then work with construction personnel to install wildlife exclusion fencing along the buffer. This fencing should be a minimum of 36 inches tall and towed-in 6 inches below ground prior to construction activities. If fencing cannot be toed-in, the bottom of the fence	Groveland CSD / Construction Contractor	Prior to and during construction	Groveland CSD / Construction Contractor	

Mitigation Measure	Party responsible for Implementing Mitigation	Implementation Timing	Party responsible for Monitoring	Verification (name/date)
will be weighted down with a continuous line of long, narrow sandbags or similar, to ensure there are no gaps under the fencing where wildlife could enter. One-way exit funnels directed away from construction activities will be installed to allow turtles and other small wildlife to exit the fenced enclosure.				
BIO-2: Protect Nesting Bald Eagle. 1. To the extent practicable, construction shall be scheduled to avoid the nesting season, which extends from February through July. 2. If it is not possible to schedule construction between August and January, preconstruction surveys for nesting bald eagles shall be conducted by a qualified biologist to ensure that no active nests will be disturbed during Project implementation. A pre-construction survey shall be conducted no more than 14 days prior to the initiation of construction activities. During this survey, the qualified biologist shall inspect all potential nest substrates (large trees) within 0.5 miles of the impact areas at Pine Mountain Lake for nests. If an active nest is found close enough to the construction area to be disturbed by Project	Groveland CSD / Construction Contractor	Prior to and during construction	Groveland CSD / Construction Contractor	

Mitigation Measure	Party responsible for Implementing Mitigation	Implementation Timing	Party responsible for Monitoring	Verification (name/date)
activities, the qualified biologist in consultation with the CDFW shall determine the extent of a construction-free buffer to be established around the nest. If work cannot proceed without disturbing the nesting eagles, work may need to be halted or redirected to other areas until nesting and fledging are completed or the nest has otherwise failed for non-construction related reasons.				
BIO-3: Protect Western Red Bat. 1. To the extent practicable, construction shall be scheduled to avoid the birthing and pupping season for western red bat, which extends from May through August. 2. If it is not possible to schedule construction between September and April, preconstruction surveys for roosting bats shall be conducted by a qualified biologist to ensure that no active maternal colonies will be disturbed during Project implementation. A pre-construction survey shall be conducted no more than 14 days prior to the initiation of construction activities. During this survey, the qualified biologist shall inspect all potential colony substrates in and immediately adjacent to the	Groveland CSD / Construction Contractor	Prior to and during construction	Groveland CSD / Construction Contractor	

Mitigation Measure	Party responsible for Implementing Mitigation	Implementation Timing	Party responsible for Monitoring	Verification (name/date)
impact areas for maternity roosts. If an active maternity roost is found close enough to the construction area to be disturbed by work activities, the qualified biologist shall determine the extent of a construction-free buffer to be established around the colony. If work cannot proceed without disturbing the colony, work may need to be halted or redirected to other areas until young are able to fly or the colony has otherwise failed for non-construction related reasons.				
BIO-4: Protect nesting birds. 1. To the extent practicable, construction shall be scheduled to avoid the nesting season, which extends from February through August. 2. If it is not possible to schedule construction between September and January, preconstruction surveys for nesting birds shall be conducted by a qualified biologist to ensure that no active nests will be disturbed during Project implementation. A pre-construction survey shall be conducted no more than 14 days prior to the initiation of construction activities. During this survey, the qualified biologist shall inspect all potential nest	Groveland CSD / Construction Contractor	Prior to and during construction	Groveland CSD / Construction Contractor	

Mitigation Measure	Party responsible for Implementing Mitigation	Implementation Timing	Party responsible for Monitoring	Verification (name/date)
substrates in and immediately adjacent to the impact areas for nests. If an active nest is found close enough to the construction area to be disturbed by these activities, the qualified biologist shall determine the extent of a construction-free buffer to be established around the nest. If work cannot proceed without disturbing the nesting birds, work may need to be halted or redirected to other areas until nesting and fledging are completed or the nest has otherwise failed for non-construction related reasons.				
Cultural				
CUL-1: In the event that archaeological remains are encountered at any time during development or ground-moving activities within the entire Project area, all work in the vicinity of the find should be halted until a qualified archaeologist can assess the discovery and take appropriate actions as necessary.	Groveland CSD / Construction Contractor	Prior to and during construction	Groveland CSD / Construction Contractor	

Chapter 5

PREPARERS

LIST OF PREPARERS

Crawford & Bowen Planning, Inc.

- Travis Crawford, AICP, Principal Environmental Planner
- Deepesh Tourani, Environmental Planner

AM Consulting Engineers

- Alfonso Manrique, PE
- Brandon Cauble, Associate Engineer

Colibri Ecological Consulting, LLC

- Ryan Slezak, Biologist

Appendices

Appendix A

Air Emission Output Tables

Road Construction Emissions Model, Version 9.0.1

Daily Emission Estimates for -> Groveland Drought Improvements Project

Project Phases (Pounds)	ROG (lbs/day)	CO (lbs/day)	NOx (lbs/day)	Total PM10 (lbs/day)	Exhaust PM10 (lbs/day)	Fugitive Dust PM10 (lbs/day)	Total PM2.5 (lbs/day)	Exhaust PM2.5 (lbs/day)	Fugitive Dust PM2.5 (lbs/day)	SOx (lbs/day)	CO2 (lbs/day)	CH4 (lbs/day)	N2O (lbs/day)	CO2e (lbs/day)
Grubbing/Land Clearing	0.04	0.42	0.04	10.02	0.02	10.00	2.09	0.01	2.08	0.00	114.46	0.00	0.00	115.57
Grading/Excavation	0.12	1.20	0.10	10.05	0.05	10.00	2.10	0.02	2.08	0.00	329.07	0.01	0.01	332.26
Drainage/Utilities/Sub-Grade	0.09	0.85	0.07	10.03	0.03	10.00	2.09	0.01	2.08	0.00	238.01	0.01	0.01	240.25
Paving	0.06	0.63	0.05	0.03	0.03	0.00	0.01	0.01	0.00	0.00	179.58	0.01	0.01	181.25
Maximum (pounds/day)	0.12	1.20	0.10	10.05	0.05	10.00	2.10	0.02	2.08	0.00	329.07	0.01	0.01	332.26
Total (tons/construction project)	0.02	0.19	0.02	1.69	0.01	1.68	0.35	0.00	0.35	0.00	51.06	0.00	0.00	51.55

Notes:

Project Start Year ->	2023
Project Length (months) ->	18
Total Project Area (acres) ->	2
Maximum Area Disturbed/Day (acres) ->	1
Water Truck Used? ->	No

	Total Material Imported/Exported Volume (yd^3/day)		Daily VMT (miles/day)			
Phase	Soil	Asphalt	Soil Hauling	Asphalt Hauling	Worker Commute	Water Truck
Grubbing/Land Clearing	0	0	0	0	160	0
Grading/Excavation	0	0	0	0	460	0
Drainage/Utilities/Sub-Grade	0	0	0	0	340	0
Paving	0	0	0	0	260	0

PM10 and PM2.5 estimates assume 50% control of fugitive dust from watering and associated dust control measures if a minimum number of water trucks are specified.

Total PM10 emissions shown in column F are the sum of exhaust and fugitive dust emissions shown in columns G and H. Total PM2.5 emissions shown in Column I are the sum of exhaust and fugitive dust emissions shown in columns J and K.

CO2e emissions are estimated by multiplying mass emissions for each GHG by its global warming potential (GWP), 1 , 25 and 298 for CO2, CH4 and N2O, respectively. Total CO2e is then estimated by summing CO2e estimates over all GHGs.

Total Emission Estimates by Phase for -> Groveland Drought Improvements Project

Project Phases (Tons for all except CO2e. Metric tonnes for CO2e)	ROG (tons/phase)	CO (tons/phase)	NOx (tons/phase)	Total PM10 (tons/phase)	Exhaust PM10 (tons/phase)	Fugitive Dust PM10 (tons/phase)	Total PM2.5 (tons/phase)	Exhaust PM2.5 (tons/phase)	Fugitive Dust PM2.5 (tons/phase)	SOx (tons/phase)	CO2 (tons/phase)	CH4 (tons/phase)	N2O (tons/phase)	CO2e (MT/phase)
Grubbing/Land Clearing	0.00	0.01	0.00	0.20	0.00	0.20	0.04	0.00	0.04	0.00	2.27	0.00	0.00	2.08
Grading/Excavation	0.01	0.11	0.01	0.90	0.00	0.89	0.19	0.00	0.19	0.00	29.32	0.00	0.00	26.86
Drainage/Utilities/Sub-Grade	0.01	0.05	0.00	0.60	0.00	0.59	0.12	0.00	0.12	0.00	14.14	0.00	0.00	12.95
Paving	0.00	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	5.33	0.00	0.00	4.88
Maximum (tons/phase)	0.01	0.11	0.01	0.90	0.00	0.89	0.19	0.00	0.19	0.00	29.32	0.00	0.00	26.86
Total (tons/construction project)	0.02	0.19	0.02	1.69	0.01	1.68	0.35	0.00	0.35	0.00	51.06	0.00	0.00	46.76

PM10 and PM2.5 estimates assume 50% control of fugitive dust from watering and associated dust control measures if a minimum number of water trucks are specified.

Total PM10 emissions shown in column F are the sum of exhaust and fugitive dust emissions shown in columns G and H. Total PM2.5 emissions shown in Column I are the sum of exhaust and fugitive dust emissions shown in columns J and K.

CO2e emissions are estimated by multiplying mass emissions for each GHG by its global warming potential (GWP), 1 , 25 and 298 for CO2, CH4 and N2O, respectively. Total CO2e is then estimated by summing CO2e estimates over all GHGs.

The CO2e emissions are reported as metric tons per phase.

Groveland Drought Improvements Project - Tuolumne County APCD Air District, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

Groveland Drought Improvements Project

Tuolumne County APCD Air District, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
General Light Industry	40.00	1000sqft	0.92	40,000.00	0
General Light Industry	40.00	1000sqft	0.92	40,000.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	66
Climate Zone	1			**Operational Year**	2025
Utility Company					
CO2 Intensity (lb/MWhr)	0	**CH4 Intensity (lb/MWhr)**	0	**N2O Intensity (lb/MWhr)**	0

1.3 User Entered Comments & Non-Default Data

Project Characteristics - Project includes water supply improvement components. Project includes construction of:
1) two new groundwater wells,
2) a 140,000 gallon water storage tank,
3) 5500 linear feet of 8-inch water distribution pipeline (not included in CalEEMod, calculated separately),
4) water supply treatment system,
5) slide gate on alternate water supply intake.
Total area of potential effect for the wells, storage tank, and water treatment system is approximately 3 acres.

Land Use - Light Industry land use type is assumed for drilling and construction of the two new groundwater water wells (approximately 20,000 sq.ft. of disturbed area each), a new 140,000 gallon water storage tank (approximately 20,000 sq.ft. of disturbed area), and a new water supply treatment system (approximately 20,000 sq.ft. of disturbed area).
Emissions from the installation of distribution pipeline are calculated separately.

Table Name	Column Name	Default Value	New Value

2.0 Emissions Summary

Groveland Drought Improvements Project - Tuolumne County APCD Air District, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

2.1 Overall Construction

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2023	0.1905	1.4310	1.5353	2.9900e-003	0.0559	0.0592	0.1151	0.0195	0.0569	0.0763	0.0000	254.0457	254.0457	0.0382	5.0700e-003	256.5108
2024	0.9365	0.0722	0.0985	1.7000e-004	1.8500e-003	3.0900e-003	4.9400e-003	5.0000e-004	2.9300e-003	3.4300e-003	0.0000	14.8183	14.8183	2.9100e-003	1.8000e-004	14.9436
Maximum	**0.9365**	**1.4310**	**1.5353**	**2.9900e-003**	**0.0559**	**0.0592**	**0.1151**	**0.0195**	**0.0569**	**0.0763**	**0.0000**	**254.0457**	**254.0457**	**0.0382**	**5.0700e-003**	**256.5108**

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2023	0.1905	1.4310	1.5353	2.9900e-003	0.0559	0.0592	0.1151	0.0195	0.0569	0.0763	0.0000	254.0454	254.0454	0.0382	5.0700e-003	256.5106
2024	0.9365	0.0722	0.0985	1.7000e-004	1.8500e-003	3.0900e-003	4.9400e-003	5.0000e-004	2.9300e-003	3.4300e-003	0.0000	14.8183	14.8183	2.9100e-003	1.8000e-004	14.9435
Maximum	**0.9365**	**1.4310**	**1.5353**	**2.9900e-003**	**0.0559**	**0.0592**	**0.1151**	**0.0195**	**0.0569**	**0.0763**	**0.0000**	**254.0454**	**254.0454**	**0.0382**	**5.0700e-003**	**256.5106**

Groveland Drought Improvements Project - Tuolumne County APCD Air District, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.01**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

Quarter	Start Date	End Date	Maximum Unmitigated ROG + NOX (tons/quarter)	Maximum Mitigated ROG + NOX (tons/quarter)
1	**2-27-2023**	**5-26-2023**	0.4772	0.4772
2	**5-27-2023**	**8-26-2023**	0.4784	0.4784
3	**8-27-2023**	**11-26-2023**	0.4803	0.4803
4	**11-27-2023**	**2-26-2024**	1.1900	1.1900
		Highest	1.1900	1.1900

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	0.4052	1.0000e-005	7.3000e-004	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	1.4300e-003	1.4300e-003	0.0000	0.0000	1.5200e-003
Energy	1.5000e-003	0.0137	0.0115	8.0000e-005		1.0400e-003	1.0400e-003		1.0400e-003	1.0400e-003	0.0000	14.8565	14.8565	2.8000e-004	2.7000e-004	14.9448
Mobile	0.3599	0.5007	2.9150	4.2100e-003	0.3931	5.3600e-003	0.3985	0.1055	5.0500e-003	0.1105	0.0000	396.8663	396.8663	0.0362	0.0235	404.7750
Waste						0.0000	0.0000		0.0000	0.0000	20.1367	0.0000	20.1367	1.1901	0.0000	49.8878
Water						0.0000	0.0000		0.0000	0.0000	5.8692	0.0000	5.8692	0.6028	0.0142	25.1815
Total	**0.7666**	**0.5143**	**2.9272**	**4.2900e-003**	**0.3931**	**6.4000e-003**	**0.3995**	**0.1055**	**6.0900e-003**	**0.1116**	**26.0059**	**411.7242**	**437.7301**	**1.8294**	**0.0380**	**494.7906**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

2.2 Overall Operational

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	0.4052	1.0000e-005	7.3000e-004	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	1.4300e-003	1.4300e-003	0.0000	0.0000	1.5200e-003
Energy	1.5000e-003	0.0137	0.0115	8.0000e-005		1.0400e-003	1.0400e-003		1.0400e-003	1.0400e-003	0.0000	14.8565	14.8565	2.8000e-004	2.7000e-004	14.9448
Mobile	0.3599	0.5007	2.9150	4.2100e-003	0.3931	5.3600e-003	0.3985	0.1055	5.0500e-003	0.1105	0.0000	396.8663	396.8663	0.0362	0.0235	404.7750
Waste						0.0000	0.0000		0.0000	0.0000	20.1367	0.0000	20.1367	1.1901	0.0000	49.8878
Water						0.0000	0.0000		0.0000	0.0000	5.8692	0.0000	5.8692	0.6028	0.0142	25.1815
Total	**0.7666**	**0.5143**	**2.9272**	**4.2900e-003**	**0.3931**	**6.4000e-003**	**0.3995**	**0.1055**	**6.0900e-003**	**0.1116**	**26.0059**	**411.7242**	**437.7301**	**1.8294**	**0.0380**	**494.7906**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Demolition	Demolition	2/27/2023	3/24/2023	5	20	
2	Site Preparation	Site Preparation	3/25/2023	3/28/2023	5	2	
3	Grading	Grading	3/29/2023	4/3/2023	5	4	

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

4	Building Construction	Building Construction	4/4/2023	1/8/2024	5	200	
5	Paving	Paving	1/9/2024	1/22/2024	5	10	
6	Architectural Coating	Architectural Coating	1/23/2024	2/5/2024	5	10	

Acres of Grading (Site Preparation Phase): 1.88

Acres of Grading (Grading Phase): 4

Acres of Paving: 0

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 120,000; Non-Residential Outdoor: 40,000; Striped Parking Area: 0 (Architectural Coating – sqft)

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Architectural Coating	Air Compressors	1	6.00	78	0.48
Paving	Cement and Mortar Mixers	1	6.00	9	0.56
Demolition	Concrete/Industrial Saws	1	8.00	81	0.73
Building Construction	Cranes	1	6.00	231	0.29
Building Construction	Forklifts	1	6.00	89	0.20
Building Construction	Generator Sets	1	8.00	84	0.74
Grading	Graders	1	8.00	187	0.41
Site Preparation	Graders	1	8.00	187	0.41
Paving	Pavers	1	6.00	130	0.42
Paving	Paving Equipment	1	8.00	132	0.36
Paving	Rollers	1	7.00	80	0.38
Demolition	Rubber Tired Dozers	1	8.00	247	0.40
Grading	Rubber Tired Dozers	1	8.00	247	0.40
Site Preparation	Rubber Tired Dozers	1	7.00	247	0.40
Building Construction	Tractors/Loaders/Backhoes	1	6.00	97	0.37
Demolition	Tractors/Loaders/Backhoes	3	8.00	97	0.37
Grading	Tractors/Loaders/Backhoes	2	7.00	97	0.37

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

Paving	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Site Preparation	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Building Construction	Welders	3	8.00	46	0.45

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Demolition	5	13.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Site Preparation	3	8.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Grading	4	10.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	7	34.00	13.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Paving	5	13.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	7.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

3.2 Demolition - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0147	0.1432	0.1346	2.4000e-004		6.7700e-003	6.7700e-003		6.3300e-003	6.3300e-003	0.0000	21.0866	21.0866	5.3500e-003	0.0000	21.2202
Total	**0.0147**	**0.1432**	**0.1346**	**2.4000e-004**		**6.7700e-003**	**6.7700e-003**		**6.3300e-003**	**6.3300e-003**	**0.0000**	**21.0866**	**21.0866**	**5.3500e-003**	**0.0000**	**21.2202**

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.2 Demolition - 2023

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	8.1000e-004	5.1000e-004	5.0900e-003	1.0000e-005	1.0300e-003	1.0000e-005	1.0300e-003	2.7000e-004	1.0000e-005	2.8000e-004	0.0000	0.8928	0.8928	5.0000e-005	4.0000e-005	0.9048
Total	**8.1000e-004**	**5.1000e-004**	**5.0900e-003**	**1.0000e-005**	**1.0300e-003**	**1.0000e-005**	**1.0300e-003**	**2.7000e-004**	**1.0000e-005**	**2.8000e-004**	**0.0000**	**0.8928**	**0.8928**	**5.0000e-005**	**4.0000e-005**	**0.9048**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0147	0.1432	0.1346	2.4000e-004		6.7700e-003	6.7700e-003		6.3300e-003	6.3300e-003	0.0000	21.0865	21.0865	5.3500e-003	0.0000	21.2202
Total	**0.0147**	**0.1432**	**0.1346**	**2.4000e-004**		**6.7700e-003**	**6.7700e-003**		**6.3300e-003**	**6.3300e-003**	**0.0000**	**21.0865**	**21.0865**	**5.3500e-003**	**0.0000**	**21.2202**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.2 Demolition - 2023

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	8.1000e-004	5.1000e-004	5.0900e-003	1.0000e-005	1.0300e-003	1.0000e-005	1.0300e-003	2.7000e-004	1.0000e-005	2.8000e-004	0.0000	0.8928	0.8928	5.0000e-005	4.0000e-005	0.9048
Total	**8.1000e-004**	**5.1000e-004**	**5.0900e-003**	**1.0000e-005**	**1.0300e-003**	**1.0000e-005**	**1.0300e-003**	**2.7000e-004**	**1.0000e-005**	**2.8000e-004**	**0.0000**	**0.8928**	**0.8928**	**5.0000e-005**	**4.0000e-005**	**0.9048**

3.3 Site Preparation - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					6.2700e-003	0.0000	6.2700e-003	3.0000e-003	0.0000	3.0000e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	1.1300e-003	0.0124	6.6400e-003	2.0000e-005		5.1000e-004	5.1000e-004		4.7000e-004	4.7000e-004	0.0000	1.5114	1.5114	4.9000e-004	0.0000	1.5236
Total	**1.1300e-003**	**0.0124**	**6.6400e-003**	**2.0000e-005**	**6.2700e-003**	**5.1000e-004**	**6.7800e-003**	**3.0000e-003**	**4.7000e-004**	**3.4700e-003**	**0.0000**	**1.5114**	**1.5114**	**4.9000e-004**	**0.0000**	**1.5236**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.3 Site Preparation - 2023

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	5.0000e-005	3.0000e-005	3.1000e-004	0.0000	6.0000e-005	0.0000	6.0000e-005	2.0000e-005	0.0000	2.0000e-005	0.0000	0.0549	0.0549	0.0000	0.0000	0.0557
Total	**5.0000e-005**	**3.0000e-005**	**3.1000e-004**	**0.0000**	**6.0000e-005**	**0.0000**	**6.0000e-005**	**2.0000e-005**	**0.0000**	**2.0000e-005**	**0.0000**	**0.0549**	**0.0549**	**0.0000**	**0.0000**	**0.0557**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					6.2700e-003	0.0000	6.2700e-003	3.0000e-003	0.0000	3.0000e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	1.1300e-003	0.0124	6.6400e-003	2.0000e-005		5.1000e-004	5.1000e-004		4.7000e-004	4.7000e-004	0.0000	1.5114	1.5114	4.9000e-004	0.0000	1.5236
Total	**1.1300e-003**	**0.0124**	**6.6400e-003**	**2.0000e-005**	**6.2700e-003**	**5.1000e-004**	**6.7800e-003**	**3.0000e-003**	**4.7000e-004**	**3.4700e-003**	**0.0000**	**1.5114**	**1.5114**	**4.9000e-004**	**0.0000**	**1.5236**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.3 Site Preparation - 2023

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	5.0000e-005	3.0000e-005	3.1000e-004	0.0000	6.0000e-005	0.0000	6.0000e-005	2.0000e-005	0.0000	2.0000e-005	0.0000	0.0549	0.0549	0.0000	0.0000	0.0557
Total	**5.0000e-005**	**3.0000e-005**	**3.1000e-004**	**0.0000**	**6.0000e-005**	**0.0000**	**6.0000e-005**	**2.0000e-005**	**0.0000**	**2.0000e-005**	**0.0000**	**0.0549**	**0.0549**	**0.0000**	**0.0000**	**0.0557**

3.4 Grading - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0142	0.0000	0.0142	6.8500e-003	0.0000	6.8500e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	2.6700e-003	0.0289	0.0174	4.0000e-005		1.2100e-003	1.2100e-003		1.1100e-003	1.1100e-003	0.0000	3.6208	3.6208	1.1700e-003	0.0000	3.6501
Total	**2.6700e-003**	**0.0289**	**0.0174**	**4.0000e-005**	**0.0142**	**1.2100e-003**	**0.0154**	**6.8500e-003**	**1.1100e-003**	**7.9600e-003**	**0.0000**	**3.6208**	**3.6208**	**1.1700e-003**	**0.0000**	**3.6501**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.4 Grading - 2023

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.3000e-004	8.0000e-005	7.8000e-004	0.0000	1.6000e-004	0.0000	1.6000e-004	4.0000e-005	0.0000	4.0000e-005	0.0000	0.1374	0.1374	1.0000e-005	1.0000e-005	0.1392
Total	**1.3000e-004**	**8.0000e-005**	**7.8000e-004**	**0.0000**	**1.6000e-004**	**0.0000**	**1.6000e-004**	**4.0000e-005**	**0.0000**	**4.0000e-005**	**0.0000**	**0.1374**	**0.1374**	**1.0000e-005**	**1.0000e-005**	**0.1392**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0142	0.0000	0.0142	6.8500e-003	0.0000	6.8500e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	2.6700e-003	0.0289	0.0174	4.0000e-005		1.2100e-003	1.2100e-003		1.1100e-003	1.1100e-003	0.0000	3.6208	3.6208	1.1700e-003	0.0000	3.6501
Total	**2.6700e-003**	**0.0289**	**0.0174**	**4.0000e-005**	**0.0142**	**1.2100e-003**	**0.0154**	**6.8500e-003**	**1.1100e-003**	**7.9600e-003**	**0.0000**	**3.6208**	**3.6208**	**1.1700e-003**	**0.0000**	**3.6501**

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.4 Grading - 2023

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.3000e-004	8.0000e-005	7.8000e-004	0.0000	1.6000e-004	0.0000	1.6000e-004	4.0000e-005	0.0000	4.0000e-005	0.0000	0.1374	0.1374	1.0000e-005	1.0000e-005	0.1392
Total	**1.3000e-004**	**8.0000e-005**	**7.8000e-004**	**0.0000**	**1.6000e-004**	**0.0000**	**1.6000e-004**	**4.0000e-005**	**0.0000**	**4.0000e-005**	**0.0000**	**0.1374**	**0.1374**	**1.0000e-005**	**1.0000e-005**	**0.1392**

3.5 Building Construction - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1478	1.1359	1.2233	2.1400e-003		0.0499	0.0499		0.0482	0.0482	0.0000	176.1512	176.1512	0.0299	0.0000	176.8990
Total	**0.1478**	**1.1359**	**1.2233**	**2.1400e-003**		**0.0499**	**0.0499**		**0.0482**	**0.0482**	**0.0000**	**176.1512**	**176.1512**	**0.0299**	**0.0000**	**176.8990**

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.5 Building Construction - 2023

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	2.5900e-003	0.0970	0.0180	2.9000e-004	8.2100e-003	5.9000e-004	8.8000e-003	2.3700e-003	5.6000e-004	2.9400e-003	0.0000	27.9400	27.9400	1.1000e-004	4.1000e-003	29.1655
Worker	0.0207	0.0130	0.1292	2.4000e-004	0.0260	2.0000e-004	0.0262	6.9200e-003	1.8000e-004	7.1100e-003	0.0000	22.6506	22.6506	1.1500e-003	9.2000e-004	22.9529
Total	**0.0233**	**0.1100**	**0.1472**	**5.3000e-004**	**0.0342**	**7.9000e-004**	**0.0350**	**9.2900e-003**	**7.4000e-004**	**0.0101**	**0.0000**	**50.5906**	**50.5906**	**1.2600e-003**	**5.0200e-003**	**52.1183**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1478	1.1359	1.2233	2.1400e-003		0.0499	0.0499		0.0482	0.0482	0.0000	176.1509	176.1509	0.0299	0.0000	176.8987
Total	**0.1478**	**1.1359**	**1.2233**	**2.1400e-003**		**0.0499**	**0.0499**		**0.0482**	**0.0482**	**0.0000**	**176.1509**	**176.1509**	**0.0299**	**0.0000**	**176.8987**

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.5 Building Construction - 2023

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	2.5900e-003	0.0970	0.0180	2.9000e-004	8.2100e-003	5.9000e-004	8.8000e-003	2.3700e-003	5.6000e-004	2.9400e-003	0.0000	27.9400	27.9400	1.1000e-004	4.1000e-003	29.1655
Worker	0.0207	0.0130	0.1292	2.4000e-004	0.0260	2.0000e-004	0.0262	6.9200e-003	1.8000e-004	7.1100e-003	0.0000	22.6506	22.6506	1.1500e-003	9.2000e-004	22.9529
Total	**0.0233**	**0.1100**	**0.1472**	**5.3000e-004**	**0.0342**	**7.9000e-004**	**0.0350**	**9.2900e-003**	**7.4000e-004**	**0.0101**	**0.0000**	**50.5906**	**50.5906**	**1.2600e-003**	**5.0200e-003**	**52.1183**

3.5 Building Construction - 2024

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	4.2600e-003	0.0332	0.0376	7.0000e-005		1.3500e-003	1.3500e-003		1.3000e-003	1.3000e-003	0.0000	5.4483	5.4483	9.1000e-004	0.0000	5.4710
Total	**4.2600e-003**	**0.0332**	**0.0376**	**7.0000e-005**		**1.3500e-003**	**1.3500e-003**		**1.3000e-003**	**1.3000e-003**	**0.0000**	**5.4483**	**5.4483**	**9.1000e-004**	**0.0000**	**5.4710**

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.5 Building Construction - 2024

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	8.0000e-005	2.8700e-003	5.4000e-004	1.0000e-005	2.5000e-004	2.0000e-005	2.7000e-004	7.0000e-005	2.0000e-005	9.0000e-005	0.0000	0.8510	0.8510	0.0000	1.2000e-004	0.8881
Worker	6.0000e-004	3.6000e-004	3.6400e-003	1.0000e-005	8.0000e-004	1.0000e-005	8.1000e-004	2.1000e-004	1.0000e-005	2.2000e-004	0.0000	0.6844	0.6844	3.0000e-005	3.0000e-005	0.6930
Total	**6.8000e-004**	**3.2300e-003**	**4.1800e-003**	**2.0000e-005**	**1.0500e-003**	**3.0000e-005**	**1.0800e-003**	**2.8000e-004**	**3.0000e-005**	**3.1000e-004**	**0.0000**	**1.5353**	**1.5353**	**3.0000e-005**	**1.5000e-004**	**1.5811**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	4.2600e-003	0.0332	0.0376	7.0000e-005		1.3500e-003	1.3500e-003		1.3000e-003	1.3000e-003	0.0000	5.4483	5.4483	9.1000e-004	0.0000	5.4710
Total	**4.2600e-003**	**0.0332**	**0.0376**	**7.0000e-005**		**1.3500e-003**	**1.3500e-003**		**1.3000e-003**	**1.3000e-003**	**0.0000**	**5.4483**	**5.4483**	**9.1000e-004**	**0.0000**	**5.4710**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.5 Building Construction - 2024

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	8.0000e-005	2.8700e-003	5.4000e-004	1.0000e-005	2.5000e-004	2.0000e-005	2.7000e-004	7.0000e-005	2.0000e-005	9.0000e-005	0.0000	0.8510	0.8510	0.0000	1.2000e-004	0.8881
Worker	6.0000e-004	3.6000e-004	3.6400e-003	1.0000e-005	8.0000e-004	1.0000e-005	8.1000e-004	2.1000e-004	1.0000e-005	2.2000e-004	0.0000	0.6844	0.6844	3.0000e-005	3.0000e-005	0.6930
Total	**6.8000e-004**	**3.2300e-003**	**4.1800e-003**	**2.0000e-005**	**1.0500e-003**	**3.0000e-005**	**1.0800e-003**	**2.8000e-004**	**3.0000e-005**	**3.1000e-004**	**0.0000**	**1.5353**	**1.5353**	**3.0000e-005**	**1.5000e-004**	**1.5811**

3.6 Paving - 2024

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	3.0900e-003	0.0293	0.0441	7.0000e-005		1.4100e-003	1.4100e-003		1.3000e-003	1.3000e-003	0.0000	5.8870	5.8870	1.8700e-003	0.0000	5.9337
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**3.0900e-003**	**0.0293**	**0.0441**	**7.0000e-005**		**1.4100e-003**	**1.4100e-003**		**1.3000e-003**	**1.3000e-003**	**0.0000**	**5.8870**	**5.8870**	**1.8700e-003**	**0.0000**	**5.9337**

Groveland Drought Improvements Project - Tuolumne County APCD Air District, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.6 Paving - 2024

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	3.8000e-004	2.3000e-004	2.3200e-003	0.0000	5.1000e-004	0.0000	5.2000e-004	1.4000e-004	0.0000	1.4000e-004	0.0000	0.4361	0.4361	2.0000e-005	2.0000e-005	0.4416
Total	**3.8000e-004**	**2.3000e-004**	**2.3200e-003**	**0.0000**	**5.1000e-004**	**0.0000**	**5.2000e-004**	**1.4000e-004**	**0.0000**	**1.4000e-004**	**0.0000**	**0.4361**	**0.4361**	**2.0000e-005**	**2.0000e-005**	**0.4416**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	3.0900e-003	0.0293	0.0441	7.0000e-005		1.4100e-003	1.4100e-003		1.3000e-003	1.3000e-003	0.0000	5.8870	5.8870	1.8700e-003	0.0000	5.9337
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**3.0900e-003**	**0.0293**	**0.0441**	**7.0000e-005**		**1.4100e-003**	**1.4100e-003**		**1.3000e-003**	**1.3000e-003**	**0.0000**	**5.8870**	**5.8870**	**1.8700e-003**	**0.0000**	**5.9337**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.6 Paving - 2024

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	3.8000e-004	2.3000e-004	2.3200e-003	0.0000	5.1000e-004	0.0000	5.2000e-004	1.4000e-004	0.0000	1.4000e-004	0.0000	0.4361	0.4361	2.0000e-005	2.0000e-005	0.4416
Total	**3.8000e-004**	**2.3000e-004**	**2.3200e-003**	**0.0000**	**5.1000e-004**	**0.0000**	**5.2000e-004**	**1.4000e-004**	**0.0000**	**1.4000e-004**	**0.0000**	**0.4361**	**0.4361**	**2.0000e-005**	**2.0000e-005**	**0.4416**

3.7 Architectural Coating - 2024

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	0.9270					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	9.0000e-004	6.0900e-003	9.0500e-003	1.0000e-005		3.0000e-004	3.0000e-004		3.0000e-004	3.0000e-004	0.0000	1.2766	1.2766	7.0000e-005	0.0000	1.2784
Total	**0.9279**	**6.0900e-003**	**9.0500e-003**	**1.0000e-005**		**3.0000e-004**	**3.0000e-004**		**3.0000e-004**	**3.0000e-004**	**0.0000**	**1.2766**	**1.2766**	**7.0000e-005**	**0.0000**	**1.2784**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.7 Architectural Coating - 2024

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	2.1000e-004	1.2000e-004	1.2500e-003	0.0000	2.8000e-004	0.0000	2.8000e-004	7.0000e-005	0.0000	8.0000e-005	0.0000	0.2348	0.2348	1.0000e-005	1.0000e-005	0.2378
Total	**2.1000e-004**	**1.2000e-004**	**1.2500e-003**	**0.0000**	**2.8000e-004**	**0.0000**	**2.8000e-004**	**7.0000e-005**	**0.0000**	**8.0000e-005**	**0.0000**	**0.2348**	**0.2348**	**1.0000e-005**	**1.0000e-005**	**0.2378**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	0.9270					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	9.0000e-004	6.0900e-003	9.0500e-003	1.0000e-005		3.0000e-004	3.0000e-004		3.0000e-004	3.0000e-004	0.0000	1.2766	1.2766	7.0000e-005	0.0000	1.2784
Total	**0.9279**	**6.0900e-003**	**9.0500e-003**	**1.0000e-005**		**3.0000e-004**	**3.0000e-004**		**3.0000e-004**	**3.0000e-004**	**0.0000**	**1.2766**	**1.2766**	**7.0000e-005**	**0.0000**	**1.2784**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.7 Architectural Coating - 2024

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	2.1000e-004	1.2000e-004	1.2500e-003	0.0000	2.8000e-004	0.0000	2.8000e-004	7.0000e-005	0.0000	8.0000e-005	0.0000	0.2348	0.2348	1.0000e-005	1.0000e-005	0.2378
Total	**2.1000e-004**	**1.2000e-004**	**1.2500e-003**	**0.0000**	**2.8000e-004**	**0.0000**	**2.8000e-004**	**7.0000e-005**	**0.0000**	**8.0000e-005**	**0.0000**	**0.2348**	**0.2348**	**1.0000e-005**	**1.0000e-005**	**0.2378**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	0.3599	0.5007	2.9150	4.2100e-003	0.3931	5.3600e-003	0.3985	0.1055	5.0500e-003	0.1105	0.0000	396.8663	396.8663	0.0362	0.0235	404.7750
Unmitigated	0.3599	0.5007	2.9150	4.2100e-003	0.3931	5.3600e-003	0.3985	0.1055	5.0500e-003	0.1105	0.0000	396.8663	396.8663	0.0362	0.0235	404.7750

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
General Light Industry	198.40	79.60	200.00	530,350	530,350
General Light Industry	198.40	79.60	200.00	530,350	530,350
Total	396.80	159.20	400.00	1,060,700	1,060,700

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
General Light Industry	9.50	7.30	7.30	59.00	28.00	13.00	92	5	3
General Light Industry	9.50	7.30	7.30	59.00	28.00	13.00	92	5	3

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
General Light Industry	0.420294	0.072342	0.207287	0.162730	0.060283	0.010856	0.007507	0.003631	0.001123	0.000422	0.043564	0.002033	0.007929

5.0 Energy Detail

Groveland Drought Improvements Project - Tuolumne County APCD Air District, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

Historical Energy Use: N

5.1 Mitigation Measures Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Electricity Mitigated						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
NaturalGas Mitigated	1.5000e-003	0.0137	0.0115	8.0000e-005		1.0400e-003	1.0400e-003		1.0400e-003	1.0400e-003	0.0000	14.8565	14.8565	2.8000e-004	2.7000e-004	14.9448
NaturalGas Unmitigated	1.5000e-003	0.0137	0.0115	8.0000e-005		1.0400e-003	1.0400e-003		1.0400e-003	1.0400e-003	0.0000	14.8565	14.8565	2.8000e-004	2.7000e-004	14.9448

Groveland Drought Improvements Project - Tuolumne County APCD Air District, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
General Light Industry	139200	1.5000e-003	0.0137	0.0115	8.0000e-005		1.0400e-003	1.0400e-003		1.0400e-003	1.0400e-003	0.0000	14.8565	14.8565	2.8000e-004	2.7000e-004	14.9448
Total		**1.5000e-003**	**0.0137**	**0.0115**	**8.0000e-005**		**1.0400e-003**	**1.0400e-003**		**1.0400e-003**	**1.0400e-003**	**0.0000**	**14.8565**	**14.8565**	**2.8000e-004**	**2.7000e-004**	**14.9448**

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
General Light Industry	139200	1.5000e-003	0.0137	0.0115	8.0000e-005		1.0400e-003	1.0400e-003		1.0400e-003	1.0400e-003	0.0000	14.8565	14.8565	2.8000e-004	2.7000e-004	14.9448
Total		**1.5000e-003**	**0.0137**	**0.0115**	**8.0000e-005**		**1.0400e-003**	**1.0400e-003**		**1.0400e-003**	**1.0400e-003**	**0.0000**	**14.8565**	**14.8565**	**2.8000e-004**	**2.7000e-004**	**14.9448**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
General Light Industry	168800	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
General Light Industry	168800	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

6.0 Area Detail

6.1 Mitigation Measures Area

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	0.4052	1.0000e-005	7.3000e-004	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	1.4300e-003	1.4300e-003	0.0000	0.0000	1.5200e-003
Unmitigated	0.4052	1.0000e-005	7.3000e-004	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	1.4300e-003	1.4300e-003	0.0000	0.0000	1.5200e-003

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.0927					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.3124					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	7.0000e-005	1.0000e-005	7.3000e-004	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	1.4300e-003	1.4300e-003	0.0000	0.0000	1.5200e-003
Total	**0.4052**	**1.0000e-005**	**7.3000e-004**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**1.4300e-003**	**1.4300e-003**	**0.0000**	**0.0000**	**1.5200e-003**

Groveland Drought Improvements Project - Tuolumne County APCD Air District, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

6.2 Area by SubCategory

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.0927					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.3124					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	7.0000e-005	1.0000e-005	7.3000e-004	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	1.4300e-003	1.4300e-003	0.0000	0.0000	1.5200e-003
Total	**0.4052**	**1.0000e-005**	**7.3000e-004**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**1.4300e-003**	**1.4300e-003**	**0.0000**	**0.0000**	**1.5200e-003**

7.0 Water Detail

7.1 Mitigation Measures Water

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	5.8692	0.6028	0.0142	25.1815
Unmitigated	5.8692	0.6028	0.0142	25.1815

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
General Light Industry	18.5 / 0	5.8692	0.6028	0.0142	25.1815
Total		**5.8692**	**0.6028**	**0.0142**	**25.1815**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

7.2 Water by Land Use

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
General Light Industry	18.5 / 0	5.8692	0.6028	0.0142	25.1815
Total		**5.8692**	**0.6028**	**0.0142**	**25.1815**

8.0 Waste Detail

8.1 Mitigation Measures Waste

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	20.1367	1.1901	0.0000	49.8878
Unmitigated	20.1367	1.1901	0.0000	49.8878

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
General Light Industry	99.2	20.1367	1.1901	0.0000	49.8878
Total		**20.1367**	**1.1901**	**0.0000**	**49.8878**

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
General Light Industry	99.2	20.1367	1.1901	0.0000	49.8878
Total		**20.1367**	**1.1901**	**0.0000**	**49.8878**

9.0 Operational Offroad

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

Equipment Type	Number	Hours/Day	Hours/Year	Horse Power	Load Factor	Fuel Type

Boilers

Equipment Type	Number	Heat Input/Day	Heat Input/Year	Boiler Rating	Fuel Type

User Defined Equipment

Equipment Type	Number

11.0 Vegetation

Appendix B

Biological Report

BIOLOGICAL RESOURCE EVALUATION

January 2023

GROVELAND DROUGHT IMPROVEMENTS PROJECT
TUOLUMNE COUNTY, CALIFORNIA

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Executive Summary

The Groveland Community Services District (District) proposes to improve the drinking water infrastructure in Big Oak Flat, Groveland, and the Pine Mountain Lake subdivision in Tuolumne County, California. This drinking water infrastructure improvement project (Project) will involve installing a new groundwater well, installing a new water storage tank and distribution line, relocating the alternate water supply water treatment system, and improving the alternate water supply intake. The purpose of the Project is to ensure an adequate water supply during drought conditions.

This District will pursue funding for the Project from the Urban Drought Relief Grant Program. The Urban Drought Relief Grant Program is a state program that offers low-cost financing for a wide variety of drought relief and water quality projects. It is administered by the California Department of Water Resources (DWR) and requires 25 percent non-state cost sharing, which may come from federal sources. Therefore, the Project must not only meet environmental documentation and review requirements under the California Environmental Quality Act (CEQA) but must meet federal cross-cutting requirements as well.

To evaluate whether the Project may affect biological resources under CEQA and federal cross-cutting purview, we (1) obtained lists of special-status species from the United States Fish and Wildlife Service, the California Department of Fish and Wildlife, and the California Native Plant Society; (2) reviewed other relevant background information such as satellite imagery and topographic maps; and (3) conducted a field reconnaissance survey at the Project site.

This biological resource evaluation summarizes (1) existing biological conditions on the Project site, (2) the potential for special-status species and regulated habitats to occur on or near the project site, (3) the potential impacts of the proposed project on biological resources and regulated habitats, and (4) measures to reduce those potential impacts to less-than-significant levels under CEQA.

We concluded the Project could affect three special-status wildlife species: the state listed as endangered and fully protected bald eagle (*Haliaeetus leucocephalus*), the state species of special concern northwestern pond turtle (*Actinemys marmorata*), and the state species of special concern western red bat (*Lasiurus blossevillii*). Nesting migratory birds could also be impacted. Impacts to all species can be reduced to less-than-significant levels with mitigation.

Abbreviations

Abbreviation	Definition
CCR	California Code of Regulations
CDFG	California Department of Fish and Game
CDFW	California Department of Fish and Wildlife
CESA	California Endangered Species Act
CEQA	California Environmental Quality Act
CFGC	California Fish and Game Code
CFR	Code of Federal Regulations
CNDDB	California Natural Diversity Data Base
CNPS	California Native Plant Society
CRPR	California Rare Plant Rank
DWR	California Department of Water Resources
EFH	Essential Fish Habitat
FE	Federally listed as Endangered
FEMA	Federal Emergency Management Agency
FESA	Federal Endangered Species Act
FP	State Fully Protected
FT	Federally listed as Threatened
MBTA	Migratory Bird Treaty Act
NEPA	National Environmental Policy Act
NMFS	National Marine Fisheries Service
NOAA	National Oceanic and Atmospheric Administration
NRCS	Natural Resources Conservation Service
SE	State listed as Endangered
SR	State Rare
SSSC	State Species of Special Concern
ST	State listed as Threatened
SWRCB	State Water Resources Control Board
USACE	United States Army Corps of Engineers
USC	United States Code
USFWS	United States Fish and Wildlife Service
USGS	United States Geological Survey

1.0 Introduction

1.1 Background

The Groveland Community Services District (District) proposes to improve drinking water infrastructure in Big Oak Flat, Groveland, and the Pine Mountain Lake subdivision. The District will pursue funding for this drinking water infrastructure improvement project (Project) from the Urban Drought Relief Grant Program. The Urban Drought Relief Grant Program is a state program that offers low-cost financing for a wide variety of drought relief and water quality projects. It is administered by the California Department of Water Resources (DWR) and requires 25 percent non-state cost sharing, which may come from federal sources. Therefore, the Project must not only meet environmental documentation and review requirements under the California Environmental Quality Act (CEQA) but must meet federal cross-cutting requirements as well.

The purpose of this biological resource evaluation is to assess whether the Project will affect state- or federally protected resources pursuant to CEQA and federal cross-cutting regulatory guidelines. Such resources include species of plants or animals listed or proposed for listing under the Federal Endangered Species Act (FESA) or the California Endangered Species Act (CESA), as well as those covered under the Migratory Bird Treaty Act (MBTA), the California Native Plant Protection Act, and various other sections of the California Fish and Game Code. Biological resources considered here also include designated or proposed critical habitat recognized under the FESA. This biological resource evaluation also addresses Project-related impacts to regulated habitats, which are those under the jurisdiction of the United States Army Corps of Engineers (USACE), State Water Resources Control Board (SWRCB), or California Department of Fish and Wildlife (CDFW), as well as those addressed under the Wild and Scenic Rivers Act, Magnuson-Stevens Fishery Conservation and Management Act (Magnuson-Stevens Act), and Executive Order 11988 pertaining to floodplain management.

1.2 Project Description

The Project will involve five components: (1) installing a hard rock groundwater well adjacent to an existing storage tank (Tank 5), (2) installing a 140,000-gallon storage tank next to Tank 5 and 5500 linear feet of 8-inch water distribution pipeline from Tank 5 to Big Oak Flat, (3) relocating the existing trailer mounted alternate water supply treatment system to a permanent location and installing an interconnection pipeline between the new and existing locations, (4) installing a hard rock groundwater well at the alternate water supply treatment system permanent location, and (5) installing a slide gate on the alternate water supply intake.

1.3 Project Location

The Project is in and adjacent to Big Oak Flat, Groveland, and the Pine Mountain Lake subdivision of Groveland in Tuolumne County, California (Figure 1). Specifically, the groundwater well and 140,000-gallon water storage tank will be constructed at the existing Tank 5 site at 18790 Vernal Drive (Figure 2). An 8-inch water distribution pipeline will run from the new water storage tank to Big Oak Flat via Vernal Drive, Merrell Road, Harper Road, and Black Road (Figure 3). The existing trailer mounted alternate water supply treatment system will be relocated from the Pine Mountain Lake maintenance yard at 12756 Mueller Drive to a new location adjacent to an abandoned baseball field at 19000 Ferretti Road (Figure 4). An interconnection pipeline will run between the new and existing locations via Par Court, Mueller Drive, Ferretti Road, and Flint Court. A new hard rock groundwater well will also be installed at the 19000 Ferretti Road work site. A slide gate will be installed on the alternate water supply intake adjacent to Pine Mountain Lake at Dunn Court Beach in the Pine Mountain Lake subdivision (Figure 5).

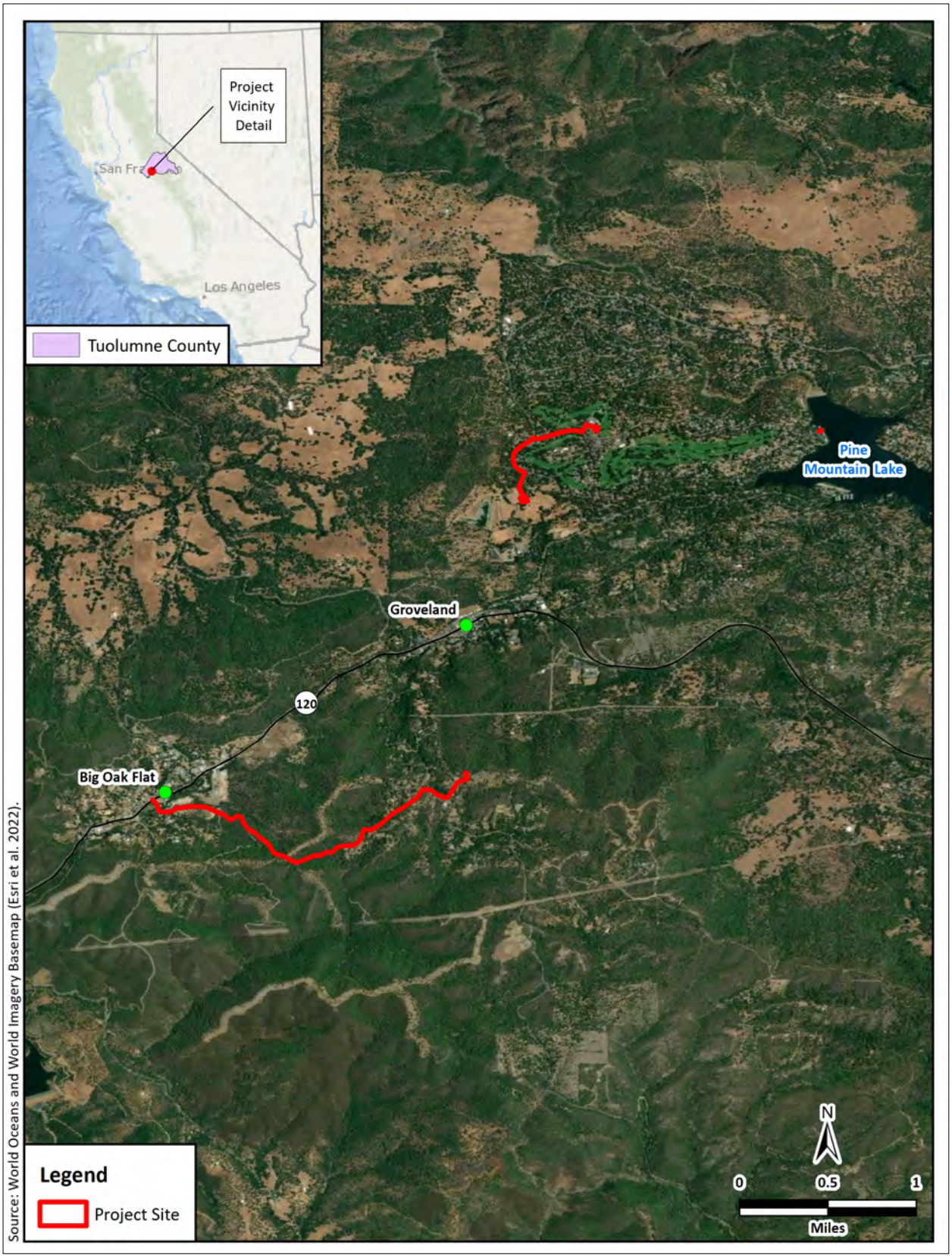

Figure 1. Project site vicinity map.

Figure 2. Groundwater well and water storage tank site map.

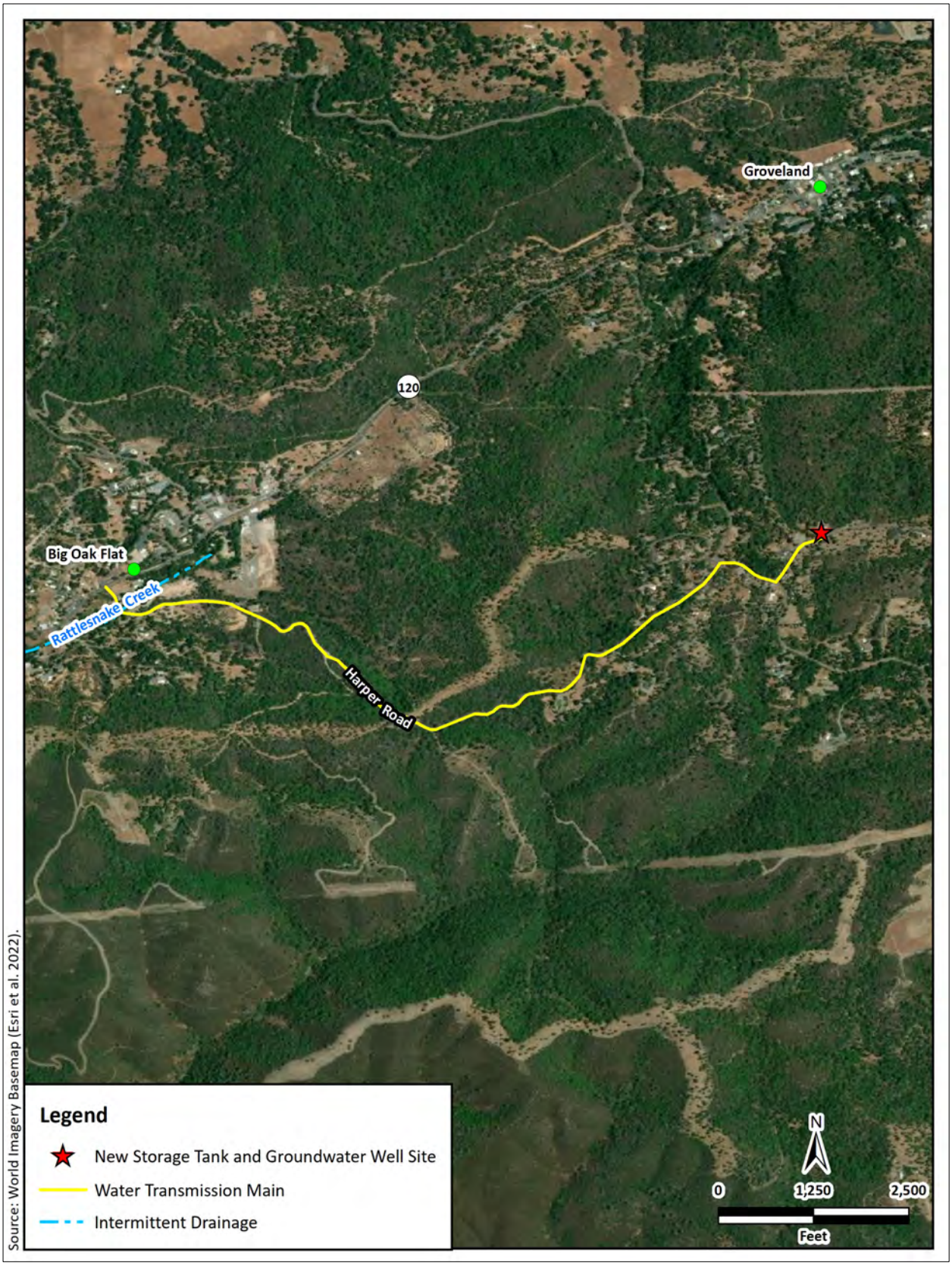

Figure 3. Water distribution pipeline site map.

Figure 4. Alternate water supply treatment and groundwater well site map.

Figure 5. Alternate water supply intake site map.

1.4 Purpose and Need of Proposed Project

The purpose of the Project is to improve existing drinking water infrastructure for Big Oak Flat, Groveland, and the Pine Mountain Lake subdivision. The Project is needed to ensure an adequate water supply during drought conditions.

1.5 Consultation History

Lists of all species listed or proposed for listing as threatened or endangered and all designated or proposed critical habitat under the FESA that could occur near the Project site were obtained by Colibri Senior Scientist Ryan Slezak from the United States Fish and Wildlife Service (USFWS) website (https://ecos.fws.gov/ipac/) on 3 November 2022 (Appendix A).

1.6 Regulatory Framework

The relevant regulatory requirements and policies that guide the impact analysis of the Project are summarized below.

1.6.1 Federal Requirements

Bald and Golden Eagle Protection Act. The Bald and Golden Eagle Protection Act (16 USC § 668-668d), originally the Bald Eagle Protection Act, was enacted in 1940 to protect bald eagle (*Haliaeetus leucocephalus*), the species selected as a national emblem of the United States. The act was amended in 1962 to include the golden eagle (*Aquila chrysaetos*). As amended, the Act prohibits take, possession, and commerce of bald and golden eagles and their parts, products, nests, or eggs, except by valid permit. Take is defined as "*pursue, shoot, shoot at, poison, wound, kill, capture, trap, collect, molest, or disturb.*" Disturb means agitating or bothering to a degree that causes, or is likely to cause, injury, a decrease in productivity, or nest abandonment. This law also prohibits human-induced alterations near previously used nest sites when eagles are not present if upon the eagle's return it is disturbed as defined above. Take permits may be issued for conducting certain types of lawful activities such as scientific research, propagation, and Indian religious purposes. The USFWS is responsible for enforcing this act.

Executive Order 11988: Floodplain Management. Executive Order 11988 (42 Federal Register 26951, 3 CFR, 1977 Comp., p. 117) requires federal agencies to avoid to the extent possible the long-term and short-term adverse effects associated with occupying and modifying flood plains and to avoid direct and indirect support of developing floodplains wherever there is a practicable alternative.

Federal Endangered Species Act. The United States Fish and Wildlife Service (USFWS) and the National Oceanographic and Atmospheric Administration's (NOAA) National Marine Fisheries Service (NMFS) enforce the provisions stipulated in the Federal Endangered Species Act of 1973

(FESA, 16 United States Code [USC] § 1531 et seq.). Threatened and endangered species on the federal list (50 Code of Federal Regulations [CFR] 17.11 and 17.12) are protected from take unless a Section 10 permit is granted to an entity other than a federal agency or a Biological Opinion with incidental take provisions is rendered to a federal lead agency via a Section 7 consultation. Take is defined as harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect or attempt to engage in any such conduct. Pursuant to the requirements of the FESA, an agency reviewing a proposed action within its jurisdiction must determine whether any federally listed species may be present in the project site and determine whether the proposed action may affect such species. Under the FESA, habitat loss is considered an effect to a species. In addition, the agency is required to determine whether the proposed action is likely to jeopardize the continued existence of any species that is listed or proposed for listing under the FESA (16 USC § 1536[3], [4]). Therefore, proposed action-related effects to these species or their habitats would be considered significant and would require mitigation.

Magnuson-Stevens Fishery Conservation and Management Act. The Magnuson-Stevens Fishery Conservation and Management Act (Magnuson-Stevens Act) (Public law 94-265; Statutes at Large 90 Stat. 331; 16 U.S.C. ch. 38 § 1801 et seq.) establishes a management system for national marine and estuarine fishery resources. This legislation requires that all federal agencies consult the NMFS regarding all actions or proposed actions permitted, funded, or undertaken that may adversely affect "essential fish habitat (EFH)." EFH is defined as "waters and substrate necessary to fish for spawning, breeding, feeding, or growth to maturity." The Magnuson-Stevens Act states that migratory routes to and from anadromous fish spawning grounds are considered EFH. The phrase "adversely affect" refers to any effect that reduces the quality or quantity of EFH. Federal activities that occur outside of EFH, but which may affect EFH must also be considered. The Act applies to salmon species, groundfish species, highly migratory species such as tuna, and coastal pelagic species such as anchovies.

Migratory Bird Treaty Act. The federal Migratory Bird Treaty Act (MBTA) (16 USC § 703, Supp. I, 1989) prohibits killing, possessing, trading, or other forms of take of migratory birds except in accordance with regulations prescribed by the Secretary of the Interior. "Take" is defined as the pursuing, hunting, shooting, capturing, collecting, or killing of birds, their nests, eggs, or young (16 USC § 703 and § 715n). This act encompasses whole birds, parts of birds, and bird nests and eggs. The MBTA specifically protects migratory bird nests from possession, sale, purchase, barter transport, import, and export, and take. For nests, the definition of take per 50 CFR 10.12 is to collect. The MBTA does not include a definition of an "active nest." However, the "Migratory Bird Permit Memorandum" issued by the USFWS in 2003 and updated in 2018 clarifies the MBTA in that regard and states that the removal of nests, without eggs or birds, is legal under the MBTA, provided no possession (which is interpreted as holding the nest with the intent of retaining it) occurs during the destruction (USFWS 2018).

National Environmental Policy Act. The purposes of the National Environmental Policy Act (NEPA) of 1969, as amended (42 U.S.C. §§ 4321–4347), including all relevant subsequent guidelines and regulations, include encouraging "harmony between [humans] and their environment and promoting efforts which will prevent or eliminate damage to the environment…

and stimulate the health and welfare of [humanity]". The purposes of NEPA are accomplished by evaluating the effects of federal actions. The results of these evaluations are presented to the public, federal agencies, and public officials in document format (e.g., Environmental Assessments and Environmental Impact Statements) for consideration prior to taking official action or making official decisions. Environmental documents prepared pursuant to NEPA must be completed before federal actions can be implemented. The NEPA process requires careful evaluation of the need for action, and that federal actions be considered alongside all reasonable alternatives, including the No Action alternative. NEPA also requires that the potential impacts on the human environment be considered for each alternative. Detailed implementing regulations for NEPA are contained in 40 C.F.R. 1500 et seq.

United States Army Corps of Engineers Jurisdiction. Areas meeting the regulatory definition of "waters of the United States" (jurisdictional waters) are subject to the jurisdiction of the USACE under provisions of Section 404 of the Clean Water Act (1972) and Section 10 of the Rivers and Harbors Act (1899). These waters may include all waters used, or potentially used, for interstate commerce, including all waters subject to the ebb and flow of the tide, all interstate waters, all other waters (intrastate lakes, rivers, streams, mudflats, sandflats, playa lakes, natural ponds, etc.), all impoundments of waters otherwise defined as waters of the United States, tributaries of waters otherwise defined as waters of the United States, the territorial seas, and wetlands adjacent to waters of the United States (33 CFR part 328.3). Wetlands on non-agricultural lands are identified using the Corps of Engineers Wetlands Delineation Manual and related Regional Supplement (USACE 1987 and 2008). Construction activities, including direct removal, filling, hydrologic disruption, or other means in jurisdictional waters are regulated by the USACE. The placement of dredged or fill material into such waters must comply with permit requirements of the USACE. No USACE permit will be effective in the absence of state water quality certification pursuant to Section 401 of the Clean Water Act. The SWRCB is the state agency (together with the Regional Water Quality Control Boards) charged with implementing water quality certification in California.

Wild and Scenic Rivers Act. The National Wild and Scenic Rivers System was created by Congress in 1968 (Public Law 90-542; 16 U.S.C. 1271 et seq.) to preserve certain rivers with significant natural, cultural, and recreational values in a free-flowing condition. The Act safeguards the special character of these rivers, while also recognizing the potential for their appropriate use and development.

1.6.2 State Requirements

California Department of Fish and Wildlife Jurisdiction. The CDFW has regulatory jurisdiction over lakes and streams in California. Activities that divert or obstruct the natural flow of a stream; substantially change its bed, channel, or bank; or use any materials (including vegetation) from the streambed, may require that the project applicant enter into a Streambed Alteration Agreement with the CDFW in accordance with California Fish and Game Code Section 1602.

California Endangered Species Act. The California Endangered Species Act (CESA) of 1970 (Fish and Game Code § 2050 et seq., and California Code of Regulations [CCR] Title 14, Subsection 670.2, 670.51) prohibits the take of species listed under CESA (14 CCR Subsection 670.2, 670.5). Take is defined as hunt, pursue, catch, capture, or kill or attempt to hunt, pursue, catch, capture, or kill. Under CESA, state agencies are required to consult with the CDFW when preparing CEQA documents. Consultation ensures that proposed projects or actions do not have a negative effect on state-listed species. During consultation, CDFW determines whether take would occur and identifies "reasonable and prudent alternatives" for the project and conservation of special-status species. CDFW can authorize take of state-listed species under Sections 2080.1 and 2081(b) of the California Fish and Game Code in those cases where it is demonstrated that the impacts are minimized and mitigated. Take authorized under section 2081(b) must be minimized and fully mitigated. A CESA permit must be obtained if a project will result in take of listed species, either during construction or over the life of the project. Under CESA, CDFW is responsible for maintaining a list of threatened and endangered species designated under state law (Fish and Game Code § 2070). CDFW also maintains lists of species of special concern, which serve as "watch lists." Pursuant to the requirements of CESA, a state or local agency reviewing a proposed project within its jurisdiction must determine whether the proposed Project will have a potentially significant impact upon such species. Project-related impacts to species on the CESA list would be considered significant and would require mitigation. Impacts to species of concern or fully protected species would be considered significant under certain circumstances.

California Environmental Quality Act. The California Environmental Quality Act (CEQA) of 1970 (Subsections 21000–21178) requires that CDFW be consulted during the CEQA review process regarding impacts of proposed projects on special-status species. Special-status species are defined under CEQA Guidelines subsection 15380(b) and (d) as those listed under FESA and CESA and species that are not currently protected by statute or regulation but would be considered rare, threatened, or endangered under these criteria or by the scientific community. Therefore, species considered rare or endangered are addressed in this biological resource evaluation regardless of whether they are afforded protection through any other statute or regulation. The California Native Plant Society (CNPS) inventories the native flora of California and ranks species according to rarity (CNPS 2022). Plants with Rare Plant Ranks 1A, 1B, 2A, or 2B are considered special-status species under CEQA.

Although threatened and endangered species are protected by specific federal and state statutes, CEQA Guidelines Section 15380(d) provides that a species not listed on the federal or state list of protected species may be considered rare or endangered if it can be shown to meet certain specified criteria. These criteria have been modeled after the definition in the FESA and the section of the California Fish and Game Code dealing with rare and endangered plants and animals. Section 15380(d) allows a public agency to undertake a review to determine if a significant effect on species that have not yet been listed by either the USFWS or CDFW (i.e., candidate species) would occur. Thus, CEQA provides an agency with the ability to protect a species from the potential impacts of a project until the respective government agency has an opportunity to designate the species as protected, if warranted.

California Native Plant Protection Act. The California Native Plant Protection Act of 1977 (California Fish and Game Code §§ 1900–1913) requires all state agencies to use their authority to carry out programs to conserve endangered and otherwise rare species of native plants. Provisions of the act prohibit the taking of listed plants from the wild and require the project proponent to notify CDFW at least 10 days in advance of any change in land use, which allows CDFW to salvage listed plants that would otherwise be destroyed.

Nesting birds. California Fish and Game Code Sections 3503, 3503.5, 3513, and 3800 prohibit the possession, incidental take, or needless destruction of birds, their nests, and eggs. California Fish and Game Code Section 3511 lists birds that are "Fully Protected" as those that may not be taken or possessed except under specific permit.

Porter-Cologne Water Quality Control Act. The Porter-Cologne Water Quality Control Act (CWC § 13000 et. sec.) was established in 1969 and entrusts the State Water Resources Control Board and nine Regional Water Quality Control Boards (collectively Water Boards) with the responsibility to preserve and enhance all beneficial uses of California's diverse waters. The Act grants the Water Boards authority to establish water quality objectives and regulate point- and nonpoint-source pollution discharge to the state's surface and ground waters. Under the auspices of the United States Environmental Protection Agency, the Water Boards are responsible for certifying, under Section 401 of the federal Clean Water Act, that activities affecting waters of the United States comply California water quality standards. The Porter-Cologne Water Quality Control Act addresses all "waters of the State," which are more broadly defined than waters of the Unites States. Waters of the State include any surface water or groundwater, including saline waters, within the boundaries of the state. They include artificial as well as natural water bodies and federally jurisdictional and federally non-jurisdictional waters. The Water Boards may issue a Waste Discharge Requirements permit for projects that will affect only federally non-jurisdictional waters of the State.

2.0 Methods

2.1 Desktop Review

As a framework for the evaluation and reconnaissance survey, we obtained an official USFWS species list for the Project (USFWS 2022a, Appendix A). In addition, we searched the California Natural Diversity Database (CNDDB, CDFW 2022, Appendix B) and the CNPS Inventory of Rare and Endangered Plants (CNPS 2022, Appendix C) for records of special-status plant and animal species from the vicinity of the Project site. Regional lists of special-status species were compiled using USFWS, CNDDB, and CNPS database searches confined to the Groveland 7.5-minute United States Geological Survey (USGS) topographic quadrangle, which encompasses the Project site, and the eight surrounding quadrangles (Buckhorn Peak, Coulterville, Duckwall Mountain, Jawbone Ridge, Moccasin, Penon Blanco Peak, Standard, and Tuolumne). A local list of special-status species was compiled using CNDDB records from within 5 miles of the Project site. Species that lack a CEQA-recognized special-status designation by state or federal regulatory agencies or public interest groups were omitted from the final list. Species for which the Project site does not provide habitat were eliminated from further consideration. We also reviewed satellite imagery from Google Earth (Google 2022) and other sources, USGS topographic maps, the Web Soil Survey (NRCS 2022), the National Wetlands Inventory (USFWS 2022b), and relevant literature.

2.2 Reconnaissance Survey

Colibri Senior Scientist Ryan Slezak and Field Scientist Jordan Spindel conducted a field reconnaissance survey of the Project site on 4 November 2022. The Project site and a 50-foot buffer surrounding the Project site (Figures 6–9) were walked and thoroughly inspected to evaluate and document the potential for the area to support state- or federally protected resources. All plants except those under cultivation or planted in residential areas and all vertebrate wildlife species observed within the survey area were identified and documented. The survey area was evaluated for the presence of regulated habitats, including lakes, streams, and other waters using methods described in the *Wetlands Delineation Manual* and regional supplement (USACE 1987, 2008) and as defined by the CDFW (https://www.wildlife.ca.gov/conservation/lsa) or under the Porter-Cologne Water Quality Control Act.

2.3 Effects Analysis and Significance Criteria

2.3.1 Effects Analysis

Factors considered in evaluating the effects of the Project on special-status species included the (1) presence of designated or proposed critical habitat in the survey area, (2) potential for the

survey area to support special-status species, (3) dependence of any such species on specific habitat components that would be removed or modified, (4) the degree of effects to the habitat, (5) abundance and distribution of the habitat in the region, (6) distribution and population levels of the species, (7) cumulative effects of the Project and any future activities in the area, and (8) the potential to mitigate any adverse effects.

Factors considered in evaluating the effects of the Project on bald eagle, golden eagle, and migratory birds included the potential for the Project to result in (1) mortality of eagles or migratory birds or (2) loss of their nests containing viable eggs or nestlings.

Factors considered in evaluating the effects of the Project on regulated habitats included the (1) presence of features comprising or potentially comprising waters of the United States, Wild and Scenic Rivers, essential fish habitat (EFH), floodplains, and lakes or streams within the survey area, and (2) potential for the Project to affect such habitats.

2.3.2 Significance Criteria

CEQA defines "significant effect on the environment" as "a substantial, or potentially substantial, adverse change in the environment" (Pub. Res. Code § 21068). Under CEQA Guidelines Section 15065, a Project's effects on biological resources are deemed significant where the Project would do the following:

a) Substantially reduce the habitat of a fish or wildlife species,
b) Cause a fish or wildlife population to drop below self-sustaining levels,
c) Threaten to eliminate a plant or animal community, or
d) Substantially reduce the number or restrict the range of a rare or endangered plant or animal.

In addition to the Section 15065 criteria, Appendix G within the CEQA Guidelines includes six additional impacts to consider when analyzing the effects of a project. Under Appendix G, a project's effects on biological resources are deemed significant where the project would do any of the following:

e) 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 CDFW or USFWS;

f) Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations, or by the CDFW or USFWS;

g) Have a substantial adverse effect on state or federally protected wetlands (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means;

h) Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites;

i) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance; or

j) Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan.

These criteria were used to determine whether the potential effects of the Project on biological resources qualify as significant.

Figure 6. Groundwater well and water storage tank reconnaissance survey area map.

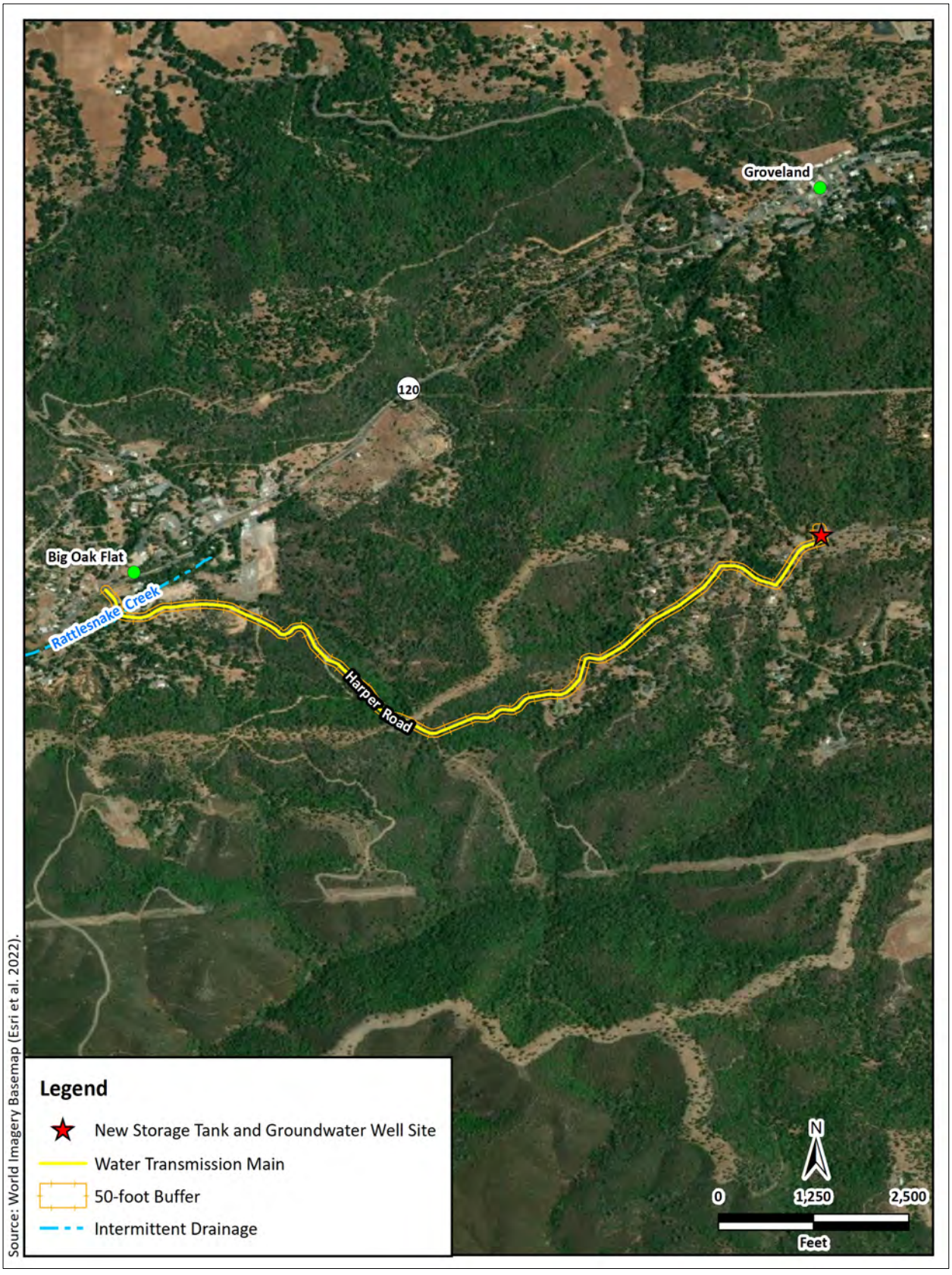

Figure 7. Water distribution pipeline reconnaissance survey area map.

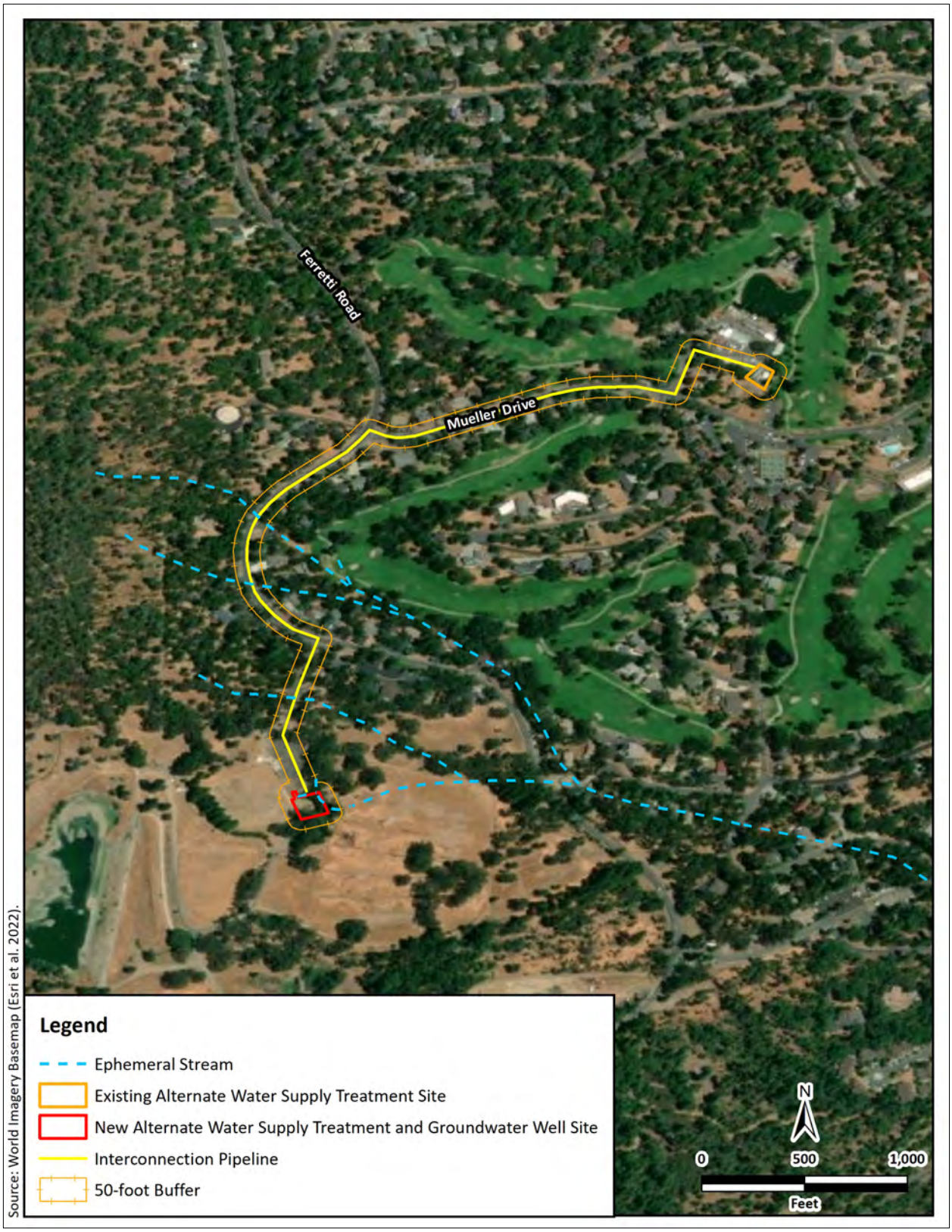

Figure 8. Alternate water supply treatment and groundwater well reconnaissance survey area map.

Figure 9. Alternate water supply intake reconnaissance survey area map.

3.0 Results

3.1 Desktop Review

The USFWS species list for the Project site included six species listed as threatened, endangered, or candidate under the FESA (USFWS 2022a, Table 1, Appendix A). Of those six species, none are expected to occur on or near the Project site due to (1) the lack of habitat, (2) the Project site being outside the current range of the species, or (3) the presence of development that would otherwise preclude occurrence (Table 1). As identified in the species list, the Project site does not occur in USFWS-designated or proposed critical habitat for any species (USFWS 2022a, Appendix A).

Searching the CNDDB for records of special-status species from the Groveland 7.5-minute USGS topographic quad and the eight surrounding quads produced 284 records of 48 species (Table 1, Appendix B). Of those 48 species, 15 are not given further consideration because they are not CEQA-recognized as special-status species by state or federal regulatory agencies or public interest groups or are considered extirpated in California (Appendix B). Of the remaining 33 species, 17 are known from within 5 miles of the Project site (Table 1, Figure 10). Of those species, the state-listed as endangered and fully protected bald eagle (*Haliaeetus leucocephalus*) and two CDFW-designated species of special concern, northwestern pond turtle (*Actinemys marmorata*) and western red bat (*Lasiurus blossevillii*), could occur on or near the Project site (Table 1).

Searching the CNPS inventory of rare and endangered plants of California yielded 37 species (CNPS 2022, Appendix C), 18 of which have a CNPS California Rare Plant Rank of 1 or 2 (Table 1). None of those species are expected to occur on or near the Project site due to (1) lack of habitat, (2) the Project site being outside the current range of the species, or (3) lack of detection during the 4 November 2022 field survey (Table 1).

The Project site is underlain by soil complexes consisting of Arpatutu, Copperopolis, Hetchy, Hotaw, Musick, Nedsgulch, Ultic Haploxeralfs, and Wallyhill soil series with 0–60 percent slopes (NCRS 2022). The Project site is at an elevation of 2565–3425 feet above mean sea level (Google 2022).

Table 1. Special-status species, their listing status, habitats, and potential to occur on or near the Project site.

Species	Status[1]	Habitat	Potential to Occur[2]
Federally and State-Listed Endangered or Threatened Species			
Layne's ragwort (*Packera layneae*)	FT, SR, 1B.2	Openings and disturbed areas with serpentine soils in chaparral and foothill woodland at 984–2953 feet elevation.	**None.** Habitat lacking; serpentine soils were absent from the Project site; no records from within 5 miles.
Crotch bumble bee (*Bombus crotchii*)	SC	Open grassland and scrub habitats with *Antirrhinum*, *Phacelia*, *Clarkia*, *Dendromecon*, *Eschscholzia*, and *Eriogonum* as food plants.	**None.** Habitat lacking; no open grassland and scrub habitats with *Antirrhinum*, *Phacelia*, *Clarkia*, *Dendromecon*, *Eschscholzia*, and *Eriogonum* were detected on the Project site.
Monarch butterfly – California overwintering population (*Danaus plexippus*)	FC	Groves of trees within 1.5 miles of the ocean that produce suitable micro-climates for overwintering such as high humidity, dappled sunlight, access to water and nectar, and protection from wind.	**None.** Habitat lacking; the Project site is not within 1.5 miles of the ocean.
Valley elderberry longhorn beetle (*Desmocerus californicus dimorphus*)	FT	Elderberry (*Sambucus* sp.) plants in the Central Valley with stems > 1 inch diameter at ground level.	**None.** No records from within 5 miles; the Project site is outside the current known range of this species.
Delta smelt (*Hypomesus transpacificus*)	FT, SE	Shallow, fresh, or slightly brackish backwater sloughs and edgewaters.	**None.** Habitat lacking; the Project site lacked connectivity to the aquatic habitat this species requires.

California red-legged frog (*Rana draytonii*)	FT, SSSC	Creeks, ponds, and marshes for breeding; burrows for upland refuge.	**None.** Habitat lacking; Project site is outside the current known range of this species.
California tiger salamander (*Ambystoma californiense*)	FT, ST	Vernal pools or seasonal ponds for breeding; small mammal burrows for upland refugia in natural grasslands.	**None.** Habitat lacking; the Project site is outside the current known range of this species.
Foothill yellow-legged frog – South Sierra DPS[3] (*Rana boylii*)	FC, SE	Perennial streams and rivers with rocky substrates, and with open, sunny banks may be in forests, chaparral, or woodlands.	**None.** Habitat lacking; no suitable perennial streams in the survey area.
Limestone salamander (*Hydromantes brunus*)	ST, FP	Limestone outcrops, caverns, talus, or rock fissures in foothill pine and chaparral along the Merced River and its tributaries.	**None.** Habitat lacking; the Project site is outside the current known range of this species.
Bald eagle (*Haliaeetus leucocephalus*)	SE, FP	Large old-growth trees or snags in remote, mixed stands near water.	**Moderate.** Suitable nest trees were present around Pine Mountain Lake.
Great gray owl[3] (*Strix nebulosa*)	SE	Meadow edges in mixed conifer forest, red fir forest, or cismontane woodland in Central California.	**None.** Habitat lacking; no suitable meadows within 500 feet of the Project site.
Least Bell's vireo (*Vireo bellii pusillus*)	FE, SE	Riparian corridors with a dense, shrubby understory.	**None.** Habitat lacking; the Project site is outside the current known range of this species.
Fisher – Southern Sierra Nevada DPS (*Pekania pennanti*)	FE, ST	Large areas of mature, dense forest stands with snags and greater than 50% canopy closure at 4000–9000 feet elevation.	**None.** The Project site is outside the current known range of this species.

State Species of Special Concern			
Central California roach[3] (*Hesperoleucus symmetricus symmetricus*)	SSSC	Tributaries of the San Joaquin River south of and including the Cosumnes River.	**None.** Habitat lacking; no connectivity with the aquatic habitats this species requires.
Northwestern pond turtle[3] (*Actinemys marmorata*)	SSSC	Ponds, rivers, marshes, streams, and irrigation ditches, usually with aquatic vegetation and woody debris for basking, and adjacent natural upland areas for egg laying.	**Low.** Rattlesnake Creek, a nearby pond, and the surrounding upland areas provide low-quality habitat for this species.
Burrowing owl (*Athene cunicularia*)	SSSC	Grassland and upland scrub with friable soil; some agricultural or other developed and disturbed areas with ground squirrel burrows.	**None.** Habitat lacking; the Project site lacked areas of open grassland or upland scrub large enough to support this species.
California spotted owl[3] (*Athene cunicularia*)	SSSC	Dense old-growth, multi-layered forest stands with large trees and snags.	**None.** Habitat lacking; the Project site is disturbed and lacks dense old-growth multi-layered forest.
Pallid bat[3] (*Antrozous pallidus*)	SSSC	Arid or semi-arid locations in rocky areas and sparsely vegetated grassland near water. Rock crevices, caves, mine shafts, bridges, buildings, and tree hollows for roosting.	**None.** Habitat lacking; the survey area lacked the arid or semi-arid rocky areas and grassland this species requires.
Spotted bat (*Euderma maculatum*)	SSSC	Rock crevices, cliffs, and caves for roosting; feeds almost exclusively on moths.	**None.** Habitat lacking; the survey area lacked the rock crevices, cliffs, and caves this species requires.

Townsend's big-eared bat[3] (*Corynorhinus townsendii*)	SSSC	Open buildings, caves, or mines for roosting and a variety of habitats including cismontane woodland and low elevation conifer forest for foraging.	**None.** Habitat lacking; the survey area lacked the open buildings, caves, or mines this species requires.
Western mastiff bat[3] (*Eumops perotis californicus*)	SSSC	Crevices in face cliffs, tall buildings, and tunnels in open semi-arid habitats.	**None.** Habitat lacking; the survey area lacked the face cliffs, tall buildings, and tunnels this species requires.
Western red bat[3] (*Lasiurus blossevillii*)	SSSC	Trees in forest and woodland from sea level to elevations supporting mixed-conifer forest.	**Moderate.** Suitable roosting trees and foraging areas were within 50 feet of the Project site.
California Rare Plants			
Beaked clarkia (*Clarkia rostrata*)	1B.3	Oak and pine woodland and Valley grassland at 197–1640 feet elevation.	**None.** Habitat lacking; the Project site is above the known elevational range of this species.
Big-scale balsamroot (*Balsamorhiza macrolepis*)	1B.2	Open, grassy, or rocky slopes and valleys in chaparral, cismontane woodland, and Valley and foothill grassland. Sometimes present in serpentine soils.	**None.** Grassy slopes were present, but habitat on the Project site was disturbed. No serpentine soils were present on the Project site. This perennial species was not detected during reconnaissance survey.
Brownish beaked-rush (*Rhynchospora capitellata*)	2B.2	Meadows, seeps, and marshes in conifer forest.	**None.** Habitat lacking; meadows, seeps, and marshes were not present in the survey area.

Congdon's lomatium[3] (*Lomatium congdonii*)	1B.2	Chaparral and cismontane woodland with serpentine soil.	**None.** Habitat lacking; no serpentine soils known from the survey area.
Mariposa clarkia[3] (*Clarkia biloba* ssp. *australis*)	1B.2	Chaparral and cismontane woodland with serpentine soil.	**None.** Habitat lacking; no serpentine soils known from the survey area.
Mariposa cryptantha (*Cryptantha mariposae*)	1B.3	Rocky, serpentine soils in chaparral.	**None.** Habitat lacking; no serpentine soils known from the survey area.
Mi-Wuk navarretia (*Navarretia miwukensis*)	1B.2	Meadows and openings in lower montane coniferous forest.	**None.** Openings in lower montane coniferous forest were present but highly disturbed. No records from within 5 miles of the Project site.
Parry's horkelia (*Horkelia parryi*)	1B.2	Meadows and stream banks in Ione formation and other soils in chaparral and cismontane woodland.	**None.** Habitat lacking; no Ione formation soils known from the survey area. No records from within 5 miles of the Project site.
Rawhide Hill onion[3] (*Allium tuolumnense*)	1B.2	Serpentine soils in cismontane woodland.	**None.** Habitat lacking; no serpentine soils known from the survey area.
Red Hills cryptantha[3] (*Cryptantha spithamaea*)	1B.3	Serpentine soils in chaparral and cismontane woodland.	**None.** Habitat lacking; no serpentine soils known from the survey area.
Red Hills ragwort (*Senecio clevelandii* var. *heterophyllus*)	1B.2	Serpentine seeps in cismontane woodland.	**None.** Habitat lacking; no serpentine seeps or soils known from the survey area.
Shaggyhair lupine[3] (*Lupinus spectabilis*)	1B.2	Serpentine soils in chaparral and cismontane woodland.	**None.** Habitat lacking; no serpentine soils known from the survey area.

Slender-stemmed monkeyflower[3] (*Erythranthe filicaulis*)	1B.2	Meadows and seeps in cismontane woodland and conifer forest.	**None.** Habitat lacking; meadows and seeps were not present in the survey area.
Small's southern clarkia (*Clarkia australis*)	1B.2	Cismontane woodland and low elevation conifer forest between 2625 and 6810 feet elevation.	**None.** Cismontane woodland and low elevation conifer forest were present but highly disturbed. No records from within 5 miles of the Project site.
Tuolumne button-celery[3] (*Eryngium pinnatisectum*)	1B.2	Seasonally flooded depressions in cismontane woodland and low elevation conifer forest.	**None.** Habitat lacking; no seasonally flooded depressions were found in the survey area.
Tuolumne fawn lily[3] (*Erythronium tuolumnense*)	1B.2	Open woodland and shady canyons in broadleaf upland forest, chaparral, cismontane woodland, and low elevation conifer forest. Affinity to serpentine soil.	**None.** Habitat lacking; no serpentine soils known from the survey area.
Yellow-lip pansy monkeyflower[3] (*Diplacus pulchellus*)	1B.2	Vernally wet depressions and seeps in low elevation coniferous forest; often in disturbed areas.	**None.** Habitat lacking; no depressions or seeps were found in the survey area.

CDFW (2022), CNPS (2022), USFWS (2022).

Status[1]	**Potential to Occur**[2]	
FE = Federally listed Endangered	None:	Species or sign not observed; conditions unsuitable for occurrence.
FT = Federally listed Threatened	Low:	Neither species nor sign observed; conditions marginal for occurrence.
FP = State Fully Protected	Moderate:	Neither species nor sign observed; conditions suitable for occurrence.
FC = Federal Candidate for listing under the FESA	High:	Neither species nor sign observed; conditions highly suitable for occurrence.
SE = State listed Endangered	Present:	Species or sign observed; conditions suitable for occurrence.
ST = State listed Threatened		
SSSC = State Species of Special Concern		
SC = State Candidate for listing under the CESA		

CNPS California Rare Plant Rank[1]**:**	**Threat Ranks**[1]**:**
1B – plants rare, threatened, or endangered in California and elsewhere.	0.1 – seriously threatened in California (> 80% of occurrences).
2B – plants rare, threatened, or endangered in California but more common elsewhere.	0.2 – moderately threatened in California (20-80% of occurrences).
3 – plants about which more information is needed.	0.3 – not very threatened in California (<20% of occurrences).
4 – plants have limited distribution in California.	

[3]Record from within 5 miles of the Project site.

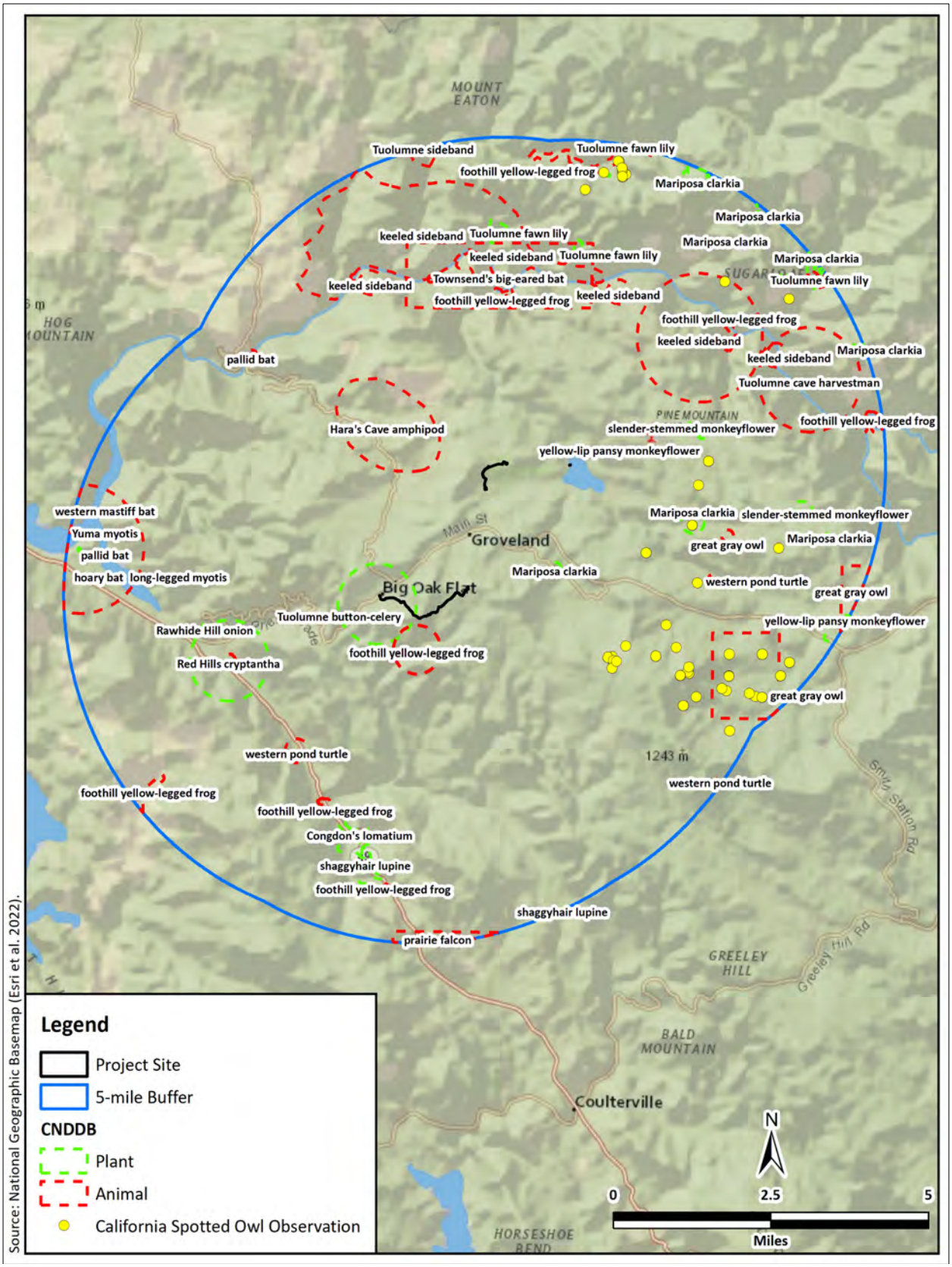

Figure 10. CNDDB occurrence map.

3.2 Reconnaissance Survey

3.2.1 Land Use and Habitats

The Project site consists of developed and disturbed land cover surrounded by oak and pine forest (Figures 11–17). Land uses include commercial, residential, and recreational.

The existing alternate water supply treatment facility is in a paved parking lot surrounded by commercial development (Figure 11). The new alternate water supply treatment and groundwater well site consists of a graveled parking lot and disturbed oak forest (Figures 12 and 13). An ephemeral drainage was along the north and east boundaries of the new alternate water supply treatment and groundwater well site (Figure 13). The new water storage tank and groundwater well site was a flat, graveled area adjacent to a communication tower surrounded by oak and pine forest (Figure 14). The alternate water supply intake was adjacent to a paved parking lot, a maintained lawn, and a reservoir (Figure 15). The proposed pipelines are underneath paved roads surrounded by oak and pine forest (Figure 16). The pipelines cross several unnamed ephemeral drainages and Rattlesnake Creek, an intermittent drainage with herbaceous riparian vegetation (Figure 17).

Figure 11. Photograph of the existing alternate water supply treatment site, looking southeast, showing urban land cover.

Figure 12. Photograph of the new alternate water supply treatment and groundwater well site, looking south, showing urban land cover and oak forest.

Figure 13. Photograph of an ephemeral drainage along the northern border of the new alternate water supply treatment and groundwater well site, looking north.

Figure 14. Photograph of the new water storage tank and groundwater well site, facing north, showing urban land cover surrounded by oak and pine forest.

Figure 15. Photograph of the alternate water supply intake, facing northeast, showing urban land cover and Pine Mountain Lake.

Figure 16. Photograph of the proposed water distribution pipeline along Harper Road, facing northeast showing urban land cover surrounded by oak forest.

Figure 17. Photograph of the proposed water distribution pipeline crossing Rattlesnake Creek, facing southeast, showing urban land cover surrounded by riparian vegetation and oak forest.

3.2.2 Plant and Animal Species Observed

A total of 53 plant species (36 native and 17 nonnative), 36 bird species, and two mammal species were observed during the survey (Table 2).

Table 2. Plant and animal species observed during the reconnaissance survey.

Common Name	Scientific Name	Regulatory Status
Plants		
Family Adoxaceae		
Blue elderberry	*Sambucus nigra* ssp. *caerulea*	Native
Family Anacardiaceae		
Poison oak	*Toxicodendron diversilobum*	Native
Family Araceae		
Duckweed	*Lemna* sp.	Native
Family Asteraceae		
Canada horseweed	*Erigeron canadensis*	Native
Common groundsel	*Senecio vulgaris*	Nonnative
Gumweed	*Grindelia camporum*	Native
Ladies' tobacco	*Pseudognaphalium californicum*	Native
Rough cockleburr	*Xanthium strumarium*	Native
Rubber rabbitbrush	*Ericameria nauseosa*	Native
Wire lettuce	*Stephanomeria pauciflora*	Native
Yellow star thistle	*Centaurea solstitialis*	Nonnative
Family Betulaceae		
White alder	*Alnus rhombifolia*	Native
Family Brassicaceae		
Fringe pod	*Thysanocarpus curvipes*	Native
Short pod mustard	*Hirschfeldia incana*	Nonnative
Family Caprifoliaceae		
Chaparral honeysuckle	*Lonicera interrupta*	Native
Family Cupressaceae		
Incense cedar	*Calocedrus decurrens*	Native
Family Cyperaceae		
Sedge	*Carex* sp.	Native
Family Ericaceae		
White leaf manzanita	*Arctostaphylos manzanita*	Native
Family Euphorbiaceae		
Turkey-mullein	*Croton setiger*	Native
Family Fabaceae		
California hemp	*Hoita macrostachya*	Native
Deerweed	*Acmispon glaber*	Native

Yellow sweetclover	*Melilotus indicus*	Nonnative
Family Fagaceae		
Black oak	*Quercus kelloggii*	Native
Blue oak	*Quercus douglasii*	Native
Canyon live oak	*Quercus chrysolepis*	Native
Interior live oak	*Quercus wislizeni*	Native
Valley oak	*Quercus lobata*	Native
Family Geraniaceae		
Cutleaf geranium	*Geranium dissectum*	Nonnative
Family Iridaceae		
Hartweg's iris	*Iris hartwegii*	Native
Family Lythraceae		
Hyssop loosestrife	*Lythrum hyssopifolia*	Nonnative
Family Namaceae		
Yerba santa	*Eriodictyon californicum*	Native
Family Onagraceae		
Panicled willowherb	*Epilobium brachycarpum*	Native
Family Pinaceae		
California foothill pine	*Pinus sabiniana*	Native
Ponderosa pine	*Pinus ponderosa*	Native
Family Plantagninaceae		
English plantain	*Plantago lanceolata*	Nonnative
Family Poaceae		
Annual rabbitsfoot grass	*Polypogon monspeliensis*	Nonnative
Deergrass	*Muhlenbergia rigens*	Native
Grass	*Poa* sp.	Nonnative
Ripgut brome	*Bromus diandrus*	Nonnative
Rye brome	*Bromus seculinus*	Nonnative
Slender wild oat	*Avena barbata*	Nonnative
Soft chess	*Bromus hordeaceus*	Nonnative
Family Polygonaceae		
California knotweed	*Polygonum californicum*	Native
Curly dock	*Rumex crispus*	Nonnative
Naked buckwheat	*Eriogonum nudum*	Native
Prostrate knotweed	*Polygonum aviculare*	Nonnative
Family Rhamnaceae		
Buck brush	*Ceanothus cuneatus*	Native
Deer brush	*Ceanothus integerrimus*	Native
Family Rosaceae		
Himalayan blackberry	*Rubus armeniacus*	Nonnative
Toyon	*Heteromeles arbutifolia*	Native
Family Salicaceae		

Fremont cottonwood	*Populus fremontii*	Native
Red willow	*Salix laevigata*	Native
Family Scrophulariaceae		
Woolly mullein	*Verbascum thapsus*	Nonnative
Birds		
Family Accipitridae		
Red-shouldered hawk	*Buteo lineatus*	MBTA, CFGC
Red-tailed hawk	*Buteo jamaicensis*	MBTA, CFGC
Family Anatidae		
Canada goose	*Branta canadensis*	MBTA, CFGC
Common merganser	*Mergus merganser*	MBTA, CFGC
Mallard	*Anas platyrhynchos*	MBTA, CFGC
Family Bombycillidae		
Cedar waxwing	*Bombycilla cedrorum*	MBTA, CFGC
Family Certhiidae		
Brown creeper	*Certhia americana*	MBTA, CFGC
Family Charadriidae		
Killdeer	*Charadrius vociferus*	MBTA, CFGC
Family Columbidae		
Eurasian collard-dove	*Streptopelia decaocto*	Nonnative
Family Corvidae		
California scrub-jay	*Aphelocoma californica*	MBTA, CFGC
Common raven	*Corvus corax*	MBTA, CFGC
Steller's jay	*Cyanocitta stelleri*	MBTA, CFGC
Family Fringillidae		
Purple finch	*Haemorhous purpureus*	MBTA, CFGC
Family Icteridae		
Brewer's blackbird	*Euphagus cyanocephalus*	MBTA, CFGC
Red-winged blackbird	*Agelaius phoeniceus*	MBTA, CFGC
Family Odontophoridae		
California quail	*Callipepla californica*	MBTA, CFGC
Family Paridae		
Mountain chickadee	*Poecile gambeli*	MBTA, CFGC
Oak titmouse	*Baeolophus inornatus*	MBTA, CFGC
Family Parulidae		
Yellow-rumped warbler	*Setophaga coronata*	MBTA, CFGC
Family Passerellidae		
California towhee	*Melozone crissalis*	MBTA, CFGC
Dark-eyed junco	*Junco hyemalis*	MBTA, CFGC
Golden-crowned sparrow	*Zonotrichia atricapilla*	MBTA, CFGC
Spotted towhee	*Pipilo maculatus*	MBTA, CFGC
Family Phalacrocoracidae		

Double-crested cormorant	*Nannopterum auritum*	MBTA, CFGC
Family Picidae		
Acorn woodpecker	*Melanerpes formicivorus*	MBTA, CFGC
Northern flicker	*Colaptes auratus*	MBTA, CFGC
Nuttall's woodpecker	*Picoides nuttallii*	MBTA, CFGC
Family Podicipedidae		
Pied-billed grebe	*Podilymbus podiceps*	MBTA, CFGC
Western grebe	*Aechmophorus occidentalis*	MBTA, CFGC
Family Rallidae		
American coot	*Fulica americana*	MBTA, CFGC
Family Regulidae		
Ruby-crowned kinglet	*Regulus calendula*	MBTA, CFGC
Family Trochilidae		
Anna's hummingbird	*Calypte anna*	MBTA, CFGC
Family Turdidae		
American robin	*Turdus migratorius*	MBTA, CFGC
Hermit thrush	*Catharus guttatus*	MBTA, CFGC
Western bluebird	*Sialia mexicana*	MBTA, CFGC
Family Tyrannidae		
Black phoebe	*Sayornis nigricans*	MBTA, CFGC
Mammals		
Family Cervidae		
California mule deer	*Odocoileus hemionus californicus*	--
Family Sciuridae		
Western gray squirrel	*Sciurus griseus*	--

MBTA = Protected under the Migratory Bird Treaty Act (16 USC § 703 et seq.); CFGC = Protected under the California Fish and Game Code (FGC §§ 3503 and 3513).

3.2.3 Bald Eagle and Golden Eagle

The Project site and surrounding area contained foraging and nesting habitat for bald eagle and foraging habitat for golden eagle.

3.2.4 Nesting Birds and the Migratory Bird Treaty Act

Migratory birds could nest on or near the Project site. Bird species that may nest on or near the property include, but are not limited to, California scrub-jay (*Aphelocoma californica*), red-shouldered hawk (*Buteo lineatus*), acorn woodpecker (*Melanerpes formicivorus*), and spotted towhee (*Pipilo maculatus*).

3.2.5 Regulated Habitats

The Project site was within 50 feet of several unnamed ephemeral streams and Rattlesnake Creek, an intermittent stream (Figures 3 and 4). As streams in California, they are under the regulatory jurisdiction of the CDFW; as potential surface waters in California, they may be under the regulatory jurisdiction of the SWRCB; and as a potential tributary of the Tuolumne River, a navigable water of the United States, they may be under the regulatory jurisdiction of the USACE.

According to the National Wild and Scenic Rivers System, the nearest designated wild and scenic river is the Tuolumne River approximately 2.7 miles north of the Project site (USFWS 2022c).

No marine or estuarine fishery resources or migratory routes to and from anadromous fish spawning grounds were present in the survey area. The streams in the survey area do not contain the perennial or prolonged flows necessary to support fish. In addition, no EFH, defined by the Magnuson-Stevens Act as those resources necessary for fish spawning, breeding, feeding, or growth to maturity, were present in the survey area.

The Project site is not in a flood plain (FEMA 2022). The nearest flood plain limit is Priest Reservoir approximately 1.4 miles southwest of the Project site.

3.3 Special-Status Species

The following special-status species could occur on or near the Project site based on the presence of habitat:

3.3.1 Northwestern Pond Turtle

Northwestern pond turtle (family Emydidae) is one of only two California native freshwater turtles. This species is long-lived, diurnal, and aquatic (Nafis 2022). It occurs in ponds, lakes, rivers, creeks, marshes, and irrigation ditches and requires exposed banks, logs, rocks, or cattail mats for basking (Nafis 2022). Commercial harvesting beginning in the 19th century, wetland destruction and degradation in the early 20th century, and introduction of nonnative species including other turtle species and bullfrogs are the primary contributors to population declines (Nafis 2020). Mating occurs in April and May, after which females travel onto land to dig a nest, usually along stream or pond banks (Nafis 2022).

There are three species occurrence records of northwestern pond turtle from within 5 miles of the Project site (CDFW 2022). The closest CNDDB occurrence is from 1988 at Moccasin Creek, approximately 2.8 miles southwest of the Project site. Rattlesnake Creek and a nearby pond contain sufficient water and emergent vegetation to provide aquatic habitat for northwestern pond turtle. The disturbed oak forest within 300 feet of Rattlesnake Creek and the nearby pond provide potential upland nesting habitat. Due to poor habitat quality, the potential for this species to occur is low.

3.3.2 Bald Eagle

Bald eagle was perilously close to extirpation in the contiguous United States three decades ago, but populations have since recovered to more then 300,000 individuals (USFWS 2020). Bald eagle was removed from the FESA in 2007 but remains state listed as endangered and fully protected and is protected under the Bald and Golden Eagle Protection Act (CDFW 2022). Bald eagles overwinter throughout most of California; breeding territories are mainly in mountain and foothill forests and woodlands near reservoirs, lakes, and rivers (Zeiner et al. 1988–1990). Bald eagles use large, old-growth trees or snags for perching, roosting, and nesting. They are opportunistic foragers and consume a variety of fish, birds, and mammals depending on prey availability (USFWS 2022d). Bald eagles breed February–July. Eggs are incubated for 34–36 days, and young fledge 58–96 days after hatching (Buehler 2000). Bald eagles typically nest in remote areas and are sensitive to human disturbance during nesting (USFWS 2022d).

There are no CNDDB occurrence records of bald eagle from within 5 miles of the Project site (CDFW 2022). However, Pine Mountain Lake and the surrounding forest provide nesting and foraging habitat for bald eagle. In addition, we detected an active bald eagle nest along the shoreline of Pine Mountain Lake during a June 2022 nesting bird survey for a different project. The nest was approximately 0.5 miles southeast of the alternate water supply intake. Therefore, the species has a moderate potential to occur on the Project site.

3.3.3 Western Red Bat

Locally common in some areas of California, western red bat occurs west of the Sierra Nevada/Cascade crest from Shasta County to the Mexican border (Zeiner et al. 1988–1990). Western red bat occupies a wide variety of habitats including grasslands, shrublands, open woodlands and forests, croplands, and orchards (Zeiner et al. 1988–1990). It roosts in trees in edge habitats and riparian areas adjacent to streams, fields, or urban areas (Solick et al. 2020). Red bat feeds on a variety of insects including moths, crickets, beetles, and cicadas (Shump and Shump 1982).

There is one species occurrence record of western red bat from within 5 miles of the Project site: a 1999 CNDDB occurrence near Moccasin, approximately 2.6 miles southwest of the Project site (CDFW 2022). The survey area contains tall, mature trees in edge habitat and riparian corridors that provide potential roosting habitat for western red bat. The oak and pine forests in and adjacent to the Project site provide potential foraging habitat. Therefore, the species has a moderate potential to occur on the Project site.

4.0 Environmental Effects

4.1 Effects Determinations

4.1.1 Critical Habitat

We conclude the Project will have **no effect** on critical habitat as no critical habitat has been designated or proposed in the survey area.

4.1.2 Special-Status Species

We conclude the Project **may affect but is not likely to adversely affect** the state listed as endangered and fully protected bald eagle, the state species of special concern northwestern pond turtle, and the state species of special concern western red bat. The Project is not expected to affect any other special-status species due to the lack of habitat or known occurrence records for those species near the Project site.

4.1.3 Migratory Birds

We conclude the Project **may affect but is not likely to adversely affect** nesting migratory birds.

4.1.4 Regulated Habitats

We conclude the Project **may affect and is likely to adversely affect** several regulated habitats. These habitats consist of Rattlesnake Creek, an intermittent stream, and several unnamed ephemeral streams that may be under the regulatory jurisdiction of the USACE, the RWQCB, and the CDFW. As such, Clean Water Act Section 404 permits and 401 certifications as well as California Fish and Game Code Section 1602 notifications may be required if Project activities impact these regulated habitats. However, the project will have **no effect** on state or federally protected wetlands or other regulated habitats under CEQA purview as no such habitats were found in the survey area.

4.2 Significance Determinations

This Project, which will result in temporary impacts to developed and disturbed land, will not: (1) substantially reduce the habitat of a fish or wildlife species (criterion a) as no such habitat is present on the Project site; (2) cause a fish or wildlife population to drop below self-sustaining levels (criterion b) as no such potentially vulnerable population is known from the area; (3) threaten to eliminate a plant or animal community (criterion c) as no such potentially vulnerable communities are known from the area; (4) substantially reduce the number or restrict the range of a rare or endangered plant or animal (criterion d) as no such potentially vulnerable species are

known from the area; (5) have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations, or by the CDFW or USFWS (criterion f) as any effects to riparian habitat along Rattlesnake Creek are expected to be minor to negligible and no other sensitive natural community was present in the survey area; (6) have a substantial adverse effect on state or federally protected wetlands (including, but not limited to marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means (criterion g) as no impacts to wetlands will occur; (7) conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance (criterion i) as no trees or biologically sensitive areas will be impacted; or (8) conflict with the provisions of an adopted Habitat Conservation Plan, Natural Communities Conservation Plan, or other approved local, regional, or state habitat conservation plan (criterion j) as no such plan has been adopted. Thus, these significance criteria are not analyzed further.

The remaining statutorily defined criteria provided the framework for Criteria BIO1 and BIO2 below. These criteria were used to assess the impacts to biological resources stemming from the Project and provide the basis for determinations of significance:

- Criterion BIO1: 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 CDFW or USFWS (significance criterion e).

- Criterion BIO2: Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites (significance criterion h).

4.2.1 Direct and Indirect Effects

4.2.1.1 Potential Effect #1: Have a Substantial Effect on Any Special-Status Species (Criterion BIO1)

The Project could adversely affect, either directly or through habitat modifications, three special-status animals that occur or may occur on or near the Project site. Construction activities such as excavating, trenching, or using other heavy equipment that disturbs or harms a special-status species or substantially modifies its habitat could constitute a significant impact. We recommend that Mitigation Measures BIO1–BIO3 (below) be included in the conditions of approval to reduce the potential impact to a less-than-significant level.

Mitigation Measure BIO1. Protect northwestern pond turtle.

1. A pre-construction clearance survey shall be conducted by a qualified biologist to ensure that northwestern pond turtle will not be impacted during Project construction. The pre-construction clearance survey shall be conducted no more than 14 days prior to the start of construction activities within 300 feet of potential aquatic habitat (Rattlesnake Creek and adjacent pond) for northwestern pond turtle. During this survey, the qualified biologist shall search all aquatic habitat for turtles and all potential nesting habitat on the Project site for active turtle nests. If a turtle is found, it will be allowed to the leave the area on its own. If an active turtle nest is found, the qualified biologist shall determine the extent of a construction-free buffer to be established and maintained around the nest for the duration of the nesting cycle. The biologist shall then work with construction personnel to install wildlife exclusion fencing along the buffer. This fencing should be a minimum of 36 inches tall and towed-in 6 inches below ground prior to construction activities. If fencing cannot be toed-in, the bottom of the fence will be weighted down with a continuous line of long, narrow sand bags or similar, to ensure there are no gaps under the fencing where wildlife could enter. One-way exit funnels directed away from construction activities will be installed to allow turtles and other small wildlife to exit the fenced enclosure.

Mitigation Measure BIO2. Protect nesting bald eagle.

1. To the extent practicable, construction shall be scheduled to avoid the nesting season, which extends from February through July.

2. If it is not possible to schedule construction between August and January, pre-construction surveys for nesting bald eagles shall be conducted by a qualified biologist to ensure that no active nests will be disturbed during Project implementation. A pre-construction survey shall be conducted no more than 14 days prior to the initiation of construction activities. During this survey, the qualified biologist shall inspect all potential nest substrates (large trees) within 0.5 miles of the impact areas at Pine Mountain Lake for nests. If an active nest is found close enough to the construction area to be disturbed by Project activities, the qualified biologist in consultation with the CDFW shall determine the extent of a construction-free buffer to be established around the nest. If work cannot proceed without disturbing the nesting eagles, work may need to be halted or redirected to other areas until nesting and fledging are completed or the nest has otherwise failed for non-construction related reasons.

Mitigation Measure BIO3. Protect western red bat.

1. To the extent practicable, construction shall be scheduled to avoid the birthing and pupping season for western red bat, which extends from May through August.

2. If it is not possible to schedule construction between September and April, pre-construction surveys for roosting bats shall be conducted by a qualified biologist to ensure that no active maternal colonies will be disturbed during Project implementation. A pre-construction survey shall be conducted no more than 14 days prior to the initiation of construction activities. During this survey, the qualified biologist shall inspect all potential colony substrates in and immediately adjacent to the impact areas for maternity roosts. If an active maternity roost is found close enough to the construction area to be disturbed by work activities, the qualified biologist shall determine the extent of a construction-free buffer to be established around the colony. If work cannot proceed without disturbing the colony, work may need to be halted or redirected to other areas until young are able to fly or the colony has otherwise failed for non-construction related reasons.

4.2.1.2 Potential Effect #2: Interfere Substantially with Native Wildlife Movements, Corridors, or Nursery Sites (Criterion BIO2)

The Project has the potential to impede the use of nursery sites for native birds protected under the MBTA and California Fish and Game Code. Migratory birds are expected to nest on and near the Project site. Construction disturbance during the breeding season could result in the incidental loss of fertile eggs or nestlings or otherwise lead to nest abandonment. Disturbance that causes nest abandonment or loss of reproductive effort can be considered take under the MBTA and California Fish and Game Code. Loss of fertile eggs or nesting birds, or any activities resulting in nest abandonment, could constitute a significant effect if the species is particularly rare in the region. Construction activities such as excavating, trenching, and grading that disturb a nesting bird in the Project site or immediately adjacent to the construction zone could constitute a significant effect. We recommend that the mitigation measure BIO4 (below) be included in the conditions of approval to reduce the potential effect to a less-than-significant level.

Mitigation Measure BIO4. Protect nesting birds.

1. To the extent practicable, construction shall be scheduled to avoid the nesting season, which extends from February through August.
2. If it is not possible to schedule construction between September and January, pre-construction surveys for nesting birds shall be conducted by a qualified biologist to ensure that no active nests will be disturbed during the implementation of the Project. A pre-construction survey shall be conducted no more than 14 days prior to the initiation of construction activities. During this survey, the qualified biologist shall inspect all potential nest substrates in and immediately adjacent to

the impact areas. If an active nest is found close enough to the construction area to be disturbed by these activities, the qualified biologist shall determine the extent of a construction-free buffer to be established around the nest. If work cannot proceed without disturbing the nesting birds, work may need to be halted or redirected to other areas until nesting and fledging are completed or the nest has otherwise failed for non-construction related reasons.

4.2.2 Cumulative Effects

The Project will involve making improvements to drinking water infrastructure at various locations in Big Oak Flat, Groveland, and the Pine Mountain Lake subdivision. Although all land in and immediately adjacent to the Project site was previously disturbed, the Project site provides potential habitat for bald eagle, northwestern pond turtle, western red bat, and migratory birds. However, implementing Mitigation Measures BIO1–BIO4 would reduce any contribution to cumulative impacts on biological resources to a less-than-significant level.

4.2.3 Unavoidable Significant Adverse Effects

No unavoidable significant adverse effects on biological resources would occur from implementing the Project.

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Appendix A. USFWS list of threatened and endangered species.

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: November 03, 2022
Project Code: 2023-0012222
Project Name: Groveland CSD Drought Improvements Project

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

To Whom It May Concern:

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

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

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

A Biological Assessment is required for construction projects (or other undertakings having similar physical impacts) that are major Federal actions significantly affecting the quality of the human environment as defined in the National Environmental Policy Act (42 U.S.C. 4332(2)

(c)). For projects other than major construction activities, the Service suggests that a biological evaluation similar to a Biological Assessment be prepared to determine whether the project may affect listed or proposed species and/or designated or proposed critical habitat. Recommended contents of a Biological Assessment are described at 50 CFR 402.12.

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

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

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

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

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

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

Attachment(s):

- Official Species List

Official Species List

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

This species list is provided by:

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

Project Summary

Project Code: 2023-0012222
Project Name: Groveland CSD Drought Improvements Project
Project Type: Water Supply Facility - New Constr
Project Description: The Project will involve three components: (1) installing a hard rock groundwater well adjacent to an existing storage tank (Tank 5), (2) installing a 140,000-gallon storage tank next to Tank 5 and 5500 linear feet of 8-inch water pipeline along Harper Road from Tank 5 to Big Oak Flat, and (3) relocating a water treatment plant from 12756 Mueller Drive to 12528 Flint Drive.

Project Location:

Approximate location of the project can be viewed in Google Maps: https://www.google.com/maps/@37.8544713,-120.20153052495118,14z

Counties: Tuolumne County, California

Endangered Species Act Species

There is a total of 6 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.

Mammals

NAME	STATUS
Fisher *Pekania pennanti* Population: SSN DPS There is **proposed** critical habitat for this species. Your location does not overlap the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/3651	Endangered

Amphibians

NAME	STATUS
California Red-legged Frog *Rana draytonii* There is **final** critical habitat for this species. Your location does not overlap 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 does not overlap 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 does not overlap the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/321	Threatened

Insects

NAME	STATUS
Monarch Butterfly *Danaus plexippus*	Candidate

No critical habitat has been designated for this species.
Species profile: https://ecos.fws.gov/ecp/species/9743

Flowering Plants

NAME	STATUS
Layne's Butterweed *Senecio layneae*	Threatened

No critical habitat has been designated for this species.
Species profile: https://ecos.fws.gov/ecp/species/4062

Critical habitats

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

IPaC User Contact Information

Agency: Colibri Ecological Services
Name: Ryan Slezak
Address: 9493 N Ft Washington Rd
City: Fresno
State: CA
Zip: 93730
Email rslezak@colibri-ecology.com
Phone: 5592426178

Appendix B. CNDDB occurrence records.

Summary Table Report

California Department of Fish and Wildlife

California Natural Diversity Database

Query Criteria: Quad IS (Duckwall Mtn. (3712081) OR Tuolumne (3712082) OR Buckhorn Peak (3712061) OR Jawbone Ridge (3712071) OR Groveland (3712072) OR Coulterville (3712062) OR Standard (3712083) OR Moccasin (3712073) OR Penon Blanco Peak (3712063))

Name (Scientific/Common)	CNDDB Ranks	Listing Status (Fed/State)	Other Lists	Elev. Range (ft.)	Total EO's	Element Occ. Ranks						Population Status		Presence		
						A	B	C	D	X	U	Historic > 20 yr	Recent <= 20 yr	Extant	Poss. Extirp.	Extirp.
Allium tuolumnense Rawhide Hill onion	G2 S2	None None	Rare Plant Rank - 1B.2 BLM_S-Sensitive	840 1,250	25 S:4	0	1	1	0	0	2	0	4	4	0	0
Antrozous pallidus pallid bat	G4 S3	None None	BLM_S-Sensitive CDFW_SSC-Species of Special Concern IUCN_LC-Least Concern USFS_S-Sensitive	810 2,750	420 S:5	0	0	0	0	0	5	5	0	5	0	0
Athene cunicularia burrowing owl	G4 S3	None None	BLM_S-Sensitive CDFW_SSC-Species of Special Concern IUCN_LC-Least Concern USFWS_BCC-Birds of Conservation Concern	1,700 1,700	2011 S:1	0	0	0	1	0	0	0	1	1	0	0
Balsamorhiza macrolepis big-scale balsamroot	G2 S2	None None	Rare Plant Rank - 1B.2 BLM_S-Sensitive USFS_S-Sensitive	2,300 2,900	51 S:4	0	0	0	0	0	4	1	3	4	0	0
Banksula tuolumne Tuolumne cave harvestman	G1 S1	None None		3,100 3,100	1 S:1	0	0	0	0	0	1	1	0	1	0	0
Bombus crotchii Crotch bumble bee	G2 S1S2	None Candidate Endangered	IUCN_EN-Endangered	3,000 3,000	437 S:1	0	0	0	0	0	1	1	0	1	0	0
Clarkia australis Small's southern clarkia	G2 S2	None None	Rare Plant Rank - 1B.2 BLM_S-Sensitive USFS_S-Sensitive	3,000 5,000	41 S:9	0	1	2	0	0	6	6	3	9	0	0
Clarkia biloba ssp. australis Mariposa clarkia	G4G5T3 S3	None None	Rare Plant Rank - 1B.2 SB_CalBG/RSABG-California/Rancho Santa Ana Botanic Garden USFS_S-Sensitive	800 4,850	119 S:71	3	15	3	1	0	49	4	67	71	0	0

Summary Table Report

California Department of Fish and Wildlife

California Natural Diversity Database

Name (Scientific/Common)	CNDDB Ranks	Listing Status (Fed/State)	Other Lists	Elev. Range (ft.)	Total EO's	Element Occ. Ranks						Population Status		Presence		
						A	B	C	D	X	U	Historic > 20 yr	Recent <= 20 yr	Extant	Poss. Extirp.	Extirp.
Clarkia rostrata beaked clarkia	G2G3 S2S3	None None	Rare Plant Rank - 1B.3 BLM_S-Sensitive SB_CalBG/RSABG-California/Rancho Santa Ana Botanic Garden SB_UCBG-UC Botanical Garden at Berkeley	900 2,000	74 S:11	0	1	0	0	0	10	1	10	11	0	0
Corynorhinus townsendii Townsend's big-eared bat	G4 S2	None None	BLM_S-Sensitive CDFW_SSC-Species of Special Concern IUCN_LC-Least Concern USFS_S-Sensitive	1,380 3,720	635 S:6	0	0	0	0	0	6	5	1	6	0	0
Cryptantha mariposae Mariposa cryptantha	G2G3 S2S3	None None	Rare Plant Rank - 1B.3 BLM_S-Sensitive	1,500 1,500	9 S:1	0	0	0	0	0	1	1	0	1	0	0
Cryptantha spithamaea Red Hills cryptantha	G2 S2	None None	Rare Plant Rank - 1B.3 BLM_S-Sensitive	1,750 1,750	6 S:2	0	0	0	0	0	2	2	0	2	0	0
Desmocerus californicus dimorphus valley elderberry longhorn beetle	G3T2T3 S3	Threatened None		1,650 2,850	271 S:3	0	2	1	0	0	0	2	1	3	0	0
Diplacus pulchellus yellow-lip pansy monkeyflower	G2 S2	None None	Rare Plant Rank - 1B.2 BLM_S-Sensitive USFS_S-Sensitive	2,200 3,970	78 S:9	0	1	1	0	0	7	5	4	9	0	0
Emys marmorata western pond turtle	G3G4 S3	None None	BLM_S-Sensitive CDFW_SSC-Species of Special Concern IUCN_VU-Vulnerable USFS_S-Sensitive	1,060 3,152	1404 S:5	0	1	0	0	0	4	3	2	5	0	0
Eryngium pinnatisectum Tuolumne button-celery	G2 S2	None None	Rare Plant Rank - 1B.2	2,400 3,200	30 S:4	0	0	0	0	0	4	4	0	4	0	0
Erythranthe filicaulis slender-stemmed monkeyflower	G2 S2	None None	Rare Plant Rank - 1B.2 BLM_S-Sensitive USFS_S-Sensitive	2,045 3,250	49 S:10	1	3	1	0	0	5	9	1	10	0	0
Erythronium tuolumnense Tuolumne fawn lily	G2G3 S2S3	None None	Rare Plant Rank - 1B.2 BLM_S-Sensitive SB_CalBG/RSABG-California/Rancho Santa Ana Botanic Garden USFS_S-Sensitive	1,600 3,200	35 S:10	2	2	0	0	0	6	7	3	10	0	0

Summary Table Report

California Department of Fish and Wildlife

California Natural Diversity Database

Name (Scientific/Common)	CNDDB Ranks	Listing Status (Fed/State)	Other Lists	Elev. Range (ft.)	Total EO's	Element Occ. Ranks						Population Status		Presence		
						A	B	C	D	X	U	Historic > 20 yr	Recent <= 20 yr	Extant	Poss. Extirp.	Extirp.
Euderma maculatum spotted bat	G4 S3	None None	BLM_S-Sensitive CDFW_SSC-Species of Special Concern IUCN_LC-Least Concern	2,700 2,700	68 S:1	0	0	0	0	0	1	1	0	1	0	0
Eumops perotis californicus western mastiff bat	G4G5T4 S3S4	None None	BLM_S-Sensitive CDFW_SSC-Species of Special Concern	850 1,550	296 S:4	0	0	0	0	0	4	4	0	4	0	0
Falco mexicanus prairie falcon	G5 S4	None None	CDFW_WL-Watch List IUCN_LC-Least Concern	1,100 1,100	451 S:1	0	0	0	0	0	1	1	0	1	0	0
Fritillaria agrestis stinkbells	G3 S3	None None	Rare Plant Rank - 4.2	940 3,000	32 S:2	0	0	0	0	0	2	2	0	2	0	0
Haliaeetus leucocephalus bald eagle	G5 S3	Delisted Endangered	BLM_S-Sensitive CDF_S-Sensitive CDFW_FP-Fully Protected IUCN_LC-Least Concern USFS_S-Sensitive	700 700	332 S:1	1	0	0	0	0	0	0	1	1	0	0
Hesperoleucus symmetricus symmetricus central California roach	GNRT3 S3	None None	CDFW_SSC-Species of Special Concern	900 2,750	8 S:5	0	2	2	1	0	0	5	0	5	0	0
Horkelia parryi Parry's horkelia	G2 S2	None None	Rare Plant Rank - 1B.2 BLM_S-Sensitive USFS_S-Sensitive	1,500 3,300	44 S:4	0	1	0	0	0	3	3	1	4	0	0
Hydromantes brunus limestone salamander	G2G3 S2S3	None Threatened	BLM_S-Sensitive CDFW_FP-Fully Protected IUCN_VU-Vulnerable USFS_S-Sensitive	1,180 3,275	21 S:6	0	0	0	0	0	6	3	3	6	0	0
Lasionycteris noctivagans silver-haired bat	G3G4 S3S4	None None	IUCN_LC-Least Concern	1,550 1,550	139 S:2	0	0	0	0	0	2	2	0	2	0	0
Lasiurus cinereus hoary bat	G3G4 S4	None None	IUCN_LC-Least Concern	850 3,450	238 S:6	0	0	0	0	0	6	6	0	6	0	0
Lasiurus frantzii western red bat	G4 S3	None None	CDFW_SSC-Species of Special Concern IUCN_LC-Least Concern	850 3,450	128 S:2	0	0	0	0	0	2	2	0	2	0	0

Summary Table Report

California Department of Fish and Wildlife

California Natural Diversity Database

Name (Scientific/Common)	CNDDB Ranks	Listing Status (Fed/State)	Other Lists	Elev. Range (ft.)	Total EO's	Element Occ. Ranks						Population Status		Presence		
						A	B	C	D	X	U	Historic > 20 yr	Recent <= 20 yr	Extant	Poss. Extirp.	Extirp.
Lomatium congdonii Congdon's lomatium	G2 S2	None None	Rare Plant Rank - 1B.2 BLM_S-Sensitive	1,500 1,600	20 S:2	0	1	0	0	0	1	1	1	2	0	0
Lupinus spectabilis shaggyhair lupine	G2 S2	None None	Rare Plant Rank - 1B.2 BLM_S-Sensitive	1,425 2,500	24 S:16	1	8	2	0	1	4	9	7	15	1	0
Margaritifera falcata western pearlshell	G4G5 S1S2	None None	IUCN_NT-Near Threatened	2,800 2,850	78 S:3	0	0	0	0	0	3	0	3	3	0	0
Monadenia circumcarinata keeled sideband	G3 S3	None None	BLM_S-Sensitive IUCN_VU-Vulnerable	1,500 2,500	6 S:6	0	0	0	0	0	6	5	1	6	0	0
Monadenia tuolumneana Tuolumne sideband	G1 S1	None None	BLM_S-Sensitive	1,650 2,300	2 S:2	0	0	0	0	0	2	1	1	2	0	0
Monadenia yosemitensis Yosemite sideband	G1 S1S2	None None		1,390 1,390	7 S:1	0	0	0	0	0	1	1	0	1	0	0
Myotis evotis long-eared myotis	G5 S3	None None	BLM_S-Sensitive IUCN_LC-Least Concern	3,720 3,720	139 S:1	0	0	0	0	0	1	1	0	1	0	0
Myotis thysanodes fringed myotis	G4 S3	None None	BLM_S-Sensitive IUCN_LC-Least Concern USFS_S-Sensitive	1,550 3,720	86 S:2	0	0	0	0	0	2	2	0	2	0	0
Myotis volans long-legged myotis	G4G5 S3	None None	IUCN_LC-Least Concern		117 S:2	0	0	0	0	0	2	2	0	2	0	0
Myotis yumanensis Yuma myotis	G5 S4	None None	BLM_S-Sensitive IUCN_LC-Least Concern	850 2,750	265 S:4	0	0	0	0	0	4	4	0	4	0	0
Navarretia miwukensis Mi-Wuk navarretia	G1G2 S1S2	None None	Rare Plant Rank - 1B.2	3,970 3,970	12 S:1	0	0	0	0	0	1	1	0	1	0	0
Packera layneae Layne's ragwort	G2 S2	Threatened Rare	Rare Plant Rank - 1B.2 SB_CalBG/RSABG-California/Rancho Santa Ana Botanic Garden SB_UCBG-UC Botanical Garden at Berkeley SB_UCSC-UC Santa Cruz	815 1,650	48 S:2	0	1	0	0	0	1	1	1	2	0	0

Summary Table Report

California Department of Fish and Wildlife

California Natural Diversity Database

Name (Scientific/Common)	CNDDB Ranks	Listing Status (Fed/State)	Other Lists	Elev. Range (ft.)	Total EO's	Element Occ. Ranks						Population Status		Presence		
						A	B	C	D	X	U	Historic > 20 yr	Recent <= 20 yr	Extant	Poss. Extirp.	Extirp.
Rana boylii pop. 5 foothill yellow-legged frog - south Sierra DPS	G3T2 S2	Proposed Endangered Endangered	BLM_S-Sensitive USFS_S-Sensitive	822 3,800	271 S:40	1	10	5	0	6	18	10	30	34	1	5
Rhynchospora capitellata brownish beaked-rush	G5 S1	None None	Rare Plant Rank - 2B.2 IUCN_LC-Least Concern	3,010 4,088	25 S:2	1	0	0	0	0	1	1	1	2	0	0
Senecio clevelandii var. heterophyllus Red Hills ragwort	G4?T2Q S2	None None	Rare Plant Rank - 1B.2 BLM_S-Sensitive	1,200 1,200	12 S:1	0	1	0	0	0	0	1	0	1	0	0
Strix nebulosa great gray owl	G5 S1	None Endangered	CDF_S-Sensitive IUCN_LC-Least Concern USFS_S-Sensitive	2,825 3,200	79 S:4	0	0	1	0	0	3	4	0	4	0	0
Stygobromus harai Hara's Cave amphipod	G1G2 S1S2	None None	IUCN_VU-Vulnerable	2,350 2,350	3 S:1	0	0	0	0	0	1	1	0	1	0	0
Stygobromus wengerorum Wengerors' Cave amphipod	G1 S1	None None	IUCN_VU-Vulnerable	2,400 2,900	2 S:2	0	0	0	0	0	2	2	0	2	0	0
Vireo bellii pusillus least Bell's vireo	G5T2 S2	Endangered Endangered	NABCI_YWL-Yellow Watch List	840 840	504 S:1	0	0	0	0	1	0	1	0	0	0	1

Appendix C. CNPS plant list.

CNPS Rare Plant Inventory

California Native Plant Society

Search Results

37 matches found. Click on scientific name for details

Search Criteria: 9-Quad include [**3712081:3712082:3712061:3712071:3712072:3712062:3712083:3712073:3712063**]

▲ SCIENTIFIC NAME	COMMON NAME	FAMILY	LIFEFORM	BLOOMING PERIOD	FED LIST	STATE LIST	GLOBAL RANK	STATE RANK	CA RARE PLANT RANK
Allium sanbornii var. *congdonii*	Congdon's onion	Alliaceae	perennial bulbiferous herb	Apr-Jul	None	None	G4T3	S3	4.3
Allium tuolumnense	Rawhide Hill onion	Alliaceae	perennial bulbiferous herb	Mar-May	None	None	G2	S2	1B.2
Balsamorhiza macrolepis	big-scale balsamroot	Asteraceae	perennial herb	Mar-Jun	None	None	G2	S2	1B.2
Calandrinia breweri	Brewer's calandrinia	Montiaceae	annual herb	(Jan)Mar-Jun	None	None	G4	S4	4.2
Ceanothus fresnensis	Fresno ceanothus	Rhamnaceae	perennial evergreen shrub	(Apr)May-Jul	None	None	G4	S4	4.3
Clarkia australis	Small's southern clarkia	Onagraceae	annual herb	May-Aug	None	None	G2	S2	1B.2
Clarkia biloba ssp. *australis*	Mariposa clarkia	Onagraceae	annual herb	Apr-Jul	None	None	G4G5T3	S3	1B.2
Clarkia rostrata	beaked clarkia	Onagraceae	annual herb	Apr-May	None	None	G2G3	S2S3	1B.3
Clarkia virgata	Sierra clarkia	Onagraceae	annual herb	May-Aug	None	None	G3	S3	4.3
Claytonia parviflora ssp. *grandiflora*	streambank spring beauty	Montiaceae	annual herb	Feb-May	None	None	G5T3	S3	4.2
Cryptantha mariposae	Mariposa cryptantha	Boraginaceae	annual herb	Apr-Jun	None	None	G2G3	S2S3	1B.3
Cryptantha spithamaea	Red Hills cryptantha	Boraginaceae	annual herb	Apr-May	None	None	G2	S2	1B.3
Cypripedium montanum	mountain lady's-slipper	Orchidaceae	perennial rhizomatous herb	Mar-Aug	None	None	G4G5	S4	4.2
Delphinium hansenii ssp. *ewanianum*	Ewan's larkspur	Ranunculaceae	perennial herb	Mar-May	None	None	G4T3	S3	4.2
Diplacus pulchellus	yellow-lip pansy monkeyflower	Phrymaceae	annual herb	Apr-Jul	None	None	G2	S2	1B.2
Eriogonum tripodum	tripod buckwheat	Polygonaceae	perennial deciduous shrub	May-Jul	None	None	G4	S4	4.2
Eriophyllum confertiflorum var. *tanacetiflorum*	tansy-flowered woolly sunflower	Asteraceae	perennial shrub	May-Jul	None	None	G5T2?Q	S2?	4.3
Eryngium pinnatisectum	Tuolumne button-celery	Apiaceae	annual/perennial herb	May-Aug	None	None	G2	S2	1B.2
Erythranthe filicaulis	slender-stemmed monkeyflower	Phrymaceae	annual herb	Apr-Aug	None	None	G2	S2	1B.2

Erythranthe grayi	Gray's monkeyflower	Phrymaceae	annual herb	May-Jul	None	None	G2G3Q	S2S3	4.3
Erythranthe inconspicua	small-flowered monkeyflower	Phrymaceae	annual herb	May-Jun	None	None	G4	S4	4.3
Erythronium tuolumnense	Tuolumne fawn lily	Liliaceae	perennial bulbiferous herb	Mar-Jun	None	None	G2G3	S2S3	1B.2
Fritillaria agrestis	stinkbells	Liliaceae	perennial bulbiferous herb	Mar-Jun	None	None	G3	S3	4.2
Githopsis pulchella ssp. *serpentinicola*	serpentine bluecup	Campanulaceae	annual herb	May-Jun	None	None	G4T3	S3	4.3
Horkelia parryi	Parry's horkelia	Rosaceae	perennial herb	Apr-Sep	None	None	G2	S2	1B.2
Jepsonia heterandra	foothill jepsonia	Saxifragaceae	perennial herb	Aug-Dec	None	None	G3	S3	4.3
Lessingia hololeuca	woolly-headed lessingia	Asteraceae	annual herb	Jun-Oct	None	None	G2G3	S2S3	3
Lomatium congdonii	Congdon's lomatium	Apiaceae	perennial herb	Mar-Jun	None	None	G2	S2	1B.2
Lupinus spectabilis	shaggyhair lupine	Fabaceae	annual herb	Apr-May	None	None	G2	S2	1B.2
Mielichhoferia elongata	elongate copper moss	Mielichhoferiaceae	moss		None	None	G5	S3S4	4.3
Navarretia miwukensis	Mi-Wuk navarretia	Polemoniaceae	annual herb	May-Jun(Jul)	None	None	G1G2	S1S2	1B.2
Packera layneae	Layne's ragwort	Asteraceae	perennial herb	Apr-Aug	FT	CR	G2	S2	1B.2
Peltigera gowardii	western waterfan lichen	Peltigeraceae	foliose lichen (aquatic)		None	None	G4?	S3	4.2
Perideridia bacigalupii	Bacigalupi's yampah	Apiaceae	perennial herb	Jun-Aug	None	None	G3	S3	4.2
Rhynchospora capitellata	brownish beaked-rush	Cyperaceae	perennial herb	Jul-Aug	None	None	G5	S1	2B.2
Senecio clevelandii var. *heterophyllus*	Red Hills ragwort	Asteraceae	perennial herb	May-Jul	None	None	G4?T2Q	S2	1B.2
Wyethia elata	Hall's wyethia	Asteraceae	perennial herb	May-Aug	None	None	G4	S4	4.3

Showing 1 to 37 of 37 entries

Suggested Citation:

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Appendix C

Cultural Resources Report

Draft

PHASE I SURVEY, GROVELAND COMMUNITY SERVICES DISTRICT DROUGHT IMPROVEMENTS PROJECT, TUOLUMNE COUNTY, CALIFORNIA

Prepared for:

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February 2023
PN 36790.11

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MANAGEMENT SUMMARY

A Phase I cultural resources survey was conducted for the Groveland Community Services District (CSD) Drought Improvemnts Project (Project), Groveland, Tuolumne County, California. The study was conducted in preparation for proposed improvements to the drinking water infrastructure in Big Oak Flat, Groveland, and Pine Mountain Lake. The study area consists of multiple locations surrounding Groveland and the proposed improvements include a groundwater well, a storage tank, an approximately 5,500-foot (ft) water distribution line, relocation of the existing alternate water supply (AWS) treatment system, a new interconnection pipeline, a new hard rock groundwater well, and the installation of a new slide gate at the AWS intake. A 50-ft survey buffer was added to all project components, creating a study area totaling approximately 22.4-acres (ac).

This investigation was conducted by ASM Affiliates, Inc. (ASM) with Peter A. Carey, M.A., RPA, serving as Principal Investigator. Background studies for the survey were completed in November and December of 2022. Fieldwork was completed in January of 2023. The study was undertaken to assist with California Environmental Quality Act (CEQA) compliance.

A records search of site files and maps was conducted by the Central California Information Center (CCIC), California State University, Stanislaus on November 28th, 2022, for the current study. Results provided by the CCIC note a total of 8 previous projects that have been completed within the study area, and a total of 3 previously recorded sites have been documented. The record search also indicated that an additional 40 studies have been completed with a 0.5-mi radius of the study area with an additional 96 resources located within that same radius.

A search of the Native American Heritage Commission (NAHC) *Sacred Lands File* was completed on December 12th, 2022. Based on the NAHC records, no sacred sites or traditional cultural places had been identified within or adjacent to the study area. Outreach letters were sent to tribal organizations on the NAHC contact list on January 10th, 2023. No responses have been received as of the writing of this report. The results of the NAHC *Sacred Lands File* search and tribal outreach are available in Confidential Appendix A.

ASM conducted the Phase I survey of the 22.4-ac study area on January 19th and 20th, 2023. The study area was surveyed using 15-m parallel transects where appropriate except along roadways. One new historic-era site (temporary field designation GROVE-SITE-1), a historic refuse scatter consisting of 60 tin cans, was identified and recorded during the current study. Additionally, portions of three previously recorded resources (P-55-005093, P-55-006492, and P-55-007318) located within the study area were investigated. Of the three previously recorded resources, P-55-006492 and P-55-007318 are historic mining related sites, while the remaining resource, P-55-005093, is California Registered Historical Landmark #406.

The portions of P-55-005093 and P-55-006492 identified by the CCIC as within the study area were investigated and no artifacts or features were identified. As such, no site updates were performed for those sites. A portion of site P-55-007318 was identified within the study area. Due to the limited scope of the distribution lines for the proposed project (i.e., within linear corridors along existing roads) and the large size of site P-55-007318, only the portion of the site within the

study area was updated during the survey. Site P-55-007318 exists along the proposed water distribution line on Harper Road.

Newly identified site GROVE-SITE-1 is recommended not eligible for inclusion in the California Register of Historical Resources (CRHR) under any criteria. Only a portion of site P-55-007318 is located within the study area along Harper Road. Since only a portion of site P-55-007318 was updated within the study area, a CRHR eligibility evaluation is out of the scope for this study. However, since the proposed distribution line will follow Harper Road, an existing paved road, site P-55-007318 will not be impacted by the proposed Project.

The proposed Groveland CSD Drought Improvements Project does not have the potential to result in adverse impacts to unique or significant historical resources. A determination of no significant impacts for cultural resources is therefore recommended. It is further recommended that, in the unlikely event that cultural resources are encountered during any construction or use of the study area, an archaeologist be contacted to assess the discovery.

1. INTRODUCTION AND REGULATORY CONTEXT

At the request of Crawford & Bowen Planning, Inc., a Phase I cultural resources survey was conducted for the Groveland CSD Drought Improvements Project (Project), Tuolumne County, California (Figure 1). The study was conducted in preparation for proposed improvements to the drinking water infrastructure in Big Oak Flat, Groveland, and Pine Mountain Lake.

The current investigation was intended to:

- Provide a background records search and literature review to determine if any known cultural resources were present in the project zone and/or whether the area had been previously and systematically studied by archaeologists;
- Conduct an on-foot, intensive inventory of the study area to identify and record previously undiscovered cultural resources and to examine known sites; and,
- To undertake a preliminary assessment of such resources, should any be found within the subject property.

ASM Affiliates, Inc., of Tehachapi, California, conducted the Phase I cultural resources study. Peter A. Carey, M.A., RPA, served as Principal Investigator, and fieldwork was completed by ASM Assistant Archaeologist Maria Silva, B.A.

This manuscript constitutes a report on the Phase I survey. Subsequent sections provide background to the investigation, the findings of the archival records search; a summary of the field surveying techniques employed; and the results of the survey fieldwork. We conclude with management recommendations, including a recommended determination of effect, for the study area.

1.1 PROJECT DESCRIPTION

The Groveland CSD is proposing to improve drinking water infrastructure in Big Oak Flat, Groveland and Pine Mountain Lake. The proposed Project consists of the following components:

- Installing a hard rock groundwater well adjacent to an existing storage tank (Tank 5);
- Installing a 140,000-gallon storage tank next to Tank 5 and 5500 linear feet of 8-inch water distribution pipeline from Tank 5 to Big Oak Flat;
- Relocating the existing trailer mounted alternate water supply treatment system to a permanent location and installing an interconnection pipeline between the new and existing locations;
- Installing a hard rock groundwater well at the alternate water supply treatment system permanent location; and,
- Installing a slide gate on the alternate water supply intake.

1.2 STUDY AREA DESCRIPTION AND LOCATION

The study area is split into multiple locations on the outskirts of the communities of Groveland and Big Oak Flat. The proposed distribution line follows the paved Harper Road near Big Oak Flat, while the proposed interconnection line follows the paved Ferretti Road around the western side of the Pine Mountain Lake Golf Course. The existing AWS location and the proposed new AWS location are at either end of the interconnection line. The AWS intake improvements will occur to the intake at Pine Mountain Lake. The new groundwater well and 140,000 gallon storage tank will be located next to Tank 5, which sits along Vernal Drive in the hills about Groveland and Big Oak Flat. A survey buffer of 50-ft was added to all Project components, creating a study area totaling approximately 22.4-ac (Figure 2).

1.3 REGULATORY CONTEXT

1.3.1 California Environmental Quality Act

CEQA is applicable to discretionary actions by state or local lead agencies. Under CEQA, lead agencies must analyze impacts to cultural resources. Significant impacts under CEQA occur when "historically significant" or "unique" cultural resources are adversely affected, which occurs when such resources could be altered or destroyed through project implementation. Historically significant cultural resources are defined by eligibility for or by listing in the California Register of Historical Resources (CRHR). In practice, the federal NRHP criteria for significance applied under Section 106 are generally (although not entirely) consistent with CRHR criteria (see PRC § 5024.1, Title 14 CCR, Section 4852 and § 15064.5(a)(3)).

Significant cultural resources are those archaeological resources and historical properties that:

(1) Are associated with events that have made a significant contribution to the broad patterns of California's history and cultural heritage;

(2) Are associated with the lives of persons important in our past;

(3) Embody the distinctive characteristics of a type, period, region, or method of construction, or represent the work of an important creative individual, or possess high artistic values; or

(4) Have yielded, or may be likely to yield, information important in prehistory or history.

Unique resources under CEQA, in slight contrast, are those that represent:

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 (PRC § 21083.2(g)).

Preservation in place is the preferred approach under CEQA to mitigating adverse impacts to significant or unique cultural resources.

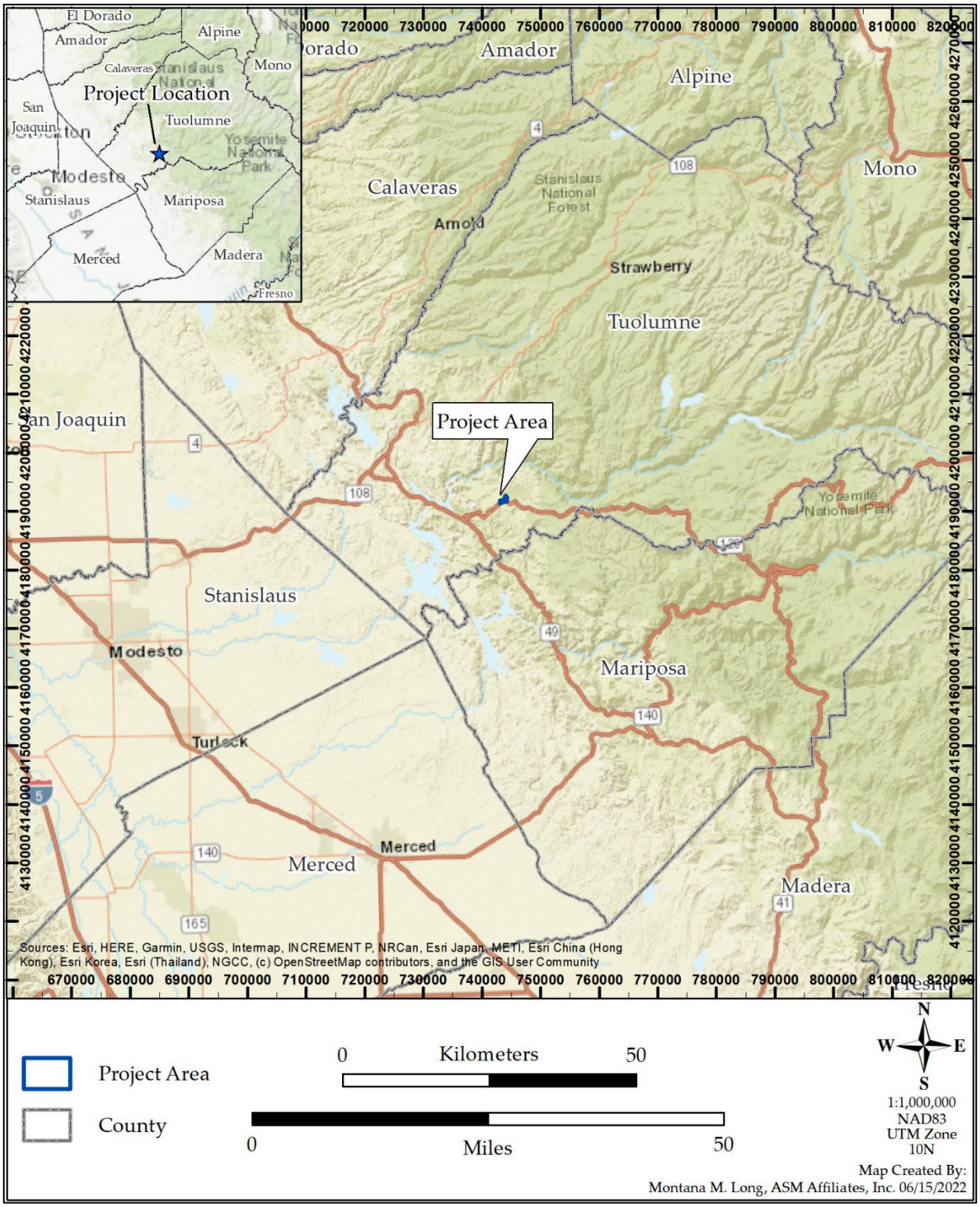

Figure 1. Groveland CSD Drought Improvements Project vicinity, Tuolumne County, California.

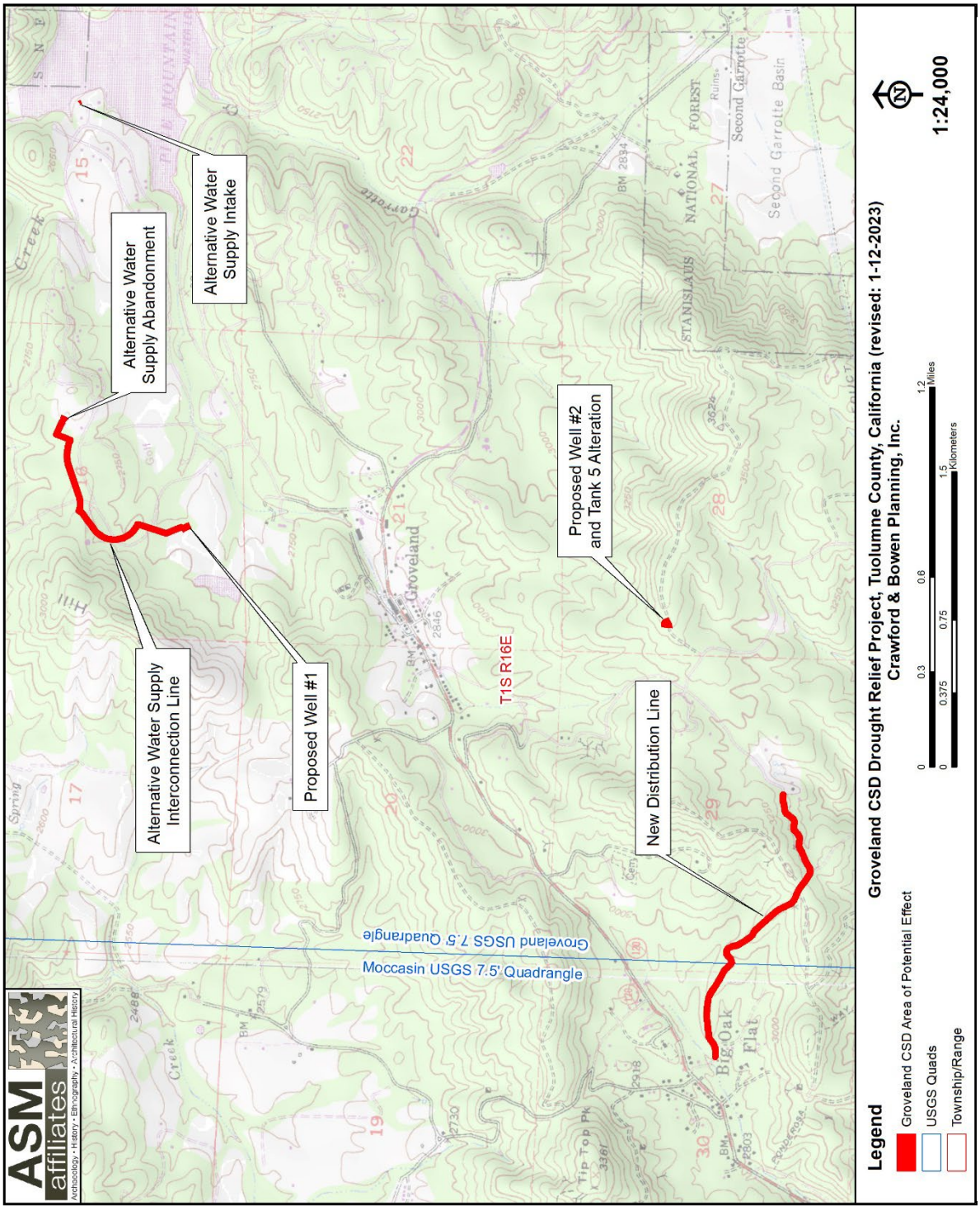

Figure 2. Groveland CSD Drought Improvements Project study area, Tuolumne County, California.

2. ENVIRONMENTAL AND CULTURAL BACKGROUND

2.1 ENVIRONMENTAL BACKGROUND

The Project area is on the western foot slopes of the Sierra Nevada mountains to the east of the San Joaquin Valley in central California with elevations around 3,000-ft above sea level. The nearest modern water source is Pine Mountain Lake reservoir, which is approximately 1.5-mi northeast of Groveland within the Pine Mountain Lake Community. The reservoir is fed from Big Creek, Garrote Creek, and other tributaries within the Big Creek–Tuolumne River watershed. The region is densely forested and mountainous, indicative of the foothills of the western Sierra Nevada Mountains.

The geologic outcrops around the Project study area are predominantly Paleozoic marine metasedimentary rocks with mixed components of slate, sandstone, shale, chert, conglomerate, limestone, dolomite, marble, phyllite, schist, hornfels, and quartzite (Jennings et al. 2010). There are also minor amounts of Mesozoic quartz-rich granite outcrops adjacent to Groveland, which likely contributed to the source of desirable metals for the mining history of the area. Soils throughout the study area are a mix of multicomponent soils that are typically classified as gravelly loam/gravelly clay loam as part of the Urban land-Nedsgulch-Wallyhill complex, and sandy clay loam of the Musick-Hotaw complex (USDA, web soil survey 2021).

2.2 ETHNOGRAPHIC BACKGROUND

Prior to Euro American contact in 1789, the central Sierra Nevada foothills, which are in the project area, were traditionally occupied by the Central Sierra Miwok (also known as the Miwuk, Mi-wuk, or Me-wuk). Before contact, the Miwok were hunter-gathers who lived in small bands without a centralized political authority, cultivated tobacco, and domesticated dogs. Almost all edible vegetables were utilized as a food source by the Miwok, with oak acorns being a favorite staple for the fat and protein source. Other staple food sources included grasshoppers and mussels that groups collected along the Stanislaus River. In addition, the Miwok utilized flat-bottom baskets for the storage of food and later food consumption. The Miwok hunted animals with arrows, clubs, or snares, dependent on the animal and situation.

The Miwok of Tuolumne County lived in permanent but dispersed villages. These villages were usually near creeks, springs, or other freshwater sources and built below the heavy seasonal snowline. However, temporary hunting and gathering camps were established and occupied during the summer months in higher elevations. The permanent villages could vary in structure style, but each had vital elements, including a large storehouse where acorns, the primary dietary staple, were stored. Other essential elements at each permanent village included a sweathouse and roundhouse. The sweathouse was the smaller of the two structures and was primarily used for healing ceremonies; it contained a small fire pit inside. The Miwok roundhouse was used for religious and social activities and was the more expansive of the two structures. Homes within

Miwok villages were conical shaped, usually built of bark, containing one centralized fire pit and a smoke hole in the top.

Within Miwok communities, men were responsible for hunting, for tribal relations amongst other local indigenous groups, and for trading, including that of acorns, baskets, and other items such as pine nuts, salt, and obsidian. The women of the Miwok communities hand-crafted baskets and were responsible for gathering edible food items such as the acorn (Tuolumne Band of Me-Wuk Indians 2023; Tuolumne County Historical Society 2023).

2.3 PRE-CONTACT ARCHAEOLOGICAL BACKGROUND

The following section provides a regional chronology for the Sierra Nevada foothills and adjacent San Joaquin Valley by providing a categorization of prehistoric time periods in terms of cultural stages describing archaeological resources and cultural patterns for each time frame.

The Sierra Nevada foothills, adjacent San Joaquin Valley, and Coast Range have a long and complex cultural history with distinct regional patterns that extend back in time for more than 11,000 years (McGuire 1995). The region's physical landscape was characterized by grasslands and riparian forests with a large, diverse mammalian population. The inhabitants of the Central Valley were likely large game hunters. Evidence of early use of the San Joaquin Valley and the Sierra Nevada foothills is represented by the discovery of distinctive, fluted, and stemmed points (e.g., Clovis points), found margins of extinct lakes in the valley, including Tulare Lake, approximately 50 mi. southeast of the project. The hunters who used these points existed only between 11,200 and 10,900 B.P. The complex of artifacts characteristic of this period is often called the Clovis complex.

Most researchers believe that another widespread cultural complex followed the Clovis Complex, often termed Early Archaic. The indicative artifacts of this period, which has also been called by its geological name, the Early Holocene period, consist of stemmed spear points rather than the fluted points that typify the Clovis Complex. This poorly defined early cultural tradition is best known from a small number of sites in the San Joaquin Valley and the Sierra Nevada foothills and is thought to date from 8000 to 10,000 B.P.

The increase in food-grinding implements found in archaeological sites indicates that approximately 8,000 years ago, many California cultures shifted the focus of their subsistence strategies from hunting to seed gathering. Recent studies suggest that this cultural pattern is more widespread than initially assumed. In addition, archaeological sites at the base of the Sierra Nevada foothills consist of large artifact assemblages of millingslabs, handstones, and various cobble-core tools, representing “frequently visited camps in a seasonally structured settlement system” (Rosenthal et al. 2007:152), further indicating the reliance on plant foods during this time. Radiocarbon dates associated with this period vary between 8000 and 2000 B.P., and cluster in the 6000 to 4000 B.P. range.

Cultural patterns as reflected in the archaeological record have become better defined for archaeological cultures dating to the last 3,000 years. The archaeological record indicates increasing complexity as specialized adaptations to locally available resources develop and

populations expand. Many sites dated to this period contain mortars and pestles or are associated with bedrock mortars, suggesting that the occupants used acorns intensively.

The range of resources used for subsistence increased, and exchange systems expanded significantly from the previous period. Along the coast and in the Central Valley, archaeological evidence of social stratification and craft specialization is indicated by well-made artifacts, such as charm stones and beads, which were often found with burials (US Department of Interior 2008).

2.4 HISTORICAL BACKGROUND

Some of the earliest nonindigenous explorations of the Sierra Nevada mountains include Euro American explorers and fur trappers such as Jedediah Smith, Kit Carson, and Joseph Walker. The earliest of these nonindigenous expeditions and explorations took place in 1827 with Jedediah Smith and continued into the 1840s with small group expeditions trekking across the Sierra Nevada. Cartographers and explorers continued to explore the Sierra Nevada throughout the late nineteenth and early twentieth centuries, with Yosemite Valley becoming the first federally protected region of the Sierra in 1864 (Farquhar 1925).

The discovery of gold in northern California in 1848 resulted in a dramatic increase in population, consisting of a good portion of fortune seekers and gold miners who began to scour other parts of the state. After 1851, when gold was discovered in the Sierra Nevada mountains in eastern Kern County, the area's population snowballed. In California in 1848, with the exclusion of indigenous inhabitants, the population was 10,000 residents, and in just over five years, that number increased to 250,000 residents (Dilsaver 1983). Some new immigrants began ranching in the San Joaquin Valley to supply the miners and mining towns. Ranchers grazed cattle and sheep, and farmers dry-farmed or used limited irrigation to grow grain crops, leading to the creation of small agricultural communities throughout the valley (JRP Historical Consulting 2009). Like many short-lived and quickly produced mining towns and camps of the time, Groveland was constructed at the foothills of the Sierra Nevada. The miners that inhabited these towns and camps now turned from panning to lode and hydraulic mining during this time. The thrill and accessibility of easy gold was gone by the mid-1850s, and only labor-intensive mining operations remained productive. The once sprawling mining towns and camps amongst the foothills were ghost towns by the end of the 1860s. Nearly all mining operations were without indigenous peoples, having instead been run out by nonindigenous settlers.

The community of Groveland was founded by James D. Savage, who started mining in the area around 1849 during the Gold Rush. During this time, two mining camps were created, Big Oak Flat and Groveland. These camps were known as the western and eastern camps of “Savage’s Diggins” at the time. Follow Savage’s departure from the area the following year, the eastern camp (Groveland) was renamed “Garrote,” a Spanish term referring to a form of execution involving strangulation, after a Mexican man was hanged in the town for allegedly stealing gold dust said to value $200. Coincidentally, another hanging took place in a camp a couple of miles east shortly thereafter and that settlement also received the name Garrote. Groveland got priority as the first Garrote and it became known as “Garrote I” or “First Garrote,” while the other settlement became known as “Second Garrote.” In 1875, Garrote was renamed Groveland at the suggestion of some

residents who found the name Garrote to be uncivil (Paden and Schlichtmann 1955). Second Garrote maintained its name and is now a ghost town and California Historic Landmark.

Groveland experienced three separate periods of economic growth: the Gold Rush Era (1849-1865), the Hard Rock Mining Era (1895-1915), and the Hetch-Hetchy Era (1914-1929). The Gold Rush Era (1849-1865), as previously discussed, is when the community of Groveland saw its beginnings. Groveland was part of the Big Oak Flat Mining District and numerous claims existing within Groveland and the surrounding communities, including Big Oak Flat No. 1 Lode and Cline Quartz Mine, which are both reported to be within the study area. The hard rock years were boom years, and the population in Tuolumne County grew by 83 percent between 1890 and 1900 (Pierce and Marti 2019). Like the production of gold, the hard rock mining boom was short-lived.

After the decline in mining, a new opportunity for the community of Groveland presented itself in the form of the O'Shaughnessy Dam and Hetch Hetchy Reservoir. The development of the Tuolumne River Hetch Hetchy water project for the city of San Francisco in the early 1900s enabled Groveland to develop and grow to substantial size despite always being a vital stop on the highway to Yosemite. Groveland was chosen as the site for the Mountain Division construction facilities and the railroad stock rolling maintenance station for the O'Shaughnessy Dam/Hetch Hetchy Reservoir. The Hetch Hetchy Railroad, which was used to carry workers and materials to the dam project, was constructed through the town just north of present-day Mary Laveroni Park on the north side of Groveland Creek (Garrote Creek). During this development, a hospital was constructed to temporarily treat and service the workers who settled in the area. After the dam's completion in 1933, the Hetch Hetchy Railroad saw limited use and Groveland became a less vital stop on the highway to Yosemite. The tracks for the Hetch Hetchy Railroad were removed in 1949 (Thornton 1994). The town received a revitalization and tourism boom in the late 1960s when Pine Mountain Lake, approximately one mile east of Groveland, was developed by Boise Cascade (GCSD 2023).

3. ARCHIVAL RECORDS SEARCH

In order to determine whether the 22.4-ac study area had been previously surveyed for cultural resources, and/or whether any such resources were known to exist within it, an archival records search was conducted by the staff of the CCIC on November 28th, 2022. This study is included in Confidential Appendix A of this report and is summarized below.

The records search was completed to determine: (i) if prehistoric or historical archaeological sites had previously been recorded within the study area; (ii) if the project area had been systematically surveyed by archaeologists prior to the initiation of this field study; and/or (iii) whether the region of the field project was known to contain archaeological sites and to thereby be archaeologically sensitive. Records examined included archaeological site files and maps, the NRHP, Historic Property Data File, California Inventory of Historic Resources, and the California Points of Historic Interest.

Results provided by the CCIC indicate that a total of 8 previous projects have been completed within the Project area (Table 1). The results identified a total of 3 previously recorded sites within the study area (Table 2). The record search also indicated that an additional 40 studies have been completed with a 0.5-mi radius of the Project (Table 3), and that there are an additional 96 resources with a 0.5-mi radius of the Project (Table 4).

Table 1. Survey Reports Within the Study Area.

Report No.	Year	Author (s)/Affiliation	Title
TO-02225	1988	Thornton, M. V./ M. Thornton, for Southern Tuolumne County Historical Society	Big Oak Flat – Groveland, Historic Sites Survey, 1988
TO-03389	1998	Decker, D./ Bureau of Land Management	U.S. Department of the Interior Bureau of Land Management, Cultural Resource Inventory Report; Report Number: CA-018-S-TM-98/08, Priest Fuelbreak.
TO-05663	2004	Barnes, J./ Bureau of Land Management Folsom Field Office	Letter: Section 106 Review for the Wagner Fuel Break, Tuolumne County (Case # CA-018-S-TM-04/09).
TO-05713	2005	Francis, C., T. Brejla, and J. Marvin/Francis Heritage Services (and) Foothill Resources, Ltd., for Ronald and Patricia Dunlap	Cultural Resource Assessment, Dunlap Tentative Parcel Map 04T-61 on a Portion of the Cline Quartz Mine, Tuolumne County, California (APN 066-150-18-00).
TO-06044	2006	Davis-King, S./ Davis-King and Assc	Pole and Guy Replacements (SBC Pacific Bell), Encroachment Permit 1005-6UC-0680 State Route 120 Near Big Oak Flat, Tuolumne County, California
TO-06663	2008	Nolte, M., M. Millett, and M. Maniery/PAR Environmental Services, Inc.	Cultural Resources Inventory, Big Oak Flat Village Project, Tuolumne County, California
TO-07343	2010	Barnes, J./ Bureau of Land Management	United States Department of the Interior Bureau of Land Management Mother Lode Field Office Section 106 Compliance for the Wagner Ridge Fuel Break Maintenance Tuolumne and Mariposa Counties (BLM case # CA-018-S-TM-10/06)

Report No.	Year	Author (s)/Affiliation	Title
TO-08968	2018	Davis, S., and C. Wills/ Helix Environmental Planning	Cultural Resources Records Search and Sie Visit Results for AT&T Mobility, LLC Candidate CVL03069 (Groveland), 18790 Vernal Drive, Groveland, Tuolumne County, California (EBI Project #6118005444)

Table 2. Resources Within the Study Area.

Resource	Type	Description
P-55-005093	Site	Historic Mark Twain Bret Harte Trail Monument
P-55-006492	Site	Historic mining site
P-55-007318	Structure, Site	Historic mine and machinery

Table 3. Survey Reports Within 0.5-mi of the Study Area.

Report No.	Year	Author (s)/Affiliation	Title
TO-00962	1986	Balen, B./ Barbara Balen, Cultural Resource Surveyor and Consultant, for SIMCO Development Corp.	A Cultural Resource Survey Report for Yosemite Way Station 80 Acres in Big Oak Flat, Tuolumne County, California
TO-01158	1983	Levulett, V. A./ Caltrans District 10	Archaeological Survey Report for the Proposed Groveland Bypass Project, Tuolumne County 10-TUO-120 P.M. 29.3/33.3 10203-031281. See also HRER TO-01158A and HAS TO-01158B
TO-01158A	1983	O'Connor, D. and M. V. Speer/California Department of Transportation	Historical Resource Evaluation Report for Groveland Bypass. 10-TUO-120 P. M. 29.33/R33.3; 10203-031281
TO-01158B	1982	Snyder, J. W./ California Department of Transportation	An Historic Architectural Survey of Groveland Bypass on 10-TUO-120, P.M. 29.3/R33.3; 14 buildings records attached; no maps attached showing location of buildings; one building is the former mill associated with the Sampson Mine P-55-007294 on BLM property
TO-01841	1992	Dougherty, J. W./ Archaeological Services, Inc.	An Archaeological Survey of Parcel APN 7-201-05, The Ludwig Project, Big Oak Flat, Tuolumne County, California
To-02268	1994	Davis-King, S. and J. Marvin/ Davis-King & Associates (and) Foothill Resources, Ltd.; prepared for The County of Tuolumne	Contextual History of Tuolumne County.
TO-03733	1992	Byars, M. A. and J. W. Dougherty/ Archaeological Services, Inc.	An Archaeological Study of Two Parcels (APN 7-201-03 AND 7-201-01) of the Three Parcel Ludwig Project, in Big Oak Flat, Tuolumne County, California
TO-04124	2000	Tate, Tim (RPF)/ Blue Mountain Resources, Inc.; for CDF	Confidential Archaeological Addendum for Timber Operations on Non-Federal Lands in California; Project: S & L THP, #4-00-72/TUO-7
TO-04529	2002	Francis, C. M./ C. M. Francis	Cultural Resource Survey, Our Lady of Mt. Carmel Catholic Church, Big Oak Flat, California

Report No.	Year	Author (s)/Affiliation	Title
TO-05498	2004	Leach-Palm, L., P. Mikkelsen, J. King, J. Hatch, and B. Larson/ Far Western Anthropological Research Group Inc. (and) JRP Historical Consulting Services; prepared for Caltrans District 10	Cultural Resources Inventory of Caltrans District 10 Rural Conventional Highways; Volume I: Summary of Methods and Findings.
TO-05501	2004	Rosenthal, J. S. and J. Meyer/Far Western Anthropological Research Group, Inc. (and) Sonoma State University; prepared for Caltrans District 10	Cultural Resources Inventory of Caltrans District 10 Rural Conventional Highways; Volume III: Geoarchaeological Study.
TO-05505	2004	Leach-Palm, L., J. King, J. Hatch, and B. Larson/Far Western Anthropological Research Group, Inc. (and) JRP Historical Consulting Services (and) Foothill Resources, Ltd.; prepared for Caltrans District 10	Cultural Resources Inventory of Caltrans District 10 Rural Conventional Highways; Volume II H: Tuolumne County
TO-05644	2003	Barnes, J./ Barnes	Cultural Resource Inventory Report, Culvert Repair at Big Oak Flat Little League Field, CA-018-S-TM-04/01.
TO-05645	2004	Barnes, J./ Barnes	Cultural Resources Inventory Report, Big Oak Flat Little League Field R&PP, CA-018-S-TM-04/04.
TO-05715	2005	Francis, C./ Francis Heritage Services; for Tom and Lauree Borup (property owners)	Cultural Resource Survey, Borup Tentative Parcel Map 04T-59, Tuolumne County, California (APN 066-181-73-00).
TO-05983	2005	Decker, D./ Dean Decker	Cultural Resources Inventory Report CA-018-S-TM-05/02 Folsom Reimers/ Penning Access Road R/W CA 46888
TO-06878	2008	Wycko, B./ San Francisco Planning Department	San Joaquin Pipeline System Project, Draft EIR, San Francisco Planning Department Case No. 2007.0118E, State Clearinghouse No. 2007032138
TO-06878	2010	San Francisco Planning Department/ San Francisco Planning Department/Public Utilities Commission	Preliminary Mitigated Negative Declaration, Rehabilitation of the Existing San Joaquin Pipelines, Portions of Tuolumne, Stanislaus and San Joaquin Counties, and the Cities of Riverbank and Modesto
TO-06886	2008	San Francisco Public Utilities Commission/ SFPUC	San Francisco Public Utilities Commission San Joaquin Regional Water Quality Improvement Project, Draft Environmental Impact Report.
TO-07097	2009	Barnes, J./ Bureau of Land Management	Section 106 Compliance for AML Hazard Abatement Work (PUF Closures), Tuolumne County BLM Case # CA-018-S-TM-09/06
TO-07255	2008	Werner, Roger H./ ASI Archaeology and Cultural Resource Management	Cultural Resources Investigation for a Proposed Lot Line Adjustment on State Route 120, Near Big Oak Flat, Tuolumne County, California (and) Letter Report Re: Yosemite Gateway Cultural Resources Study Addendum
TO-07814	2013	Ashe, C./ U.S. Forest Service, Stanislaus National Forest	Stanislaus National Forest, Heritage Resources, 1996 Sierra Nevada Programmatic Agreement Project Certification, Ponderosa Way Fuel Break Passport-in-Time Project, CRMR 05-16-1316, Calaveras, Mariposa, and Tuolumne Counties
TO-07892	2014	Francis, C. and Judith Marvin/ Francis Heritage Services and Foothill Resources Ltd.	AT&T Fiber Optic Project, Big Oak Flat, Tuolumne County, California.
TO-08041	2013	Estes, Allen, Young, Thomas, and Fino, Nazih/ William Self Associates, Inc. (WSA) for RMC Water and Environment	Final Archaeological Survey Report Mountain Tunnel Geotechnical Project, Tuolumne County, California.
TO-08207	2011	Barnes, J./ BLM Mother Lode Field Office	Cultural Resource Inventory Report, USDI BLM Mother Lode Field Office, Project: AML Physical Hazard Abatement Projects (Puff Closures, Bat Culverts, and Heavy Equipment Work), Tuolumne County, California, Case #CA-018-S-TM-11/03.

Report No.	Year	Author (s)/Affiliation	Title
TO-08314	2011	Barnes, J./ Bureau of Land Management- Mother Lode Field Office	USDI BLM Cultural Resource Inventory Report Chacona ROW (Case # CA-018-S-TM-12/01)
TO-08323	2013	Barnes, J./ Bureau of Land Management- Mother Lode Field Office	Cultural Resource Inventory Report U.S.D.I. B.L.M. Removal of Contaminated Soils near the Longfellow Mill (CA-018-S-TM-13/03)
TO-08326	2014	Francis, C. and Marvin, J./ AT & T California	Cultural Resource Inventory Report U.S.D.I. B.L.M. Fiber Optic Project, Big Oak Flat, Tuolumne County, California CA-018-S-TM-4/02
TO-08386	1991	Quin, Richard H./ USDI National Park Service	Big Oak Flat Road (HAER No. CA-147) Written Historical and Descriptive Data. (One in a series of reports prepared for the Yosemite National Park Roads and Bridges Recording Project).
TO-08748	2017	Ugan, A., T. Hildebrandt, and M. Darcangelo/ Far Western Anthropological Research Group, Inc. for Caltrans District 10	State Route 120 Hazard Tree Removal Cultural Resources Report, Tuolumne and Mariposa Counties, California
TO-08943	2018	Estess, A., and N. Fino/ PaleoWest Archaeology for San Francisco Planning Department	Final Archaeological Resources Survey Report for the Valley Area ROW and Culvert Locations of the Reliable Power Project, Tuolumne and Stanislaus Counties, California; Technical Report 18-566
TO-08955	2019	Pierce, W., and K. Marti/ California State Water Resources Control Board	State Water Resources Control Board Supplemental Historic Properties Identification Report, Groveland Community Services District Downtown Groveland and Big Oak Flat Sewer Collection System Improvement Project, Tuolumne County, California
TO-08956	2016	Roper, C. K./ Sierra Valley Cultural Planning	A Cultural Resources Assessment for the Proposed Groveland Community Services District Sewer Collection System Project, Groveland and Big Oak Flat, Tuolumne County, California
TO-08957	2019	Ugan, Andrew and Whitaker, Adrian/ Far Western Anthropological Research Group, Inc.	Archaeological Survey Report, 2018 Hazard Tree Removal Project, Tuolumne and Mariposa Counties, California, Caltrans District 10, State Route 120, PM 24.0-56.6, EFIS 10-1800-0018, EA 10-1F6423
TO-09113	2019	AECOM/ AECOM for The San Francisco Public Utilities Commission	Historic Context and Archaeological Survey Report for Mountain Tunnel Improvements Project, Tuolumne County, California (CASE No. 2017-014249ENV)
TO-09113	2019	AECOM/ AECOM	Historical Resources Evaluation Addendum, Mountain Tunnel Improvements Project
TO-09113	2015	Norby, H. and C. McMorris/ JRP Historical Consulting, LLC for San Francisco Public Utilities Commission	Mountain Tunnel Access & Adit Improvement Project, Tuolumne County; Historic Resources Evaluation
TO-09251	2020	Joy, S. and M. Webb/ ECORP Consulting, Inc. for TK Consulting	Cultural Resources Inventory and Evaluation Report, Yonder Yosemite Project, Tuolumne County, California
TO-09286	2021	Bibby, T., A. Jokela, and D. Whitley/ ASM Affiliates for Groveland Community	Cultural Resources Survey and Supplemental Report, Sewer Collection System Improvement Project, Big Oak Flat, Groveland and Pine Mountain Lake, Groveland Community Services District, Tuolumne County, California
TO-09353	2022	Buechler, D. and I. Hickey/ Transcon Environmental for PG&E	PG&E Cultural Resources Constraints Report PEORIA 1701 - Big oak Flat Pole Replacement [Tuolumne County, California]

Table 4. Resources Within 0.5-mi of the Study Area.

Resource	Type	Description
P-55-000110	Structure, Site	Historic foundations, railroad bed, and walls
P-55-000154	Site	Historic mill machinery and wall
P-55-001042	Site	Prehistoric bedrock mortar, midden and lithic scatter; Historic foundation, wood structure and wall remnants
P-55-001043	Site	Unknown
P-55-002364	Site	Historic refuse
P-55-002365	Structure	Historic water ditch and siphon
P-55-002739	Structure	Historic water conveyance system and dam
P-55-002994	Structure	Historic canal/aqueduct
P-55-004140	Structure, Site	Historic road, water conveyance system and refuse
P-55-004742	Building	Historic community center
P-55-005098	Site	Historic Building
P-55-005297	Building	Historic residence
P-55-005298	Building	Historic residence
P-55-005300	Building	Historic residence
P-55-005301	Building	Historic residence
P-55-005302	Building	Historic sawmill
P-55-005303	Building	Historic church
P-55-005304	Building	Historic residence
P-55-005305	Building	Historic residence
P-55-005306	Building	Historic cemetery
P-55-005307	Building	Historic residence
P-55-005308	Building	Historic residence
P-55-005309	Building	Historic schoolhouse
P-55-005310	Building	Historic residence
P-55-005311	Building	Historic residence
P-55-005312	Building	Historic residence
P-55-005313	Building	Historic residence
P-55-005314	Building	Historic residence
P-55-005315	Building	Historic gas station/store
P-55-005316	Building	Historic residence
P-55-005317	Building	Historic residence
P-55-005318	Building	Historic residence
P-55-005319	Building	Historic residence
P-55-005320	Building	Historic commercial building and storage shed
P-55-005321	Building	Historic residence
P-55-005322	Building	Historic commercial building
P-55-005323	Building	Historic residence
P-55-005324	Building	Historic residence
P-55-005325	Building	Historic residence
P-55-005326	Building	Historic residence
P-55-005327	Building	Historic residence
P-55-005328	Building	Historic residence
P-55-005329	Building	Historic commercial building
P-55-005330	Building	Historic residence
P-55-005332	Building	Historic residence
P-55-005333	Building	Historic residence
P-55-006975	Other	Historic foundation
P-55-006985	Site	Historic mines/quarries/tailings
P-55-007289	Site	Historic refuse

Resource	Type	Description
P-55-007319	Site	Historic mine, dam and foundation
P-55-007320	Site	Historic bridge
P-55-007321	Site	Historic rock chimney and trash scatter
P-55-007322	Building	Historic residence
P-55-007432	Site	Historic refuse scatter
P-55-007725	Site	Historic mines/quarries/tailings
P-55-007726	Site	Historic mines/quarries/tailings
P-55-007727	Site	Historic mines/quarries/tailings
P-55-007748	Building	Historic residence/farm
P-55-007976	Site	Historic mines
P-55-008166	Site	Historic trash scatter and mines
P-55-008167	Site	Historic structure, trash scatter, roads, dams and mines
P-55-008473	Structure	Historic fuel break
P-55-008545	Site	Prehistoric lithic scatter and quarry
P-55-009290	Site	Historic mines
P-55-009941	Structure	Historic wells/cisterns
P-55-000110	Structure, Site	Historic railroad
P-55-000718	Site	Historic
P-55-000719	Site	Historic
P-55-000720	Building, Structure, Site	Historic
P-55-000721	Site	Historic mines/quarries/tailings, roadbed, bridge abatement, ditch and dam
P-55-001040	Site	Prehistoric lithic scatter, midden and bedrock mortar
P-55-001867	Site	Prehistoric
P-55-001868	Site	Prehistoric
P-55-001869	Site	Prehistoric, Historic
P-55-001870	Site	Prehistoric
P-55-001871	Site	Prehistoric, Historic
P-55-002366	Site	Historic water conveyance system and mines/quarries/tailings
P-55-002367	Site	Historic hospital and other commercial structures
P-55-002368	Site	Historic
P-55-002369	Site	Historic
P-55-002370	Site	Historic
P-55-004934	Site	Historic
P-55-004935	Site	Historic
P-55-005377	Building	Historic residence
P-55-006354	Structure, Site	Historic
P-55-006623	Site	Historic
P-55-006730	Site	Historic
P-55-006732	Structure	Historic
P-55-006945	Site	Historic
P-55-007294	Site	Historic
P-55-007399	Site	Historic
P-55-007400	Site	Historic
P-55-009421	Site	Historic
P-55-009507	Site	Historic
P-55-009693	Site	Historic rock wall

A search of the NAHC *Sacred Lands File* was completed on December 12th, 2022. Based on the NAHC records, no sacred sites or traditional cultural places had been identified within or adjacent to the study area. Outreach letters were sent to tribal organizations on the NAHC contact list on January 10th, 2023. No responses have been received as of the writing of this report. The results of the NAHC *Sacred Lands File* search and tribal outreach are available in Confidential Appendix A.

4. METHODS AND RESULTS

4.1 SURVEY METHODS

Field methods were designed to meet all professional requirements, including the *Secretary of the Interior's Standards and Guidelines*. ASM completed an intensive, on-foot examination of the ground surface by walking parallel 15-m transects, looking for evidence of archaeological sites in the form of artifacts, surface features (such as house pits), and archaeological indicators (e.g., anthropogenic soils or burnt animal bone). The identification and location of any new or previously discovered sites; tabulation and recording of surface diagnostic artifacts; site photography and sketch mapping; preliminary evaluation of site integrity; and site recording or, in the case of previously recorded sites, site record updating followed the California OHP Instructions for Recording Historic Resources and Department of Parks and Recreation (DPR) 523 forms for site recording. GPS data was collected with an Apple iPad mini using the ArcGIS Field Maps app paired with an Arrow 100 receiver unit capable of sub-foot accuracy.

4.2 SURVEY RESULTS

An intensive Phase I pedestrian survey of the entire 22.4-ac Project study area was completed on January 19th and 20th, 2023, by ASM Assistant Archaeologist Maria Silva, B.A. One new resource, GROVE-SITE-1, was identified during the field survey. Three previously recorded sites (P-55-005093, P-55-006492, and P-55-007318) identified by the CCIC as located within the study area were revisited during the field survey. Sites P-55-006492 and P-55-007318 are historic mining related sites, while the remaining resource, P-55-005093, is California Registered Historical Landmark #406. No evidence of P-55-005093 or P-55-006492 was located within the study area and, therefore, neither resource was updated. A brief description of the sites as last recorded is provided below.

Site P-55-007318 was relocated during the field survey and found to be partially located with the study area. Due to the limited scope of the proposed distribution line (i.e., within linear corridors along existing roads and paths) and the large size of the previously recorded site, only the portion of the site located within the study area was updated. A site description and site update are provided below.

Original site records for the three sites located within the study area are available in Confidential Appendix B. The site record for newly recorded site GROVE-SITE-1 and the site record update completed for the portion of site P-55-007318 located within the study area are available in Confidential Appendix C. All photographs and sketch and location maps for the updated resources are available in their respective records.

4.2.1 GROVE-SITE-1

Site GROVE-SITE-1 consists of a historic-era can scatter that measures 26-ft (north-south) by 48-ft (east-west). Refuse at GROVE-SITE-1 includes approximately 60 cans consisting of knife-opened sanitary cans, hole-in-top cans, an internal friction square can, and at least one rotary

opened coffee can. This refuse deposit appears to date to the early 20th-century and likely represents a one-time dump site.

4.2.2 P-55-005093

Site P-55-005093 is California Registered Historical Landmark #406. As part of a related Groveland CSD project (ASM Affiliates 2021), ASM revisited the site. The digital site boundary provided by the Central California Information Center was an approximately 0.6-mi diameter circle centered over Big Oak Flat ,California. During the 2021 site visit, ASM relocated the Landmark near the intersection of Vassar Street and CA-120. At the time, it was noted that the monument appeared in good standing with traces of graffiti etched into the bronze plaque. The structure of the monument was reported to be locally sourced quartz rich rock mortared with cement with iron bars.

4.2.3 P-55-006492/CA-TUO-3816H

Site P-55-006492 is a gold mine patented as "Big Oak Flat No. 1 Lode." It was first recorded in 2002 by Charla Francis of Francis Heritage Services. It was patented in 1915 by the Central Land and Trust Company. At the time of the mineral survey plat (1914), improvements on the claim included 4 tunnels, 1 shaft, a cabin, hoist building, boiler, blacksmith shop, and mill, of which all but some tunnels were on the south side of the Big Oak Flat Road. ASM revisited the site during the current project and found no elements of the site withing the proposed Project study area.

4.2.4 P-55-007318/CA-TUO-4779H

Site P-55-007318/CA-TUO-4779H is the Cline Quartz Mine. It was originally recorded by John Vittands of Francis Heritage Services in 2005. It consists of a gold mine and associated workings that include an adit with hoist works, a motorized winch, and two water tanks dating to roughly 1918-1942. A concrete water storage tank was apparently constructed in the 1960s across the threshold of the adit (Vittands 2005).

During the 2023 update, ASM was able to relocate the adit adjacent to Harper Road, and investigate an area of 161-ft by 150-ft along the proposed water distribution line alignment for the current project. The adit opens to the right-of-way for Harper Road, but the remaining elements of the mining site are located uphill outside the Project study area. The concrete water storage tank has been removed from in front of the collapsed adit entrance, and all that remains of this feature are the dry-fitted slate masonry walls on either side of the cut bank. A number of boards were observed leaning against a sidewall of the cut and are possibly the remnants of the cover for the old 1960s water tank that appears in the photo of the original record (Vittands 2005:1). No other materials associated with the site were apparent within the Project study area.

5. SUMMARY AND RECOMMENDATIONS

An intensive Phase I cultural resources survey was conducted on a 22.4-ac study area for the Groveland CSD Drought Relief Project. A records search of site files and maps was conducted for this study by the staff at the CCIC, California State University, Stanislaus on November 28th, 2022. Results provided by the CCIC note a total of 8 previous projects that have been completed within the study area, and a total of 3 previously recorded sites have been documented. The record search also indicated that an additional 40 studies have been completed with a 0.5-mi radius of the study area with an additional 96 resources located within that same radius.

A search of the NAHC *Sacred Lands File* was completed on December 12th, 2022. Based on the NAHC records, no sacred sites or traditional cultural places had been identified within or adjacent to the study area. Outreach letters were sent to tribal organizations on the NAHC contact list on January 10th, 2023. No responses have been received as of the writing of this report.

ASM conducted the Phase I survey of the 22.4-ac study area on January 19th and 20th, 2023. The study area was surveyed using 15-m parallel transects where appropriate except along roadways. One new archaeological site, temporary field designation GROVE-SITE-1, a historic refuse scatter consisting of 60 tin cans, was identified and recorded during the current study. Additionally, portions of three previously recorded resources (P-55-005093, P-55-006492, and P-55-007318) located within the study area were investigated during the current study. Of the three previously recorded resources, P-55-006492 and P-55-007318 are historic mining related sites, while the remaining resource, P-55-005093, is California Registered Historical Landmark #406.

5.1 RECOMMENDATIONS

Site P-55-005093 is a monument for California Registered Historical Landmark #406. It is located outside of the study area and will be avoided by the proposed Project. Additionally no recorded features for site P-55-006492 are located within the study area. As the proposed Project will follow the paved Harper Road in the vicinity of the recorded site, the site will not be impacted by the Project.

Site P-55-007318 consists of a historic mining site located immediately adjacent to Harper Road along the proposed new water distribution line. An evaluation for eligibility to the CRHR was outside of the scope of this study; however, since the proposed Project will follow the paved Harper Road through the site there will be no impact to the site as a result of the project.

Site GROVE-SITE-1 is a small historic refuse deposit. While it does meet the age requirements for eligibility to the CRHR, it shows no association with important events or persons (Criterion 1 and 2); does not embody characteristics of a type, period, region, or method of construction, or represent the work of an important person (Criterion 3); and consists of mass-produced items thereby precluding the ability to yield important information in history (Criterion 4). For those reasons, site GROVE-SITE-1 is recommended as not eligible for inclusion in the CRHR.

The proposed Groveland CSD Drought Relief Project does not have the potential to result in adverse impacts to unique or significant historical resources. A determination of no significant impacts for cultural resources is therefore recommended. It is further recommended that, in the unlikely event that cultural resources are encountered during any construction or use of the study area, an archaeologist be contacted to assess the discovery.

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