MITIGATED NEGATIVE DECLARATION

Sumner Hill Water System Improvement Project

June 2019

PREPARED FOR:

Madera County
200 W. 4th Street, Suite 3100
Madera, CA 93637

PREPARED BY:

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Initial Study/Mitigated Negative Declaration

Sumner Hill Water System Improvement Project

Prepared for:

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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 implementing a series of upgrades to the Sumner Hill Water System in Madera County. The County Public Works Department intends to replace much of the existing surface water treatment plant infrastructure. The proposed Project is more fully described in Chapter Two – Project Description.

Madera County will act as the Lead Agency for this project pursuant to the *California Environmental Quality Act (CEQA)* and the *CEQA Guidelines.*

The Project is expected to be funded through a combination of County funds, Drinking Water State Revolving Fund (DWSRF) funds administered through the California State Water Resources Control Board (Water Board). One requirement of DWSRF funding is that the County will be required to comply with the Water Board's environmental requirements including CEQA-Plus. CEQA-Plus involves additional environmental analysis of certain topics to include federal thresholds, rules and regulations (for topics such as air, biology, cultural, etc.). In addition to this Mitigated Negative Declaration, the County is preparing a separate Environmental Package for submittal to the Water Board which includes the CEQA-Plus analysis.

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 / Surrounding Land Use

The Sumner Hill (County Service Area #16) Water System Improvement Project (Project) site is within the Sumner Hill residential community, approximately 2.3 miles east of the intersection of Highway 41 and Road 204 and about 4 miles southwest of Millerton Reservoir in south-central Madera County, California (See Figure 1). The 0.23-acre surface water treatment plant (WTP) is about 85 feet north of the intersection of Killarney Drive and Killkelly Road at an elevation of about 548 feet above mean sea level. Improvements to the WTP will occur within and immediately northeast of the existing WTP in an approximately 1700-square-foot expansion area (See Figure 2).

2.2 Setting

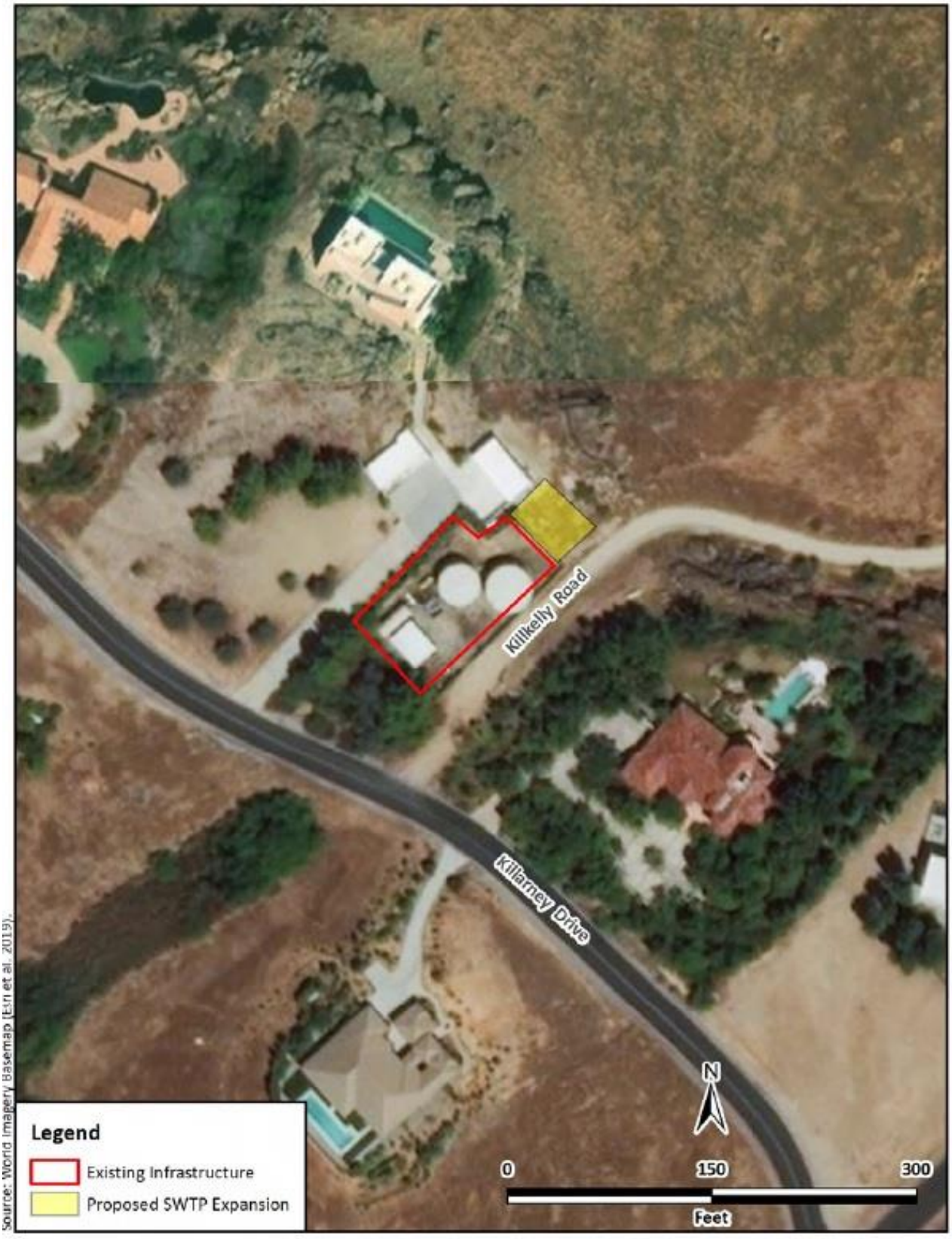
The Project site consists of the existing 0.23-acre developed, graveled, and fenced WTP and an approximately 1,700-square-foot expansion area of rocky grassland at the top of a bluff immediately northeast of the existing WTP (Figures 2, 5, and 6). The Project site is bordered by rural residential development to the northwest, west, south, and southeast with agriculture beyond and to the east and northeast by grassland with agriculture beyond. The San Joaquin River is about 0.5 miles east of the site.

2.3 Project Background

Madera County proposes to improve its water treatment plant by constructing new and improving existing water treatment infrastructure. The County will obtain financing for this Project from the Drinking Water State Revolving Fund (DWSRF). The DWSRF is administered by the State Water Resources Control Board and partially funded by a capitalization grant from the United States Environmental Protection Agency (EPA). Due to this federal nexus, issuing funds from the DWRSF constitutes a federal action, one that requires the EPA to determine whether the proposed action may affect federally protected resources. The proposed Project must therefore comply with requirements of the California Environmental Quality Act (CEQA) and certain federal environmental laws and regulations as well. This state and federal review process is known as CEQA-Plus.

Figure 1 – Project Vicinity Map

Figure 2 –Site Aerial



2.4 Project Description

The proposed Project is described in a Technical Memorandum prepared in March 2018 by AM Consulting Engineers. The Project will involve improving most of the County Service Area Number 16 Surface Water Treatment Plant infrastructure. Improvements include replacing existing treatment filters with two 175- Gallon Per Minute (GPM) packaged water systems, replacing storage Tank Number 1 with a new tank, increasing the capacity of Tank Number 2 to 135,000 gallons, and installing a solids handling system and two backwash reclaim tanks. Additional improvements include relocating the chlorine injection point, installing internal flow baffles in storage Tank Number 2, installing a corrosion inhibitor chemical feed system, installing a Supervisory Control and Data Acquisition system, and upgrading the treated water booster pump station. These improvements will help the County reliably supply the maximum daily demand of 218 GPM, meet required flows for fire protection, and comply with water quality standards established by the SWRCB.

Sumner Hill's water supply is obtained exclusively from the San Joaquin River, which is fed by water released from Friant Dam. The existing pipeline that feeds water into the existing WTP will not be impacted. Ground disturbance will be limited to the improvements at the water treatment site.

Construction:

Construction will occur as plans and funding are in place and is expected to take several months. All construction staging of equipment and materials will be within vacant or unused areas of the existing water treatment plant site.

2.5 Objectives

The primary objectives of the proposed Project are as follows:

- The County's primary objective is to provide water treatment while maintaining existing levels of regulatory compliance for the protection of water quality and public health.
- The County seeks to operate the improved water treatment system with the most cost-effective methods available that meet the County's overall system performance and regulatory compliance requirements.

2.6 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 Madera County
- San Joaquin Valley Air Pollution Control District (dust control and other construction/operation permits)
- Regional Water Quality Control Board approval (SWPPP if applicable)
- CA Water Resources Control Board (CEQA-plus approval)

Chapter 3

IMPACT ANALYSIS

Initial Study Checklist

3.1 Environmental Checklist Form

Project title: Sumner Hill Water System Improvement Project

Lead agency name and address:

Madera County Public Works, Engineering Division
200 W. 4th Street, Suite 3100
Madera, CA 93637

Contact person and phone number:

Ramon Mendez, Engineer III
Madera County Public Works, Engineering Division
(559) 675-7811

Project location:

The Sumner Hill (County Service Area #16) Water System Improvement Project (Project) site is within the Sumner Hill residential community, approximately 2.3 miles east of the intersection of Highway 41 and Road 204 and about 4 miles southwest of Millerton Reservoir in south-central Madera County, California (See Figure 1). The 0.23-acre surface water treatment plant (SWTP) is about 85 feet north of the intersection of Killarney Drive and Killkelly Road at an elevation of about 548 feet above mean sea level. Improvements to the SWTP will occur within and immediately northeast of the existing SWTP in an approximately 1700-square-foot expansion area (See Figure 2).

Project sponsor's name/address:

Madera County Public Works, Engineering Division
200 W. 4th Street, Suite 3100
Madera, CA 93637

Description of project:

Madera County proposes to improve its water treatment plant by constructing new and improving existing water treatment infrastructure. The proposed Project is more fully described in Chapter Two – Project Description.

Surrounding land uses/setting:

The Project site is located in a rural residential area approximately 0.5 miles from the San Joaquin River in Madera County. The proposed Project setting is fully described in Chapter Two – Project Description.

Other Required Approvals:

- The adoption of a Mitigated Negative Declaration by Madera County
- San Joaquin Valley Air Pollution Control District (dust control and other construction/operation permits)
- Regional Water Quality Control Board approval (SWPPP)
- CA Water Resources Control Board (CEQA-plus approval)

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 County contacted the Native American Heritage Commission, requesting a contact list of applicable Native American Tribes, which was provided to the County's consultant. Using the NAHC provided contact list, letters were sent and follow-up phone calls were made to identify Native American interests and concerns in the Project area. A request for further consultation was received by the Northfork Rancheria cultural resources representatives. On May 14, 2019, Madera County staff met with Northfork Rancheria representative James Bethel on the Project site. After inspecting the site, Mr. Bethel determined there is no concern regarding Tribal Cultural Resources.

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.

Ramon Mendez, PE, Engineer III — Date

Madera County

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 and foothills as well as the San Joaquin River are the only natural and visual resources in the proposed Project region. Views of these mountains are afforded only during clear conditions due to poor air quality in the valley. Distant views of the Sierra Nevada Mountains and the San Joaquin River would

largely be unaffected by the development of the Project because of the nature of the Project, distance and limited visibility of these features from the Project site. The Project will not impact views of a protected scenic vista or resource from surrounding vantage points.

The nearest eligible scenic highway is a section of SR 168 to the southeast. However, the Project is not visible to or from this eligible scenic highway due to intervening land uses.

Therefore, the Project has ***a less than significant impact*** on protected scenic vistas or designated scenic resources or highways.

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 involves improvements to the existing water treatment plant that will occur within the existing footprint of the facility. Improvements to the water treatment plant will generally not be visible from the adjacent roadsides. There are scattered residential homes in the immediate area, however, the Project site is generally shielded from public view by landforms and trees/vegetation. The most visible changes will be the replacement tanks and new backwash tanks. These will be installed on site. Most of the improvements will not be visible outside of the Project site and the improvements will have similar aesthetic features as the existing facility and as such, will not result in a substantial change to the existing visual nature of the area.

Therefore, the Project would have ***less than significant impacts*** on the visual character of the area.

Mitigation Measures: None are required.

Less Than Significant Impact. Currently the sources of light in the Project area are from vehicles traveling along surrounding roads and security lights at the existing water treatment plant. Water treatment plant improvements may include a minimal amount of additional security lighting; 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. Potential impacts are ***less than significant***.

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 existing WTP facilities are located in an area of County considered urban, build up land by the State Farmland Mapping and Monitoring Program. The Project will not change any land uses. As such, the proposed Project would not convert prime farmland, conflict with an existing agricultural use, or result in the conversion of existing farmland. Additionally, no Williamson Act contracted lands would be impacted due to the Project.

The proposed Project does not conflict with any forest land or Timberland Production or result in any loss of forest land. The proposed Project does not include any changes which will affect the existing environment. There is ***no impact.***

Mitigation Measures: None are required.

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 lies within the San Joaquin Valley Air Basin (SJVAB). At the Federal level, the SJVAB is designated as extreme nonattainment for the 8-hour ozone standard, attainment for PM_{10} and CO, and nonattainment fort $PM_{2.5}$. At the State level, the SJVAB is designated as nonattainment for the 8-hour ozone, PM_{10}, and $PM_{2.5}$ standards. Although the Federal 1-hour ozone standard was revoked in 2005, areas must still attain this standard, and the SJVAPCD recently requested an EPA finding that the SJVAB has attained the standard based on 2011-2013 data.[1]

[1] San Joaquin Valley Air Pollution Control District. Guide to Assessing and Mitigating Air Quality Impacts. March 19, 2015. Page 28. http://www.valleyair.org/transportation/GAMAQI_3-19-15.pdf. Accessed February 2019.

To meet Federal Clean Air Act (CAA) requirements, the SJVAPCD has multiple air quality attainment plan (AQAP) documents, including:

- Extreme Ozone Attainment Demonstration Plan (EOADP) for attainment of the 1-hour ozone standard (2004);
- 2007 Ozone Plan for attainment of the 8-hour ozone standard;
- 2007 PM_{10} Maintenance Plan and Request for Redesignation; and
- 2008 $PM_{2.5}$ Plan.

Because of the region's non-attainment status for ozone, $PM_{2.5}$, and PM_{10}, if the Project-generated emissions of either of the ozone precursor pollutants (ROG or NOx), PM_{10}, or $PM_{2.5}$ were to exceed the SJVAPCD's significance thresholds, then the Project uses would be considered to conflict with the attainment plans. 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.

The annual significance thresholds to be used for the Project emissions are as follows[2]:

Pollutant/ Precursor	Construction Emissions (tpy)	Operational Emissions (permitted) (tpy)	Operational Emissions (non-permitted) (tpy)
CO	100	100	100
NOx	10	10	10
ROG	10	10	10
SOx	27	27	27
PM_{10}	15	15	15
$PM_{2.5}$	15	15	15

The estimated annual construction and operational emissions are provided below. The California Emissions Estimator (CalEEMod), Version 2016.3.2, was used to estimate construction of the water treatment plants improvements and operational (vehicle trips) emissions. A conservative approach was utilized when modeling emissions. It was assumed that construction activities would take place across the entirety of the water treatment plant area. The improvements at the water treatment plant and the pumps regulating the water retention basins will run off electrical power so there will be no significant additional on-site emissions generated by plant operations. Modeling results are provided in Table 1 and the CalEEMod and Road Construction Emissions Model output files are provided in Appendix A.

[2] San Joaquin Valley Air Pollution Control District. March 19, 2015. Guide for Assessing and Mitigating Air Quality Impacts. http://www.valleyair.org/transportation/GAMAQI_3-19-15.pdf. Page 80. Accessed February 2019.

Table 1
Proposed Project Construction and Operation Emissions

Pollutant/ Precursor	Construction Emissions (tpy)	Threshold/ Exceed?	Operational Emissions (permitted) (tpy)	Threshold/ Exceed?
CO	0.35	100/**N**	0.75	100/**N**
NOx	0.48	10/**N**	0.70	10/**N**
ROG	0.20	10/**N**	0.19	10/**N**
SOx	0.00	27/**N**	0.00	27/**N**
PM_{10}	0.04	15/**N**	0.16	15/**N**
$PM_{2.5}$	0.03	15/**N**	0.05	15/**N**
CO_2	51.71	n/a	287.07	n/a

As demonstrated in Table 1, estimated construction and operational emissions would not exceed the SJVAPCD'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.[3]

Localized high levels of CO are associated with traffic congestion and idling or slow-moving vehicles. The SJVAPCD provides screening criteria to determine when to quantify local CO concentrations based on impacts to the level of service (LOS) of roadways in the Project vicinity.

As further discussed in the Transportation/Traffic checklist evaluation, the Project would not generate substantial traffic that would reduce the level of service on local roadways. Therefore, the Project would not significantly contribute to an exceedance that would exceed state or federal CO standards. Additionally, as the estimated construction and operational emissions are below SJVAPCD thresholds, any cumulative considerable increase in criteria pollutants would be less than significant.

As described above, the Project will not occur at a scale or scope with potential to contribute substantially or cumulatively to existing or projected air quality violations, impacts, or increases of criteria pollutants for which the San Joaquin Valley region is under an applicable federal or state ambient air quality standard (including releasing emissions that exceed quantitative thresholds for ozone precursors). 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 ***less than significant.***

[3] San Joaquin Valley Air Pollution Control District. Guide to Assessing and Mitigating Air Quality Impacts. March 19, 2015. Page 65. http://www.valleyair.org/transportation/GAMAQI_3-19-15.pdf. Accessed February 2019.

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 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?

Less Than Significant Impact With Mitigation. The Project site consists of the existing 0.23-acre developed, graveled, and fenced WTP and an approximately 1700-square-foot expansion area of rocky grassland at the top of a bluff immediately northeast of the existing WTP. The Project site is bordered by rural residential development to the northwest, west, south, and southeast with agriculture beyond and to the east and northeast by grassland with agriculture beyond. The San Joaquin River is about 0.5 miles east of the site. The Project site is underlain by Hornitos gravelly sandy loam, 8 to 30 percent slopes (NRCS 2019).

A Biological Resource Evaluation (BRE) was prepared for the proposed Project in April 2019 by Colibri Ecological Consulting, LLC (see Appendix B). As part of the BRE, the California Natural Diversity Data Base (CNDDB), the California Native Plant Society's Inventory of Rare and Endangered Plants, and the USFWS special status species lists were queried for records of special-status plant and animal species in the Project area. In addition, a field reconnaissance survey of the Project site was conducted in February of 2019.

A total of 26 plant species (10 native and 16 nonnative) were found during the reconnaissance survey (Table 2 of Appendix B). Three bird species and three mammal species were also detected (Table 2 of Appendix B). Although no protected species were found during the biological survey, the Project could potentially impact the state-listed as threatened Swainson's hawk, which could nest near the Project site, as well as three California Species of Special Concern: burrowing owl, American badger, and pallid bat. Construction disturbance during the breeding season could result in the incidental loss of fertile eggs, nestlings, or young, or otherwise lead to nest or maternal colony abandonment for Swainson's hawk, burrowing owl, and pallid bat, respectively. Loss of fertile eggs, nestlings, or young or any activities resulting in nest or maternal colony abandonment would constitute a significant impact. Implementation of mitigation measures BIO-1 through BIO-3 will reduce any impacts to ***less than significant.***

Mitigation Measures:

BIO – 1 Protect nesting Swainson's hawks

1. To the extent practicable, construction shall be scheduled to avoid the Swainson's hawk nesting season, which extends from March through August.
2. If it is not possible to schedule work between September and February, a qualified biologist shall conduct a survey for active Swainson's hawk nests within 0.25 miles of the Project site no more than 14 days prior to the start of construction. If an active nest is found within 0.25 miles, and the qualified biologist determines that Project activities would disrupt nesting, a construction-free buffer or limited operating period shall be implemented in consultation with the CDFW.

BIO – 2 Protect nesting burrowing owls

1. Conduct protocol surveys season to determine if burrowing owl is occupying the Project site. Surveys shall follow guidance set forth by the California Department of Fish and Game Staff Report on Burrowing Owl Mitigation (Appendix D of Appendix A). A qualified biologist shall conduct four surveys during the breeding; at least one survey visit must occur between 15 February and 15 April; a minimum of three survey visits must occur between 15 April and 15 July, spaced at least three weeks apart, with at least one of those survey visits occurring after 15 June.
2. If a burrowing owl or the positive sign of burrowing owl use (i.e., feathers, scat, pellets) is detected on or within 150 feet of the Project site, then CDFW shall be contacted to determine if relocation efforts are warranted.

3. If burrowing owl is not detected during protocol surveys, a final pre-construction burrowing owl survey shall be conducted by a qualified biologist no more than 14 days prior to the start of construction to ensure that burrowing owls have not recently inhabited the Project site; this survey can be done in conjunction with Mitigation Measure BIO-4, below.

BIO – 3 Protect pallid bat

1. To the extent practicable, construction shall be scheduled to avoid the pallid bat pupping season, which extends from April through July.
2. If it is not possible to schedule work between August and March a qualified biologist shall conduct a survey for pallid bat maternal colonies in the rocky outcrop just northeast of the Project site no more than 14 days prior to the start of construction. If an active colony is found, and the qualified biologist determines that Project activities would disrupt breeding, a construction-free buffer or limited operating period shall be implemented in consultation with the CDFW.

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?

No Impact. No wetlands, riparian habitat, or other sensitive natural community were present in the proposed Project area and as such, there would be ***no impacts*** associated with the proposed improvements.

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 could 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 nestlings, or any activities resulting in nest abandonment, could constitute a significant impact if the species is particularly rare in the region. Implementation of BIO-4 would ensure any impacts remain ***less than significant***.

Mitigation Measures:

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?

Less Than Significant Impact. No biologically sensitive areas will be significantly impacted by the proposed Project. Additionally, there are no adopted local, regional, or state habitat conservation plans adopted for the area. As such, there impact is ***less than significant.***

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. All Project-related activities will occur within the existing footprint of the water treatment plant, including the small expansion area to the northeast. The Project's area of potential effect (APE) contains all construction, staging, and lay-down areas for the Project. The horizontal APE, consisting of the ~1-ac WTP includes a 100-foot (ft) buffer. The vertical APE, estimated at 10-feet, is the maximum depth of excavation for the foundations, footings and underground utilities for the WTP infrastructure.

To assist in the assessment of cultural/historical resources, an intensive Cultural Resources Class III Inventory / Phase I Survey (Report) was prepared for the proposed Project in April 2019 by ASM Affiliates, Inc. (*Note: the Report is under separate cover due to confidential information pertaining to cultural resource sites nearby*). The Report included: (1) a records search at the Southern San Joaquin Valley Information Center (SSJVIC) of the California Historical Resources Information System 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.

According to the ICs record search, two previous studies – block surveys in 1982 (D.G. Wren) and 2006 (Applied EarthWorks, Inc.) – had covered the majority of study area. No cultural resources were identified within the WTP APE by these surveys. An additional three studies had been completed within 0.5-mi of the APE, resulting in the recording of seven cultural resources within that radius. The records search and a map of previous reports and recorded cultural resources in and around the study area are presented in the Report.

The Native American Heritage Commission Sacred Lands Files were also consulted. They also documented the presence of a site believed to be a component of the historic Dumna Yokuts village of *I-ah'-pin*. This site is on the San Joaquin River terrace below the Project APE and has no potential to be impacted or effected by the replacement of the infrastructure at the WTP.

The Phase I survey fieldwork was conducted with parallel transects spaced at 15-meter intervals across the 1-acres Project APE. No cultural resources of any kind were identified within the existing WTP facility, which is on top of a ridge on a previously graded pad.

Although no cultural or archaeological resources, paleontological resources or human remains have been identified in the Project area, the possibility exists that such resources or remains may be discovered during Project site preparation, excavation and/or grading activities. Mitigation Measures CUL – 1 and CUL – 2 will be implemented to ensure that Project will result in ***less than significant impacts with mitigation***.

Mitigation Measures:

CUL – 1 Should evidence of prehistoric archeological resources be discovered during construction, the contractor shall halt all work within 25 feet of the find and the resource shall be evaluated by a qualified archaeologist. If evidence of any archaeological, cultural, and/or historical deposits is found, hand excavation and/or mechanical excavation shall proceed to evaluate the deposits for determination of significance as defined by the CEQA guidelines. The archaeologist shall submit reports, to the satisfaction of Madera County, describing the testing program and subsequent results. These reports shall identify any

program mitigation that the Project proponent shall complete in order to mitigate archaeological impacts (including resource recovery and/or avoidance testing and analysis, removal, reburial, and curation of archaeological resources).

CUL – 2 In order to ensure that the proposed Project does not impact buried human remains during Project construction, the Project proponent shall be responsible for on-going monitoring of Project construction. Prior to the issuance of any grading permit, the Project proponent shall provide Madera County with documentation identifying construction personnel that will be responsible for on-site monitoring. If buried human remains are encountered during construction, further excavation or disturbance of the site or any nearby area reasonably suspected to overlie adjacent remains shall be halted until the Fresno coroner is contacted and the coroner has made the determinations and notifications required pursuant to Health and Safety Code Section 7050.5. If the coroner determines that Health and Safety Code Section 7050.5(c) require that he give notice to the Native American Heritage Commission, then such notice shall be given within 24 hours, as required by Health and Safety Code Section 7050.5(c). In that event, the NAHC will conduct the notifications required by Public Resources Code Section 5097.98. Until the consultations described below have been completed, the landowner shall further ensure that the immediate vicinity, according to generally accepted cultural or archaeological standards or practices where Native American human remains are located, is not disturbed by further development activity until the landowner has discussed and conferred with the Most Likely Descendants on all reasonable options regarding the descendants' preferences and treatments, as prescribed by Public Resources Code Section 5097.98(b). The NAHC will mediate any disputes regarding treatment of remains in accordance with Public Resources Code Section 5097.94(k). The landowner shall be entitled to exercise rights established by Public Resources Code Section 5097.98(e) if any of the circumstances established by that provision become applicable.

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 improvements to the existing water treatment plant. 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 County 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 occur for multiple purposes, including but not limited to the new components in the water treatment plant and various infrastructure improvements. Operational energy would also be consumed during each vehicle trip associated with the proposed use.

As discussed in Impact XVII – Transportation/Traffic, the proposed Project would not generate significant on-going additional vehicle trips. However, during construction there will be a temporary

increase in vehicular trips to the Project site. 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 for the new plant house. 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	☐	☐	☒	☐

VII. GEOLOGY AND SOILS

Would the project:

	Potentially Significant Impact	Less than Significant With Mitigation Incorporation	Less than Significant Impact	No Impact
adopted Uniform Building Code creating substantial direct or indirect risks to life or property?				
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. Directly or indirectly cause 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.

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

a-iii. Expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving seismic-related ground failure, including liquefaction?

a-iv. Expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving landslides?

No Impact. The proposed Project site is not located in an earthquake fault zone as delineated by the 1972 Alquist-Priolo Earthquake Fault Zoning Map Act. The nearest known potentially active fault is the Clovis Fault, located about 2 miles southeast of the site.[4] No active faults have been mapped within the Project boundaries, so there is no potential for fault rupture. It is anticipated that the proposed Project site would be subject to some ground acceleration and ground shaking associated with seismic activity during its design life. The Project site would be engineered and constructed in strict accordance with the earthquake resistant design requirements contained in the latest edition of the California Building Code (CBC) for seismic zone III, as well as Title 24 of the California Administrative Code, and therefore would avoid potential seismically induced hazards on planned structures. The impact of seismic hazards on the Project 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 With Mitigation. Construction activities associated with the Project involves excavation of soil for installation of infrastructure, footings, trenching, and associated activities. 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 County 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 SVJAPCD fugitive dust control measures (See Section III). Once construction is complete, the Project would not result in soil erosion or loss of topsoil. Mitigation Measure GEO – 1 will ensure that impacts remain ***less than significant.***

Mitigation Measures:

GEO – 1 In order to reduce on-site erosion due to Project construction and operation, an erosion control plan and Storm Water Pollution Prevention Plan (SWPPP) shall be prepared for the site preparation, construction, and post-construction periods by a registered civil engineer or certified professional. The erosion control plan shall incorporate best

[4] California Department of Conservation. Fault Activity Map of California (2010). http://maps.conservation.ca.gov/cgs/fam/. Accessed May 2019.

management practices consistent with the requirements of the National Pollution Discharge Elimination System (NPDES). The erosion component of the plan must at least meet the requirements of the SWPPP required by the California State Water Resources Control Board.

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. See Section VIa. above. The site is not at significant risk from earthquakes, ground shaking, liquefaction, or landslide and is otherwise considered geologically stable. Expansive soils are soils that expand when water is added and shrink when they dry out. Soils in and around the WTP site include Hornitos gravelly sand loam (8 to 30 percent slopes) – NRCS 2019, which a sandy loam characterized as well drained. These soils have no limitations for load supporting capacity and as such, would not be classified as expansive. 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 Project does not include the construction, replacement, or disturbance of septic tanks or alternative wastewater disposal systems. Therefore, there is ***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. As identified in the cultural studies performed for the Project site, there are no known paleontological resources on or near the site. (See Section V. and Appendix C for more details). Mitigation measures have been added that will protect unknown (buried) resources during construction, including paleontological resources. In addition, the site is substantially disturbed and graded and there are no unique geological features on site or in the area. Therefore, there is a ***less than significant impact.***

Mitigation Measures: None are required.

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 U.S. Environmental Protection Agency published a rule for the mandatory reporting of greenhouse gases from sources that in general emit 25,000 metric tons or more of carbon dioxide (CO2) per year. As shown in the CalEEMod results (Appendix A), the Project will produce the following CO2:

Construction (2019)	555.74 MT/yr
Construction (2020)	1,029.67 MT/yr
Operation (2020)	0 MT/yr
Combined:	**1,585.41 MT/yr**

To be conservative, the proposed Project construction and operational CO2 emissions are combined, and the Project is estimated to produce 1,585.41 tons per year of CO2. This represents approximately six percent of the reporting threshold. The impact is therefore considered ***less than significant.***

Additionally, emissions from construction are temporary in nature. The SJVAPCD has implemented a guidance policy for development projects within their jurisdiction. This policy, "Guidance for Land-use Agencies in Addressing GHG Emission Impacts for New Projects under CEQA," approved by the Board on December 17, 2009, does not address temporary GHG emissions

from construction, nor does this policy establish numeric thresholds for ongoing GHG emissions. Therefore, construction-generated GHGs are ***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 involve transport, storage, use or disposal of hazardous materials. Water treatment chemicals would be utilized at the water treatment site. Small quantities of petroleum products, thinners, and paints would also likely be used on-site.

There are several federal, state and local requirements and regulations that are designed to minimize risks from accidental releases of hazardous materials and the proposed Project will be in compliance with all applicable requirements and regulations. Hazardous material storage and use areas at the water treatment plant will be built and operated in compliance with the minimum requirements of the Uniform Fire Code and the California Fire Code. Some of the requirements are secondary containment for liquids, fire water sprinklers over inside storage/use areas, and non-combustible building construction. Additionally, the water treatment plant building will be constructed in compliance with the California Building Code, which requires design features to resist forces

generated by a major earthquake with limited architectural or structural damage and to provide adequate fire protection that precludes accidental releases of hazardous chemicals due to fire.

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?

No Impact. No schools are located within 0.25 mile of the Project site. ***No impact*** would occur.

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?

Less Than Significant Impact. A database search was conducted to identify recorded hazardous materials incidents in the 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 Project site was not listed in any of the databases searched. 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?

No Impact. There are no public or private airport within two miles of the Project site. The proposed Project is not located within any airport safety zone. The Project will have ***no impact*** to airport operations.

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 involves improvements to the existing water treatment plant. Construction activities will take place within the existing water treatment plant and will not cause any road closures that could interfere with any adopted emergency response or evacuation plan. The construction contractor will be required to work with the County (public works, sheriff/fire, etc.) if any roadway diversions are required to ensure that adequate access is maintained for residents and emergency vehicles. However, no such road diversions are anticipated. 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?

No Impact. Implementation of the Project would not change the degree of exposure to wildfires because no new housing or businesses will be constructed and there are no wildlands in the Project vicinity, thus precluding the possibility of wildfires. Therefore, there is ***no 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 includes improvements to the existing water treatment plant to ensure water quality standards and pressures are being met. The State Water Resources Control Board will have ultimate review and approval of the upgraded system, thereby ensuring adequate water quality standards. Any impacts would be ***less than significant***.

Mitigation Measures: None are required.

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

Less Than Significant Impact. The proposed Project is intended to provide adequate water supplies to the area by improving the water treatment and storage capacities of the District and by improving water treatment facilities. The WTP is used by a relatively small number of connections and thus 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 includes improvements to the existing water treatment plant. Given the highly disturbed nature of the site, the improvements are not anticipated to significantly alter the drainage pattern of the site. However, the site is designed for adequate stormwater drainage. During construction, the County would be required to obtain a Stormwater Pollution Prevention Plan to minimize erosion and potential site runoff. 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?

Less Than Significant Impact. The Project is not within a regulatory floodway or within a base floodplain (100 year) elevation. 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. Friant Dam is located at the eastern end of the San Joaquin River Parkway, upstream from the Project area. Dam failure can result from a number of natural and/or man-made causes, including earthquake, high flood waters, structural deficiency, and other causes. Existing protocol implemented through the San Joaquin River Parkway includes flood warning alert and evacuation implemented by the Counties of Madera and Fresno, the City of Fresno, and the Fresno Metropolitan Flood Control District. there is adequate forewarning of a dam failure, access to facilities would be closed. Implementation of the existing procedures will ensure a less than significant impact related to the exposure of persons to flood risks caused by the Project.

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

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. Construction and operation of the proposed Project would not cause any land use changes in the surrounding vicinity nor would it introduce barriers that would divide and established community. The proposed Project involves improvements to the existing water treatment plant and does not conflict with any land use plans, policies or regulations. There are ***no impacts.***

Mitigation Measures: None are required.

XII. 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?	☐	☐	☐	☒

Responses:

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 Project area and none are identified in the County's General Plan near the proposed Project site. Therefore, there is ***no impact***.

Mitigation Measures: None are required.

XIII. 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 water treatment plant are the four residential houses within 200 feet. Once operational, the water treatment plant improvements will not generate noise above levels that currently exist.

Proposed Project construction related activities will involve temporary noise sources. Typical construction related equipment include graders, trenchers, small tractors and excavators. 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.[5] Table 3 describes the typical construction equipment vibration levels.

[5] Transit Noise and Vibration Impact Assessment. Final Report No. FTA-VA-90-1003 prepared for the U.S. Federal Transit Administration by Harris Miller Miller & Hanson Inc., May 2006. Page 7-5. http://www.rtd-fastracks.com/media/uploads/nm/14_Section_38_NoiseandVibration_Part3.pdf. Accessed February 2019.

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.

e. 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. As there are no airports or airstrips in the vicinity, there is ***no impact***.

Mitigation Measures: None are required.

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?	☐	☐	☒	☐

Responses:

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?

Less Than Significant Impact. There are no new homes associated with the proposed Project, nor would Project implementation displace people or housing. The proposed Project is needed to improve existing water treatment facilities to meet statewide water quality standards. There is a ***less than significant 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?

Schools?

Parks?

Other public facilities?

Less Than Significant Impact. The proposed Project would improve the existing water treatment plant. The proposed Project would not directly or indirectly induce population growth and as such, will not increase demand for schools, parks, or other public facilities. Existing Madera County fire and sheriff services will continue to maintain site safety. Any impacts would be ***less than significant.***

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 does not include the construction of residential uses or recreational facilities 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 includes the construction of additional components at the existing water treatment plant. There are no components of the proposed Project that would increase hazards due to a geometric design feature. As traffic due to construction activities would be temporary in nature, the proposed Project would not cause a substantial increase in traffic or result in inadequate emergency access. Once installed, the new water treatment facilities and the newly lined

water basins would not generate significant additional traffic trips per day. The new water basin would require periodic maintenance, which would generate an insignificant amount of vehicle trips. 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. 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 County contacted the Native American Heritage Commission, requesting a contact list of applicable Native American Tribes, which was provided to the County's consultant. Using the NAHC provided contact list, letters were sent to identify Native American interests and concerns in the Project area. A request for further consultation was received by the Northfork Rancheria cultural resources representatives. On May 14, 2019, Madera County staff met with Northfork Rancheria representative James Bethel on the Project site. After inspecting the site, Mr. Bethel determined there is no concern regarding Tribal Cultural Resources. Therefore, there is a ***less than significant impact***.

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 Project includes improvements to the County's existing water treatment plant, the results of which would not require the construction of wastewater treatment or storm water drainage, electric power, natural gas, or telecommunication facilities. The Project itself is the construction of improvements to the water treatment plant and any environmental impacts resulting from the improvements are discussed within this document.

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 includes improving the existing Sumner Hill water treatment plant and storage capacity. No new water supplies would be required as a result of the Project. There is ***no impact.***

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 existing water treatment plant, no component of the proposed Project would generate wastewater. There is ***no impact***.

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 water retention basin will be an unmanned facility and

therefore won't generate 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 is located within a relatively disturbed area (homes, roads, active agriculture, etc.) which precludes the risk of wildfire. The area surrounding the Project site is generally flat in nature which would limit the risk of downslope flooding and landslides, and limit any wildfire spread.

To receive building permits, the proposed Project would be required to be in compliance with the adopted emergency response plan. 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 Sumner Hill Water System Improvement 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 Madera County 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 nesting Swainson's hawks 1. To the extent practicable, construction shall be scheduled to avoid the Swainson's hawk nesting season, which extends from March through August. 2. If it is not possible to schedule work between September and February, a qualified biologist shall conduct a survey for active Swainson's hawk nests within 0.25 miles of the Project site no more than 14 days prior to the start of construction. If an active nest is found within 0.25 miles, and the qualified biologist determines that Project activities would disrupt nesting, a construction-free buffer or limited operating period shall be implemented in consultation with the CDFW. **BIO – 2 Protect nesting burrowing owls** 1. Conduct protocol surveys season to determine if burrowing owl is occupying the Project site. Surveys shall follow guidance set forth by the California	Madera County / Construction Contractor	Prior to construction	Madera County / Construction Contractor	

Mitigation Measure	Party responsible for Implementing Mitigation	Implementation Timing	Party responsible for Monitoring	Verification (name/date)
Department of Fish and Game Staff Report on Burrowing Owl Mitigation (Appendix D of Appendix A). A qualified biologist shall conduct four surveys during the breeding; at least one survey visit must occur between 15 February and 15 April; a minimum of three survey visits must occur between 15 April and 15 July, spaced at least three weeks apart, with at least one of those survey visits occurring after 15 June. 2. If a burrowing owl or the positive sign of burrowing owl use (i.e., feathers, scat, pellets) is detected on or within 150 feet of the Project site, then CDFW shall be contacted to determine if relocation efforts are warranted. 3. If burrowing owl is not detected during protocol surveys, a final pre-construction burrowing owl survey shall be conducted by a qualified biologist no more than 14 days prior to the start of construction to ensure that burrowing owls have not recently inhabited the Project site; this survey can be done in conjunction with Mitigation Measure BIO-4, below.				

Mitigation Measure	Party responsible for Implementing Mitigation	Implementation Timing	Party responsible for Monitoring	Verification (name/date)
BIO – 3 Protect pallid bat 1. To the extent practicable, construction shall be scheduled to avoid the pallid bat pupping season, which extends from April through July. 2. If it is not possible to schedule work between August and March a qualified biologist shall conduct a survey for pallid bat maternal colonies in the rocky outcrop just northeast of the Project site no more than 14 days prior to the start of construction. If an active colony is found, and the qualified biologist determines that Project activities would disrupt breeding, a construction-free buffer or limited operating period shall be implemented in consultation with the CDFW. **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. If it is not possible to schedule construction between September and January,				

	Mitigation Measure	Party responsible for Implementing Mitigation	Implementation Timing	Party responsible for Monitoring	Verification (name/date)
	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.				
Cultural					
CUL – 1	Should evidence of prehistoric archeological resources be discovered	Madera County / Construction	Prior to and during construction	Madera County / Construction	

	Mitigation Measure	Party responsible for Implementing Mitigation	Implementation Timing	Party responsible for Monitoring	Verification (name/date)
	during construction, the contractor shall halt all work within 25 feet of the find and the resource shall be evaluated by a qualified archaeologist. If evidence of any archaeological, cultural, and/or historical deposits is found, hand excavation and/or mechanical excavation shall proceed to evaluate the deposits for determination of significance as defined by the CEQA guidelines. The archaeologist shall submit reports, to the satisfaction of Madera County, describing the testing program and subsequent results. These reports shall identify any program mitigation that the project proponent shall complete in order to mitigate archaeological impacts (including resource recovery and/or avoidance testing and analysis, removal, reburial, and curation of archaeological resources).	Contractor		Contractor	
CUL – 2	In order to ensure that the proposed project does not impact buried human remains during project construction, the project proponent shall be responsible for on-going monitoring of project construction. Prior to the issuance of any grading permit, the				

Mitigation Measure	Party responsible for Implementing Mitigation	Implementation Timing	Party responsible for Monitoring	Verification (name/date)
project proponent shall provide Madera County with documentation identifying construction personnel that will be responsible for on-site monitoring. If buried human remains are encountered during construction, further excavation or disturbance of the site or any nearby area reasonably suspected to overlie adjacent remains shall be halted until the Fresno coroner is contacted and the coroner has made the determinations and notifications required pursuant to Health and Safety Code Section 7050.5. If the coroner determines that Health and Safety Code Section 7050.5(c) require that he give notice to the Native American Heritage Commission, then such notice shall be given within 24 hours, as required by Health and Safety Code Section 7050.5(c). In that event, the NAHC will conduct the notifications required by Public Resources Code Section 5097.98. Until the consultations described below have been completed, the landowner shall further ensure that the immediate vicinity, according to generally accepted cultural or				

Mitigation Measure	Party responsible for Implementing Mitigation	Implementation Timing	Party responsible for Monitoring	Verification (name/date)
archaeological standards or practices where Native American human remains are located, is not disturbed by further development activity until the landowner has discussed and conferred with the Most Likely Descendants on all reasonable options regarding the descendants' preferences and treatments, as prescribed by Public Resources Code Section 5097.98(b). The NAHC will mediate any disputes regarding treatment of remains in accordance with Public Resources Code Section 5097.94(k). The landowner shall be entitled to exercise rights established by Public Resources Code Section 5097.98(e) if any of the circumstances established by that provision become applicable.				
Geology / Soils				
GEO – 1 In order to reduce on-site erosion due to project construction and operation, an erosion control plan and Storm Water Pollution Prevention Plan (SWPPP) shall be prepared for the site preparation, construction, and post-construction periods	Madera County / Construction Contractor	Prior to construction	Madera County / Construction Contractor	

Mitigation Measure	Party responsible for Implementing Mitigation	Implementation Timing	Party responsible for Monitoring	Verification (name/date)
by a registered civil engineer or certified professional. The erosion control plan shall incorporate best management practices consistent with the requirements of the National Pollution Discharge Elimination System (NPDES). The erosion component of the plan must at least meet the requirements of the SWPPP required by the California State Water Resources Control Board.				

Chapter 5

PREPARERS

LIST OF PREPARERS

Crawford & Bowen Planning, Inc.

- Travis Crawford, AICP, Principal Environmental Planner
- Emily Bowen, LEED AP, Principal Environmental Planner

AM Consulting Engineers

- Alfonso Manrique, PE

Colibri Ecological Consulting, LLC.

- Jeff Davis

ASM Affiliates, Inc.

- David S. Whitley, Ph.D., RPA

Appendices

Appendix A

Air Emission Output Tables

San Joaquin Valley Unified 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	26.00	1000sqft	0.60	26,000.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.7	**Precipitation Freq (Days)**	45
Climate Zone	3			**Operational Year**	2018
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 -

Land Use - Project includes 6,000 square feet for all treatment vessels combined and 20,000 square feet for storage tank.

Table Name	Column Name	Default Value	New Value

2.0 Emissions Summary

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					
2018	0.0490	0.4806	0.3493	5.7000e-004	5.6400e-003	0.0297	0.0353	1.6900e-003	0.0274	0.0291	0.0000	51.7095	51.7095	0.0135	0.0000	52.0466
2019	0.1981	0.1698	0.1363	2.3000e-004	2.0000e-003	9.9700e-003	0.0120	5.4000e-004	9.2100e-003	9.7500e-003	0.0000	20.3899	20.3899	5.4400e-003	0.0000	20.5260
Maximum	**0.1981**	**0.4806**	**0.3493**	**5.7000e-004**	**5.6400e-003**	**0.0297**	**0.0353**	**1.6900e-003**	**0.0274**	**0.0291**	**0.0000**	**51.7095**	**51.7095**	**0.0135**	**0.0000**	**52.0466**

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					
2018	0.0490	0.4806	0.3493	5.7000e-004	5.6400e-003	0.0297	0.0353	1.6900e-003	0.0274	0.0291	0.0000	51.7094	51.7094	0.0135	0.0000	52.0465
2019	0.1981	0.1698	0.1363	2.3000e-004	2.0000e-003	9.9700e-003	0.0120	5.4000e-004	9.2100e-003	9.7500e-003	0.0000	20.3899	20.3899	5.4400e-003	0.0000	20.5260
Maximum	**0.1981**	**0.4806**	**0.3493**	**5.7000e-004**	**5.6400e-003**	**0.0297**	**0.0353**	**1.6900e-003**	**0.0274**	**0.0291**	**0.0000**	**51.7094**	**51.7094**	**0.0135**	**0.0000**	**52.0465**

	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**

Livingston TCP Removal Treatment Project - San Joaquin Valley Unified APCD Air District, Annual

Quarter	Start Date	End Date	Maximum Unmitigated ROG + NOX (tons/quarter)	Maximum Mitigated ROG + NOX (tons/quarter)
1	9-4-2018	12-3-2018	0.4027	0.4027
2	12-4-2018	3-3-2019	0.4913	0.4913
		Highest	0.4913	0.4913

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	0.1196	0.0000	2.4000e-004	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	4.6000e-004	4.6000e-004	0.0000	0.0000	5.0000e-004
Energy	2.9300e-003	0.0266	0.0223	1.6000e-004		2.0200e-003	2.0200e-003		2.0200e-003	2.0200e-003	0.0000	28.9563	28.9563	5.5000e-004	5.3000e-004	29.1283
Mobile	0.0689	0.6694	0.7299	2.7000e-003	0.1525	3.9000e-003	0.1564	0.0410	3.7000e-003	0.0447	0.0000	249.6657	249.6657	0.0179	0.0000	250.1120
Waste						0.0000	0.0000		0.0000	0.0000	6.5444	0.0000	6.5444	0.3868	0.0000	16.2135
Water						0.0000	0.0000		0.0000	0.0000	1.9075	0.0000	1.9075	0.1959	4.6300e-003	8.1840
Total	**0.1915**	**0.6960**	**0.7525**	**2.8600e-003**	**0.1525**	**5.9200e-003**	**0.1584**	**0.0410**	**5.7200e-003**	**0.0468**	**8.4519**	**278.6225**	**287.0744**	**0.6011**	**5.1600e-003**	**303.6384**

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	0.1196	0.0000	2.4000e-004	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	4.6000e-004	4.6000e-004	0.0000	0.0000	5.0000e-004
Energy	2.9300e-003	0.0266	0.0223	1.6000e-004		2.0200e-003	2.0200e-003		2.0200e-003	2.0200e-003	0.0000	28.9563	28.9563	5.5000e-004	5.3000e-004	29.1283
Mobile	0.0689	0.6694	0.7299	2.7000e-003	0.1525	3.9000e-003	0.1564	0.0410	3.7000e-003	0.0447	0.0000	249.6657	249.6657	0.0179	0.0000	250.1120
Waste						0.0000	0.0000		0.0000	0.0000	6.5444	0.0000	6.5444	0.3868	0.0000	16.2135
Water						0.0000	0.0000		0.0000	0.0000	1.9075	0.0000	1.9075	0.1959	4.6300e-003	8.1840
Total	**0.1915**	**0.6960**	**0.7525**	**2.8600e-003**	**0.1525**	**5.9200e-003**	**0.1584**	**0.0410**	**5.7200e-003**	**0.0468**	**8.4519**	**278.6225**	**287.0744**	**0.6011**	**5.1600e-003**	**303.6384**

	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	9/4/2018	9/17/2018	5	10	
2	Site Preparation	Site Preparation	9/18/2018	9/18/2018	5	1	
3	Grading	Grading	9/19/2018	9/20/2018	5	2	
4	Building Construction	Building Construction	9/21/2018	2/7/2019	5	100	
5	Paving	Paving	2/8/2019	2/14/2019	5	5	
6	Architectural Coating	Architectural Coating	2/15/2019	2/21/2019	5	5	

Acres of Grading (Site Preparation Phase): 0.5

Acres of Grading (Grading Phase): 0

Acres of Paving: 0

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 39,000; Non-Residential Outdoor: 13,000; 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	4	6.00	9	0.56
Demolition	Concrete/Industrial Saws	1	8.00	81	0.73
Grading	Concrete/Industrial Saws	1	8.00	81	0.73
Building Construction	Cranes	1	4.00	231	0.29
Building Construction	Forklifts	2	6.00	89	0.20
Site Preparation	Graders	1	8.00	187	0.41
Paving	Pavers	1	7.00	130	0.42
Paving	Rollers	1	7.00	80	0.38
Demolition	Rubber Tired Dozers	1	1.00	247	0.40
Grading	Rubber Tired Dozers	1	1.00	247	0.40
Building Construction	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Demolition	Tractors/Loaders/Backhoes	2	6.00	97	0.37
Grading	Tractors/Loaders/Backhoes	2	6.00	97	0.37
Paving	Tractors/Loaders/Backhoes	1	7.00	97	0.37
Site Preparation	Tractors/Loaders/Backhoes	1	8.00	97	0.37

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	4	10.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Site Preparation	2	5.00	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	5	11.00	4.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Paving	7	18.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	2.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

3.2 Demolition - 2018

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	5.3200e-003	0.0472	0.0389	6.0000e-005		3.1100e-003	3.1100e-003		2.9700e-003	2.9700e-003	0.0000	5.3041	5.3041	1.0200e-003	0.0000	5.3297
Total	**5.3200e-003**	**0.0472**	**0.0389**	**6.0000e-005**		**3.1100e-003**	**3.1100e-003**		**2.9700e-003**	**2.9700e-003**	**0.0000**	**5.3041**	**5.3041**	**1.0200e-003**	**0.0000**	**5.3297**

3.2 Demolition - 2018

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	2.6000e-004	1.9000e-004	1.8700e-003	0.0000	4.0000e-004	0.0000	4.0000e-004	1.1000e-004	0.0000	1.1000e-004	0.0000	0.3817	0.3817	1.0000e-005	0.0000	0.3820
Total	**2.6000e-004**	**1.9000e-004**	**1.8700e-003**	**0.0000**	**4.0000e-004**	**0.0000**	**4.0000e-004**	**1.1000e-004**	**0.0000**	**1.1000e-004**	**0.0000**	**0.3817**	**0.3817**	**1.0000e-005**	**0.0000**	**0.3820**

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	5.3200e-003	0.0472	0.0389	6.0000e-005		3.1100e-003	3.1100e-003		2.9700e-003	2.9700e-003	0.0000	5.3041	5.3041	1.0200e-003	0.0000	5.3296
Total	**5.3200e-003**	**0.0472**	**0.0389**	**6.0000e-005**		**3.1100e-003**	**3.1100e-003**		**2.9700e-003**	**2.9700e-003**	**0.0000**	**5.3041**	**5.3041**	**1.0200e-003**	**0.0000**	**5.3296**

3.2 Demolition - 2018

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	2.6000e-004	1.9000e-004	1.8700e-003	0.0000	4.0000e-004	0.0000	4.0000e-004	1.1000e-004	0.0000	1.1000e-004	0.0000	0.3817	0.3817	1.0000e-005	0.0000	0.3820
Total	**2.6000e-004**	**1.9000e-004**	**1.8700e-003**	**0.0000**	**4.0000e-004**	**0.0000**	**4.0000e-004**	**1.1000e-004**	**0.0000**	**1.1000e-004**	**0.0000**	**0.3817**	**0.3817**	**1.0000e-005**	**0.0000**	**0.3820**

3.3 Site Preparation - 2018

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					2.7000e-004	0.0000	2.7000e-004	3.0000e-005	0.0000	3.0000e-005	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	3.9000e-004	4.8800e-003	2.1300e-003	0.0000		2.1000e-004	2.1000e-004		1.9000e-004	1.9000e-004	0.0000	0.4458	0.4458	1.4000e-004	0.0000	0.4492
Total	**3.9000e-004**	**4.8800e-003**	**2.1300e-003**	**0.0000**	**2.7000e-004**	**2.1000e-004**	**4.8000e-004**	**3.0000e-005**	**1.9000e-004**	**2.2000e-004**	**0.0000**	**0.4458**	**0.4458**	**1.4000e-004**	**0.0000**	**0.4492**

3.3 Site Preparation - 2018

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	1.0000e-005	1.0000e-005	9.0000e-005	0.0000	2.0000e-005	0.0000	2.0000e-005	1.0000e-005	0.0000	1.0000e-005	0.0000	0.0191	0.0191	0.0000	0.0000	0.0191
Total	**1.0000e-005**	**1.0000e-005**	**9.0000e-005**	**0.0000**	**2.0000e-005**	**0.0000**	**2.0000e-005**	**1.0000e-005**	**0.0000**	**1.0000e-005**	**0.0000**	**0.0191**	**0.0191**	**0.0000**	**0.0000**	**0.0191**

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					2.7000e-004	0.0000	2.7000e-004	3.0000e-005	0.0000	3.0000e-005	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	3.9000e-004	4.8800e-003	2.1300e-003	0.0000		2.1000e-004	2.1000e-004		1.9000e-004	1.9000e-004	0.0000	0.4458	0.4458	1.4000e-004	0.0000	0.4492
Total	**3.9000e-004**	**4.8800e-003**	**2.1300e-003**	**0.0000**	**2.7000e-004**	**2.1000e-004**	**4.8000e-004**	**3.0000e-005**	**1.9000e-004**	**2.2000e-004**	**0.0000**	**0.4458**	**0.4458**	**1.4000e-004**	**0.0000**	**0.4492**

3.3 Site Preparation - 2018

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	1.0000e-005	1.0000e-005	9.0000e-005	0.0000	2.0000e-005	0.0000	2.0000e-005	1.0000e-005	0.0000	1.0000e-005	0.0000	0.0191	0.0191	0.0000	0.0000	0.0191
Total	**1.0000e-005**	**1.0000e-005**	**9.0000e-005**	**0.0000**	**2.0000e-005**	**0.0000**	**2.0000e-005**	**1.0000e-005**	**0.0000**	**1.0000e-005**	**0.0000**	**0.0191**	**0.0191**	**0.0000**	**0.0000**	**0.0191**

3.4 Grading - 2018

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					7.5000e-004	0.0000	7.5000e-004	4.1000e-004	0.0000	4.1000e-004	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	1.0600e-003	9.4300e-003	7.7800e-003	1.0000e-005		6.2000e-004	6.2000e-004		5.9000e-004	5.9000e-004	0.0000	1.0608	1.0608	2.0000e-004	0.0000	1.0659
Total	**1.0600e-003**	**9.4300e-003**	**7.7800e-003**	**1.0000e-005**	**7.5000e-004**	**6.2000e-004**	**1.3700e-003**	**4.1000e-004**	**5.9000e-004**	**1.0000e-003**	**0.0000**	**1.0608**	**1.0608**	**2.0000e-004**	**0.0000**	**1.0659**

3.4 Grading - 2018

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	4.0000e-005	3.7000e-004	0.0000	8.0000e-005	0.0000	8.0000e-005	2.0000e-005	0.0000	2.0000e-005	0.0000	0.0763	0.0763	0.0000	0.0000	0.0764
Total	**5.0000e-005**	**4.0000e-005**	**3.7000e-004**	**0.0000**	**8.0000e-005**	**0.0000**	**8.0000e-005**	**2.0000e-005**	**0.0000**	**2.0000e-005**	**0.0000**	**0.0763**	**0.0763**	**0.0000**	**0.0000**	**0.0764**

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					7.5000e-004	0.0000	7.5000e-004	4.1000e-004	0.0000	4.1000e-004	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	1.0600e-003	9.4300e-003	7.7800e-003	1.0000e-005		6.2000e-004	6.2000e-004		5.9000e-004	5.9000e-004	0.0000	1.0608	1.0608	2.0000e-004	0.0000	1.0659
Total	**1.0600e-003**	**9.4300e-003**	**7.7800e-003**	**1.0000e-005**	**7.5000e-004**	**6.2000e-004**	**1.3700e-003**	**4.1000e-004**	**5.9000e-004**	**1.0000e-003**	**0.0000**	**1.0608**	**1.0608**	**2.0000e-004**	**0.0000**	**1.0659**

3.4 Grading - 2018

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	4.0000e-005	3.7000e-004	0.0000	8.0000e-005	0.0000	8.0000e-005	2.0000e-005	0.0000	2.0000e-005	0.0000	0.0763	0.0763	0.0000	0.0000	0.0764
Total	**5.0000e-005**	**4.0000e-005**	**3.7000e-004**	**0.0000**	**8.0000e-005**	**0.0000**	**8.0000e-005**	**2.0000e-005**	**0.0000**	**2.0000e-005**	**0.0000**	**0.0763**	**0.0763**	**0.0000**	**0.0000**	**0.0764**

3.5 Building Construction - 2018

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	0.0391	0.3971	0.2790	4.1000e-004		0.0255	0.0255		0.0235	0.0235	0.0000	37.4442	37.4442	0.0117	0.0000	37.7356
Total	**0.0391**	**0.3971**	**0.2790**	**4.1000e-004**		**0.0255**	**0.0255**		**0.0235**	**0.0235**	**0.0000**	**37.4442**	**37.4442**	**0.0117**	**0.0000**	**37.7356**

3.5 Building Construction - 2018

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	7.9000e-004	0.0203	4.3400e-003	4.0000e-005	9.5000e-004	1.7000e-004	1.1300e-003	2.8000e-004	1.6000e-004	4.4000e-004	0.0000	3.9546	3.9546	3.4000e-004	0.0000	3.9630
Worker	2.0500e-003	1.4800e-003	0.0148	3.0000e-005	3.1700e-003	2.0000e-005	3.1900e-003	8.4000e-004	2.0000e-005	8.6000e-004	0.0000	3.0229	3.0229	1.1000e-004	0.0000	3.0256
Total	**2.8400e-003**	**0.0218**	**0.0191**	**7.0000e-005**	**4.1200e-003**	**1.9000e-004**	**4.3200e-003**	**1.1200e-003**	**1.8000e-004**	**1.3000e-003**	**0.0000**	**6.9775**	**6.9775**	**4.5000e-004**	**0.0000**	**6.9886**

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	0.0391	0.3971	0.2790	4.1000e-004		0.0255	0.0255		0.0235	0.0235	0.0000	37.4442	37.4442	0.0117	0.0000	37.7356
Total	**0.0391**	**0.3971**	**0.2790**	**4.1000e-004**		**0.0255**	**0.0255**		**0.0235**	**0.0235**	**0.0000**	**37.4442**	**37.4442**	**0.0117**	**0.0000**	**37.7356**

3.5 Building Construction - 2018

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	7.9000e-004	0.0203	4.3400e-003	4.0000e-005	9.5000e-004	1.7000e-004	1.1300e-003	2.8000e-004	1.6000e-004	4.4000e-004	0.0000	3.9546	3.9546	3.4000e-004	0.0000	3.9630
Worker	2.0500e-003	1.4800e-003	0.0148	3.0000e-005	3.1700e-003	2.0000e-005	3.1900e-003	8.4000e-004	2.0000e-005	8.6000e-004	0.0000	3.0229	3.0229	1.1000e-004	0.0000	3.0256
Total	**2.8400e-003**	**0.0218**	**0.0191**	**7.0000e-005**	**4.1200e-003**	**1.9000e-004**	**4.3200e-003**	**1.1200e-003**	**1.8000e-004**	**1.3000e-003**	**0.0000**	**6.9775**	**6.9775**	**4.5000e-004**	**0.0000**	**6.9886**

3.5 Building Construction - 2019

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	0.0134	0.1375	0.1056	1.6000e-004		8.4800e-003	8.4800e-003		7.8000e-003	7.8000e-003	0.0000	14.3221	14.3221	4.5300e-003	0.0000	14.4354
Total	**0.0134**	**0.1375**	**0.1056**	**1.6000e-004**		**8.4800e-003**	**8.4800e-003**		**7.8000e-003**	**7.8000e-003**	**0.0000**	**14.3221**	**14.3221**	**4.5300e-003**	**0.0000**	**14.4354**

3.5 Building Construction - 2019

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	2.7000e-004	7.4700e-003	1.5000e-003	2.0000e-005	3.7000e-004	6.0000e-005	4.3000e-004	1.1000e-004	5.0000e-005	1.6000e-004	0.0000	1.5250	1.5250	1.3000e-004	0.0000	1.5282
Worker	7.2000e-004	5.0000e-004	5.0500e-003	1.0000e-005	1.2300e-003	1.0000e-005	1.2400e-003	3.3000e-004	1.0000e-005	3.4000e-004	0.0000	1.1409	1.1409	4.0000e-005	0.0000	1.1418
Total	**9.9000e-004**	**7.9700e-003**	**6.5500e-003**	**3.0000e-005**	**1.6000e-003**	**7.0000e-005**	**1.6700e-003**	**4.4000e-004**	**6.0000e-005**	**5.0000e-004**	**0.0000**	**2.6659**	**2.6659**	**1.7000e-004**	**0.0000**	**2.6700**

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	0.0134	0.1375	0.1056	1.6000e-004		8.4800e-003	8.4800e-003		7.8000e-003	7.8000e-003	0.0000	14.3221	14.3221	4.5300e-003	0.0000	14.4353
Total	**0.0134**	**0.1375**	**0.1056**	**1.6000e-004**		**8.4800e-003**	**8.4800e-003**		**7.8000e-003**	**7.8000e-003**	**0.0000**	**14.3221**	**14.3221**	**4.5300e-003**	**0.0000**	**14.4353**

3.5 Building Construction - 2019

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	2.7000e-004	7.4700e-003	1.5000e-003	2.0000e-005	3.7000e-004	6.0000e-005	4.3000e-004	1.1000e-004	5.0000e-005	1.6000e-004	0.0000	1.5250	1.5250	1.3000e-004	0.0000	1.5282
Worker	7.2000e-004	5.0000e-004	5.0500e-003	1.0000e-005	1.2300e-003	1.0000e-005	1.2400e-003	3.3000e-004	1.0000e-005	3.4000e-004	0.0000	1.1409	1.1409	4.0000e-005	0.0000	1.1418
Total	**9.9000e-004**	**7.9700e-003**	**6.5500e-003**	**3.0000e-005**	**1.6000e-003**	**7.0000e-005**	**1.6700e-003**	**4.4000e-004**	**6.0000e-005**	**5.0000e-004**	**0.0000**	**2.6659**	**2.6659**	**1.7000e-004**	**0.0000**	**2.6700**

3.6 Paving - 2019

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	2.0700e-003	0.0196	0.0179	3.0000e-005		1.1100e-003	1.1100e-003		1.0300e-003	1.0300e-003	0.0000	2.3931	2.3931	6.8000e-004	0.0000	2.4102
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**2.0700e-003**	**0.0196**	**0.0179**	**3.0000e-005**		**1.1100e-003**	**1.1100e-003**		**1.0300e-003**	**1.0300e-003**	**0.0000**	**2.3931**	**2.3931**	**6.8000e-004**	**0.0000**	**2.4102**

3.6 Paving - 2019

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	1.5000e-004	1.4800e-003	0.0000	3.6000e-004	0.0000	3.6000e-004	1.0000e-004	0.0000	1.0000e-004	0.0000	0.3334	0.3334	1.0000e-005	0.0000	0.3337
Total	**2.1000e-004**	**1.5000e-004**	**1.4800e-003**	**0.0000**	**3.6000e-004**	**0.0000**	**3.6000e-004**	**1.0000e-004**	**0.0000**	**1.0000e-004**	**0.0000**	**0.3334**	**0.3334**	**1.0000e-005**	**0.0000**	**0.3337**

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	2.0700e-003	0.0196	0.0179	3.0000e-005		1.1100e-003	1.1100e-003		1.0300e-003	1.0300e-003	0.0000	2.3931	2.3931	6.8000e-004	0.0000	2.4102
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**2.0700e-003**	**0.0196**	**0.0179**	**3.0000e-005**		**1.1100e-003**	**1.1100e-003**		**1.0300e-003**	**1.0300e-003**	**0.0000**	**2.3931**	**2.3931**	**6.8000e-004**	**0.0000**	**2.4102**

3.6 Paving - 2019

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	1.5000e-004	1.4800e-003	0.0000	3.6000e-004	0.0000	3.6000e-004	1.0000e-004	0.0000	1.0000e-004	0.0000	0.3334	0.3334	1.0000e-005	0.0000	0.3337
Total	**2.1000e-004**	**1.5000e-004**	**1.4800e-003**	**0.0000**	**3.6000e-004**	**0.0000**	**3.6000e-004**	**1.0000e-004**	**0.0000**	**1.0000e-004**	**0.0000**	**0.3334**	**0.3334**	**1.0000e-005**	**0.0000**	**0.3337**

3.7 Architectural Coating - 2019

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	0.1808					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	6.7000e-004	4.5900e-003	4.6000e-003	1.0000e-005		3.2000e-004	3.2000e-004		3.2000e-004	3.2000e-004	0.0000	0.6383	0.6383	5.0000e-005	0.0000	0.6397
Total	**0.1814**	**4.5900e-003**	**4.6000e-003**	**1.0000e-005**		**3.2000e-004**	**3.2000e-004**		**3.2000e-004**	**3.2000e-004**	**0.0000**	**0.6383**	**0.6383**	**5.0000e-005**	**0.0000**	**0.6397**

3.7 Architectural Coating - 2019

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	2.0000e-005	2.0000e-005	1.6000e-004	0.0000	4.0000e-005	0.0000	4.0000e-005	1.0000e-005	0.0000	1.0000e-005	0.0000	0.0370	0.0370	0.0000	0.0000	0.0371
Total	**2.0000e-005**	**2.0000e-005**	**1.6000e-004**	**0.0000**	**4.0000e-005**	**0.0000**	**4.0000e-005**	**1.0000e-005**	**0.0000**	**1.0000e-005**	**0.0000**	**0.0370**	**0.0370**	**0.0000**	**0.0000**	**0.0371**

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	0.1808					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	6.7000e-004	4.5900e-003	4.6000e-003	1.0000e-005		3.2000e-004	3.2000e-004		3.2000e-004	3.2000e-004	0.0000	0.6383	0.6383	5.0000e-005	0.0000	0.6397
Total	**0.1814**	**4.5900e-003**	**4.6000e-003**	**1.0000e-005**		**3.2000e-004**	**3.2000e-004**		**3.2000e-004**	**3.2000e-004**	**0.0000**	**0.6383**	**0.6383**	**5.0000e-005**	**0.0000**	**0.6397**

3.7 Architectural Coating - 2019

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	2.0000e-005	2.0000e-005	1.6000e-004	0.0000	4.0000e-005	0.0000	4.0000e-005	1.0000e-005	0.0000	1.0000e-005	0.0000	0.0370	0.0370	0.0000	0.0000	0.0371
Total	**2.0000e-005**	**2.0000e-005**	**1.6000e-004**	**0.0000**	**4.0000e-005**	**0.0000**	**4.0000e-005**	**1.0000e-005**	**0.0000**	**1.0000e-005**	**0.0000**	**0.0370**	**0.0370**	**0.0000**	**0.0000**	**0.0371**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	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	0.0689	0.6694	0.7299	2.7000e-003	0.1525	3.9000e-003	0.1564	0.0410	3.7000e-003	0.0447	0.0000	249.6657	249.6657	0.0179	0.0000	250.1120
Unmitigated	0.0689	0.6694	0.7299	2.7000e-003	0.1525	3.9000e-003	0.1564	0.0410	3.7000e-003	0.0447	0.0000	249.6657	249.6657	0.0179	0.0000	250.1120

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
General Light Industry	181.22	34.32	17.68	399,598	399,598
Total	181.22	34.32	17.68	399,598	399,598

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

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
General Light Industry	0.484516	0.035729	0.166587	0.144029	0.025369	0.006424	0.021435	0.104648	0.001808	0.001854	0.005594	0.001028	0.000979

5.0 Energy Detail

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	2.9300e-003	0.0266	0.0223	1.6000e-004		2.0200e-003	2.0200e-003		2.0200e-003	2.0200e-003	0.0000	28.9563	28.9563	5.5000e-004	5.3000e-004	29.1283
NaturalGas Unmitigated	2.9300e-003	0.0266	0.0223	1.6000e-004		2.0200e-003	2.0200e-003		2.0200e-003	2.0200e-003	0.0000	28.9563	28.9563	5.5000e-004	5.3000e-004	29.1283

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	542620	2.9300e-003	0.0266	0.0223	1.6000e-004		2.0200e-003	2.0200e-003		2.0200e-003	2.0200e-003	0.0000	28.9563	28.9563	5.5000e-004	5.3000e-004	29.1283
Total		**2.9300e-003**	**0.0266**	**0.0223**	**1.6000e-004**		**2.0200e-003**	**2.0200e-003**		**2.0200e-003**	**2.0200e-003**	**0.0000**	**28.9563**	**28.9563**	**5.5000e-004**	**5.3000e-004**	**29.1283**

5.2 Energy by Land Use - NaturalGas

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	542620	2.9300e-003	0.0266	0.0223	1.6000e-004		2.0200e-003	2.0200e-003		2.0200e-003	2.0200e-003	0.0000	28.9563	28.9563	5.5000e-004	5.3000e-004	29.1283
Total		**2.9300e-003**	**0.0266**	**0.0223**	**1.6000e-004**		**2.0200e-003**	**2.0200e-003**		**2.0200e-003**	**2.0200e-003**	**0.0000**	**28.9563**	**28.9563**	**5.5000e-004**	**5.3000e-004**	**29.1283**

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
General Light Industry	229320	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

5.3 Energy by Land Use - Electricity

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
General Light Industry	229320	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

	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	0.1196	0.0000	2.4000e-004	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	4.6000e-004	4.6000e-004	0.0000	0.0000	5.0000e-004
Unmitigated	0.1196	0.0000	2.4000e-004	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	4.6000e-004	4.6000e-004	0.0000	0.0000	5.0000e-004

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	0.0181					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.1015					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	2.0000e-005	0.0000	2.4000e-004	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	4.6000e-004	4.6000e-004	0.0000	0.0000	5.0000e-004
Total	**0.1196**	**0.0000**	**2.4000e-004**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**4.6000e-004**	**4.6000e-004**	**0.0000**	**0.0000**	**5.0000e-004**

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	0.0181					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.1015					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	2.0000e-005	0.0000	2.4000e-004	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	4.6000e-004	4.6000e-004	0.0000	0.0000	5.0000e-004
Total	**0.1196**	**0.0000**	**2.4000e-004**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**4.6000e-004**	**4.6000e-004**	**0.0000**	**0.0000**	**5.0000e-004**

7.0 Water Detail

7.1 Mitigation Measures Water

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	1.9075	0.1959	4.6300e-003	8.1840
Unmitigated	1.9075	0.1959	4.6300e-003	8.1840

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
General Light Industry	6.0125 / 0	1.9075	0.1959	4.6300e-003	8.1840
Total		**1.9075**	**0.1959**	**4.6300e-003**	**8.1840**

7.2 Water by Land Use

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
General Light Industry	6.0125 / 0	1.9075	0.1959	4.6300e-003	8.1840
Total		**1.9075**	**0.1959**	**4.6300e-003**	**8.1840**

8.0 Waste Detail

8.1 Mitigation Measures Waste

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	6.5444	0.3868	0.0000	16.2135
Unmitigated	6.5444	0.3868	0.0000	16.2135

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
General Light Industry	32.24	6.5444	0.3868	0.0000	16.2135
Total		**6.5444**	**0.3868**	**0.0000**	**16.2135**

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
General Light Industry	32.24	6.5444	0.3868	0.0000	16.2135
Total		**6.5444**	**0.3868**	**0.0000**	**16.2135**

9.0 Operational Offroad

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

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

Sumner Hill Water Systems Improvement Project

Madera County, California

PREPARED FOR:

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Executive Summary

The Madera County Public Works Department (County) proposes to improve its water infrastructure for the Sumner Hill residential community. Water for Sumner Hill is exclusively supplied by the San Joaquin River, downstream of the Friant Dam. The proposed project will involve replacing much of the existing surface water treatment plant (SWTP) infrastructure. Proposed improvements to the SWTP include replacing the existing treatment filters with two 175-gallon-per-minute packaged water treatment systems, replacing one storage tank, increasing the capacity of one storage tank, installing two backwash reclamation tanks, and installing a solids handling system. Additional improvements to the SWTP include relocating the chlorine injection point, installing internal flow baffles in one storage tank, installing a corrosion inhibitor chemical feed system, installing a Supervisory Control and Data Acquisition system, and upgrading the treated water booster pump station. The purpose of this project is to improve existing water supply infrastructure and provide a reliable and safe drinking water supply for the community of Sumner Hill.

The County will obtain funding of the project from the Drinking Water State Revolving Fund (DWSRF). The DWSRF is a state and federal partnership that helps ensure safe drinking water. It is administered by the State of California and partially funded by the United States Environmental Protection Agency. Consequently, the project must not only meet environmental documentation and review requirements under the California Environmental Quality Act (CEQA) but must meet such requirements with respect to certain federal laws and regulations as well. This state and federal review process is known as CEQA-Plus.

To evaluate whether the project may affect biological resources under CEQA-Plus purview, we (1) obtained official lists from the United States Fish and Wildlife Service, California Department of Fish and Wildlife, and California Native Plant Society of special-status species and designated and proposed critical habitat; (2) reviewed other relevant background information such as aerial images and topographic maps; and (3) conducted a field reconnaissance survey of 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. We concluded the project will have no effect on regulated habitats but could affect the state-listed as threatened Swainson's hawk (*Buteo swainsoni*) and three California Species of Special Concern, the burrowing owl (*Athene cunicularia*), American badger (*Taxidea taxus*), and pallid bat (*Antrozous* pallidus), but these effects 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
CEQA	California Environmental Quality Act
CESA	California Endangered Species Act
CFR	Code of Federal Regulations
CNDDB	California Natural Diversity Data Base
CNPS	California Native Plant Society
CRPR	California Rare Plant Rank
CSA	County Service Area
DWSRF	Drinking Water State Revolving Fund
EFH	Essential Fish Habitat
EPA	Environmental Protection Agency
FE	Federally listed as Endangered
FEMA	Federal Emergency Management Agency
FESA	Federal Endangered Species Act
FP	Fully Protected
FT	Federally listed as Threatened
GPM	Gallons Per Minute
MCL	Maximum Contaminant Level
NMFS	National Marine Fisheries Service
SC	State Candidate for listing
SE	State-listed as Endangered
SSSC	State Species of Special Concern
ST	State-listed as Threatened
SWRCB	State Water Resources Control Board
SWTP	Supply Water Treatment Plant
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 County proposes to improve water infrastructure at the residential community of Sumner Hill by replacing and upgrading surface water treatment plant (SWTP) infrastructure. The County will obtain financing for this water infrastructure improvements project (Project) from the Drinking Water State Revolving Fund (DWSRF). Because the DWSRF is partially funded by the Environmental Protection Agency (EPA), the project will constitute a federal action. Consequently, the environmental review for the Project must meet not only state requirements under the California Environmental Quality Act (CEQA) but some federal requirements as well. To comply with applicable federal statutes and authorities, the EPA established specific "CEQA-Plus" requirements in its operating agreement with the State Water Resources Control Board (SWRCB), which administers the DWSRF program.

The purpose of this biological resource evaluation is to assess whether the Project will affect state- or federally protected resources pursuant to CEQA-Plus 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) 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

This Project will involve improving most of the County Service Area (CSA) Number 16 (CSA-16) SWTP infrastructure. Improvements include replacing existing treatment filters with two 175-Gallon Per Minute (GPM) packaged water systems, replacing storage Tank Number 1 with a new tank, increasing the capacity of Tank Number 2 to 135,000 gallons, and installing a solids handling system and two backwash reclaim tanks. Additional improvements include relocating the chlorine injection point, installing internal flow baffles in storage Tank Number 2, installing a corrosion inhibitor chemical feed system, installing a Supervisory Control and Data Acquisition system, and upgrading the treated water booster pump station. These improvements will help the County reliably supply the maximum daily demand of 218 GPM, meet required flows for fire protection, and comply with water quality standards established by the SWRCB.

1.3 Project Location

The Project site is within the Sumner Hill residential community, approximately 2.3 miles east of the intersection of Highway 41 and Road 204 and about 4 miles southwest of Millerton Reservoir in south-central Madera County, California (Figure 1). The 0.23-acre SWTP is about 85 feet north of the intersection of Killarney Drive and Killkelly Road at an elevation of about 548 feet above mean sea level. Improvements to the SWTP will occur within and immediately northeast of the existing SWTP in an approximately 1700-square-foot expansion area (Figure 2).

Figure 1. Site vicinity map.

Figure 2. Project site map.

1.4 Purpose and Need of Proposed Project

The purpose of the Project is to upgrade the CSA-16 water supply facilities at Sumner Hill to meet long-term maximum daily demands (MDD) and to decrease the concentration of trihalomethanes and haloacetic acids to below the maximum contaminate levels (MCL). These chemicals are formed as a byproduct when chlorine reacts with organic matter during the treatment of drinking water. The Project is needed to replace deteriorating equipment, increase potable water supply, and meet statewide drinking water standards established by the SWRCB Division of Drinking Water.

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 Field Scientist Tariq Baseer from the United States Fish and Wildlife Service (USFWS) website (https://ecos.fws.gov/ipac/) on 13 February 2019 (Appendix A).

1.6 Regulatory Framework

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

1.6.1 Federal Requirements

Federal Endangered Species Act. The 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 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 project within its jurisdiction must determine whether any federally listed species may be present on the project site and determine whether the proposed project may affect such species. Under the FESA, habitat loss is an impact to a species. In addition, the agency is required to determine whether the project is likely to jeopardize the continued existence of any species that is listed or proposed for listing under the FESA or result in the destruction or adverse modification of critical habitat proposed or designated for such species (16 United States Code [USC] § 1536[3], [4]). Therefore, project-related impacts to these species or their habitats would be considered significant and would require mitigation.

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 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 2003).

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 United States Army Corps of Engineers (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). Ditches and drainage canals where water flows intermittently or ephemerally are not regulated as waters of the United States. 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 State Water Resources Control Board 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 USC § 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.

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 USC Chapter 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 impact that reduces the quality or quantity of EFH. Federal activities that occur outside of EFH, but which may have an impact on 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.

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 impacts associated with occupying and modifying flood plains and to avoid direct and indirect support of developing floodplains wherever there is a practicable alternative.

1.6.2 State Requirements

California Endangered Species Act. The California Endangered Species Act (CESA) of 1970 (Fish and Game Code § 2050 et seq., and 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 2019). 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, 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.

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.

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 2019, Appendix A). In addition, we searched the California Natural Diversity Data Base (CNDDB, CDFW 2019) and the CNPS Inventory of Rare and Endangered Plants (CNPS 2019) for records of special-status plant and animal species in the Project area. Regional lists of special-status species were compiled using USFWS, CNDDB, and CNPS database searches confined to the Lanes Bridge 7.5-minute United States Geological Survey (USGS) topographic quad, which encompasses the Project site, and the eight surrounding quads (Friant, Little Table Mountain, Millerton Lake West, Millerton Lake East, Academy, Fresno North, Clovis, and Round Mountain). Local lists of special-status species were compiled using CNDDB records from within 5 miles of the Project site. Species that lack a special-status designation by state or federal regulatory agencies or other groups were omitted from the final list. Species for which the Project site does not provide suitable habitat were eliminated from further consideration. We also reviewed aerial imagery from Google Earth (Google 2019) and other sources, USGS topographic maps, the Web Soil Survey (NRCS 2019), and relevant literature.

2.2 Reconnaissance Survey

Colibri scientists Howard Clark and Tariq Baseer conducted a field reconnaissance survey of the Project site on 14 February 2019. The Project site and a 50-foot buffer surrounding the Project site were walked and thoroughly inspected to evaluate and document the potential for the site to support federally or state-protected resources. The survey area also included a 0.5-mile buffer around the Project site to evaluate the potential occurrence of nesting special-status raptors (Figure 3). All plants except ornamentals and all animals (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).

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 impact to habitat, (5) abundance and distribution of 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 migratory birds included the potential for the Project to result in (1) mortality of migratory birds or (2) loss of migratory bird 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 impact 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
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 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 federally protected wetlands as defined by Section 404 of the Clean Water Act (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.

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 3. Reconnaissance survey area map.

3.0 Results

3.1 Desktop Review

The official species list for the Project site (USFWS 2019, Table 1, Appendix A) includes 20 species listed as threatened or endangered under the FESA. Those species include the threatened California jewelflower (*Caulanthus californicus*), the endangered Greene's tuctoria (*Tuctoria greenei*), the endangered hairy orcutt grass (*Orcuttia pilosa*), the endangered Hartweg's golden sunburst (*Pseudobahia bahiifolia*), the threatened San Joaquin adobe sunburst (*Pseudobahia peirsonii*), the threatened San Joaquin valley orcutt grass (*Orcuttia inaequalis*), the threatened succulent owl's clover (*Castilleja campestris* ssp. *succulenta*), the threatened delta smelt (*Hypomesus transpacificus*), the endangered conservancy fairy shrimp (*Branchinecta conservatio*), the threatened valley elderberry longhorn beetle (*Desmocerus californicus dimophus*), the endangered vernal pool tadpole shrimp (*Lepidurus packardi*), the threatened vernal pool fairy shrimp (*Branchinecta lynchi*), the endangered blunt-nosed leopard lizard (*Gambelia sila*), the threatened California red-legged frog (*Rana draytonii*), the threatened California tiger salamander (*Ambystoma californiense*), the threatened giant garter snake (*Thamnophis gigas*), the endangered least Bell's vireo (*Vireo bellii pusillus),* the threatened western yellow-billed cuckoo (*Coccyzus americanus occidentalis*), the endangered Fresno kangaroo rat (*Dipodomys nitratoides exilis*), and the endangered San Joaquin kit fox (*Vulpes macrotis mutica*). None of the species mentioned above could occur on or near the Project site due to either a lack of habitat, the Project site being outside the current range of the species, or the presence of development that would otherwise preclude occurrence (Table 1). As identified in the official species list (USFWS 2019b, Appendix A), the Project site occurs in USFWS-designated Critical Habitat for the threatened succulent owl's clover. However, no impacts are expected because the Project will not affect vernal pools (Table 1).

Searching the CNDDB (CDFW 2019) for records of special-status species from within the Lanes Bridge 7.5-minute USGS topographic quad and the eight surrounding quads produced 395 records of 63 species (Table 1, Appendix B). Of those species, 25 are known from within 5 miles of the Project site (Table 1, Figure 4). The non-federally listed special-status species known from within 5 miles of the Project site include dwarf downingia (*Downingia pusilla* – California Rare Plant Rank (CRPR) 2B.2), Hoover's calycadenia (*Calycadenia hooveri* – CRPR 1B.3), Madera leptosiphon (*Leptosiphon serrulatus* – CRPR 1B.2), Sanford's arrowhead (*Sagittaria sanfordii* – CRPR 1B.2), spiny-sepaled button-celery (*Eyngium spinosepalum* – CRPR 1B.2), hardhead (*Mylopharodon conocephalus* – State Species of Special Concern (SSSC)), western pond turtle (*Actinemys marmorata* – SSSC), western spadefoot (*Spea hammondii* – SSSC), burrowing owl (*Athene cunicularia* – SSSC), Swainson's hawk (*Buteo swainsoni* – State-listed as Threatened (ST)), tricolored blackbird (*Agelaius tricolor* – ST), spotted bat (*Euderma maculatum* – SSSC), and western mastiff bat (*Eumops perotis californicus* – SSSC). Of those species, Swainson's hawk and burrowing owl could occur near the Project site (Table 1). In addition, American badger (*Taxidea*

taxus – SSSC) and pallid bat (*Antrozous pallidus* – SSSC), which were also identified in the 9-quad search, have a low potential to occur on or near the Project site (Table 1).

Searching the CNPS inventory of rare and endangered plants of California yielded 26 species (CNPS 2018, Appendix C), 16 of which have of a CRPR of 1B (Table 1). None of those species are expected to occur on or near the Project site due to a lack of habitat or a lack of observed records within 5 miles (Table 1).

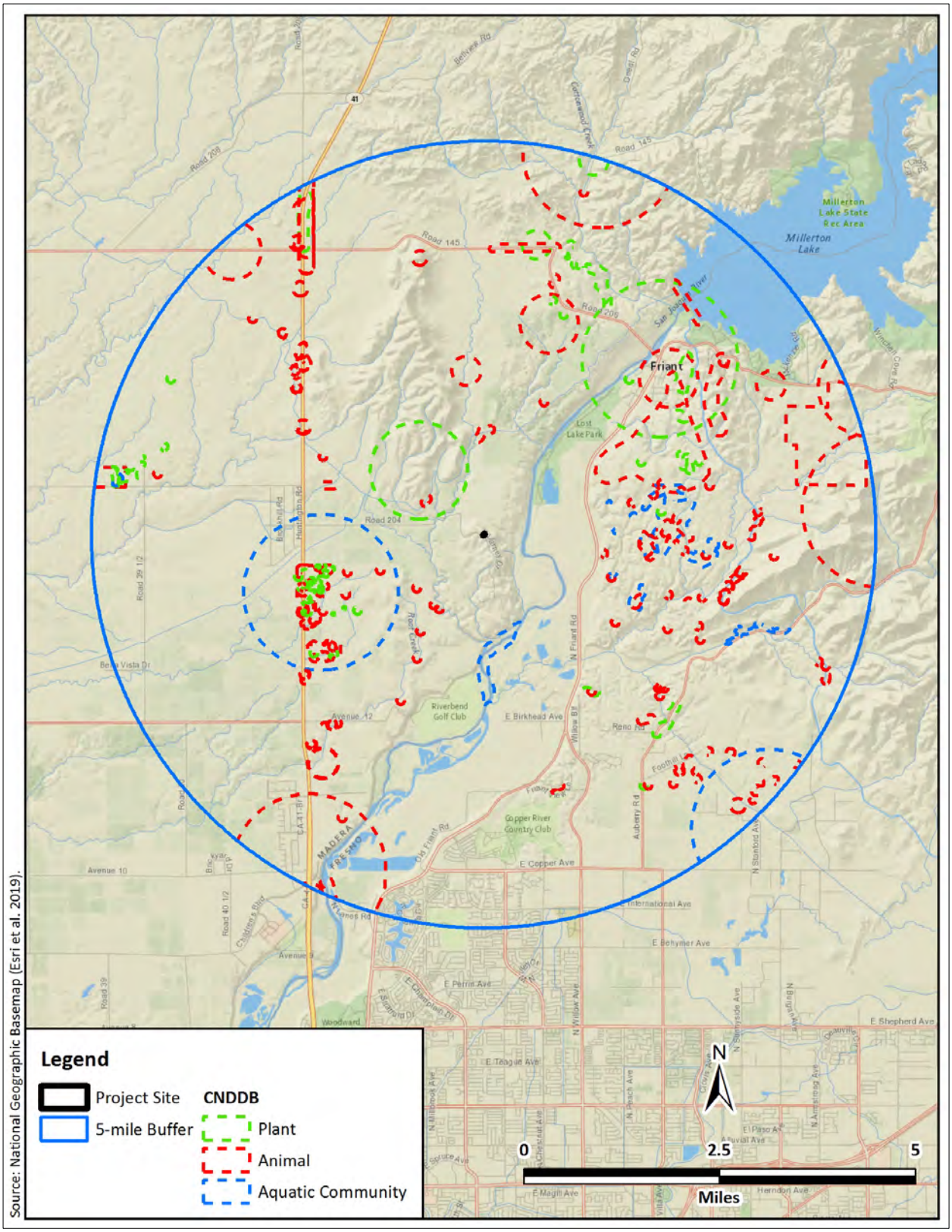

Figure 4. CNDDB occurrence map.

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			
Boggs Lake hedge-hyssop (*Gratiola heterosepala*)	SE, 1B.2	Vernal pools and lake margins with clay soils.	**None.** Habitat lacking; no vernal pools found near the Project site; no records from within 5 miles.
California jewelflower (*Caulanthus californicus*)	FE, SE, 1B.1	Chenopod scrub, valley and foothill grassland, and pinyon and juniper woodland at 200–3500 feet elevation.	**None.** No records from within 5 miles.
Succulent owl's clover (*Castilleja campestris* ssp. *succulenta*)	FT, SE 1B.2	Vernal pools with heavy clay soils; elevations lower than 2500 feet.	**None.** Habitat lacking; no vernal pools found near the Project site.
Greene's tuctoria (*Tuctoria greenei*)	FE, 1B.1	Vernal pools in open grasslands at elevations below 3500 feet.	**None.** Habitat lacking; no vernal pools found near the Project site; no records from within 5 miles.
Hairy Orcutt grass (*Orcuttia pilosa*)	FE, SE, 1B.1	Vernal pools below 650 feet elevation.	**None.** Habitat lacking; no vernal pools found near the Project site.
Hartweg's golden sunburst (*Pseudobahia bahiifolia*)	FE, SE, 1B.1	Grassland and oak woodland with clay soils at 300–700 feet elevation.	**None.** Although four extant CNDDB records are known from within 5 miles, the Project site does not support the clay soils this species requires.
San Joaquin adobe sunburst (*Pseudobahia peirsonii*)	FT, SE, 1B.1	Cismontane woodland and valley and foothill grassland at 300–3000 feet elevation.	**None.** No records from within 5 miles.
San Joaquin Valley Orcutt grass (*Orcuttia inaequalis*)	FT, SE, 1B.1	Vernal pools and wetlands below 2700 feet elevation.	**None.** Habitat lacking; no records from within 5 miles.
Tree-anemone (*Carpenteria californica*)	ST, 1B.2	Localized endemic; well-drained granitic soils in north-facing	**None.** Habitat lacking; no records from within 5 miles.

Species	Status[1]	Habitat	Potential to Occur[2]
		ravines and drainages within montane woodland and chaparral; 1100-4400 feet elevation.	
Conservancy fairy shrimp (*Branchinecta conservatio*)	FE	Vernal pools and depressions.	**None.** Habitat lacking; no records from within 5 miles.
Valley elderberry longhorn beetle (*Desmocerus californicus dimorphus*)	FT	Elderberry (*Sambucus* sp.) plants having basal stem diameter greater than 1" at ground level.	**None.** Habitat lacking (no elderberry plants found in survey area) and outside current known range.
Vernal pool fairy shrimp (*Branchinecta lynchi*)	FT	Vernal pools; some artificial depressions, stock ponds, vernal swales, ephemeral drainages, and seasonal wetlands.	**None.** Habitat lacking; although numerous extant records are known from within 5 miles, no vernal pools or seasonal wetlands were found near the Project site.
Vernal pool tadpole shrimp (*Lepidurus packardi*)	FE	Vernal pools, clay flats, alkaline pools, and ephemeral stock tanks.	**None.** Habitat lacking; no records from within 5 miles.
Delta smelt (*Hypomesus transpacificus*)	FT, SE	River channels and tidally influenced sloughs.	**None.** Habitat lacking; no records from within 5 miles.
Blunt-nosed leopard lizard (*Gambelia sila*)	FE, SE, FP	Upland scrub and sparsely vegetated grassland with small mammal burrows.	**None.** Habitat lacking; no records from within 5 miles.
California red-legged frog (*Rana draytonii*)	FT, SSSC	Creeks, ponds, and marshes for breeding; burrows for upland refuge.	**None.** Habitat lacking; no records from within 5 miles.
California tiger salamander (*Amystoma californiense*)	FT, ST	Vernal pools or other seasonal water sources for breeding; underground refuges for non-breeding.	**None.** Breeding habitat could be present within the known dispersal distance of the species. However, agricultural and urban develop likely present substantial

Species	Status[1]	Habitat	Potential to Occur[2]
			impediments to dispersal. Therefore, any potential for the species to occupy any of the few ground squirrel burrows near the Project site is negligible.
Foothill yellow-legged frog (*Rana boylii*)	SCT	Rocky streams and rivers with rocky substrates; open, sunny banks in forests, chaparral, and woodlands.	**None.** Habitat lacking; no records from within 5 miles.
Giant garter snake (*Thamnophis gigas*)	FT, ST	Marshes, sloughs, ponds, or other permanent sources of water with emergent vegetation, and grassy banks or open areas during active season; uplands with underground refuges or crevices during inactive season.	**None.** Habitat lacking; no records from within 5 miles.
Least Bell's vireo (*Vireo bellii pusillus*)	FE, SE	Willow riparian forest supporting a dense, shrubby understory.	**None.** Habitat lacking; no records from within 5 miles.
Swainson's hawk (*Buteo swainsoni*)	ST	Large trees for nesting with adjacent grasslands, wild prairie, or grain fields for foraging.	**Low.** Potential nest trees were found in the survey area; foraging habitat is limited in the survey area but abundant within about 1 mile of the Project site.
Tricolored blackbird (*Agelaius tricolor*)	ST	Freshwater emergent vegetation or prickly or spiny terrestrial vegetation for nesting; freshwater emergent wetlands, agricultural fields, irrigated pastures, grassland, and cattle feedlots for foraging.	**None.** Nesting habitat lacking.

Species	Status[1]	Habitat	Potential to Occur[2]
Western yellow-billed cuckoo (*Coccyzus americanus occidentalis*)	FT, SE	Dense riparian forest.	**None.** Habitat lacking; the single CNDDB record from within 5 miles is thought to be extirpated.
Fresno kangaroo rat (*Dipodomys nitratoides exilis*)	FE, SE	Sandy, alkaline, saline, and clay soils in upland scrub and grassland.	**None.** Habitat lacking; no records from within 5 miles.
San Joaquin kit fox (*Vulpes macrotis mutica*)	FE, ST	Grassland and upland scrub.	**None.** Project site is outside current known range.
Sierra Nevada red fox (*Vulpes vulpes necator*)	ST	High elevation open conifer woodland and mountain meadows near treeline.	**None.** Habitat lacking; no suitable land cover types; no records from within 5 miles.
State Species of Special Concern			
Hardhead (*Mylopharodon conocephalus*)	SSSC	Undisturbed areas of larger streams with high water quality.	**None.** Habitat lacking; no impacts to aquatic habitat are anticipated.
California glossy snake (*Arizona elegans occidentalis*)	SSSC	Arid scrub, rocky washes, grasslands, and chaparral.	**None.** No records from within 5 miles.
Coast horned lizard (*Phrynosoma blainvillii*)	SSSC	Open, generally sandy areas, washes, and flood plains in a variety of habitats.	**None.** Habitat lacking; no records from within 5 miles.
Northern California legless lizard (*Anniella pulchra*)	SSSC	Moist warm loose soil in sparsely vegetated areas of beach dunes, chaparral, pine-oak woodlands, desert scrub, and sandy wash.	**None.** Habitat lacking; no suitable land cover types found in the survey area; no records from within 5 miles.
Northwestern pond turtle (*Actinemys marmorata*)	SSSC	Ponds, rivers, marshes, streams, and irrigation ditches, usually with aquatic vegetation. Basking sites and suitable upland areas for egg laying.	**None.** Habitat lacking

Species	Status[1]	Habitat	Potential to Occur[2]
Western spadefoot (*Spea hammondii*)	SSSC	Rain pools for breeding; nearby areas with sandy gravelly soils for upland cover.	**None.** Habitat lacking; no rain pools found in the survey area.
Burrowing owl (*Athene cunicularia*)	SSSC	Grassland and upland scrub with friable soil; some agricultural or other developed and disturbed areas with ground squirrel burrows.	**Low.** No suitably sized ground squirrel burrows were found in the survey area, and suitable foraging habitat is limited due to surrounding agricultural and residential development.
American badger (*Taxidea taxus*)	SSSC	Variable. Open, dry grassland and coniferous forests, farms, meadows, marshes, desert.	**Low.** Although there are no records from within 5 miles, this species could occur in grasslands east of the Project site.
Pallid bat (*Antrozous pallidus*)	SSSC	Arid or semi-arid locations in rocky mountainous areas and sparsely vegetated grassland near water.	**Low.** Although there are no records from within 5 miles of the Project site, this species could roost in the rocky outcrop just east of the Project site and forage nearby.
Spotted bat (*Euderma maculatum*)	SSSC	Rock crevices, caves, and buildings for roosting; forages over waterbodies.	**None.** Habitat lacking; no suitable roosting sites.
Western mastiff bat (*Eumops perotis californicus*)	SSSC	Prefers open, arid areas with high cliffs; open forests, woodlands, and grasslands for foraging.	**None.** Habitat lacking; no high cliffs within survey area.
California Rare Plants			
Adobe navarretia (*Navarretia nigelliformis* ssp. *nigelliformis*)	4.2	Vernal pools with clay soils at 30–3000 feet elevation.	**None.** Habitat lacking; no records from within 5 miles.
Brassy bryum (*Bryum chryseum*)	4.3	Chaparral, Cismontane woodland, and valley and foothill grassland	**None.** No records from within 5 miles.

Species	Status[1]	Habitat	Potential to Occur[2]
		at 650–2700 feet elevation.	
California satintail (*Imperata brevifolia*)	2B.1	Wet springs, meadows, streambanks, and floodplains below 1700 feet elevation.	**None.** Habitat lacking; no springs, meadows, streambanks, or floodplains near the Project site.
Caper-fruited tropidocarpum (*Tropidocarpum capparideum*)	1B.1	Grassland below 1300 feet elevation.	**None.** No records from within 5 miles.
Dwarf downingia (*Downingia pusilla*)	2B.2	Vernal pools in valley and foothill grassland near 500 feet elevation.	**None.** Habitat lacking; no vernal pools found near the Project site.
Ewan's larkspur (*Delphinium hansenii* ssp. *ewanianum*)	4.2	Cismontane woodland and valley and foothill grassland at 200–2000 feet elevation.	**None.** No records from within 5 miles.
Forked hare-leaf (*Lagophylla dichotoma*)	1B.1	Grassland and woodland openings at 150–1500 feet elevation.	**None.** No records from within 5 miles.
Hoover's calycadenia (*Calycadenia hooveri*)	1B.3	Rocky, exposed areas in grassland and oak savannah at 350–1600 feet elevation.	**None.** No records from within 5 miles.
Hoover's cryptantha (*Cryptantha hooveri*)	1A	Grassland and inland dunes with coarse sandy soils at 30–500 feet elevation.	**None.** Presumed extirpated.
Kings River monkeyflower (*Erythranthe acutidens*)	3	Cismontane woodland and lower montane conifer forest at 650–6500 feet elevation.	**None.** Habitat lacking; no suitable land cover types; no records from within 5 miles.
Madera leptosiphon (*Leptosiphon serrulatus*)	1B.2	Woodland and chaparral openings at 980–4300 feet elevation.	**None.** Habitat lacking; no suitable land cover types.
Orange lupine	1B.2	Granitic soils in open yellow-pine forest at	**None.** Habitat lacking; no suitable land cover types;

Species	Status[1]	Habitat	Potential to Occur[2]
(*Lupinus citrinus* var. *citrinus*)		2000–5600 feet elevation.	below known elevation range; no records from within 5 miles.
Sanford's arrowhead (*Sagittaria sanfordii*)	1B.2	Freshwater marsh and wetlands below 1000 feet elevation.	**None.** Habitat lacking; no wetlands found near Project site.
Sierra Nevada monkeyflower (*Erythranthe sierrae*)	4.2	Granitic soils in vernally wet depressions and along edges of creeks at 650–6900 feet elevation.	**None.** Habitat lacking; no suitable land cover types; no records from within 5 miles.
Spiny-sepaled button-celery (*Eryngium spinosepalum*)	1B.2	Vernal pools, swales, and roadside ditches at 330–4200 feet elevation.	**None.** Habitat lacking; no vernal pools, swales, or ditches found near Project site.
Streambank spring beauty (*Claytonia parviflora* ssp. *grandiflora*)	4.2	Rocky cismontane woodland at 500–4000 feet elevation.	**None.** Habitat lacking; no suitable land cover types; no records from within 5 miles.
Wine-colored tufa moss (*Plagiobryoides vinosula*)	4.2	Granitic rocky soil along seeps and streams in cismontane woodland, pinyon and juniper woodland, and riparian woodland at 100–5700 feet elevation.	**None.** Habitat lacking; no suitable land cover types; no records from within 5 miles.

CDFW (2019), CNPS (2019), USFWS (2019b).

Status[1]

CNDDB = Recognized by the CNDDB, other state or federal agencies, or conservation groups as rare or imperiled.

FE = Federally listed Endangered

FT = Federally listed Threatened

FP = Fully Protected

SCT = State Candidate for listing as Threatened

SE = State-listed Endangered

ST = State-listed Threatened

SSSC = State Species of Special Concern

Potential to Occur[2]

None: Species or sign not observed; conditions unsuitable for occurrence.

Low: Neither species nor sign observed; conditions marginal for occurrence.

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

3.2 Reconnaissance Survey

3.2.1 Land Use and Habitats

The Project site consists of the existing 0.23-acre developed, graveled, and fenced SWTP and an approximately 1700-square-foot expansion area of rocky grassland at the top of a bluff immediately northeast of the existing SWTP (Figures 2, 5, and 6). The Project site is bordered by rural residential development to the northwest, west, south, and southeast with agriculture beyond and to the east and northeast by grassland with agriculture beyond. The San Joaquin River is about 0.5 miles east of the site. The Project site is underlain by Hornitos gravelly sandy loam, 8 to 30 percent slopes (NRCS 2019).

Figure 5. Photograph showing the fenced SWTP surrounded by residential development.

Figure 6. Photograph showing the existing SWTP and a portion of the expansion area (right).

3.2.2 Plant and Animal Species Observed

A total of 26 plant species (10 native and 16 nonnative) were found during the reconnaissance survey (Table 2). Three bird species and three mammal species were also detected (Table 2).

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

Common Name	Scientific Name	Status
Plants		
Family Agavaceae		
Soap plant	*Chlorogalum pomeridianum*	Native
Family Asteraceae		
Bull thistle	*Cirsium vulgare*	Nonnative
Common groundsel	*Senecio vulgaris*	Nonnative
Common sow thistle	*Sonchus oleraceus*	Nonnative
Prickly lettuce	*Lactuca serriola*	Nonnative
Family Brassicaceae		
Black mustard	*Brassica nigra*	Nonnative
Shepherd's purse	*Capsella bursa-pastoris*	Nonnative
Family Boraginaceae		
Caterpillar phacelia	*Phacelia cicutaria*	Native
Menzie's fiddleneck	*Amsinckia menziesii*	Native
Rusty popcorn flower	*Plagiobothrys nothofulvus*	Native
Family Fabaceae		
Bur clover	*Medicago polymorpha*	Nonnative
San Joaquin milk vetch	*Astragalus asymmetricus*	Native
White clover	*Trifolium repens*	Nonnative
Family Geraniaceae		
Redstem stork's bill	*Erodium cicutarium*	Nonnative
Crane's bill geranium	*Geranium molle*	Nonnative
Family Lamiaceae		
Giraffe head	*Lamium amplexicaule*	Nonnative
White horehound	*Marrubium vulgare*	Nonnative
Family Montiaceae		
Miner's lettuce	*Claytonia perfoliate*	Native
Red maids	*Calandrinia menziesii*	Native
Family Poaceae		
Foxtail	*Hordeum leporinum*	Nonnative
Red brome	*Bromus rubens*	Nonnative
Wild oat	*Avena fatua*	Nonnative
Family Rhamnaceae		
California coffeeberry	*Frangula californica*	Native

Family Scrophulariaceae		
Wooly mullein	*Verbascum Thapsus*	Nonnative
Family Solanaceae		
Jimson weed	*Datura wrightii*	Native
Family Themidaceae		
Blue dicks	*Dichelostemma capitatum*	Native
Birds		
Family Accipitridae		
Red-tailed hawk	*Buteo Jamaicensis*	MBTA, CFGC
Family Corvidae		
Common raven	*Corvus corax*	MBTA, CFGC
Family Passerellidae		
White-crowned sparrow	*Zonotrichia leucophrys*	MBTA, CFGC
Mammals		
Family Cricetidae		
California vole	*Microtus californicus*	None
Deer mouse	*Peromyscus maniculatus*	None
Family Sciuridae		
California ground squirrel	*Otospermophilus beecheyi*	None

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 Special-Status Species

Four special-status species could occur on or near the Project site: Swainson's hawk, burrowing owl, American badger, and pallid bat. Swainson's hawk uses open areas such as grassland and some agricultural fields for foraging and medium to large trees near open areas for nesting. A remnant patch of grassland east and northeast of the Project site could provide foraging habitat, and several trees in the survey area could support nesting. Burrowing owl uses burrows, typically created by California ground squirrel (*Otospermophilus beecheyi*), for cover and nesting and open grassland and some agricultural fields for foraging. The remnant patch of grassland east and northeast of the Project site could provide foraging habitat, and a few ground squirrel burrows in the survey area, all associated with a rock outcrop northeast of the Project site, could provide cover and nesting habitat. At the time of the reconnaissance survey, however, all burrows had openings too small for burrowing owl, which requires burrows with opening at least 4 inches in diameter (CDFG 2012). American badger uses grassland with friable soils where it forages for small mammals and dig dens. The remnant patch of grassland east and northeast of the Project site could support this species. However, no dens or sign such as diggings were found during the reconnaissance survey. Pallid bat forages over open habitats, on the ground, and near water; it roosts in tree hollows as well as cracks and crevices in rock outcrops. The rock outcrop just northeast of the Project site could support roosting, and the greater Project area could support foraging.

3.2.4 Nesting Birds and the Migratory Bird Treaty Act

Migratory birds could nest on or near the Project site. Such species include, but are not limited to, mourning dove (*Zenaida macroura*), red-tailed hawk (*Buteo jamaicensis*), Swainson's hawk, and common raven (*Corvus corax*).

3.2.5 Regulated Habitats

One potentially regulated habitat, the San Joaquin River, is about 0.5 miles east of the Project site. No impacts to this feature are anticipated.

According to the Wild and Scenic Rivers Act, the San Joaquin River does not retain a wild and scenic classification (USFWS 2019a).

No marine or estuarine fishery resources or migratory routes to and from anadromous fish spawning grounds were present in the survey area. 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 within a flood plain (Federal Emergency Management Agency 2019). The nearest flood plain limit is about 0.5 miles east of the Project site, associated with the San Joaquin River.

4.0 Environmental Impacts

4.1 Effects Determinations

4.1.1 Critical Habitat

We conclude the Project will have **no effect** on designated or proposed critical habitat. Although the Project site is within designated critical habitat for succulent owl's clover (*Castilleja campestris* ssp. *succulenta*), also known as fleshy owl's-clover, this Project will not affect the vernal pool habitats this species requires.

4.1.2 Special-Status Species

We conclude the Project **may affect but is not likely to adversely affect** the state-listed as threatened Swainson's hawk, the California State Species of Special Concern burrowing owl, the California State Species of Special Concern American badger, and the California State Species of Special Concern pallid 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 will have **no effect** on regulated habitats as no regulated habitat was present in the survey area.

4.2 Significance Determinations

This Project, which will result in permanent and temporary impacts to previously developed land and approximately 1700 square feet of grassland, will not: (1) substantially reduce the habitat of a fish or wildlife species (criterion a) as developed land is regionally abundant and ubiquitous and the loss of 1700 square feet of grassland at this location would not would not constitute a substantial reduction in the habitat for any species; (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 no riparian habitat or other sensitive natural community was present in the survey area; (6) have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (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 are 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 Impacts

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

The Project could substantially impact the state-listed as threatened Swainson's hawk, which could nest near the Project site, as well as three California Species of Special Concern: burrowing owl, American badger, and pallid bat. Construction disturbance during the breeding season could result in the incidental loss of fertile eggs, nestlings, or young, or otherwise lead to nest or maternal colony abandonment for Swainson's hawk, burrowing owl, and pallid bat, respectively. Loss of fertile eggs, nestlings, or young or any activities resulting in nest or maternal colony abandonment would constitute a significant impact. We recommend that Mitigation Measures BIO-1–BIO-4 (below) be included in the conditions of approval to reduce the potential impact to a less-than-significant level.

Mitigation Measure BIO-1. Protect nesting Swainson's hawks.

1. To the extent practicable, construction shall be scheduled to avoid the Swainson's hawk nesting season, which extends from March through August.
2. If it is not possible to schedule work between September and February, a qualified biologist shall conduct a survey for active Swainson's hawk nests within 0.5 miles of the Project site no more than 14 days prior to the start of construction. If an active nest is found within 0.5 miles, and the qualified biologist determines that Project activities would disrupt nesting, a construction-free buffer or limited operating period shall be implemented in consultation with the CDFW.

Mitigation Measure BIO-2. Protect burrowing owls.

1. Conduct surveys to assess the presence/absence of burrowing owl in accordance with guidelines in the CDFW's *Staff Report on Burrowing Owl Mitigation* (CDFG 2012).
2. If a burrowing owl or sign of burrowing owl use (e.g., feathers, guano, pellets) is detected on or within 500 feet of the Project site, and the qualified biologist determines that Project activities would disrupt the owl(s), a construction-free buffer, limited operating period, or passive relocation shall be implemented in consultation with the CDFW.

Mitigation Measure BIO-3. Protect pallid bat.

3. To the extent practicable, construction shall be scheduled to avoid the pallid bat pupping season, which extends from April through July.
4. If it is not possible to schedule work between August and March, a qualified biologist shall conduct a survey for active pallid bat maternal colonies in the rocky outcrop just northeast of the Project site no more than 14 days prior to the start of construction. If an active colony is found, and the qualified biologist determines that Project activities would disrupt breeding, a construction-free buffer or limited operating period shall be implemented in consultation with the CDFW.

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

The Project could 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 nestlings, or any activities resulting in nest abandonment, could constitute a significant impact if the species is particularly rare in the region. We recommend that the mitigation measure

BIO-4 (below) be included in the conditions of approval to reduce the potential impact to a less-than-significant level.

Mitigation Measure 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, pre-construction 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.

4.2.2 Cumulative Impacts

The Project involves updating and expanding SWTP infrastructure to meet fire flow demands and safely treat surface water drawn from the San Joaquin River for the small residential community of Sumner Hill. Although most land surrounding the Project site is developed and disturbed by residential and agricultural development, grassland near the Project site could provide foraging habitat for the state-listed as threatened Swainson's hawk and foraging and breeding habitat for the California Species of Special Concern burrowing owl, American badger, and pallid bat. Nevertheless, Mitigation Measures BIO-1 through BIO-4 would reduce any contribution to cumulative impacts on biological resources to a less-than-significant level.

5.0 Literature Cited

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Appendix A. Official list of threatened and endangered species and critical habitats.

United States Department of the Interior

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

In Reply Refer To:
Consultation Code: 08ESMF00-2019-SLI-1367
Event Code: 08ESMF00-2019-E-04403
Project Name: Sumner Hill Water Systems Improvement Project

March 13, 2019

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

To Whom It May Concern:

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

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

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

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

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

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

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

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

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

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

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

Attachment(s):

- Official Species List

Official Species List

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

This species list is provided by:

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

Project Summary

Consultation Code: 08ESMF00-2019-SLI-1367

Event Code: 08ESMF00-2019-E-04403

Project Name: Sumner Hill Water Systems Improvement Project

Project Type: WATER SUPPLY / DELIVERY

Project Description: Madera County in California proposes to improve its County Service Area 16 water infrastructure located within the residential community of Sumner Hill. The project will consist of upgrading Sumner Hill's Supply Water Treatment Plant (SWTP). The scope will involve construction within the existing SWTP site and an adjacent land parcel, both combined to be less than one acre of land. The existing SWTP is bordered by developed residential land at the north, west, and south, while the adjacent land parcel and east of the site is grassland. Improvements to the SWTP include replacing the existing treatment filters with two 175-gallon-per-minute packaged water treatment systems, replacing one storage tank, increasing the capacity of one storage tank, installing two backwash reclamation tanks, and installing a solids handling system. Additional improvements to the SWTP include relocating the chlorine injection point, installing internal flow baffles in one storage tank, installing a corrosion inhibitor chemical feed system, installing a Supervisory Control and Data Acquisition system, and upgrading the treated water booster pump station. Construction is estimated to begin in 2019.

Project Location:

Approximate location of the project can be viewed in Google Maps: https://www.google.com/maps/place/36.95787405591476N119.75214112443787W

Counties: Madera, CA

Endangered Species Act Species

There is a total of 12 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
Fresno Kangaroo Rat *Dipodomys nitratoides exilis* There is **final** critical habitat for this species. Your location is outside the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/5150 Species survey guidelines: https://ecos.fws.gov/ipac/guideline/survey/population/37/office/11420.pdf	Endangered
San Joaquin Kit Fox *Vulpes macrotis mutica* No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/2873	Endangered

Reptiles

NAME	STATUS
Blunt-nosed Leopard Lizard *Gambelia silus* No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/625	Endangered
Giant Garter Snake *Thamnophis gigas* No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/4482	Threatened

Amphibians

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

Fishes

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

Crustaceans

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

Flowering Plants

NAME	STATUS
Fleshy Owl's-clover *Castilleja campestris ssp. succulenta* There is **final** critical habitat for this species. Your location overlaps the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/8095	Threatened
Hairy Orcutt Grass *Orcuttia pilosa* There is **final** critical habitat for this species. Your location is outside the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/2262	Endangered
San Joaquin Orcutt Grass *Orcuttia inaequalis* There is **final** critical habitat for this species. Your location is outside the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/5506	Threatened

Critical habitats

There is 1 critical habitat wholly or partially within your project area under this office's jurisdiction.

NAME	STATUS
Fleshy Owl's-clover *Castilleja campestris ssp. succulenta* https://ecos.fws.gov/ecp/species/8095#crithab	Final

Appendix B. CNDDB occurrence records.

Summary Table Report

California Department of Fish and Wildlife

California Natural Diversity Database

Query Criteria: Quad IS (Little Table Mtn. (3711917) OR Millerton Lake West (3711916) OR Millerton Lake East (3711915) OR Lanes Bridge (3611987) OR Friant (3611986) OR Academy (3611985) OR Fresno North (3611977) OR Clovis (3611976) OR Round Mountain (3611975))

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.
Agelaius tricolor tricolored blackbird	G2G3 S1S2	None Candidate Endangered	BLM_S-Sensitive CDFW_SSC-Species of Special Concern IUCN_EN-Endangered NABCI_RWL-Red Watch List USFWS_BCC-Birds of Conservation Concern	0 613	952 S:12	0	1	1	0	2	8	8	4	10	1	1
Ambystoma californiense California tiger salamander	G2G3 S2S3	Threatened Threatened	CDFW_WL-Watch List IUCN_VU-Vulnerable	297 1,300	1185 S:70	10	18	6	1	6	29	23	47	64	3	3
Anniella pulchra northern California legless lizard	G3 S3	None None	CDFW_SSC-Species of Special Concern USFS_S-Sensitive	300 300	375 S:1	0	0	0	0	0	1	1	0	1	0	0
Antrozous pallidus pallid bat	G5 S3	None None	BLM_S-Sensitive CDFW_SSC-Species of Special Concern IUCN_LC-Least Concern USFS_S-Sensitive WBWG_H-High Priority	1,360 1,360	416 S:1	0	0	0	0	0	1	1	0	1	0	0
Aquila chrysaetos golden eagle	G5 S3	None None	BLM_S-Sensitive CDF_S-Sensitive CDFW_FP-Fully Protected CDFW_WL-Watch List IUCN_LC-Least Concern USFWS_BCC-Birds of Conservation Concern	2,400 2,400	321 S:1	0	0	0	0	0	1	1	0	1	0	0
Ardea alba great egret	G5 S4	None None	CDF_S-Sensitive IUCN_LC-Least Concern	296 296	43 S:1	0	0	0	0	0	1	0	1	1	0	0
Arizona elegans occidentalis California glossy snake	G5T2 S2	None None	CDFW_SSC-Species of Special Concern	300 300	260 S:1	0	0	0	0	0	1	1	0	1	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.
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	331 500	1976 S:6	1	2	0	0	0	3	2	4	6	0	0
Bombus crotchii Crotch bumble bee	G3G4 S1S2	None None		300 2,000	234 S:4	0	0	0	0	0	4	4	0	4	0	0
Branchinecta lynchi vernal pool fairy shrimp	G3 S3	Threatened None	IUCN_VU-Vulnerable	310 2,340	767 S:64	7	14	5	1	1	36	8	56	63	1	0
Branchinecta mesovallensis midvalley fairy shrimp	G2 S2S3	None None		335 470	128 S:7	1	0	0	0	0	6	2	5	7	0	0
Buteo swainsoni Swainson's hawk	G5 S3	None Threatened	BLM_S-Sensitive IUCN_LC-Least Concern USFWS_BCC-Birds of Conservation Concern	300 665	2469 S:6	1	2	0	0	0	3	1	5	6	0	0
Calicina mesaensis Table Mountain harvestman	G1 S1	None None		760 760	1 S:1	0	0	0	0	0	1	1	0	1	0	0
Calycadenia hooveri Hoover's calycadenia	G2 S2	None None	Rare Plant Rank - 1B.3 BLM_S-Sensitive		37 S:1	0	0	0	0	0	1	0	1	1	0	0
Carpenteria californica tree-anemone	G1? S1?	None Threatened	Rare Plant Rank - 1B.2 BLM_S-Sensitive SB_RSABG-Rancho Santa Ana Botanic Garden USFS_S-Sensitive	1,148 1,400	13 S:2	1	1	0	0	0	0	0	2	2	0	0
Castilleja campestris var. succulenta succulent owl's-clover	G4?T2T3 S2S3	Threatened Endangered	Rare Plant Rank - 1B.2	350 2,300	95 S:20	6	5	2	1	2	4	12	8	18	2	0
Caulanthus californicus California jewelflower	G1 S1	Endangered Endangered	Rare Plant Rank - 1B.1		63 S:1	0	0	0	0	1	0	1	0	0	0	1
Coccyzus americanus occidentalis western yellow-billed cuckoo	G5T2T3 S1	Threatened Endangered	BLM_S-Sensitive NABCI_RWL-Red Watch List USFS_S-Sensitive USFWS_BCC-Birds of Conservation Concern	270 345	155 S:2	0	0	0	0	2	0	2	0	0	0	2

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.
Cryptantha hooveri Hoover's cryptantha	GH SH	None None	Rare Plant Rank - 1A	1,200 1,200	4 S:1	0	0	0	0	0	1	1	0	1	0	0
Desmocerus californicus dimorphus valley elderberry longhorn beetle	G3T2 S2	Threatened None		270 2,000	271 S:3	1	1	1	0	0	0	2	1	3	0	0
Dipodomys nitratoides exilis Fresno kangaroo rat	G3TH SH	Endangered Endangered	IUCN_VU-Vulnerable		12 S:1	0	0	0	0	1	0	1	0	0	0	1
Downingia pusilla dwarf downingia	GU S2	None None	Rare Plant Rank - 2B.2	300 300	132 S:1	0	0	0	0	0	1	1	0	1	0	0
Efferia antiochi Antioch efferian robberfly	G1G2 S1S2	None None		260 300	4 S:2	0	0	0	0	0	2	2	0	2	0	0
Egretta thula snowy egret	G5 S4	None None	IUCN_LC-Least Concern	296 296	20 S:1	0	0	0	0	0	1	0	1	1	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	388 1,230	1357 S:9	1	0	0	2	0	6	4	5	9	0	0
Eremophila alpestris actia California horned lark	G5T4Q S4	None None	CDFW_WL-Watch List IUCN_LC-Least Concern	370 370	94 S:1	0	0	0	1	0	0	1	0	1	0	0
Eryngium spinosepalum spiny-sepaled button-celery	G2 S2	None None	Rare Plant Rank - 1B.2	400 1,800	108 S:8	3	2	0	0	1	2	2	6	7	1	0
Euderma maculatum spotted bat	G4 S3	None None	BLM_S-Sensitive CDFW_SSC-Species of Special Concern IUCN_LC-Least Concern WBWG_H-High Priority	500 500	68 S:1	0	0	0	0	0	1	1	0	1	0	0
Eumops perotis californicus western mastiff bat	G5T4 S3S4	None None	BLM_S-Sensitive CDFW_SSC-Species of Special Concern WBWG_H-High Priority	310 1,500	296 S:8	0	0	1	0	0	7	8	0	8	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.
Falco mexicanus prairie falcon	G5 S4	None None	CDFW_WL-Watch List IUCN_LC-Least Concern USFWS_BCC-Birds of Conservation Concern	2,100 2,100	460 S:1	0	0	0	0	0	1	1	0	1	0	0
Gratiola heterosepala Boggs Lake hedge-hyssop	G2 S2	None Endangered	Rare Plant Rank - 1B.2 BLM_S-Sensitive	1,800 2,414	99 S:6	2	0	1	0	0	3	4	2	6	0	0
Great Valley Mixed Riparian Forest Great Valley Mixed Riparian Forest	G2 S2.2	None None		280 280	68 S:1	0	0	0	0	0	1	1	0	1	0	0
Imperata brevifolia California satintail	G4 S3	None None	Rare Plant Rank - 2B.1 SB_SBBG-Santa Barbara Botanic Garden USFS_S-Sensitive	300 300	32 S:1	0	0	0	0	0	1	1	0	1	0	0
Lagophylla dichotoma forked hare-leaf	G2 S2	None None	Rare Plant Rank - 1B.1	630 630	7 S:1	0	0	0	0	0	1	0	1	1	0	0
Lepidurus packardi vernal pool tadpole shrimp	G4 S3S4	Endangered None	IUCN_EN-Endangered	1,980 1,980	325 S:1	1	0	0	0	0	0	0	1	1	0	0
Leptosiphon serrulatus Madera leptosiphon	G3 S3	None None	Rare Plant Rank - 1B.2 USFS_S-Sensitive	600 1,742	27 S:5	0	0	0	0	0	5	4	1	5	0	0
Linderiella occidentalis California linderiella	G2G3 S2S3	None None	IUCN_NT-Near Threatened	350 4,621	437 S:37	2	8	1	0	0	26	12	25	37	0	0
Lupinus citrinus var. citrinus orange lupine	G2T2 S2	None None	Rare Plant Rank - 1B.2 BLM_S-Sensitive USFS_S-Sensitive	2,950 2,950	57 S:1	1	0	0	0	0	0	0	1	1	0	0
Lytta moesta moestan blister beetle	G2 S2	None None		410 410	12 S:1	0	0	0	0	1	0	1	0	0	1	0
Lytta molesta molestan blister beetle	G2 S2	None None		275 2,200	17 S:5	0	0	0	0	0	5	5	0	4	1	0
Metapogon hurdi Hurd's metapogon robberfly	G1G2 S1S2	None None		325 325	3 S:1	0	0	0	0	0	1	1	0	0	1	0
Mylopharodon conocephalus hardhead	G3 S3	None None	CDFW_SSC-Species of Special Concern USFS_S-Sensitive	255 255	32 S:1	0	0	0	0	0	1	1	0	1	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.
Northern Basalt Flow Vernal Pool	G3	None		1,400	28	1	0	0	0	0	3	4	0	4	0	0
Northern Basalt Flow Vernal Pool	S2.2	None		1,900	S:4											
Northern Claypan Vernal Pool	G1	None		350	21	0	0	0	0	0	1	1	0	1	0	0
Northern Claypan Vernal Pool	S1.1	None		350	S:1											
Northern Hardpan Vernal Pool	G3	None		325	126	1	1	0	1	0	5	8	0	8	0	0
Northern Hardpan Vernal Pool	S3.1	None		450	S:8											
Nycticorax nycticorax	G5	None	IUCN_LC-Least Concern	296	37	0	0	0	0	0	1	0	1	1	0	0
black-crowned night heron	S4	None		296	S:1											
Orcuttia inaequalis	G1	Threatened	Rare Plant Rank - 1B.1	300	47	2	3	2	1	4	0	6	6	8	0	4
San Joaquin Valley Orcutt grass	S1	Endangered		2,475	S:12											
Orcuttia pilosa	G1	Endangered	Rare Plant Rank - 1B.1	400	34	0	2	0	0	1	0	2	1	2	1	0
hairy Orcutt grass	S1	Endangered		410	S:3											
Perognathus inornatus	G2G3	None	BLM_S-Sensitive IUCN_LC-Least Concern		126	0	0	0	0	0	2	2	0	2	0	0
San Joaquin Pocket Mouse	S2S3	None			S:2											
Phalacrocorax auritus	G5	None	CDFW_WL-Watch List IUCN_LC-Least Concern	332	39	0	0	0	0	0	1	0	1	1	0	0
double-crested cormorant	S4	None		332	S:1											
Phrynosoma blainvillii	G3G4	None	BLM_S-Sensitive CDFW_SSC-Species of Special Concern IUCN_LC-Least Concern	300	775	0	0	0	0	1	0	1	0	0	1	0
coast horned lizard	S3S4	None		300	S:1											
Pseudobahia bahiifolia	G2	Endangered	Rare Plant Rank - 1B.1 SB_RSABG-Rancho Santa Ana Botanic Garden	440	27	0	4	0	0	1	0	1	4	4	1	0
Hartweg's golden sunburst	S2	Endangered		500	S:5											
Pseudobahia peirsonii	G1	Threatened	Rare Plant Rank - 1B.1 SB_RSABG-Rancho Santa Ana Botanic Garden	390	51	0	1	3	1	0	0	2	3	5	0	0
San Joaquin adobe sunburst	S1	Endangered		495	S:5											
Rana boylii	G3	None	BLM_S-Sensitive CDFW_SSC-Species of Special Concern IUCN_NT-Near Threatened USFS_S-Sensitive	1,252	2359	0	0	0	0	0	1	1	0	1	0	0
foothill yellow-legged frog	S3	Candidate Threatened		1,252	S:1											

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.
Sagittaria sanfordii Sanford's arrowhead	G3 S3	None None	Rare Plant Rank - 1B.2 BLM_S-Sensitive	310 360	126 S:7	0	1	1	0	0	5	6	1	7	0	0
Spea hammondii western spadefoot	G3 S3	None None	BLM_S-Sensitive CDFW_SSC-Species of Special Concern IUCN_NT-Near Threatened	320 1,380	516 S:32	4	13	4	0	1	10	13	19	31	1	0
Sycamore Alluvial Woodland Sycamore Alluvial Woodland	G1 S1.1	None None		360 360	17 S:1	0	0	1	0	0	0	1	0	1	0	0
Taxidea taxus American badger	G5 S3	None None	CDFW_SSC-Species of Special Concern IUCN_LC-Least Concern	250 1,200	563 S:4	0	0	0	0	0	4	3	1	4	0	0
Tropidocarpum capparideum caper-fruited tropidocarpum	G1 S1	None None	Rare Plant Rank - 1B.1 SB_RSABG-Rancho Santa Ana Botanic Garden USFS_S-Sensitive		18 S:1	0	0	0	0	0	1	1	0	1	0	0
Tuctoria greenei Greene's tuctoria	G1 S1	Endangered Rare	Rare Plant Rank - 1B.1	385 405	50 S:3	0	0	0	0	3	0	3	0	0	0	3
Vireo bellii pusillus least Bell's vireo	G5T2 S2	Endangered Endangered	IUCN_NT-Near Threatened NABCI_YWL-Yellow Watch List	345 360	493 S:2	0	0	0	0	2	0	2	0	0	2	0
Vulpes macrotis mutica San Joaquin kit fox	G4T2 S2	Endangered Threatened		410 410	1017 S:1	0	0	0	0	0	1	1	0	1	0	0
Vulpes vulpes necator Sierra Nevada red fox	G5T1T2 S1	Candidate Threatened	USFS_S-Sensitive	1,800 1,800	201 S:1	0	0	0	0	0	1	1	0	1	0	0

Appendix C. CNPS plant list.

CNPS California Native Plant Society

Plant List

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

Search Criteria
Found in Quads 3711918, 3711917, 3711916, 3611988, 3611987, 3611986, 3611978 3611977 and 3611976;

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

Scientific Name	Common Name	Family	Lifeform	Blooming Period	CA Rare Plant Rank	State Rank	Global Rank
Bryum chryseum	brassy bryum	Bryaceae	moss		4.3	S3	G5
Calycadenia hooveri	Hoover's calycadenia	Asteraceae	annual herb	Jul-Sep	1B.3	S2	G2
Castilleja campestris var. succulenta	succulent owl's-clover	Orobanchaceae	annual herb (hemiparasitic)	(Mar)Apr-May	1B.2	S2S3	G4? T2T3
Caulanthus californicus	California jewelflower	Brassicaceae	annual herb	Feb-May	1B.1	S1	G1
Cryptantha hooveri	Hoover's cryptantha	Boraginaceae	annual herb	Apr-May	1A	SH	GH
Delphinium hansenii ssp. ewanianum	Ewan's larkspur	Ranunculaceae	perennial herb	Mar-May	4.2	S3	G4T3
Downingia pusilla	dwarf downingia	Campanulaceae	annual herb	Mar-May	2B.2	S2	GU
Eryngium spinosepalum	spiny-sepaled button-celery	Apiaceae	annual / perennial herb	Apr-Jun	1B.2	S2	G2
Imperata brevifolia	California satintail	Poaceae	perennial rhizomatous herb	Sep-May	2B.1	S3	G4
Leptosiphon serrulatus	Madera leptosiphon	Polemoniaceae	annual herb	Apr-May	1B.2	S3	G3
Lupinus citrinus var. citrinus	orange lupine	Fabaceae	annual herb	Apr-Jul	1B.2	S2	G2T2
Navarretia nigelliformis ssp. radians	shining navarretia	Polemoniaceae	annual herb	(Mar)Apr-Jul	1B.2	S2	G4T2
Orcuttia inaequalis	San Joaquin Valley Orcutt grass	Poaceae	annual herb	Apr-Sep	1B.1	S1	G1
Orcuttia pilosa	hairy Orcutt grass	Poaceae	annual herb	May-Sep	1B.1	S1	G1
Pseudobahia bahiifolia	Hartweg's golden sunburst	Asteraceae	annual herb	Mar-Apr	1B.1	S2	G2
Sagittaria sanfordii	Sanford's arrowhead	Alismataceae	perennial rhizomatous herb (emergent)	May-Oct(Nov)	1B.2	S3	G3
Tropidocarpum capparideum	caper-fruited tropidocarpum	Brassicaceae	annual herb	Mar-Apr	1B.1	S1	G1
Tuctoria greenei	Greene's tuctoria	Poaceae	annual herb	May-Jul(Sep)	1B.1	S1	G1

Suggested Citation

California Native Plant Society, Rare Plant Program. 2019. Inventory of Rare and Endangered Plants of California (online edition, v8-03 0.39). Website http://www.rareplants.cnps.org [accessed 19 April 2019].

Appendix C

Cultural Resources (Confidential – Under Separate Cover)