DRAFT

Mitigated Negative Declaration / Initial Study
for the
Maintenance District 10A (MD10A) Dublin Plant Water Storage Tank and Booster Pump Station Project

Madera County
February 15, 2022

COUNTY OF MADERA
CALIFORNIA ENVIRONMENTAL QUALITY ACT (CEQA)
INITIAL STUDY

1.	**Project title:**	MD10A Dublin Plant Storage Tank and Booster Pump Station
2.	**Lead agency name and address:**	County of Madera Community and Economic Development Department 200 West 4th Street, Suite 3100 Madera, California 93637
3.	**Contact person and phone number:**	Jamie Bax 559-675-7821 Jamie.bax@maderacounty.com
4.	**Project Location & APN:**	The project is located within a 2.18-acre parcel on the south side of Dublin Drive, approximately 350 feet west of Road 37 3/4 in the unincorporated community of Madera Ranchos in Madera County, California. APN #:049-140-020
5.	**Project sponsor's name and address:**	Madera County (Maintenance District 10A) 200 W 4th Street Madera, CA 93637
6.	**General Plan Designation:**	VLDR (Very Low Density Residential)
7.	**Zoning:**	RRS-2/MHA (Residential Rural Single Family-2 Acre/Manufactured Housing Review Overlay)

8. Description of Project:

The proposed MD10A Dublin Plant Storage Tank and Booster Pump Station Project (Project) would install an approximately 1-million-gallon (1 MG) aboveground water storage tank, booster pumps, and ancillary equipment associated with previously approved groundwater supply facilities at the existing Dublin Plant site. The project site is located within the approximately 2.18-acre Dublin Plant site parcel in the Madera Ranchos community in unincorporated Madera County, California. See attached Figure 1, "MD10A Dublin Plant Site Location," Figure 2, "MD10A Dublin Plant Site and Surrounding Area," and Figure 3, "MD10A Dublin Plant Site Improvement Plan.")

The Dublin Plant includes existing groundwater production well and pump facilities that are components of the Madera County Maintenance District 10A (MD10A) domestic water supply system. The County previously evaluated and approved the wells, pumps, above-ground water storage tank and related facilities at the Dublin Plant site as part of a 2013 Conditional Use Permit (CUP) #2012-020 and associated Mitigated Negative Declaration (MND #2012-26). The groundwater well and associated pumps approved with CUP #2012-020 have been installed, but the water storage tank and booster pumps to serve the tank have not yet been installed. This initial study has been prepared to refresh the environmental analysis of the water storage tank and booster pumps to inform discretionary decisions associated with project construction and funding. Although the tank and booster pumps were part of the previously evaluated CUP #2012-020 project, the "Project" evaluated in this present initial study is the water storage tank, booster pumps, and ancillary equipment, as other components of CUP #2012-020 have been installed and are part of the existing site conditions.

The Project will install a 1 MG aboveground water storage tank approximately 30 feet in maximum height and 86 feet in diameter, in the southeast portion of the Dublin Plant site. Booster pumps and electrical power and control service systems will be installed on the north site of the water storage

tank. The tank would be placed on a concrete ring foundation with an approximately 0.13-acre footprint and the approximately 0.31-acre area surrounding the tank and containing the booster pumps would be asphalt surfaced with a gradient to convey stormwater runoff to existing drainage facilities at the site. The combined tank footprint and paved area is approximately 0.44 acres.

Electricity needed for construction and booster pump operation would be obtained from connections to existing power supply sources at the site. Water supply for construction activities would be obtained through a metered connection with the existing water supply groundwater well at the site. Backflow prevention devices would be installed on temporary water lines to reduce the risk of cross contamination of the County's distribution system. Portable toilets and hand washing facilities would be provided at the site for use by construction workers and removed following the completion of construction. The facilities would be a minimum of 50 feet from the location of the existing onsite well and would comply with applicable laws, ordinances, and regulations pertaining to the public health and sanitation.

The site would be kept clean and free from rubbish and debris during construction, and materials and equipment would be removed from the site when they are no longer necessary. Following the completion of construction, the work site would be cleared of equipment, unused materials, and rubbish to present a clean and neat appearance.

Best management practices (BMPs) for controlling stormwater runoff would be installed and maintained during the construction phase as necessary to avoid potential erosion and sedimentation in surface water runoff. The street in front of the project site (Dublin Road) would be maintained clean of mud and/or dirt originating from the project site, and if the street were to become dirty due to the Project-related construction activities or vehicles, the street would be cleaned by the end of each working day.

Construction activities would be managed to avoid emissions of smoke, dust, and other contaminants in conflict with any applicable local, state, or federal air pollutant emission regulations. Dust nuisance would be reduced by cleaning, sweeping, and sprinkling with water or other means as necessary. Noise from Contractor's operations would be restricted so as to not exceed limits established by applicable laws or regulations and in no event to exceed 86 dBA at a distance of 50 feet from the noise source.

As discussed, the Project is a component of a previously approved project involving installation of a community water well and water storage tank for MD10A in the Madera Ranchos area of unincorporated Madera County. On January 8, 2013, Madea County approved Conditional Use Permit (CUP) #2012-020 and adopted a Mitigated Negative Declaration (MND) for the water well and water storage tank project in compliance with the California Environmental Quality Act (CEQA).

Conditions of approval and mitigation measures adopted in for CUP #2012-020 and MND #2012-26 would also remain in effect for the Project, as applicable, and are listed below.

Conditions of Approval for CUP #2012-020

Engineering

1. Prior to the start of any construction projects, the applicant shall secure a Building Permit from the Engineering Department. All construction shall meet the standards of all applicable Codes. All plans must be prepared by a licensed architect or registered civil engineer.

Environmental Health Department

1. The owner/operator must obtain all the necessary Environmental Health Dept. permits prior to any construction activities on site.
2. The water well and water tank must be constructed to meet the construction/specifications

requirements of the Public Water/Well System Standards and then must be connected to an approved community water system. The water well must be installed with a well seal at a minimum depth of 50 feet at the time of well installation.

3. The owners/operators of this facility and/or shop must complete and submit a Business Activities Declaration Form with the CUPA Program within this department before onset of construction activities. This is to report storage of hazardous materials (like petroleum fuels or lubricants) onsite at this location. Other related permit(s) may be required due to the possible storage/handling of reportable quantities of hazardous materials (like petroleum fuels or lubricants) onsite or for the storage of any amount of hazardous waste onsite at any time prior to facility operation.

Fire Department

1. At the time of application for a Building Permit, a more in-depth plan review of the proposed project's compliance with all current fire and life safety codes will be conducted by the Madera County Fire Marshal. (CFC, Section 1 05.2)

Planning Department

1. Comply with all Mitigation Measures.
2. The project shall operate in accordance with the operational statement and site plan submitted with the application, except as modified by the mitigation measures and other conditions of approval required for the project.
3. Development shall be in accordance with the plan(s) as submitted by the applicant and/or as modified by the Planning Commission.
4. Any proposed lighting shall be hooded and directed away from surrounding properties and roadways. Any security lighting utilized around the perimeter of the project site must utilize motion detection systems that only operate the lights when movement is detected.
5. The color of paint used for the water tank shall blend in with the surrounding natural environment.

Mitigation Measures Adopted with MND #2012-26

1. The color of the water tank and facilities shall be of a natural tone and shall blend into the surrounding natural environment.
2. Any lighting shall be hooded and directed away from neighboring residences.
3. The applicant shall comply with San Joaquin Air Pollution Control District requirements.
4. The owners/operators of this facility and/or shop must complete and submit a Business Activities Declaration Form with the CUPA Program within the Environmental Health Department before onset of construction activities. This is to report storage of hazardous materials (like petroleum fuels or lubricants) onsite at this location.
5. Once the new well is constructed, a monitoring program will be implemented to document groundwater levels at the well site and in neighboring domestic wells during pump testing of the well. With a groundwater level decline of five feet or less will require no mitigation. A decline of over five feet, but not significant enough to affect the operation of the well will require a one-time compensation for increased energy costs. An impact that affects the ability of the well to provide water for the resident will require lowering of the pump (if feasible), well replacement, or connection to the water distribution system.

9. Surrounding Land Uses and Setting:

Existing conditions at the 2.18-acre Dublin Plant site include the previously approved and installed wells and ancillary facilities, driveway areas, stormwater drainage, and photovoltaic solar panels and related components installed as a separate project. These existing components compose most of the site, and the entire site is substantially disturbed. The Dublin Plant site is surrounded by perimeter security fencing and is accessible via two asphalt-paved driveway entrances from Dublin Drive on the north property boundary.

The Dublin Plant site is within a large-lot rural residential subdivision (Madera Ranchos) in an area generally between Avenues 12 and 13 and east of Road 36 in unincorporated Madera County. Typical lots within the project area are approximately 2 acres in size. Many of the parcels are developed with single-family residences while some are vacant or used for livestock raising and other rural uses. Parcels to the north and south of the project parcel are undeveloped. Other adjacent parcels are developed with single-family residences with the nearest residence separated by more than 200 feet from the proposed tank location.

The project region is generally flat terrain with elevations ranging from approximately 350 to 355 feet above mean sea level. The San Joaquin River is located approximately 6 miles to the south. Madera Irrigation District Lateral 6.2 Canal of the Madera Canal is located 0.4 mile southeast of the Project Area.

10. Other Public Agencies Whose Approval is Required:

State Water Resources Control Board, Division of Financial Assistance (DFA)

11. 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, 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 Public Resources Code Section 21080.3.1, notification letters were sent to tribal representatives of California Native American tribes that have requested to be notified of projects within the Project area of Madera County. Tribal representatives were advised of the Project and invited to request formal consultation with the County regarding the Project within 30 days of receiving the notification letters. Eight notification letters were sent to representatives of the following tribes on January 11, 2022:

- Table Mountain Rancheria
- Picayune Rancheria of the Chukchansi Indians
- Dumna Wo Wah Tribal Government
- Chowchilla Yokuts Tribe

As of the preparation of this Initial Study, more than 30 days following the County's transmittal of notification letters, no requests for consultation have been received. Section XVIII of this Initial Study provides additional discussion of tribal cultural resources and outreach.

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	☐ Agricultural/Forestry 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

DETERMINATION *(to be completed by Lead Agency)*

On the basis of 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 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.

Signed: _____ Date: _____

By: _____ Title: _____

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 other 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) No Impact. The project would not be visible from any areas either designated as or having the characteristics of a scenic vista.

(b) No Impact. The project site does not contain scenic resources and is not visible from a state scenic highway.

(c) Less Than Significant with Mitigation Incorporation. The project site is developed with existing water and electrical (solar) facilities. The site is fenced around the perimeter with chain link fence with vinyl slats. Trees are located along the east and west sides of the site (including the east perimeter nearest the proposed tank location) and provide partial screening from the adjacent properties. The proposed aboveground water tank would be up to approximately 30 feet in height and would be visible from portions of adjacent and nearby properties, and would be partially visible from Dublin Drive, a low-volume, local public road along the north property boundary. As required pursuant to mitigation adopted for CUP #2012-020, the color of the water tank and facilities will be of a natural tone to blend into the surrounding environment. Due to the existing site development, the limited number of viewers and visibility of project components, and the coloring to blend with surrounding environment, the storage tank and other project components would not have the potential to degrade the existing visual character or quality of public views of the site and its surroundings.

(d) Less Than Significant with Mitigation Incorporation. Limited existing lighting is present at the site and is hooded and directed away from neighboring residences as required pursuant to mitigation adopted for the CUP approved in 2012. An additional light standard may be installed with the project to provide security and safety lighting near the booster pump station. Any lighting associated with the project would be limited to that needed for security and worker safety and would be subject to the shielding requirements of mitigation adopted for CUP #2012-020. The potential for daytime glare from the tank and other project components would be avoided through the coloring requirement discussed at item “c” above.

II. AGRICULTURAL AND FORESTRY RESOURCES

In determining whether agricultural impacts to agricultural resources are significant environmental effects, lead agencies may refer to the California Agricultural Land Evaluation and Site Assessment Model (1997) prepared by the California Dept. of Conservation as an optional model to use in assessing impacts on agriculture and farmland. In determining whether impacts to forest resources, including timberland, are significant environmental effects, lead agencies may refer to information compiled by the California Department of Forestry and Fire Protection regarding the state's inventory of forest land, including the Forest and Range Assessment Project and the Forest Legacy Assessment Project; and forest carbon measurement methodology provided in Forest Protocols adopted by the California Air Resources Board.

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) No Impact. The project is not located on and will not impact prime, unique, or important farmland. The site is located in an area defined by the California Department of Conservation Farmland Mapping Program as "Rural Residential Land".

(b) No Impact. The project site is not subject to a Williamson Act contract and is not zoned for agricultural use.

(c-d) No Impact. The project site does not contain forest land or forest resources.

(e) No Impact. The project would not involve changes that could convert agricultural land or forest land to non-agricultural or non-forest land.

III. AIR QUALITY

Where available, the significance criteria established by the applicable air quality management district or air pollution control district may be relied upon to make the following determinations.

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) adversely affecting a substantial number of people?	☐	☐	☐	☒

Responses:

(a - b) Less Than Significant Impact.

An "Air Quality and Greenhouse Gas Assessment for the Madera County MD10A Water Tank Project" (ECORP, 2022a) (included with this Initial Study as Appendix A) was prepared in support of this Initial Study and its methods and conclusions are discussed here. Air quality impacts were assessed in accordance with methodologies recommended by the San Joaquin Valley Air Pollution Control District (SJVAPCD). Construction emissions were modeled using the California Emissions Estimator Model (CalEEMod), version 2020.4.0. CalEEMod is a statewide land use emissions computer model designed to quantify potential criteria pollutant emissions associated with both construction and operations from a variety of land use projects. Project construction air pollutant emissions were calculated using CalEEMod model defaults for Madera County as well as construction phasing and timing anticipated for the Project. Post construction air pollutant emissions are addressed qualitatively as there are no stationary or mobile sources of emissions associated with the operation of the water tank.

The Project region is classified as nonattainment for the federal O_3 and $PM_{2.5}$ standards and is also a nonattainment area for state O_3, $PM_{2.5}$, and PM_{10} standards (CARB 2019). The U.S. Environmental Protection Agency (EPA), under the provisions of the federal Clean Air Act (CAA), requires each state with regions that have not attained the federal air quality standards to prepare a State Implementation Plan (SIP) detailing how these standards are to be met in each local area. The SIP is a legal agreement between each state and the federal government to commit resources to improving air quality and serves as the template for conducting regional and project-level air quality analysis. California Air Resources Board (CARB) is the lead agency for developing the SIP in California. Local air districts, including the SJVAPCD, prepare air quality attainment plans or air quality management plans and submit them to CARB for review, approval, and incorporation into the applicable SIP. The air districts develop the strategies stated in the SIPs for achieving air quality standards on a regional basis.

The SJVAPCD is required, pursuant to the federal CAA, to reduce emissions of criteria pollutants for which the San Joaquin Valley Air Basin (SJVAB) is in nonattainment status. To reduce such

emissions, the SJVAPCD prepared the 2007 Ozone Plan, 2013 Plan for the Revoked 1-Hour Ozone Standard, 2016 Plan for the 2008 8-Hour Ozone Standard, 2016 Moderate Area Plan for the 2012 $PM_{2.5}$ Standard, 2020 RACT Demonstration for the 2015 8-Hour Ozone Standard, 2007 PM_{10} Maintenance Plan and Request for Re-designation, and 2018 Moderate Area Plan for the 2012 $PM_{2.5}$ Standard. These plans collectively address the SJVAB nonattainment status with the national and state O_3 standards as well as particulate matter by establishing a program of rules and regulations directed at reducing air pollutant emissions and achieving state (California) and national air quality standards. Pollutant control strategies are based on the latest scientific and technical information and planning assumptions. SJVAPCD established thresholds of significance for criteria pollutant emissions are based on SJVAPCD New Source Review (NSR) offset requirements for stationary sources. Stationary sources in the SJVAB are subject to some of the most stringent regulatory requirements in the nation. Emission reductions achieved through implementation of SJVAPCD offset requirements are a major component of the SJVAPCD's air quality planning efforts. Thus, projects with emissions below the thresholds of significance for criteria pollutants are determined to "Not conflict or obstruct implementation of the District's air quality plan" (SJVAPCD 2015b).

Three basic sources of short-term emissions would be generated through construction of the Project: operation of the construction vehicles (e.g., tractors, dozers, backhoes), the creation of fugitive dust during clearing and grading, and the use of asphalt or other oil-based substances during paving activities. Activities such as excavation and grading operations, worker vehicle traffic, and wind blowing over exposed soils would generate exhaust emissions and fugitive particulate matter emissions that affect local air quality at various times during the approximately two-month Project construction period. Effects would be variable depending on the weather, soil conditions, the amount of activity taking place, and the nature of dust control efforts. The dry climate of the area during the summer months creates a high potential for dust generation. Project construction activities would be subject to SJVAPCD Regulation VIII, which specifies the following measures to control fugitive dust:

- Apply water to unpaved surfaces and areas.
- Use nontoxic chemical or organic dust suppressants on unpaved roads and traffic areas.
- Limit or reduce vehicle speed on unpaved roads and traffic areas to a maximum 15 miles per hour.
- Maintain areas in a stabilized condition by restricting vehicle access.
- Install wind barriers.
- During high winds, cease outdoor activities that disturb the soil.
- Keep bulk materials sufficiently wet when handling.
- Store and handle materials in a three-sided structure.
- When storing bulk materials, apply water to the surface or cover the storage pile with a tarp.
- Don't overload haul trucks. Overloaded trucks are likely to spill bulk materials.
- Cover haul trucks with a tarp or other suitable cover. Or, wet the top of the load enough to limit visible dust emissions.
- Clean the interior of cargo compartments on emptied haul trucks prior to leaving a site.
- Prevent trackout by installing a trackout control device.

- Clean up trackout at least once a day. If along a busy road or highway, clean up trackout immediately.
- Monitor dust-generating activities and implement appropriate measures for maximum dust control.

Predicted emissions generated during Project construction were calculated using the CARB-approved CalEEMod computer program, which is designed to model emissions for land use development projects, based on typical construction requirements. Predicted maximum daily emissions associated with Project construction are summarized in Table III-1. Construction-generated emissions would be short-term and of temporary duration, occurring only intermittently during the construction period. Emissions would be considered a significant air quality impact if the volume of pollutants generated exceeds the SJVAPCD's thresholds of significance. As shown in Table III-1, criteria pollutant emissions would be well below the SJVAPCD significance thresholds.

Table III-1. Unmitigated Project Construction-Generated Emissions

Construction Year	Maximum Pollutants (tons per year)					
	ROG	**NO_x**	**CO**	**SO_2**	**PM_{10}**	**$PM_{2.5}$**
Construction 2022	0.011	0.112	1.101	0.000	0.006	0.005
SJVAPCD Significance Threshold	10 tons/year	10 tons/year	100 tons/year	27 tons/year	15 tons/year	15 tons/year
Exceed SJVAPCD Significance Threshold	No	No	No	No	No	No

Source: ECORP, 2022a. CalEEMod version 2020.4.0.
Notes: Emission reduction/credits for construction emissions are applied based on the required implementation of SJVAPCD Regulation VIII. The specific regulation applied in CalEEMod was watering unpaved surfaces two times per day with a maximum vehicle speed of 15 mph.

In addition to the SJVAPCD criteria air pollutant thresholds, SJVAPCD Rule 9510, Indirect Source Review, aims to fulfill the SJVAPCD's emission reduction commitments in the PM_{10} and Ozone Attainment Plans and applies to certain types and sizes of construction projects within the jurisdiction of the SJVAPCD. The Project does not clearly fall within one of the construction project types identified in Rule 9510; nevertheless, an assessment was performed to identify potential emissions reductions that could be achieved for Project construction through implementation of certain emission reduction measures. Reduction measures considered in the analysis are listed below.

- All diesel-fueled construction equipment shall be California Air Resources Board (CARB) Tier 4-certified as set forth in Section 2423 of Title 13 of the California Code of Regulations, and Part 89 of Title 40 of the Code of Federal Regulations.
- All construction equipment shall be maintained and properly tuned in accordance with manufacturers' specifications.
- Project construction shall comply with all applicable SJVAPCD rules and regulations.

As shown in Table III-2, with implementation of the above emissions reduction measures, Project construction NO_x and PM_{10} emissions would be reduced by 90 percent and 78 percent, respectively, achieving the Rule 9510 reduction targets for these criteria pollutants.

Table III-2. Construction Related NO_x and PM_{10} Emission Reductions (tons per year)		
Emissions without Reduction Measures (tons per year)	***Emissions with Reduction Measures (tons per year)***	***Percent Reduction***
NOx Emissions		
0.0112	0.011	90%
SJVAPCD Rule 9510 NOx Reduction Target:		20%
PM10 Emissions		
0.006	0.001	78%
SJVAPCD Rule 9510 PM10 Reduction Target:		45%

Source: ECORP, 2022a. CalEEMod version 2020.4.0.
Notes: Emission reduction/credits for construction emissions are applied based on the required implementation of SJVAPCD Regulation VIII. The specific regulation applied in CalEEMod was watering unpaved surfaces two times per day with a maximum vehicle speed of 15 mph.

Once construction is complete, Project operations would not generate quantifiable criteria emissions. The Project would construct and operate a water storage tank as part of a previously planned, approved, and operating water supply system and would not increase the number of residents or workers in the area and thus would not conflict with the population growth forecasts in the applicable plans.

For the reasons discussed above, the Project would not result in the potential for significant impacts associated with conflict or obstruction implementation of an applicable air quality plan or result in a cumulative considerable increase in criteria air pollutants. Although the emission reduction measures identified above are not required to reduce a significant air quality impact, this Initial Study recommends their implementation to further reduce Project construction emissions and includes the measure as recommended Mitigation Measure 6.

(c) Less than Significant Impact. Sensitive receptors are defined as facilities or land uses that include members of the population that are particularly sensitive to the effects of air pollutants, such as children, the elderly, and people with illnesses. Examples of these sensitive receptors are residences, schools, hospitals, and daycare centers. The nearest sensitive receptors to the Project site are single-family residences in the Project area with the nearest approximately 200 feet from the Project site.

Criteria Pollutant Health Risk

As discussed above, the portion of the SJVAB which encompasses the Project area is designated as a nonattainment area for federal O_3 and PM_{10} standards and state O_3, $PM_{2.5}$ and PM_{10} standards (CARB 2019). Thus, existing O_3, $PM_{2.5}$ and PM_{10} levels in the SJVAB are at unhealthy levels during certain periods; however, as shown in Table III-1, above, the Project would not exceed the SJVAPCD significance thresholds for construction emissions.

The SJVAPCD Prioritization Calculator health risk screening tool was used for this analysis to assess the potential health risk-related effects of Project construction. The SJVAPCD Prioritization Calculator identifies a prioritization score based on the Project emission potency at the vicinity sensitive residential receptors. A prioritization score of 10 or greater, as determined by this screening protocol, would be considered potentially significant indicating that a detailed Health Risk Assessment (HRA) should be performed.

In addition to cancer risk, the significance thresholds for exposure to toxic air contaminants (TACs) requires an evaluation of noncancer risk stated in terms of a hazard index. A chronic hazard index of 1.0 would be considered individually significant. There is no acute health hazard for diesel particulate matter (DPM), which is the only significant air toxic associated with construction for this Project. Thus, the maximum acute index for construction of the Project is zero.

The calculated carcinogenic risk and highest maximum chronic hazard indexes at the nearby

sensitive residential receptors due to Project construction using the Prioritization Calculator screening tool is presented in Table III-3. As shown in the table, impacts related to cancer risk and non-cancer risk (chronic and acute hazard indices) associated with Project construction would not exceed the screening thresholds at nearby sensitive residential receptors. Therefore, Project construction would not result in a potentially significant contribution to regional concentrations of nonattainment pollutants and would not result in a significant contribution to the adverse health impacts associated with those pollutants.

Table III-3. Unmitigated Project Construction-Generated Emissions

Exposure Scenario	Maximum Cancer Risk at Residence	Maximum Chronic Hazard Index at Residence	Maximum Acute Hazard Index at Residence
Project Construction	1.39	0.002	0
SJVAPCD Screening Threshold	10.0	1.0	1.0
Exceed SJVAPCD Screening Threshold	No	No	No

Source: ECORP, 2022a.

Valley Fever

Coccidioidomycosis (CM), also referred to as San Joaquin Valley Fever or Valley Fever, is a fungal infection that most commonly affects people who live in hot dry areas with alkaline soil. The disease, which affects both humans and animals, is caused by inhalation of arthroconidia (spores) of the fungus *Coccidioides immitis* (CI). CI spores are found in the top few inches of soil and the existence of the fungus in most soil areas is temporary. In about 50 to 75 percent of people, valley fever causes either no symptoms or mild symptoms and those infected never seek medical care; when symptoms are more pronounced, they usually present as lung problems (cough, shortness of breath, sputum production, fever, and chest pains). The disease can progress to chronic or progressive lung disease and may even become disseminated to the skin, lining tissue of the brain (meninges), skeleton, and other body areas. Madera County is considered a highly endemic area for valley fever. When soil containing this fungus is disturbed by ground-disturbing activities such as digging or grading, by vehicles raising dust, or by the wind, the fungal spores can become airborne. When people breathe the spores into their lungs, they are at risk of infection.

The potential for exposure and infection from Valley Fever during ground-disturbing activities can and would be reduced through control of fugitive dust emissions during Project construction. As discussed above, Project-generated dust would be controlled by adhering to SJVAPCD fugitive dust control measures pursuant to Regulation VIII and implementation of fugitive dust control measures before, during, and after any dust-generating activity. With the minimal site grading associated with the Project and required conformance with SJVAPCD Regulation VIII, dust from the construction of the Project would not add significantly to the existing exposure level of people to this fungus, including construction workers, and this impact is considered less than significant.

Naturally Occurring Asbestos

The Project is not located within an area designated by the State of California as likely to contain naturally occurring asbestos (Department of Conservation [DOC] 2000) and construction activities would not be anticipated to result in increased exposure of sensitive land uses to naturally occurring asbestos.

(d) No Impact. During construction, the Project would present a limited potential for generation of objectionable odors during construction in the form of diesel exhaust in the immediate vicinity of the site. However, these emissions would be temporary and would rapidly dissipate and be diluted by the atmosphere downwind of the emission sources. Any such odors would be localized

and generally confined to the Project site and immediately adjacent areas. Therefore, odors generated during Project construction would not adversely expose a substantial number of people to odor emissions.

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 a native wildlife nursery site?	☐	☐	☐	☒
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?	☐	☐	☐	☒

To support this Initial Study, a "Biological Resources Assessment (BRA) for the MD10A Water Tank Storage Project" (ECORP, 2022b) was prepared and is included as Appendix B. The BRA assesses the potential for occurrence of special-status plant and animal species or their habitats, and sensitive habitats such as wetlands, riparian communities, and sensitive natural communities within the Project site and adjacent areas. The assessment includes information generated from literature review and an assessment-level reconnaissance site visit. The assessment describes the study area as partially developed and heavily impacted, with no vegetation communities present. The Project site is comprised of barren ground with very few scattered weedy plants. Sapling oaks have been planted at the perimeter of the Study Area and a few mature gum trees are rooted on adjacent properties but overhang onto the Project site. The assessment found that the site lacks any significant wildlife habitat elements such as aquatic habitat, emergent wetlands, or woodlands. There is minimal wildlife use onsite and no movement/migratory corridors or nursery sites are present. The BRA included a preliminary aquatic resources assessment to identify potential Waters of the U.S./State concurrent with the BRA site visit and concluded that there are no aquatic resources present within the study area. The BRA assessed the potential presence of special-status plant and wildlife species and concluded that no special-status plants,

invertebrates, fish, amphibian, reptile, bird, or mammals have the potential to occur and also concluded that no sensitive natural resources occur on the site.

Responses:

(a) Less than Significant Impact with Mitigation. The Project is in an area that has been previously disturbed within a rural residential setting, so there is no suitable habitat for special-status species present onsite. However, the site and adjacent parcels support potential nesting habitat for several commonly occurring birds that are protected under MBTA. Measure 7 is therefore recommended to minimize effect to protected birds and their nests and would avoid the potential for significant impacts to sensitive nesting bird species.

(b) No Impact. The study area supports weedy nonnative annual grassland habitat. There are no sensitive natural communities as defined by CDFW, and there is no riparian habitat onsite. Therefore, the Project will not impact riparian habitat or sensitive natural communities.

(c) No Impact. The BRA and preliminary aquatic resources assessment concluded that there are no aquatic resources or potential waters of the U.S. or State present within the study area. Therefore, the Project will not impact aquatic resources or wetlands.

(d) No Impact. The study area provides limited migratory opportunities for terrestrial wildlife because of the developed nature of the site and surrounding lands, the absence of significant wildlife habitat elements onsite, and existing perimeter fencing. Project construction is likely to temporarily disturb and displace some wildlife from the vicinity of the study area. Some wildlife such as birds or nocturnal species are likely to continue to use the habitats opportunistically for the duration of construction. Once construction is complete, wildlife movements are expected to resume but will likely be more limited through the study area. The Project is not expected to substantially interfere with wildlife movement. There are no documented nursery sites, and no nursery sites were observed within the study area during the site reconnaissance. Therefore, the Project is not expected to impact wildlife nursery sites.

(e) No Impact. The Project would not conflict with local policies or ordinances protecting biological resources.

(f) No Impact. The Project site is not covered by any local, regional, or state conservation plan. Therefore, the Project would not conflict with a local, regional, or state conservation plan. There would be no impact.

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 - c) Less than Significant Impact with Mitigation. To support preparation of this Initial Study, a Cultural Resources Inventory Report (ECORP, 2022c) was prepared to assess the potential presence of historical and archaeological resources in the vicinity of the Project site. The inventory report is considered confidential and is not included as an appendix to this Initial Study; however, the report's methods and findings are summarized here. The analysis determined that, with mitigation to address the potential inadvertent discovery of archeological resources, the Project would not result in a significant impact to historical or archeological resources.

The inventory included a records search, sacred lands file request, outreach to and review of information from historical information sources, and a pedestrian survey of the site. ECORP Consulting, Inc., Registered Professional Archaeologist (RPA) Theadora Fuerstenberg, who meets the Secretary of the Interior's Professional Qualifications Standards for prehistoric and historic archaeology, was responsible for the cultural resource investigation.

The records search included the Project site plus a 0.5-mile radius based on information obtained through a request to the Southern San Joaquin Valley Information Center (SSJVIC) of the CHRIS at California State University-Bakersfield on December 14, 2021 (SSJVIC search #21-483). In addition to the official records and maps for archaeological sites and surveys in Madera County, the following historic references were also reviewed: *Historic Property Data File for Madera County* (OHP 2012); *Built Environment Resource Directory* (OHP 2020); *The National Register Information System* (National Park Service [NPS] 2022); *Office of Historic Preservation, California Historical Landmarks* (CHL; OHP 2022); *CHL* (OHP 1996 and updates); *California Points of Historical Interest* (OHP 1992 and updates); *Directory of Properties in the Historical Resources Inventory* (1999); *Caltrans Local Bridge Survey* (California Department of Transportation [Caltrans] 2019); *Caltrans State Bridge Survey* (Caltrans 2018); and *Historic Spots in California* (Kyle 2002). Other references examined include a RealQuest Property Search and historic General Land Office (GLO) land patent records (Bureau of Land Management [BLM] 2022). Historic aerial photographs from 1950, 1962, 1972, and 1993 to present were reviewed for indications of property use and maps were reviewed including:

- 1854 GLO Plat maps for Township 11 South, Range 19 East;
- 1922 USGS Lanes Bridge, California topographic quadrangle map (1:31,680 scale);
- 1947 USGS Lanes Bridge, California topographic quadrangle map (7.5-minute scale); and
- 1964 USGS Lanes Bridge, California topographic quadrangle map (7.5-minute scale).

The California Native American Heritage Commission (NAHC) was contacted on December 14, 2021, to request a search of the Sacred Lands File to determine if any California Native American tribes have recorded Sacred Lands within the study area. Letters were also mailed to the Madera County Historical Society on December 14, 2021, to solicit comments or obtain historical information that may be available in the repository regarding events, people, or resources of historical significance in the area.

ECORP conducted an intensive pedestrian survey of the area of potential effect on January 11, 2022, under the guidance of the Secretary of the Interior's Standards for the Identification of Historic Properties (NPS 1983) using 15-meter transects. ECORP expended one person-day in the field. During the pedestrian survey, the ground surface was examined for indications of surface or subsurface cultural resources and the general morphological characteristics of the ground surface were inspected for indications of subsurface deposits that may be manifested on the surface, such as circular depressions or ditches. No cultural resources were identified during the field survey.

The cultural resources investigation did not identify any cultural resources within the Project area. Therefore, the Project will not affect any known Historic Properties under Section 106 of the NHPA or known Historical Resources under CEQA. (Note that discussion of outreach to Native American tribal representatives to determine the potential presence of tribal cultural resources is discussed separately in Section XVIII of this Initial Study.) Furthermore, the inventory investigation concluded that a low potential exists for buried pre-contact archaeological sites in the Project study area. While no cultural resources or human remains are known to be present within Project site, the limited excavations needed for installing Project components (e.g., water tank footings, booster pumps) would have the potential to unearth previously unknown resources.

Mitigation Measure 7 requires that any unanticipated discoveries during Project construction be managed through a procedure designed to assess and treat the find as quickly as possible and in accordance with applicable state and federal laws and would reduce potential adverse impacts to less than significant.

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) Less Than Significant Impact. No wasteful, inefficient, or unnecessary consumption of energy resources would occur during construction or operations. Following construction, energy use associated with the Project would be limited to fuel used for periodic operations and maintenance vehicle trips to the site and electricity used for booster pump operation.

(b) No Impact. The Project would not conflict with or obstruct a state or local renewable energy or energy efficiency plan. The Project site includes photovoltaic panels that provide renewable solar energy generation, and these facilities would not be affected by the Project.

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 Zone 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 geological 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 Uniform Building Code (1994), creating substantial direct or indirect risks to life or property?	☐	☐	☐	☒
e) Have soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems where sewers are not available for the disposal of wastewater?	☐	☐	☐	☒
f) Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?	☐	☒	☐	☐

Responses:

(a) No Impact. The Project design specifications for the tank, piping, bolting, foundations, and other project components require the construction contractor to produce final designs that resist the total seismic forces in accordance with the seismic design criteria and with evidence of design specifications and calculations submitted to the County. The Project would not have the potential to result in substantial risk of upset associated with seismic events, subsidence, or landslides.

(b) No Impact. The Project site is flat and the Project would result in a total disturbance area of less than 0.5 acre with all disturbed areas paved or underlying the tank following the completion of construction. Stormwater runoff conveyance at the site is designed to avoid the potential for substantial erosion in drainage areas. The Project would not result potential for substantial erosion or loss of topsoil.

(c) No Impact. According to the U.S. Department of Agriculture's Natural Resources Conservation Service (NRCS) Web Soil Survey website (NRCS 2022), one soil type is located within the Project site: San Joaquin sandy loam (SaA), 0 to 3 percent slopes, MLRA 17. The soil is alluvium derived from granite. The top 15 inches contain a stratified sandy clay loam before reaching a clay and cemented material from 15 to 37 inches below the surface. The soil reaches a loam extending down from 37 to 79 inches below surface. Foundation preparation and compaction would be sufficient to minimize the potential for damage to Project components from expansive soils.

(d) No Impact. The Project does not involve the installation or use of septic tanks or other wastewater disposal system. No restroom facilities are located at the site, and none are proposed or necessary for the Project.

(e) Less than Significant Impact with Mitigation. No unique paleontological or unique geological resources are known to be present within the Project site. While no such resources are known to be present within Project site, the limited excavations needed for installing Project components (e.g., water tank footings, booster pumps) in alluvium underlying the site would have the potential to unearth previously unknown unique paleontological resources. Mitigation Measure 9 requires that any unanticipated fossil or other potential paleontological resource discoveries during Project construction be managed through a procedure designed to assess and treat the find as quickly as possible and would reduce potential adverse impacts to less than significant.

VIII. GREENHOUSE GAS EMISSIONS

Would the project:	Potentially Significant Impact	Less Than Significant With Mitigation Incorporation	Less Than Significant Impact	No Impact
a) Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?	☐	☐	☒	☐
b) Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases?	☐	☐	☐	☒

Responses:

(a) Less than Significant Impact. Construction of the Project would generate GHG emissions from worker commute trips, haul trucks carrying supplies and materials to and from the Project site, and off-road construction equipment (e.g., excavators, graders). GHG emissions associated with Project construction were assessed in the, "Air Quality and Greenhouse Gas Assessment for the Madera County MD10A Water Tank Project" (ECORP, 2022a) report prepared in support of this Initial Study and included as Appendix A. Table VIII-1 summarizes estimated GHG emissions that would result from construction of the Project. As shown in Table VIII-1, the Project would result in the generation of approximately 16.35 metric tons of CO_2e during Project construction which is well below the CAPCOA potentially significant impact threshold of 900 metric tons of CO_2e annually. Once construction is complete, the generation of these GHG emissions would cease and the Project would not result in long-term GHG emissions. For these reasons, the Project impact associated with GHG emissions would not have a significant impact on the environment.

Table VIII-1. Construction-Related GHG Emissions

Emission Source	CO_2e (metric tons per year)
Project Construction 2022	16.35
CAPCOA's Potentially Significant Impact Threshold	*900*
Exceed CAPCOA Threshold?	No

Source: ECORP, 2022a. CalEEMod version 202.4.0.

(b) No Impact. Madera County does have an applicable plan, policy, or regulation adopted for the purpose of reducing GHG emissions. However, the State of California promulgates several mandates and goals to reduce statewide GHG emissions, including the goal to reduce statewide GHG emissions to 40 percent below 1990 levels by the year 2030 (SB 32). Temporary Project-related GHG emissions during construction would not exceed GHG significance thresholds developed in consideration of statewide greenhouse reduction goals. Furthermore, the Project would not include new permanent sources of GHG emissions and would not generate new or unplanned permanent GHG emissions. Therefore, the Project would not conflict with an applicable plan, policy, or regulation associated with GHG emissions reduction.

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 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 - b) Less Than Significant Impact. Project construction would require the use of nominal amounts of fuels and lubricants for operation of construction equipment and vehicles. All such use would be done in compliance with local, state, and federal management, transport, and disposal requirements. The Project would not create the potential for substantial risk or upset of conditions associated with the use of hazardous materials.

(c) No Impact. The Project site is not located within one-quarter mile of a school.

(d) No Impact. The Project is not located in an area included on a list of hazardous materials sites.

(e) No Impact. The Project site is not located within 2 miles of an airport or airstrip.

(f) No Impact. The Project is within an existing public facilities site with two vehicle access gates. The project would not have the potential to impair or interfere with an emergency response plan.

(g) Less than Significant Impact. The project is located within a developed site with limited vegetation. Potential fire ignition risks during construction would be minimized through construction procedures and specifications of the construction documentations, including requirements for the contractor to maintain construction storage areas in clean and fire safe manner. Water storage provided by the Project water storage tank would have a long-term beneficial contribution to available water supplies in the event of a local fire.

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 groundwater 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?	☐	☐	☐	☒
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) No Impact. The Project site contains existing stormwater collection and drainage which would be maintained during and following project construction. Project construction provisions would implement best management practices (BMPs) for controlling stormwater runoff from disturbed areas during the short construction duration. The proposed storage tank and booster pumps would not have the potential to degrade surface or groundwater quality.

(b) No Impact. The Project installation of a storage tank and booster pump state would not increase groundwater pumping or use. The Project would provide for storage of groundwater facilitating more efficient groundwater pumping and management. The Project would not increase the amount of groundwater pumped or consumed nor would the project have the potential to impede groundwater management.

(c) No Impact. The Project site contains existing stormwater collection and drainage facilities, including a stormwater collection basin, that would be maintained during and following Project construction. The Project site is not within an area from which stormwater discharges to a stream or river and would not have the potential to result in substantial erosion or siltation, substantially increase the rate or amount of surface water runoff in a manner that could result in flooding, cause polluted runoff, or impede or redirect flood flows.

(d) No Impact. The Project is not located in a flood hazard, tsunami, or seiche zone, and would not have the potential to release pollutants from flooding.

(e) No Impact. The Project installation of a storage tank and booster pump state would not increase groundwater pumping or use and would not have the potential to obstruct implementation of a water quality control plan (see “c” above regarding water quality). The Project would provide for storage of groundwater facilitating more efficient groundwater pumping and management. The Project would not increase the amount of groundwater pumped or consumed nor would the Project have the potential to impede groundwater management.

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 applicable land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect?	☐	☐	☐	☒

Responses:

(a) No Impact. The Project site is an existing public facilities site and would not expand the site boundary or otherwise divide an established community.

(b) No Impact. The Project would develop facilities on an existing public facilities site and has been previously anticipated as a component of those facilities. The Project would not conflict with the County General Plan, zoning, or other land use plan or policies associated with avoiding or mitigating an environmental effect.

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 and b) No Impact. The Project site is an existing public facilities site located within an established residential community with no feasible potential for mineral resources extraction. The site is not identified as a locally important mineral resource recovery site in a local plan.

XIII. NOISE

Would the project result in:	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 ordinances, 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 and b) Less than Significant Impact. Project construction would require the operation of mechanical equipment and vehicles that would generate noise and groundborne vibration typical of construction activities. Construction contract provisions would require that noise from Contractor's operations not exceed limits established by applicable laws or regulations and in no event exceed 86 dBA at a distance of 50 feet from the noise source. Construction noise would be limited to daytime periods and the approximately two-month construction period. Following construction and at initial startup, the equipment would be operated a sufficient period of time to determine machine operating characteristics, including noise, temperatures, and vibration, to observe performance characteristics, and to permit initial adjustment of operating controls. For these reasons neither project construction nor operation would create the potential for substantial noise or vibration impacts.

(c) No Impact. The Project site is not located within two miles of an airport or within the vicinity of a private airstrip.

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 business) 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) No Impact. The Project would provide for water supply storage to serve existing and planned uses and would not increase water supply in a manner than would include unplanned population growth either directly or indirectly.

(b) No Impact. The Project would not displace housing or people.

XV. PUBLIC SERVICES

	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:				
i) Fire protection?	☐	☐	☐	☒
ii) Police protection?	☐	☐	☐	☒
iii) Schools?	☐	☐	☐	☒
iv) Parks?	☐	☐	☐	☒
v) Other public facilities?	☐	☐	☐	☒

Responses:

(a) No Impact. The Project would not increase public service requirements and would not result in the potential need for expanded public facilities.

XVI. RECREATION

	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 - b) No Impact. The Project would not directly or indirectly increase the use of existing parks or recreation facilities and would not result in expansion or new recreational facilities.

XVII. TRANSPORTATION

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) No Impact. The Project does not involve activities, vehicle trips, or physical changes that would have the potential to conflict with local plans or policies pertaining to vehicle, bicycle, pedestrian, or transit circulation or facilities.

(b) No Impact. The Project would involve vehicle trips during the construction period for worker access and delivery of equipment and materials. Construction-related vehicle trips would not create the potential for conflicting with CEQA Guidelines section 15064.3 pertaining to vehicle miles traveled. Long-term operation of Project components would require minimal vehicle trips and would not have the potential for conflicting with CEQA Guidelines section 15064.3 pertaining to vehicle miles traveled.

(c) No Impact. The Project would not alter any roadways or create incompatible uses.

(d) No Impact. Adequate emergency access exists at the Project site and the Project would not impair the existing access.

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

Responses:

(a) No Impact. In accordance with Public Resources Code Section 21080.3.1, notification letters were sent to tribal representatives of California Native American tribes that have requested to be notified of projects within the project area of Madera County. Tribal representatives were advised of the Project and invited to request formal consultation with the County regarding the Project within 30 days of receiving the notification letters. Eight notification letters were sent to representatives of the following tribes on January 10, 2022:

- Table Mountain Rancheria
- Picayune Rancheria of the Chukchansi Indians
- Dumna Wo Wah Tribal Government
- Chowchilla Yokuts Tribe

As of the preparation of this Initial Study, more than 30 days following the County's transmittal of notification letters, no tribal representatives requested consultation. In a February 3, 2022, letter to the County from Robert Pennell, Tribal Cultural Resources Director of Table Mountain Rancheria, advised the County that Table Mountain Rancheria was declining participation but requested to be notified in the unlikely event that cultural resources are identified. Such notification would be provided through the mechanism identified in Mitigation Measure 8.

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 stormwater 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 had 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) No Impact. The Project would install a new component of an existing water supply system and the impacts of the Project are evaluated in this Initial Study. The Project would not require the relocation or construction of water, wastewater, stormwater drainage, or other utilities or service systems.

(b) No Impact. The Project is a new component of an existing water supply system and would not create a new water use or increase water demand or use.

(c) No Impact. The Project would not require wastewater treatment service.

(d and e) No Impact. Project construction would generate nominal solid waste associated with construction activities and would not result in new long-term solid waste generation.

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) No Impact. The Project is within an existing public facilities site with two vehicle access gates. The project would not have the potential to impair or interfere with an emergency response plan.

(b) No Impact. The Project is located within a developed site with limited vegetation. Potential fire ignition risks during construction would be minimized through construction procedures and specifications of the construction documentations, including requirements for the contractor to maintain construction storage areas in clean and fire safe manner. Water storage provided by the project would have a long-term beneficial contribution to available water supplies in the event of a local fire.

(c) No Impact. The Project would not require installation or maintenance of infrastructure with the potential to exacerbate fire risk.

(d) No Impact. As discussed above, the Project would not exacerbate risk of fire, and the site does not contain characteristics that would create potential exposure of people or structures to significant risk from post-fire conditions in the event of a fire.

XIX. MANDATORY FINDINGS OF SIGNIFICANCE

	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 significant 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) No Impact. For the reasons discussed in Sections I through XX, above, the Project would not have the potential to substantially degrade the quality of the environment or substantially degrade biological or cultural resources.

(b) No Impact. The Project would result in an incremental and planned addition to public facilities at a site previously developed with public facilities. The Project would have either no impact or a less than significant impact on resource issues as evaluated herein. In no instance are the Project's less than significant impacts considered to have the potential to result in cumulatively considerable impacts.

(c) No Impact. For the reasons discussed in Sections I through XX, above, the Project would not have the potential to result in environmental effects that would cause substantial adverse direct or indirect effects on human beings.

Mitigation Measures

Mitigation Measures 1 through 5 below were adopted with MND #2012-26 in 2013 as discussed in the Project description section of this Initial Study and remain in effect, as applicable, to the Project. Additional Mitigation Measures 6 through 9 below are recommended for the Project based on the analysis herein.

Mitigation Measure 1. *The color of the water tank and facilities shall be of a natural tone and shall blend into the surrounding natural environment.*

Mitigation Measure 2. *Any lighting shall be hooded and directed away from neighboring residences.*

Mitigation Measure 3. *The applicant shall comply with San Joaquin Air Pollution Control District requirements.*

Mitigation Measure 4. *The owners/operators of this facility and/or shop must complete and submit a Business Activities Declaration Form with the CUPA Program within the Environmental Health Department before onset of construction activities. This is to report storage of hazardous materials (like petroleum fuels or lubricants) onsite at this location.*

Mitigation Measure 5. *Once the new well is constructed, a monitoring program will be implemented to document groundwater levels at the well site and in neighboring domestic wells during pump testing of the well. With a groundwater level decline of five feet or less will require no mitigation. A decline of over five feet, but not significant enough to affect the operation of the well will require a one-time compensation for increased energy costs. An impact that affects the ability of the well to provide water for the resident will require lowering of the pump (if feasible), well replacement, or connection to the water distribution system.*

Mitigation Measure 6. *The following emission reduction measures shall be implemented during Project construction:*

a. *All diesel-fueled construction equipment shall be California Air Resources Board (CARB) Tier 4-certified as set forth in Section 2423 of Title 13 of the California Code of Regulations, and Part 89 of Title 40 of the Code of Federal Regulations.*
b. *All construction equipment shall be maintained and properly tuned in accordance with manufacturers' specifications.*
c. *Project construction shall comply with all applicable SJVAPCD rules and regulations.*

Mitigation Measure 7. *If construction is to be initiated during the nesting season (February 1 through September 30), a qualified biologist shall conduct a preconstruction nesting bird survey of all areas associated with construction activities, and all accessible areas within 100 feet, within 14 days prior to commencement of construction. If active nests are found, a no-disturbance buffer around the nest shall be established. The buffer distance shall be established by a qualified biologist in consultation with the CDFW. The buffer shall be maintained until the fledglings are capable of flight and become independent of the nest, to be determined by a qualified biologist. Once the young are independent of the nest, no further measures are necessary. If construction is to be initiated during the period between November 1 through January 31, the preceding preconstruction measures are not required.*

Mitigation Measure 8. *If subsurface deposits believed to be cultural or human in origin are discovered during construction, work shall halt within a 100-foot radius of the discovery. A qualified professional archaeologist, meeting the Secretary of the Interior's Professional Qualification Standards for prehistoric and historic archaeology, shall be retained to evaluate the significance of the find, and shall have the authority to modify the no-work radius as appropriate, using professional judgment. The following actions/notifications shall apply depending on the nature of the find:*

a. *If the professional archaeologist determines that the find does not represent a cultural resource, work may resume, and no agency notifications are required.*
b. *If the professional archaeologist determines that the find does represent a cultural resource from any time period or cultural affiliation, the archaeologist shall immediately notify the County of Madera. The County shall consult on a finding of eligibility and implement appropriate treatment measures, if the find is determined to be a Historical Resource under CEQA, as defined in Section 15064.5(a) of the CEQA Guidelines or a historic property under Section 106 NHPA, if applicable. Work may not resume within the no-work radius until the lead agencies, through consultation as appropriate, determine*

that the site either: 1) is not a Historical Resource under CEQA, as defined in Section 15064.5(a) of the CEQA Guidelines or a Historic Property under Section 106; or 2) that the treatment measures have been completed to their satisfaction.

c. *If the find includes human remains, or remains that are potentially human, they shall ensure reasonable protection measures are taken to protect the discovery from disturbance (AB 2641). The archaeologist shall notify the Madera County Coroner (per § 7050.5 of the Health and Safety Code). The provisions of § 7050.5 of the California Health and Safety Code, §5097.98 of the California PRC, and AB 2641 will be implemented. If the coroner determines the remains are Native American and not the result of a crime scene, the coroner will notify the NAHC, which then will designate a Native American Most Likely Descendant (MLD) for the Project (§ 5097.98 of the PRC). The designated MLD will have 48 hours from the time access to the property is granted to make recommendations concerning treatment of the remains. If the landowner does not agree with the recommendations of the MLD, the NAHC can mediate (§ 5097.94 of the PRC). If no agreement is reached, the landowner must rebury the remains where they will not be further disturbed (§ 5097.98 of the PRC). This will also include either recording the site with the NAHC or the appropriate Information Center; using an open space or conservation zoning designation or easement; or recording a reinternment document with the county in which the property is located (AB 2641). Work may not resume within the no work radius until the lead agencies, through consultation as appropriate, determine that the treatment measures have been completed to their satisfaction.*

Mitigation Measure 9. *If subsurface deposits having the potential to be a paleontological resource are discovered during construction, all work must halt within a 100-foot radius of the discovery. A qualified professional archaeologist/paleontologist shall be retained to evaluate the significance of the find, and shall have the authority to modify the no-work radius as appropriate, using professional judgment. The following actions/notifications shall apply depending on the nature of the find:*

a. *If the professional archaeologist/paleontologist determines that the find does not represent a unique paleontological resource, work may resume, and no agency notifications are required.*

b. *If the professional archaeologist/paleontologist determines that the find does represent a unique paleontological resource, the archaeologist/paleontologist shall immediately notify the County of Madera. The County shall consult on a finding of eligibility and implement appropriate treatment measures for the find. Work may not resume within the no-work radius until the County determines that appropriate treatment measures have been completed sufficient to avoid the loss of a unique paleontological resource.*

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Appendix B Biological Resources Assessment for the MD10A Water Tank Storage Project

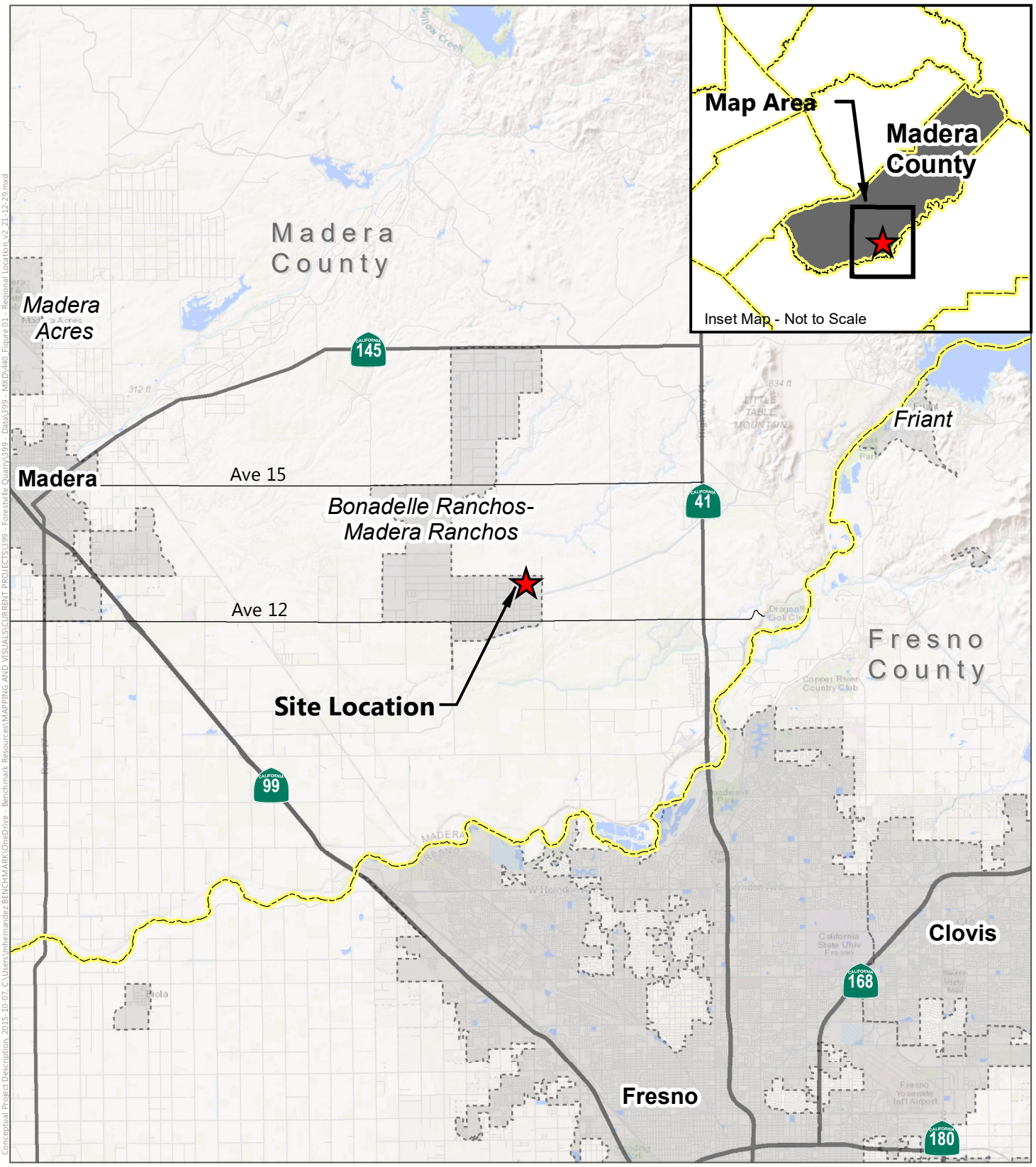
BIBLIOGRAPHY

ECORP, 2022a. “Air Quality and Greenhouse Gas Assessment for the Madera County MD10A Water Tank Project.” ECORP Consulting, Inc. February 2022.

__, 2022b. “Biological Resources Assessment for the MD10A Water Tank Storage Project.” ECORP Consulting, Inc. February 2022.

__, 2022c. “Cultural Resources Inventory Report for the MD10A Water Tank Storage Project.” ECORP Consulting, Inc. January 2022.

FIGURES



SOURCES: ESRI World Shaded Relief accessed Dec 2021, ESRI World Topographic Map accessed Dec 2021; ESRI World Streetmap, 2009; compiled by Benchmark Resources in 2021

County Boundary

BENCHMARK RESOURCES

N

0 1.5 3 6 Miles

MD10A Dublin Plant Site Location

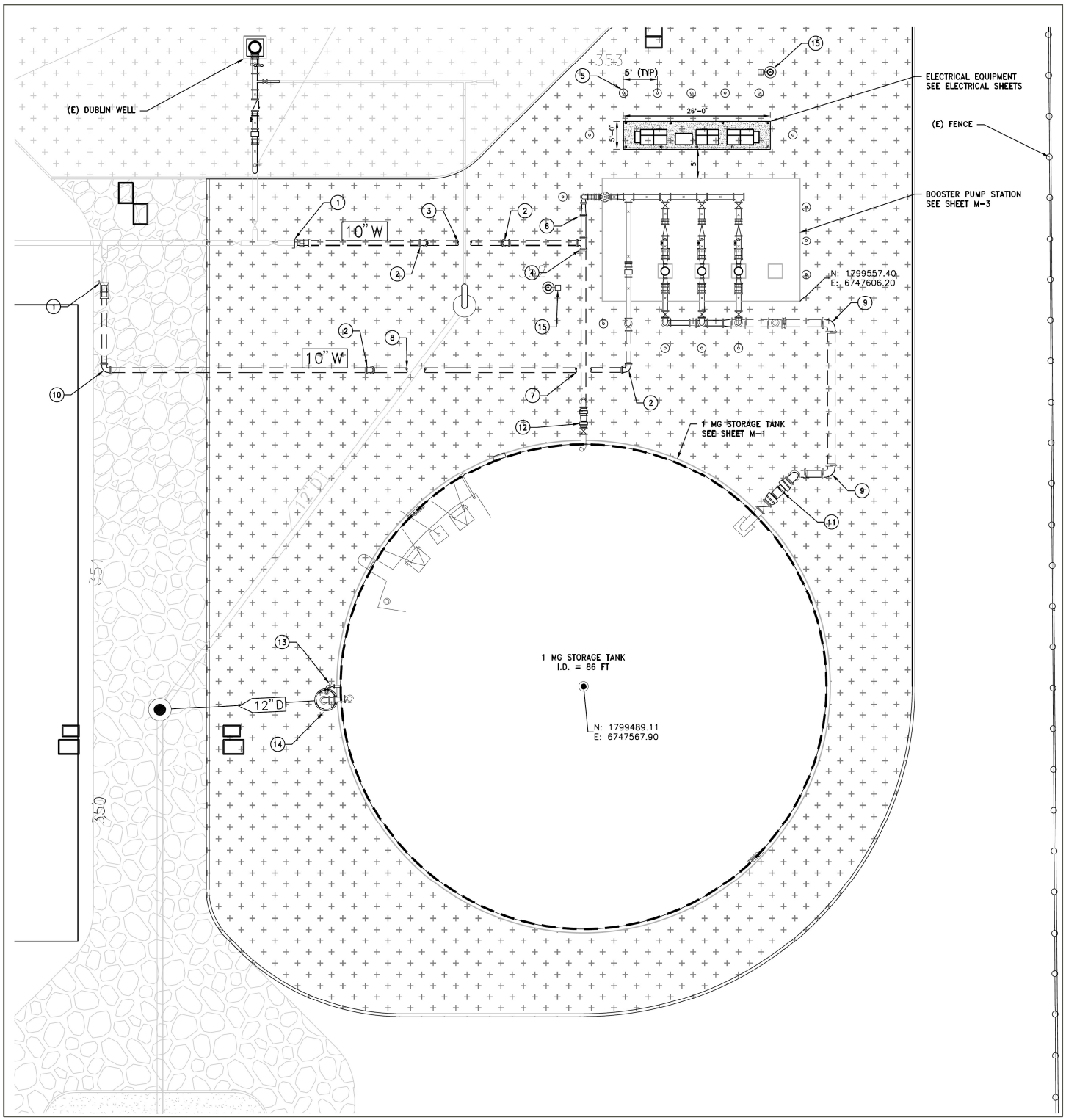
MD10A DUBLIN PLANT STORAGE TANK PROJECT

Figure 1

SOURCE: Google Earth, 2022.
NOTES: Dublin Plant Site in red boundary.

MD10A Dublin Plant Site and Surrounding Area
MD10A DUBLIN PLANT STORAGE TANK PROJECT
Figure 2

BENCHMARK RESOURCES



SOURCE: MD10A Dublin Plant Storage Tank and Booster Pump Station Improvement Plans, July 2019.

MD10A Dublin Plant Site Improvement Plan
MD10A DUBLIN PLANT STORAGE TANK PROJECT
Figure 3

BENCHMARK RESOURCES

APPENDICES

Appendix A

Air Quality and Greenhouse Gas Assessment for the Madera County MD10A Water Tank Project

Air Quality and Greenhouse Gas Assessment

MD10A Water Storage Tank

Madera County, California

Prepared For:

Benchmark Resources
2515 East Bidwell Street
Folsom, CA 95630

February 2022

ECORP Consulting, Inc.
ENVIRONMENTAL CONSULTANTS

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LIST OF ACRONYMS AND ABBREVIATIONS

°F	Degrees Fahrenheit
µg/m^3	Micrograms per cubic meter; ppm = parts per million
1992 CO Plan	1992 Federal Attainment Plan for Carbon Monoxide
AB	Assembly Bill
AQMD	Air Quality Management District
AQTF	Air Quality Task Force
AOI	Area of Interest
ATCM	Airborne Toxic Control Measure
BAAQMD	Bay Area Air Quality Management District
CAA	Clean Air Act
CAAQS	California Ambient Air Quality Standards
CalEEMod	California Emissions Estimator Model
Caltrans	California Department of Transportation
CAP	Climate Action Plan
CAPCOA	California Air Pollution Control Officers Association
CARB	California Air Resources Board
CCAA	California Clean Air Act
CCR	California Code of Regulations
CEQA	California Environmental Quality Act
CH_4	Methane
CO_2	Carbon dioxide
CO_2e	Carbon dioxide equivalent
County	Madera County
DOC	Department of Conservation
DPM	Diesel particulate matter
EIR/EIS	Environmental Impact Report/ Environmental Impact Statement
EO	Executive Order
FHWA	Federal Highway Administration
FTA	Federal Transit Administration
GHG	Greenhouse gas
GWP	Global warming potential
HCP	Habitat Conservation Plan
IPCC	Intergovernmental Panel on Climate Change

LIST OF ACRONYMS AND ABBREVIATIONS

KAFY	Thousand Acre-Feet per Year
MAFY	Million Acre-Feet per Year
MWD	Metropolitan Water District
N_2O	Nitrous oxide
NAAQS	National Ambient Air Quality Standards
NO_2	Nitrogen dioxide
NO_x	Nitric oxides
O_3	Ozone
PDCP	Proactive Dust Control Plan
PM	Particulate matter
PM_{10}	Coarse particulate matter
$PM_{2.5}$	Fine particulate matter
ppb	Parts per billion
Project	Madera County MD10A Water Tank Project
ROGs	Reactive organic gases
SB	Senate Bill
SIP	State Implementation Plan
SO_2	Sulfur dioxide
SO_x	Sulfur oxides
SR	State Route
SJVAB	San Joaquin Valley Air Basin
SJVAPCD	San Joaquin Valley Air Pollution Control District
TACs	Toxic air contaminants
USEPA	U.S. Environmental Protection Agency
VOCs	Volatile organic compounds
VMT	Vehicle Miles Traveled

1.0 INTRODUCTION

This report documents the results of an assessment of both air quality and greenhouse gas (GHG) emissions completed for the Madera County MD10A Water Storage Tank Project (Project). The Project consists of installation and operation of a one-million-gallon aboveground water storage tank, booster pumps, and ancillary equipment at the Dublin Plant site, which is an existing public facilities site in the northeast portion of the MD10A service area. The purpose of this assessment is to estimate Project-generated criteria air pollutants and GHG emissions attributable to the Project and to determine the level of impact the Project would have on the environment. This assessment was prepared using methodologies and assumptions recommended in the provisions promulgated by the San Joaquin Valley Air Pollution Control District (SJVAPCD). Regional and local existing conditions are presented, along with pertinent emissions standards and regulations.

1.1 Project Location and Description

The Madera County Maintenance District (District) is proposing the installation of a one-million-gallon water storage tank, up to 30 feet tall and 85 feet in diameter, booster pumps, and ancillary equipment at an existing public facilities site in the community of Madera Ranchos in Madera County. The approximate two-acre site fronts Dublin Drive in Madera Ranchos and is surrounded by large-lot residential land uses. The site is bound by Dublin Drive to the north, a large-lot residential property to the east with Road 37¾ beyond, a large-lot residential property to the south with Avenue 12¾ beyond, and two residential properties to the west with Road 37½ beyond. The tank would reside in the southern section of the parcel. The Dublin Plant site currently has groundwater wells, photovoltaic panels, and drainage facilities in other areas that would be unaffected by the Project.

The Project is estimated to take approximately 2 months to construct and is anticipated to begin in August of 2022. Construction would involve installation of a concrete foundation for the tank, tank assembly, installation of booster pumps and ancillary equipment, and asphalt paving in the area surrounding the tank. The water tank panels would be fabricated and coated offsite and assembled by bolting panels together upon delivery to the site. Project construction would be within an approximately 0.45-acre portion of the 2.18 acre Dublin Plant site.

2.0 AIR QUALITY

2.1 Air Quality Setting

Air quality in a region is determined by its topography, meteorology, and existing air pollutant sources. These factors are discussed below, along with the current regulatory structure that applies to the San Joaquin Valley Air Basin (SJVAB), which encompasses the Project site, pursuant to the regulatory authority of the SJVAPCD.

Ambient air quality is commonly characterized by climate conditions, the meteorological influences on air quality, and the quantity and type of pollutants released. The air basin is subject to a combination of topographical and climatic factors that reduce the potential for high levels of regional and local air

pollutants. The following section describes the pertinent characteristics of the air basin and provides an overview of the physical conditions affecting pollutant dispersion in the Project Area.

2.1.1 San Joaquin Valley Air Basin

The California Air Resources Board (CARB) divides the State into air basins that share similar meteorological and topographical features. The SJVAB occupies the southern two-thirds of the Central Valley and includes the Madera County. The SJVAB is mostly flat, less than 1,000 feet in elevation, and is surrounded on three sides by the Sierra Nevada, Tehachapi, and Coast Range mountains. This bowl-shaped feature forms a natural barrier to the dispersion (spreading over an area) of air pollutants. As a result, the SJVAB is highly susceptible to pollutant accumulation over time (SJVAPCD 2002).

Climate and Meteorology

The climate in the SJVAB is strongly influenced by the presence of mountain ranges. The mountains create a partial rain shadow over the valley and block the free circulation of air, trapping stable air in the valley for extended periods. The climate is semi-arid and is characterized by long, hot, dry summers and cool, wet, and foggy winters. Based on historical data obtained from the meteorological station located in Bakersfield, ambient temperatures range from an average minimum of 39˚F in January to an average maximum of 98˚F in July. The average monthly precipitation is approximately 6.24 inches per year, with January and February averaging 1.35 inches. The average daily wind speed is 5.9 miles per hour (mph). The air flow patterns are characterized by one of four directions depending on the season. For example, during the summer, winds are predominantly northwestern (upvalley), while winters typically feature a prevailing stagnant condition that leads to high incidence of valley fog.

Atmospheric Stability and Inversions

Stability describes the relative resistance of the atmosphere to vertical motion, which in turn mixes the air. The stability of the atmosphere is dependent on the vertical distribution of temperature with height. Unstable conditions often occur during daytime hours when solar heating warms the lower atmospheric layers while the upper layers remain cold. In contrast, an inversion is a layer of warmer air over a layer of cooler air. Inversions influence the mixing depth of the atmosphere, which is the vertical depth available for diluting air pollution near the ground. The SJVAB experiences both surface-based and elevated inversions. The shallow surface-based inversions can be present in the morning but are often broken by daytime heating of the air layers near the ground. The deep, elevated inversions occur less frequently than the surface-based inversions but generally result in more severe air stagnation. The surface-based inversions occur more frequently in the fall, and the stronger elevated inversions usually occur during December and January. These naturally occurring conditions can make local air quality significantly worse than it would be without the inversions and the stagnation created by regional weather and topography.

2.1.2 Criteria Air Pollutants

Criteria air pollutants are defined as those pollutants for which the federal and state governments have established air quality standards for outdoor or ambient concentrations to protect public health with a

determined margin of safety. Ozone (O_3), coarse particulate matter (PM_{10}), and fine particulate matter ($PM_{2.5}$) are generally considered to be regional pollutants because they or their precursors affect air quality on a regional scale. Pollutants such as carbon monoxide (CO), nitrogen dioxide (NO_2), and sulfur dioxide (SO_2) are considered to be local pollutants because they tend to accumulate in the air locally. Health effects commonly associated with criteria pollutants are summarized in Table 2-1.

Table 2-1. Criteria Air Pollutants- Summary of Common Sources and Effects

Pollutant	Major Manmade Sources	Human Health & Welfare Effects
CO	An odorless, colorless gas formed when carbon in fuel is not burned completely; a component of motor vehicle exhaust.	Reduces the ability of blood to deliver oxygen to vital tissues, effecting the cardiovascular and nervous system. Impairs vision, causes dizziness, and can lead to unconsciousness or death.
NO_2	A reddish-brown gas formed during fuel combustion for motor vehicles, energy utilities and industrial sources.	Respiratory irritant; aggravates lung and heart problems. Precursor to ozone and acid rain. Causes brown discoloration of the atmosphere.
O_3	Formed by a chemical reaction between reactive organic gases (ROGs) and nitrous oxides (N_2O) in the presence of sunlight. Common sources of these precursor pollutants include motor vehicle exhaust, industrial emissions, solvents, paints and landfills.	Irritates and causes inflammation of the mucous membranes and lung airways; causes wheezing, coughing and pain when inhaling deeply; decreases lung capacity; aggravates lung and heart problems. Damages plants; reduces crop yield.
PM_{10} & $PM_{2.5}$	Power plants, steel mills, chemical plants, unpaved roads and parking lots, wood-burning stoves and fireplaces, automobiles and others.	Increased respiratory symptoms, such as irritation of the airways, coughing, or difficulty breathing; aggravated asthma; development of chronic bronchitis; irregular heartbeat; nonfatal heart attacks; and premature death in people with heart or lung disease. Impairs visibility (haze).
SO_2	A colorless, nonflammable gas formed when fuel containing sulfur is burned. Examples are refineries, cement manufacturing, and locomotives.	Respiratory irritant. Aggravates lung and heart problems. Can damage crops and natural vegetation. Impairs visibility.

Source: California Air Pollution Control Officers Association (CAPCOA 2013)

Carbon Monoxide

CO in the urban environment is associated primarily with the incomplete combustion of fossil fuels in motor vehicles. CO combines with hemoglobin in the bloodstream and reduces the amount of oxygen that can be circulated through the body. High CO concentrations can cause headaches, aggravate cardiovascular disease, and impair central nervous system functions. CO concentrations can vary greatly over comparatively short distances. Relatively high concentrations of CO are typically found near crowded intersections and along heavy roadways with slow moving traffic. Even under the most severe

meteorological and traffic conditions, high concentrations of CO are limited to locations within relatively short distances of the source. Overall CO emissions are decreasing because of the Federal Motor Vehicle Control Program, which has mandated increasingly lower emission levels for vehicles manufactured since 1973. CO levels in the SSAB follow the state and federal one- and eight-hour standards.

Nitrogen Oxides

Nitrogen gas comprises about 80 percent of the air and is naturally occurring. At high temperatures and under certain conditions, nitrogen can combine with oxygen to form several different gaseous compounds collectively called nitric oxides (NO_x). Motor vehicle emissions are the main source of NO_x in urban areas. NO_x is very toxic to animals and humans because of its ability to form nitric acid with water in the eyes, lungs, mucus membrane, and skin. In animals, long-term exposure to NO_x increases susceptibility to respiratory infections, and lowering resistance to such diseases as pneumonia and influenza. Laboratory studies show that susceptible humans, such as asthmatics, who are exposed to high concentrations can suffer from lung irritation or possible lung damage. Precursors of NO_x, such as NO and NO_2, attribute to the formation of O_3 and $PM_{2.5}$. Epidemiological studies have also shown associations between NO_2 concentrations and daily mortality from respiratory and cardiovascular causes and with hospital admissions for respiratory conditions.

Ozone

O_3 is a secondary pollutant, meaning it is not directly emitted. It is formed when volatile organic compounds (VOCs) or reactive organic gasses (ROGs) and NO_x undergo photochemical reactions that occur only in the presence of sunlight. The primary source of ROG emissions is unburned hydrocarbons in motor vehicles and other internal combustion engine exhaust. NO_x forms as a result of the combustion process, most notably due to the operation of motor vehicles. Sunlight and hot weather cause ground-level O_3 to form. Ground-level O_3 is the primary constituent of smog. Because O_3 formation occurs over extended periods of time, both O_3 and its precursors are transported by wind and high O_3 concentrations can occur in areas well away from sources of its constituent pollutants.

People with lung disease, children, older adults, and people who are active can be affected when O_3 levels exceed ambient air quality standards. Numerous scientific studies have linked ground-level O_3 exposure to a variety of problems including lung irritation, difficult breathing, permanent lung damage to those with repeated exposure, and respiratory illnesses.

Particulate Matter

PM includes both aerosols and solid particulates of a wide range of sizes and composition. Of concern are those particles smaller than or equal to 10 microns in diameter size (PM_{10}) and small than or equal to 2.5 microns in diameter ($PM_{2.5}$). Smaller particulates are of greater concern because they can penetrate deeper into the lungs than larger particles. PM_{10} is generally emitted directly as a result of mechanical processes that crush or grind larger particles or form the resuspension of dust, typically through construction activities and vehicular travel. PM_{10} generally settles out of the atmosphere rapidly and is not readily transported over large distances. $PM_{2.5}$ is directly emitted in combustion exhaust and is formed in

atmospheric reactions between various gaseous pollutants, including NO_x, sulfur oxides (SO_x) and VOCs. $PM_{2.5}$ can remain suspended in the atmosphere for days and/or weeks and can be transported long distances.

The principal health effects of airborne PM are on the respiratory system. Short-term exposure of high $PM_{2.5}$ and PM_{10} levels are associated with premature mortality and increased hospital admissions and emergency room visits. Long-term exposure is associated with premature mortality and chronic respiratory disease. According to the USEPA, some people are much more sensitive than others to breathing PM_{10} and $PM_{2.5}$. People with influenza, chronic respiratory and cardiovascular diseases, and the elderly may suffer worse illnesses; people with bronchitis can expect aggravated symptoms; and children may experience decline in lung function due to breathing in PM_{10} and $PM_{2.5}$. Other groups considered sensitive include smokers and people who cannot breathe well through their noses. Exercising athletes are also considered sensitive because many breathe through their mouths.

2.1.3 Toxic Air Contaminants

In addition to the criteria pollutants discussed above, toxic air contaminants (TACs) are another group of pollutants of concern. TACs are considered either carcinogenic or noncarcinogenic based on the nature of the health effects associated with exposure to the pollutant. For regulatory purposes, carcinogenic TACs are assumed to have no safe threshold below which health impacts would not occur, and cancer risk is expressed as excess cancer cases per one million exposed individuals. Noncarcinogenic TACs differ in that there is generally assumed to be a safe level of exposure below which no negative health impact is believed to occur. These levels are determined on a pollutant-by-pollutant basis.

There are many different types of TACs, with varying degrees of toxicity. Sources of TACs include industrial processes such as petroleum refining and chrome plating operations, commercial operations such as gasoline stations and dry cleaners, and motor vehicle exhaust. Additionally, diesel engines emit a complex mixture of air pollutants composed of gaseous and solid material. The solid emissions in diesel exhaust are known as diesel particulate matter (DPM). In 1998, California identified DPM as a TAC based on its potential to cause cancer, premature death, and other health problems (e.g., asthma attacks and other respiratory symptoms). Those most vulnerable are children (whose lungs are still developing) and the elderly (who may have other serious health problems). Overall, diesel engine emissions are responsible for the majority of California's known cancer risk from outdoor air pollutants. Public exposure to TACs can result from emissions from normal operations, as well as from accidental releases of hazardous materials during upset conditions. The health effects of TACs include cancer, birth defects, neurological damage, and death.

Diesel Exhaust

Most recently, CARB identified DPM as a TAC. DPM differs from other TACs in that it is not a single substance but rather a complex mixture of hundreds of substances. Diesel exhaust is a complex mixture of particles and gases produced when an engine burns diesel fuel. DPM is a concern because it causes lung cancer; many compounds found in diesel exhaust are carcinogenic. DPM includes the particle-phase constituents in diesel exhaust. The chemical composition and particle sizes of DPM vary between different

engine types (heavy-duty, light-duty), engine operating conditions (idle, accelerate, decelerate), fuel formulations (high/low sulfur fuel), and the year of the engine (USEPA 2002). Some short-term (acute) effects of diesel exhaust include eye, nose, throat, and lung irritation, and diesel exhaust can cause coughs, headaches, light-headedness, and nausea. DPM poses the greatest health risk among the TACs; due to their extremely small size, these particles can be inhaled and eventually trapped in the bronchial and alveolar regions of the lung.

Asbestos

The term "asbestos" describes naturally occurring fibrous minerals found in certain types of rock formations. It is a mineral compound of silicon, oxygen, hydrogen, and various metal cations. When mined and processed, asbestos is typically separated into very thin fibers. When these fibers are present in the air, they are normally invisible to the naked eye. Once airborne, asbestos fibers can cause serious health problems. If inhaled, asbestos fibers can impair normal lung functions, and increase the risk of developing lung cancer, mesothelioma, or asbestosis.

Naturally occurring asbestos, which was identified as a TAC in 1986 by CARB, is in many parts of California and is commonly associated with ultramafic rock. The Project site is not located in an area of known or suspected naturally occurring asbestos (DOC 2000).

2.1.4 Ambient Air Quality

Ambient air quality at the Project Site can be inferred from ambient air quality measurements conducted at nearby air quality monitoring stations. CARB maintains more than 60 monitoring stations throughout California. O_3, PM_{10} and $PM_{2.5}$ are the pollutant species most potently affecting the Project region. As described in detail below, the Project region is designated as a nonattainment area for the federal O_3 and $PM_{2.5}$ standards and is also a nonattainment area for the state standards for O_3, PM_{10} and $PM_{2.5}$ (CARB 2019). The Fresno Skypark air quality monitoring station (7252 N Blythe Ave, Fresno CA 93722), located approximately 6.5 miles south-southeast of the Project Site, monitors ambient concentrations of O_3 and NO_2. The Clovis-N Villa Avenue air quality monitoring station (908 Villa Avenue, Clovis) located approximately 11 miles southeast of the Project Site, monitors ambient concentrations of PM_{10} and $PM_{2.5}$, a subset of PM_{10}. Ambient emission concentrations will vary due to localized variations in emission sources and climate and should be considered "generally" representative of ambient concentrations in the Project Area.

Table 2-2 summarizes the most recently reviewed O_3 data at the Fresno-Sierra Skypark monitoring station and most recently reviewed PM_{10} and $PM_{2.5}$ from the Clovis-North Villa Avenue monitoring station for each year that the monitoring data is provided. O_3, PM_{10} and $PM_{2.5}$ are the pollutant species most potently affecting the Project region.

Table 2-2. Summary of Ambient Air Quality Data

Pollutant Standards	2018	2019	2020
O_3- Fresno-Sierra Skypark #2			
Max 1-hour concentration (ppm)	0.100	0.097	0.116
Max 8-hour concentration (ppm) (state/federal)	0.087 / 0.087	0.084 / 0.084	0.095 / 0.095
Number of days above 1-hour standard (state/federal)	4 / 0	2 / 0	8 / 0
Number of days above 8-hour standard (state/federal)	13 / 27	3 / 9	11 / 18
PM_{10}- Clovis-North Villa Avenue			
Max 24-hour concentration (µg/m^3) (state/federal)	118.6 / 114.6	155.7 / 150.9	296.0 / 180.9
Number of days above 24-hour standard (state/federal)	90.4 / 0	65.9 / 0	117.5 / 5.8
$PM_{2.5}$- Clovis-North Villa Avenue			
Max 24-hour concentration (µg/m^3) (state/federal)	82.3 / 26.0	39.1 / 39.1	193.7 / 193.7
Number of days above federal 24-hour standard	26.0	*	40.0

Source: CARB 2021a
µg/m^3 = micrograms per cubic meter; ppm = parts per million
* = Insufficient data available

The USEPA and CARB designate air basins or portions of air basins and counties as being in "attainment" or "nonattainment" for each of the criteria pollutants. Areas that do not meet the standards are classified as nonattainment areas. The National Ambient Air Quality Standards (NAAQS) (other than O_3, PM_{10} and $PM_{2.5}$ and those based on annual averages or arithmetic mean) are not to be exceeded more than once per year. The NAAQS for O_3, PM_{10}, and $PM_{2.5}$ are based on statistical calculations over one- to three-year periods, depending on the pollutant. The California Ambient Air Quality Standards (CAAQS) are not to be exceeded during a three-year period. The attainment status for the portion of the SJVAB encompassing the Project site is included in Table 2-3.

Table 2-3. Attainment Status of Criteria Pollutants in the Madera County Portion of the SJVAB

Pollutant	State Designation	Federal Designation
O_3	Nonattainment	Nonattainment
PM_{10}	Nonattainment	Nonattainment
$PM_{2.5}$	Nonattainment	Nonattainment
CO	Attainment	Unclassified/Attainment
NO_2	Attainment	Unclassified/Attainment
SO_2	Attainment	Unclassified/Attainment

Source: CARB 2019

The determination of whether an area meets the state and federal standards is based on air quality monitoring data. Some areas are unclassified, which means there is insufficient monitoring data for determining attainment or nonattainment. Unclassified areas are typically treated as being in attainment. Because the attainment/nonattainment designation is pollutant-specific, an area may be classified as nonattainment for one pollutant and attainment for another. Similarly, because the state and federal standards differ, an area could be classified as attainment for the federal standards of a pollutant and as nonattainment for the state standards of the same pollutant. As previously mentioned, the region is designated as a nonattainment area for the federal O_3, PM_{10} and $PM_{2.5}$ standards and is also a nonattainment area for the state standards for O_3, PM_{10} and $PM_{2.5}$ (CARB 2019).

2.1.5 Sensitive Receptors

Sensitive receptors are defined as facilities or land uses that include members of the population who are particularly sensitive to the effects of air pollutants, such as children, the elderly, and people with illnesses. Examples of these sensitive receptors are residences, schools, hospitals, and daycare centers. CARB has identified the following groups of individuals as the most likely to be affected by air pollution: the elderly over 65, children under 14, athletes, and persons with cardiovascular and chronic respiratory diseases such as asthma, emphysema, and bronchitis. The nearest sensitive receptors to the Project site are single-family residences located on the eastern and western boarders of the parcel, with the closest being on the corner of Dublin Dr. and Rd 37 ¾.

2.2 Regulatory Framework

2.2.1 Federal

Clean Air Act

The Clean Air Act (CAA) of 1970 and the CAA Amendments of 1971 required the USEPA to establish the NAAQS, with states retaining the option to adopt more stringent standards or to include other specific

pollutants. On April 2, 2007, the Supreme Court found that carbon dioxide (CO_2) is an air pollutant covered by the CAA; however, no NAAQS have been established for CO_2.

These standards are the levels of air quality considered safe, with an adequate margin of safety, to protect the public health and welfare. They are designed to protect those "sensitive receptors" most susceptible to further respiratory distress such as asthmatics, the elderly, very young children, people already weakened by other disease or illness, and persons engaged in strenuous work or exercise. Healthy adults can tolerate occasional exposure to air pollutant concentrations considerably above these minimum standards before adverse effects are observed.

The USEPA has classified air basins (or portions thereof) as being in attainment, nonattainment, or unclassified for each criteria air pollutant, based on whether or not the NAAQS have been achieved. If an area is designated unclassified, it is because inadequate air quality data were available as a basis for a nonattainment or attainment designation. Table 2-3 lists the federal attainment status of the SJVAB for the criteria pollutants.

2.2.2 State

California Clean Air Act

The California Clean Air Act (CCAA) allows the state to adopt ambient air quality standards and other regulations provided that they are at least as stringent as federal standards. CARB, a part of the California Environmental Protection Agency, is responsible for the coordination and administration of both federal and state air pollution control programs within California, including setting the CAAQS. CARB also conducts research, compiles emission inventories, develops suggested control measures, and provides oversight of local programs. CARB establishes emissions standards for motor vehicles sold in California, consumer products (such as hairspray, aerosol paints, and barbecue lighter fluid), and various types of commercial equipment. It also sets fuel specifications to further reduce vehicular emissions. CARB also has primary responsibility for the development of California's State Implementation Plan (SIP), for which it works closely with the federal government and the local air districts.

California State Implementation Plan

The CCAA (and its subsequent amendments) requires the state to prepare an air quality control plan referred to as the SIP. The SIP is a living document that is periodically modified to reflect the latest emissions inventories, plans, and rules and regulations of air basins as reported by the agencies with jurisdiction over them. The CAA Amendments dictate that states containing areas violating the NAAQS revise their SIPs to include extra control measures to reduce air pollution. The SIP includes strategies and control measures to attain the NAAQS by deadlines established by the CAA. The USEPA has the responsibility to review all SIPs to determine if they conform to the requirements of the CAA. State law makes CARB the lead agency for all purposes related to the SIP. Local air districts and other agencies prepare SIP elements and submit them to CARB for review and approval. CARB then forwards SIP revisions to the USEPA for approval and publication in the Federal Register.

The SJVAPCD is the agency primarily responsible for ensuring that national and state ambient air quality standards are not exceeded and that air quality conditions are maintained in the SJVAB. In an attempt to achieve NAAQS and CAAQS and maintain air quality, the air district has completed the following air quality attainment plans and reports, which together constitute the SIP for the portion of the SJVAB encompassing the Project:

- **2007 Ozone Plan**. The Ozone Plan, approved in 2007, contains a comprehensive list of regulatory and incentive-based measures to reduce emissions and particulate matter with the goal of addressing the USEPA's standards. The 2007 Ozone Plan calls for a 75 percent reduction of ozone-forming NOx emissions (SJVAPCD 2007a). These NO_x reductions are preferred and essential to meeting the new 8-hour ozone and $PM_{2.5}$ standards. The plan calls for new and more stringent rules and regulations for stationary sources, new and more stringent tail-pipe emission standards for mobile sources, emission standards for locomotives, local regulations and voluntary measures to reduce and/or mitigate mobile source emissions, incentive-based measures, and alternative compliance programs.

- **2013 Plan for the Revoked 1-Hour Ozone Standard.** The SJVAPCD initially adopted this plan in 2004 to address USEPA's 1-hour ozone standard. Although the USEPA approved the SJVAPCD's 2004 plan in 2010, the USEPA withdrew this approval as a result of a court ruling in November 2012. The SJVAPCD adopted a new plan for the USEPA's revoked 1-hour ozone standard in September 2013 (SJVAPCD 2013).

- **2014 Reasonably Available Control Technology (RACT) Demonstration for the 8-Hour Ozone State Implementation Plan (SIP).** The SJVAPCD adopted the Reasonably Available Control Technology (RACT) Demonstration for the 8-Hour Ozone Standard in 2014. The Clean Air Act requires RACT for certain sources in all nonattainment areas (SJVAPCD 2014).

- **2016 Plan for the 2008 8-Hour Ozone Standard.** The Ozone Plan, approved in 2016, contains a comprehensive list of regulatory and incentive-based measures to reduce emissions and particulate matter with the goal of addressing the USEPA's standards. The plan calls for new and more stringent rules and regulations for stationary sources, new and more stringent tail-pipe emission standards for mobile sources, emission standards for locomotives, local regulations and voluntary measures to reduce and/or mitigate mobile source emissions, incentive-based measures, and alternative compliance programs (SJVAPCD 2016).

- **2020 Reasonably Available Control Technology Demonstration for the 2015 8-Hour Ozone Standard**. The SJVAPCD adopted the RACT Demonstration for the 2015 8-Hour Ozone Standard on June 18, 2020. The Clean Air Act requires RACT for certain sources in all nonattainment areas. The SJVAPCD is required to ensure the USEPA's Control Techniques Guidance (CTG) is being implemented through SJVAPCD regulations. The 43 CTGs were developed to control major sources of emissions (SJVAPCD 2020).

- **2007 PM_{10} Maintenance Plan and Request for Redesignation.** In 2007, the SJVAPCD adopted the 2007 PM_{10} Attainment Plan to ensure the continued attainment of the USEPA's PM_{10} standard.

Since the EPA determined that the air basin had attained the federal PM_{10} standards on October 30, 2006, the valley is designated as an attainment area (SJVAPCD 2007b).

- **2018 Moderate Area Plan for the 2012 $PM_{2.5}$ Standard**. In 2018, the SJVAPCD adopted the 2018 $PM_{2.5}$ Plan to address the USEPA's annual and 24-hour standards. The plan utilizes the best available information to develop a strategy to demonstrate attainment of the federal standard for $PM_{2.5}$. A number of local strategies are included in the plan, including regulations to address stationary sources, use of a risk-based approach to prioritize measures to expedite attainment standards, incentive measures, technology advances, policy efforts to shape new legislation, and public outreach (SJVAPCD 2018).

Tanner Air Toxics Act & Air Toxics "Hot Spots" Information and Assessment Act

CARB's Statewide comprehensive air toxics program was established in 1983 with Assembly Bill (AB) 1807, the Toxic Air Contaminant Identification and Control Act (Tanner Air Toxics Act of 1983). AB 1807 created California's program to reduce exposure to air toxics and sets forth a formal procedure for CARB to designate substances as TACs. Once a TAC is identified, CARB adopts an airborne toxics control measure (ATCM) for sources that emit designated TACs. If there is a safe threshold for a substance at which there is no toxic effect, the control measure must reduce exposure to below that threshold. If there is no safe threshold, the measure must incorporate toxics best available control technology to minimize emissions.

CARB also administers the state's mobile source emissions control program and oversees air quality programs established by state statute, such as AB 2588, the Air Toxics "Hot Spots" Information and Assessment Act of 1987. Under AB 2588, TAC emissions from individual facilities are quantified and prioritized by the air quality management district or air pollution control district. High priority facilities are required to perform a health risk assessment (HRA) and, if specific thresholds are exceeded, required to communicate the results to the public in the form of notices and public meetings. In September 1992, the "Hot Spots" Act was amended by Senate Bill (SB) 1731, which required facilities that pose a significant health risk to the community to reduce their risk through a risk management plan.

2.2.3 Local

San Joaquin Valley air Pollution Control District

The SJVAPCD is the agency primarily responsible for ensuring that NAAQS and CAAQS are not exceeded in the SJVAB and that air quality conditions are maintained. SJVAPCD responsibilities include preparing plans for the attainment of ambient air quality standards, adopting and enforcing air pollution rules, issuing permits for and inspecting stationary air pollution sources, responding to citizen complaints, monitoring ambient air quality and meteorological conditions, and implementing state and federal programs and regulations. The SJVAPCD has also adopted various rules and regulations for the control of stationary and area sources of emissions. Provisions applicable to the proposed Project are summarized as follows:

- **Regulation IV (Visible Emissions), Rule 4101, Nuisance.** The purpose of this rule is to protect the health and safety of the public from source operations that emit or may emit air contaminants

or other materials. It prohibits emissions of air contaminants or other materials "which cause injury, detriment, nuisance, or annoyance to any considerable number of persons or to the public."

- **Regulation IV (Visible Emissions), Rule 4601, Architectural Coatings.** The rule limits volatile organic compound (VOC) emissions from architectural coatings and specifies practices for proper storage, cleanup, and labeling requirements. Rule 4601 applies to "any person who supplies, sells, offers for sale, applies, or solicits the application of any architectural coating, or who manufactures, blends or repackages any architectural coating for use within the District." Materials covered by the rule include adhesives, architectural coatings, paints, varnishes, sealers, stains, concrete curing compounds, concrete/masonry sealers, and waterproofing sealers.

- **Regulation IV (Visible Emissions), Rule 4641, Cutback, Slow Curve and Emulsified Asphalt, Paving and Maintenance Operations.** The purpose of this rule is to limit VOC emissions by restricting the application and manufacturing of certain types of asphalt and maintenance operations and applies to the use of these materials. Specifically, certain types of asphalt cannot be used for penetrating prime coat, dust palliative, or other paving: rapid cure and medium cure cutback asphalt, slow cure asphalt that contains more than 0.5 percent of organic compound which evaporates at 500˚F or lower, and emulsified asphalt containing VOC in excess of 3 percent which evaporates at 500˚F or lower.

- **Regulation VIII (Fugitive PM_{10} Prohibitions), Rules 8021–8071, Fugitive PM_{10} Prohibitions.** The purpose of these rules is to limit airborne particulate emissions associated with construction, demolition, excavation, extraction, and other earthmoving activities, as well as with open disturbed land and emissions associated with paved and unpaved roads. Accordingly, these rules include specific measures to be employed to prevent and reduce fugitive dust emissions from anthropogenic sources.

- **Regulation IX (Mobile and Indirect Sources), Rule 9510, Indirect Source Review.** This rule is the result of state requirements outlined in California Health and Safety Code Section 40604 and the SIP. The air district's SIP commitments were originally contained in the SJVAPCD's 2003 PM_{10} Plan and Extreme Ozone Attainment Demonstration Plans, which presented the SJVAPCD's strategy to reduce PM_{10} and NO_x in order to reach the ambient air pollution standards on schedule, which had been 2010. The plans quantify the reduction from current SJVAPCD rules and proposed rules, as well as state and federal regulations, and then model future emissions to determine whether the SJVAPCD may reach attainment for applicable pollutants. This rule will reduce emissions of NO_x and PM_{10} from new development projects that attract or generate motor vehicle trips. In general, new development contributes to the air pollution problem in the SJVAB by increasing the number of vehicles and vehicle miles traveled. Although newer, cleaner technology is reducing per-vehicle pollution, the emissions increase from new development partially offsets emission reductions gained from technology advances.

  Indirect Source Review applies to larger development projects that have not yet gained discretionary approval. A discretionary permit is a permit from a public agency, which requires

some amount of deliberation by that agency, including the potential to require modifications or conditions on the project. In accordance with this rule, developers of larger residential, commercial, and industrial projects are required to reduce smog-forming NO_x and PM_{10} emissions from their projects' baselines as follows (SJVAPCD 2017):

- 20 percent of construction NO_x exhaust
- 45 percent of construction PM_{10} exhaust
- 33 percent of operational NO_x over 10 years
- 50 percent of operational PM_{10} over 10 years

These reductions are intended to be achieved through incorporation of on-site reduction measures. If, after implementation of on-site emissions reduction measures project emissions still exceed the minimum baseline reduction, the Indirect Source Review requires a project applicant to pay an off-site fee to the SJVAPCD, which is then used to fund clean-air projects within the air basin.

2.3 Air Quality Emissions Impact Assessment

2.3.1 Thresholds of Significance

The impact analysis provided below is based on the following CEQA Guidelines Appendix G thresholds of significance. The Project would result in a significant impact to air quality if it would do any of the following:

1) Conflict with or obstruct implementation of any applicable air quality plan.

2) Result in a cumulatively considerable net increase of any criteria pollutant for which the Project region is nonattainment under an applicable federal or state ambient air quality standard (including releasing emissions which exceed quantitative thresholds for ozone precursors).

3) Expose sensitive receptors to substantial pollutant concentrations.

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

The significance criteria established by the applicable air quality management or air pollution control district (SJVAPCD) may be relied upon to make the above determinations. The SJVAPCD has identified significance thresholds for use in evaluating project impacts under CEQA. Accordingly, the SJVAPCD - recommended thresholds of significance are used to determine whether construction of the proposed Project would result in a significant air quality impact. Significance thresholds for evaluating construction and operational air quality impacts are listed in Table 2-4.

Table 2-4. SJVAPCD Significance Thresholds		
Criteria Pollutant and Precursors	Construction Activities	Operations
	Maximum Pollutants (tons per year)	Maximum Pollutants (tons per year)
ROG	10	10
NO_x	10	10
PM_{10}	100	15
$PM_{2.5}$	27	15
CO	15	100
SO_2	15	27

Source: SJVAPCD 2015a

By its very nature, air pollution is largely a cumulative impact. No single project is sufficient in size, by itself, to result in nonattainment of ambient air quality standards. Instead, a project's individual emissions contribute to existing cumulatively significant adverse air quality impacts. If a project's individual emissions exceed its identified significance thresholds, the project would be cumulatively considerable. Projects that do not exceed significance thresholds would not be considered cumulative considerable.

2.3.2 Methodology

Air quality impacts were assessed in accordance with methodologies recommended by the SJVAPCD. Where criteria air pollutant quantification was required, emissions were modeled using the California Emissions Estimator Model (CalEEMod), version 2020.4.0. CalEEMod is a statewide land use emissions computer model designed to quantify potential criteria pollutant emissions associated with both construction and operations from a variety of land use projects. Project construction-generated air pollutant emissions were calculated using CalEEMod model defaults for Madera County as well as construction phasing and timing identified by the Project proponent. Post construction air pollutant emissions are discussed quantitatively as there are no stationary or mobile sources of emissions associated with the operation of the water tank.

2.3.3 Impact Analysis

Conflict with an Applicable Air Quality Management Plan

As previously described, the Project region is classified as nonattainment for the federal O_3 and $PM_{2.5}$ standards and is also a nonattainment area for state O_3, $PM_{2.5}$ and PM_{10} standards (CARB 2019). The USEPA, under the provisions of the CAA, requires each state with regions that have not attained the federal air quality standards to prepare a SIP detailing how these standards are to be met in each local area. The SIP is a legal agreement between each state and the federal government to commit resources to improving air quality. It serves as the template for conducting regional and project-level air quality analysis. CARB is the lead agency for developing the SIP in California. Local air districts, such as the

SJVAPCD, prepare air quality attainment plans or air quality management plans and submit them to CARB for review, approval, and incorporation into the applicable SIP. The air districts develop the strategies stated in the SIPs for achieving air quality standards on a regional basis.

The SJVAPCD is required, pursuant to the federal CAA, to reduce emissions of criteria pollutants for which the SJVAB is in nonattainment. In order to reduce such emissions, the SJVAPCD prepared the 2007 Ozone Plan, 2013 Plan for the Revoked 1-Hour Ozone Standard, 2016 Plan for the 2008 8-Hour Ozone Standard, 2016 Moderate Area Plan for the 2012 $PM_{2.5}$ Standard, 2020 RACT Demonstration for the 2015 8-Hour Ozone Standard, 2007 PM_{10} Maintenance Plan and Request for Re-designation, and 2018 Moderate Area Plan for the 2012 $PM_{2.5}$ Standard. These plans collectively address the air basin's nonattainment status with the national and state O_3 standards as well as particulate matter by establishing a program of rules and regulations directed at reducing air pollutant emissions and achieving state (California) and national air quality standards. Pollutant control strategies are based on the latest scientific and technical information and planning assumptions. According to the SJVAPCD (2015b), the established thresholds of significance for criteria pollutant emissions are based on SJVAPCD New Source Review (NSR) offset requirements for stationary sources. Stationary sources in the SJVAB are subject to some of the most stringent regulatory requirements in the nation. Emission reductions achieved through implementation of SJVAPCD offset requirements are a major component of the District's air quality planning efforts. Thus, projects with emissions below the thresholds of significance for criteria pollutants are determined to "Not conflict or obstruct implementation of the District's air quality plan" (SJVAPCD 2015b).

As shown in Tables 2-5 and 2-6 below, with implementation of reduction measures, described below, Project construction would not generate emissions that would exceed SJVAPCD significance thresholds and therefore would not result in an increase in the frequency or severity of existing air quality violations or cause or contribute to new air quality violations. Additionally, once construction is complete, the Project would not generate quantifiable criteria emissions from Project operations.

Furthermore, the Project is proposing the construction of a water tank and associated infrastructure. The Proposed Project would not increase the number of residents or workers in the area and thus would not conflict with the population growth forecasts in the applicable plans.

For these reasons, the Project would not conflict with or obstruct implementation of any applicable air quality plan.

Project Construction-Generated Criteria Air Quality Emissions

Emissions generated during Project construction would be temporary and short-term but have the potential to represent a significant air quality impact. Three basic sources of short-term emissions would be generated through construction of the Proposed Project: operation of the construction vehicles (i.e., tractors, dozers, backhoes), the creation of fugitive dust during clearing and grading, and the use of asphalt or other oil-based substances during paving activities. Activities such as excavation and grading operations, worker vehicle traffic, and wind blowing over exposed soils would generate exhaust emissions and fugitive PM emissions that affect local air quality at various times during Project construction. Effects would be variable depending on the weather, soil conditions, the amount of activity taking place, and the nature of dust control efforts. The dry climate of the area during the summer months creates a high

potential for dust generation. Project construction activities would be subject to SJVAPCD Regulation VIII, which specifies the following measures to control fugitive dust:

- Apply water to unpaved surfaces and areas.
- Use nontoxic chemical or organic dust suppressants on unpaved roads and traffic areas.
- Limit or reduce vehicle speed on unpaved roads and traffic areas to a maximum 15 miles per hour.
- Maintain areas in a stabilized condition by restricting vehicle access.
- Install wind barriers.
- During high winds, cease outdoor activities that disturb the soil.
- Keep bulk materials sufficiently wet when handling.
- Store and handle materials in a three-sided structure.
- When storing bulk materials, apply water to the surface or cover the storage pile with a tarp.
- Don't overload haul trucks. Overloaded trucks are likely to spill bulk materials.
- Cover haul trucks with a tarp or other suitable cover. Or, wet the top of the load enough to limit visible dust emissions.
- Clean the interior of cargo compartments on emptied haul trucks prior to leaving a site.
- Prevent trackout by installing a trackout control device.
- Clean up trackout at least once a day. If along a busy road or highway, clean up trackout immediately.
- Monitor dust-generating activities and implement appropriate measures for maximum dust control.

Predicted emissions generated during Project construction were calculated using the CARB-approved CalEEMod computer program, which is designed to model emissions for land use development projects, based on typical construction requirements. See Attachment A for more information regarding the construction assumptions, including construction equipment and duration, used in this analysis.

Predicted maximum daily emissions associated with Project construction are summarized in Table 2-5. Construction-generated emissions would be short-term and of temporary duration, lasting only as long as construction activities occur, but would be considered a significant air quality impact if the volume of pollutants generated exceeds the SJVAPCD's thresholds of significance.

Table 2-5. Unmitigated Project Construction-Generated Emissions

Construction Year	Maximum Pollutants (tons per year)					
	ROG	NO_X	CO	SO_2	PM_{10}	$PM_{2.5}$
Construction 2022	0.011	0.112	0.101	0.000	0.006	0.005
SJVAPCD Significance Threshold	*10 tons/year*	*10 tons/year*	*100 tons/year*	*27 tons/year*	*15 tons/year*	*15 tons/year*
Exceed SJVAPCD Threshold?	**No**	**No**	**No**	**No**	**No**	**No**

Source: CalEEMod version 2020.4.0. Refer to Attachment A for Model Data Outputs.
Notes: Emission reduction/credits for construction emissions are applied based on the required implementation of SJVAPCD Regulation VIII. The specific regulation applied in CalEEMod was watering unpaved surfaces two times per day with a maximum vehicle speed of 15 mph.

As shown in Table 2-5, construction-generated emissions would not exceed SJVAPCD significance thresholds.

In addition to the SJVAPCD criteria air pollutant thresholds, SJVAPCD Rule 9510, Indirect Source Review, aims to fulfill the District's emission reduction commitments in the PM_{10} and Ozone Attainment Plans. This rule applies to the following construction projects within the jurisdiction of the SJVAPCD:

- 50 residential units
- 2,000 square feet of commercial space
- 25,000 square feet of light industrial space
- 100,000 square feet of heavy industrial space
- 20,000 square feet of medical office space
- 39,000 square feet of general office space
- 9,000 square feet of educational space
- 10,000 square feet of government space
- 20,000 square feet of recreational space; or
- 9,000 square feet of space not identified above.

This rule also applies to any transportation or transit project where construction exhaust emissions equal or exceed two tons of NO_x or two tons of PM_{10}. The project developers are required to reduce concentrations of NO_x by 20 percent and PM_{10} by 45 percent during construction activities.

The Project's aboveground storage tank would be fabricated offsite and assembled at the Project site. Project construction activities would be limited to be within an approximately 0.44-acre area of the site in

which the tank foundation, booster pumps, and ancillary equipment would be installed. The Project does not clearly fall within one of construction project types identified in Rule 9510; nevertheless, this report assess potential emissions reductions that could be achieved for Project construction through implementation of certain emission reduction measures.

Reduction measures anticipated to be feasible for the Project include those listed below. An assessment of Project emissions with implementation of these measures was performed and the resulting emissions and percent of reduction achieved is presented in Table 2-6.

- During all construction activities, all diesel-fueled construction equipment including, but not limited to, rubber-tired dozers, graders, scrapers, excavators, asphalt paving equipment, cranes, and tractors shall be California Air Resources Board (CARB) Tier 4 Certified as set forth in Section 2423 of Title 13 of the California Code of Regulations, and Part 89 of Title 40 of the Code of Federal Regulations.

- All construction equipment shall be maintained and properly tuned in accordance with manufacturers' specifications. Equipment maintenance records shall be kept on-site and made available upon request by the SJVAPCD or the County.

- The Project shall comply with all applicable SJVAPCD rules and regulations. Copies of any applicable air quality permits and/or monitoring plans shall be provided to the County.

As demonstrated in Table 2-6, implementation of the above requirements has the potential to reduce total NO_x emissions by 77 percent and total PM_{10} emissions by 78 percent, which is beyond the reduction that would be needed to achieve the SJVAPCD Rule 9510 target.

Table 2-6. Construction Related NO_x & PM_{10} Emissions- Scenarios (tons per year)

Construction	NO_x without Additional Emission Reduction Measures	NO_x with Additional Emission Reduction Measures	Percent Reduction
Total Construction	0.112	0.011	90%
SJVAPCD Rule 9510 NOx Reduction Target			*20%*
Construction	**PM_{10} without Additional Emission Reduction Measures**	**PM_{10} with Additional Emission Reduction Measures**	**Percent Reduction**
Total Construction	0.006	0.001	78%
SJVAPCD Rule 9510 PM_{10} Reduction Target			*45%*

Source: CalEEMod version 2020.4.0. Refer to Attachment A for Model Data Outputs.

Operational Emission Impacts

Once construction is complete, no additional daily vehicle trips or personnel would be added to operate or maintain the water tank. Thus, the Proposed Project would not include the provision of new permanent stationary or mobile sources of criteria air pollutant emissions, and therefore, by its very nature, would not generate quantifiable criteria emissions from Project operations.

Exposure of Sensitive Receptors to Toxic Air Contaminants

As previously described, sensitive receptors are defined as facilities or land uses that include members of the population that are particularly sensitive to the effects of air pollutants, such as children, the elderly, and people with illnesses. Examples of these sensitive receptors are residences, schools, hospitals, and daycare centers. CARB has identified the following groups of individuals as the most likely to be affected by air pollution: the elderly over age 65, children under age 14, athletes, and persons with cardiovascular and chronic respiratory diseases such as asthma, emphysema, and bronchitis. The nearest sensitive receptors to the Project Site are single-family residences located on eastern and western borders approximately 30 meters distant at the nearest.

Construction-Generated Air Contaminants

Construction of the Project would result in temporary, short-term Project-generated emissions of DPM, ROG, NOx, CO, and PM_{10} from the exhaust of off-road, heavy-duty diesel equipment for site preparation/excavation (e.g., clearing, trenching); truck traffic; paving; and other miscellaneous activities. As discussed previously, the portion of the SJVAB which encompasses the Project area is designated as a nonattainment area for federal O_3 and PM_{10} standards and state O_3, $PM_{2.5}$ and PM_{10} standards (CARB 2019). Thus, existing O_3, $PM_{2.5}$ and PM_{10} levels in the SJVAB are at unhealthy levels during certain periods. However, as shown in Table 2-5 and Table 2-6, the Project would not exceed the SJVAPCD significance thresholds for construction emissions.

Per SJVAPCD guidance, this analysis employs the SJVAPCD Prioritization Calculator health risk screening tool to assess the potential health risk-related effects of Project construction. The SJVAPCD Prioritization Calculator identifies a Prioritization score based on the Project emission potency at the vicinity sensitive residential receptors. A prioritization score of 10 or greater, as determined by this screening protocol, is potentially significant and indicates that a detailed Health Risk Assessment (HRA) should be performed.

In addition to cancer risk, the significance thresholds for TAC exposure requires an evaluation of non-cancer risk stated in terms of a hazard index. A chronic hazard index of 1.0 is considered individually significant. It should be noted that there is no acute health hazard for DPM, which is the only significant air toxic associated with construction for this Project. Thus, the maximum acute index for construction of the Project is zero.

The calculated carcinogenic risk and highest maximum chronic hazard indexes at the nearby sensitive residential receptors due to Project construction is depicted in Table 2-7. In addition, a printout of the SJVAPCD Prioritization Calculator with Project Construction CalEEMod outputs as inputs used to calculate the values below can be found in Attachment B of this document.

Table 2-7. Health Risk Summary

Exposure Scenario	Maximum Cancer Risk at Residence	Maximum Chronic Hazard Index at Residence	Maximum Acute Hazard Index at Residence
Project Construction	1.39	0.002	0
SJVAPCD Screening Threshold	*10.0*	*1.0*	*1.0*
Exceed SJVAPCD Screening Threshold?	**No**	**No**	**No**

Source: SJVAPCD Prioritization Calculator. Refer to Attachment B for Model Data Outputs. Health risk calculations assume implementation of the NOx and PM10 reduction measures identified in the Rule 9510 discussion above.

As shown in Table 2-7, impacts related to both cancer risk and non-cancer risk (chronic and acute hazard indexes) because of Project construction would not surpass the screening thresholds at the nearby sensitive residential receptors. Therefore, Project construction would not result in a potentially significant contribution to regional concentrations of nonattainment pollutants and would not result in a significant contribution to the adverse health impacts associated with those pollutants.

Valley Fever

Coccidioidomycosis (CM), often referred to as San Joaquin Valley Fever or Valley Fever, is one of the most studied and oldest known fungal infections. Valley Fever most commonly affects people who live in hot dry areas with alkaline soil and varies with the season. This disease, which affects both humans and animals, is caused by inhalation of arthroconidia (spores) of the fungus *Coccidioides immitis* (CI). CI spores are found in the top few inches of soil and the existence of the fungus in most soil areas is temporary. The cocci fungus (an organism that grows and feeds on dead or decaying organic matter) lives as a saprophyte in dry, alkaline soil. When weather and moisture conditions are favorable, the fungus "blooms" and forms many tiny spores that lie dormant in the soil until they are stirred up by wind, vehicles, excavation, or other ground-moving activities and become airborne. Agricultural workers, construction workers, and other people who work outdoors and who are exposed to wind and dust are more likely to contract Valley Fever. Children and adults whose hobbies or sports activities expose them to wind and dust are also more likely to contract Valley Fever. After the fungal spores have settled in the lungs, they change into a multicellular structure called a spherule. Fungal growth in the lungs occurs as the spherule grows and bursts, releasing endospores, which then develop into more spherules.

Valley fever (Coccidioidomycosis) is found in California, including the Madera County. In about 50 to 75 percent of people, valley fever causes either no symptoms or mild symptoms and those infected never seek medical care; when symptoms are more pronounced, they usually present as lung problems (cough, shortness of breath, sputum production, fever, and chest pains). The disease can progress to chronic or progressive lung disease and may even become disseminated to the skin, lining tissue of the brain (meninges), skeleton, and other body areas.

Madera County is considered a highly endemic area for valley fever. When soil containing this fungus is disturbed by ground-disturbing activities such as digging or grading, by vehicles raising dust, or by the wind, the fungal spores get into the air. When people breathe the spores into their lungs, they may get valley fever. Fungal spores are small particles that can grow and reproduce in the body. The highest infection period for valley fever occurs during the driest months in California, between June and November. Infection from valley fever during ground-disturbing activities can be partially mitigated through the control of Project-generated dust. As noted, Project-generated dust would be controlled by adhering to SJVAPCD dust-reducing measures (Regulation VIII), which includes the preparation of a SJVAPCD-approved dust control plan describing all fugitive dust control measures that are to be implemented before, during, and after any dust-generating activity.

With minimal site grading and conformance with SJVAPCD Regulation VIII, dust from the construction of the Project would not add significantly to the existing exposure level of people to this fungus, including construction workers.

Naturally Occurring Asbestos

Another potential air quality issue associated with construction-related activities is the airborne entrainment of asbestos due to the disturbance of naturally occurring asbestos-containing soils. The proposed Project is not located within an area designated by the State of California as likely to contain naturally occurring asbestos (Department of Conservation [DOC] 2000). As a result, construction-related activities would not be anticipated to result in increased exposure of sensitive land uses to asbestos.

Operational Air Contaminants

Operation of the proposed Project would not result in the development of any substantial sources of air toxics. There would be no stationary sources associated with Project operations; nor would the Project attract additional mobile sources that spend long periods queuing and idling at the site. Onsite Project emissions would not result in significant concentrations of pollutants at nearby sensitive receptors. Therefore, the Project would not be a substantial source of TACs. The Project will not result in a high carcinogenic or non-carcinogenic risk during operation.

Carbon Monoxide Hot Spots

It has long been recognized that CO exceedances are caused by vehicular emissions, primarily when idling at intersections. Concentrations of CO are a direct function of the number of vehicles, length of delay, and traffic flow conditions. Under certain meteorological conditions, CO concentrations close to congested intersections that experience high levels of traffic and elevated background concentrations may reach unhealthy levels, affecting nearby sensitive receptors. Given the high traffic volume potential, areas of high CO concentrations, or "hot spots," are typically associated with intersections that are projected to operate at unacceptable levels of service during the peak commute hours. It has long been recognized that CO hotspots are caused by vehicular emissions, primarily when idling at congested intersections. However, transport of this criteria pollutant is extremely limited, and CO disperses rapidly with distance from the source under normal meteorological conditions. Furthermore, vehicle emissions standards have become increasingly more stringent in the last 20 years. Currently, the allowable CO emissions standard in

California is a maximum of 3.4 grams/mile for passenger cars (there are requirements for certain vehicles that are more stringent). With the turnover of older vehicles, introduction of cleaner fuels, and implementation of increasingly sophisticated and efficient emissions control technologies, CO concentration in the SSAB is designated as in attainment. Detailed modeling of Project-specific CO "hot spots" is not necessary and thus this potential impact is addressed qualitatively.

A CO "hot spot" would occur if an exceedance of the state one-hour standard of 20 parts per million (ppm) or the eight-hour standard of 9 ppm were to occur. The analysis prepared for CO attainment in the South Coast Air Quality Management District's (SCAQMD's) *1992 Federal Attainment Plan for Carbon Monoxide* in Los Angeles County and a Modeling and Attainment Demonstration prepared by the SCAQMD as part of the 2003 Air Quality Management Plan can be used to demonstrate the potential for CO exceedances of these standards. The SCAQMD is the air pollution control officer for much of southern California. The SCAQMD conducted a CO hot spot analysis as part of the 1992 CO Federal Attainment Plan at four busy intersections in Los Angeles County during the peak morning and afternoon time periods. The intersections evaluated included Long Beach Boulevard and Imperial Highway (Lynwood), Wilshire Boulevard and Veteran Avenue (Westwood), Sunset Boulevard and Highland Avenue (Hollywood), and La Cienega Boulevard and Century Boulevard (Inglewood). The busiest intersection evaluated was at Wilshire Boulevard and Veteran Avenue, which has a traffic volume of approximately 100,000 vehicles per day. Despite this level of traffic, the CO analysis concluded that there was no violation of CO standards (SCAQMD 1992). In order to establish a more accurate record of baseline CO concentrations affecting the Los Angeles, a CO "hot spot" analysis was conducted in 2003 at the same four busy intersections in Los Angeles at the peak morning and afternoon time periods. This "hot spot" analysis did not predict any violation of CO standards. The highest one-hour concentration was measured at 4.6 ppm at Wilshire Boulevard and Veteran Avenue and the highest eight-hour concentration was measured at 8.4 ppm at Long Beach Boulevard and Imperial Highway. Thus, there was no violation of CO standards.

Similar considerations are also employed by other Air Districts when evaluating potential CO concentration impacts. More specifically, the Bay Area Air Quality Management District (BAAQMD), the air pollution control officer for the San Francisco Bay Area, concludes that under existing and future vehicle emission rates, a given project would have to increase traffic volumes at a single intersection by more than 44,000 vehicles per hour or 24,000 vehicles per hour where vertical and/or horizontal air does not mix—in order to generate a significant CO impact.

Furthermore, the SJVAPCD Guidance for Assessing and Mitigating Impacts (2015b) includes the following CO hot spot criteria:

If neither of the following criteria are met at all intersections affected by the developmental project, the project will result in no potential to create a violation of the CO standard:

- A traffic study for the project indicates that the Level of Service (LOS) on one or more streets or at one or more intersections in the project vicinity will be reduced to LOS E or F; or
- A traffic study indicates that the project will substantially worsen an already existing LOS F on one or more streets or at more or more intersections in the project vicinity.

The Proposed Project is not anticipated to result in additional daily traffic trip once construction is complete. Thus, the proposed Project would not generate traffic volumes at any intersection of more than 100,000 vehicles per day (or 44,000 vehicles per day) and the Project would not affect LOS on any roadways. There is no likelihood of the Project traffic exceeding CO values.

Odors

Typically, odors are regarded as an annoyance rather than a health hazard. However, manifestations of a person's reaction to foul odors can range from psychological (e.g., irritation, anger, or anxiety) to physiological (e.g., circulatory and respiratory effects, nausea, vomiting, and headache).

With respect to odors, the human nose is the sole sensing device. The ability to detect odors varies considerably among the population and overall is quite subjective. Some individuals have the ability to smell minute quantities of specific substances; others may not have the same sensitivity but may have sensitivities to odors of other substances. In addition, people may have different reactions to the same odor; in fact, an odor that is offensive to one person (e.g., from a fast-food restaurant) may be perfectly acceptable to another. It is also important to note that an unfamiliar odor is more easily detected and is more likely to cause complaints than a familiar one. This is because of the phenomenon known as odor fatigue, in which a person can become desensitized to almost any odor and recognition only occurs with an alteration in the intensity.

Quality and intensity are two properties present in any odor. The quality of an odor indicates the nature of the smell experience. For instance, if a person describes an odor as flowery or sweet, then the person is describing the quality of the odor. Intensity refers to the strength of the odor. For example, a person may use the word "strong" to describe the intensity of an odor. Odor intensity depends on the odorant concentration in the air. When an odorous sample is progressively diluted, the odorant concentration decreases. As this occurs, the odor intensity weakens and eventually becomes so low that the detection or recognition of the odor is quite difficult. At some point during dilution, the concentration of the odorant reaches a detection threshold. An odorant concentration below the detection threshold means that the concentration in the air is not detectable by the average human.

During construction, the Proposed Project presents the potential for generation of objectionable odors in the form of diesel exhaust in the immediate vicinity of the site. However, these emissions are short-term in nature and will rapidly dissipate and be diluted by the atmosphere downwind of the emission sources. Additionally, odors would be localized and generally confined to the Project Area. Therefore, odors generated during Project construction would not adversely expose a substantial number of people to odor emissions.

Land uses commonly considered to be potential sources of obnoxious odorous emissions include agriculture (farming and livestock), wastewater treatment plants, food processing plants, chemical plants, composting facilities, refineries, landfills, dairies, and fiberglass molding. The proposed Project does not include any uses identified as being associated with odors. The water tank would not emit odors.

3.0 GREENHOUSE GAS EMISSIONS

3.1 Greenhouse Gas Setting

Certain gases in the earth's atmosphere, classified as GHGs, play a critical role in determining the earth's surface temperature. Solar radiation enters the earth's atmosphere from space. A portion of the radiation is absorbed by the earth's surface and a smaller portion of this radiation is reflected back toward space. This absorbed radiation is then emitted from the earth as low-frequency infrared radiation. The frequencies at which bodies emit radiation are proportional to temperature. Because the earth has a much lower temperature than the sun, it emits lower-frequency radiation. Most solar radiation passes through GHGs; however, infrared radiation is absorbed by these gases. As a result, radiation that otherwise would have escaped back into space is instead trapped, resulting in a warming of the atmosphere. This phenomenon, known as the greenhouse effect, is responsible for maintaining a habitable climate on earth. Without the greenhouse effect, the earth would not be able to support life as we know it.

Prominent GHGs contributing to the greenhouse effect are CO_2, methane (CH_4), and N_2O. Fluorinated gases also make up a small fraction of the GHGs that contribute to climate change. Fluorinated gases include chlorofluorocarbons, hydrofluorocarbons, perfluorocarbons, sulfur hexafluoride, and nitrogen trifluoride; however, it is noted that these gases are not associated with typical land use development. Human-caused emissions of these GHGs in excess of natural ambient concentrations are believed to be responsible for intensifying the greenhouse effect and leading to a trend of unnatural warming of the earth's climate, known as global climate change or global warming. It is "extremely likely" that more than half of the observed increase in global average surface temperature from 1951 to 2010 was caused by the anthropogenic increase in GHG concentrations and other anthropogenic factors together (Intergovernmental Panel on Climate Change [IPCC] 2014).

Table 3-1 describes the primary GHGs attributed to global climate change, including their physical properties, primary sources, and contributions to the greenhouse effect.

Each GHG differs in its ability to absorb heat in the atmosphere based on the lifetime, or persistence, of the gas molecule in the atmosphere. CH_4 traps over 25 times more heat per molecule than CO_2, and N_2O absorbs 298 times more heat per molecule than CO_2 (IPCC 2014). Often, estimates of GHG emissions are presented in carbon dioxide equivalents (CO_2e), which weight each gas by its global warming potential. Expressing GHG emissions in CO_2e takes the contribution of all GHG emissions to the greenhouse effect and converts them to a single unit equivalent to the effect that would occur if only CO_2 were being emitted.

Climate change is a global problem. GHGs are global pollutants, unlike criteria air pollutants and TACs, which are pollutants of regional and local concern. Whereas pollutants with localized air quality effects have relatively short atmospheric lifetimes (about one day), GHGs have long atmospheric lifetimes (one to several thousand years). GHGs persist in the atmosphere for long enough time periods to be dispersed around the globe. Although the exact lifetime of any particular GHG molecule is dependent on multiple variables and cannot be pinpointed, it is understood that more CO_2 is emitted into the atmosphere than is sequestered by ocean uptake, vegetation, or other forms. Of the total annual human-caused CO_2

emissions, approximately 55 percent is sequestered through ocean and land uptakes every year, averaged over the last 50 years, whereas the remaining 45 percent of human-caused CO_2 emissions remains stored in the atmosphere (IPCC 2013).

Table 3-1. Greenhouse Gases

Greenhouse Gas	Description
CO_2	Carbon dioxide is a colorless, odorless gas. CO_2 is emitted in a number of ways, both naturally and through human activities. The largest source of CO_2 emissions globally is the combustion of fossil fuels such as coal, oil, and gas in power plants, automobiles, industrial facilities, and other sources. A number of specialized industrial production processes and product uses such as mineral production, metal production, and the use of petroleum-based products can also lead to CO_2 emissions. The atmospheric lifetime of CO_2 is variable because it is so readily exchanged in the atmosphere.[1]
CH_4	Methane is a colorless, odorless gas and is the major component of natural gas, about 87 percent by volume. It is also formed and released to the atmosphere by biological processes occurring in anaerobic environments. Methane is emitted from a variety of both human-related and natural sources. Human-related sources include fossil fuel production, animal husbandry (intestinal fermentation in livestock and manure management), rice cultivation, biomass burning, and waste management. These activities release significant quantities of CH_4 to the atmosphere. Natural sources of CH_4 include wetlands, gas hydrates, permafrost, termites, oceans, freshwater bodies, non-wetland soils, and other sources such as wildfires. The atmospheric lifetime of CH_4 is about12 years.[2]
N_2O	Nitrous oxide is a clear, colorless gas with a slightly sweet odor. Nitrous oxide is produced by both natural and human-related sources. Primary human-related sources of N_2O are agricultural soil management, animal manure management, sewage treatment, mobile and stationary combustion of fossil fuels, adipic acid production, and nitric acid production. N_2O is also produced naturally from a wide variety of biological sources in soil and water, particularly microbial action in wet tropical forests. The atmospheric lifetime of N_2O is approximately 120 years.[3]

Sources: [1]USEPA 2016a, [2] USEPA 2016b, [3] USEPA 2016c

The quantity of GHGs that it takes to ultimately result in climate change is not precisely known; it is sufficient to say the quantity is enormous, and no single project alone would measurably contribute to a noticeable incremental change in the global average temperature or to global, local, or microclimates. From the standpoint of CEQA, GHG impacts to global climate change are inherently cumulative.

3.1.1 Sources of Greenhouse Gas Emissions

In 2021, CARB released the 2021 edition of the California GHG inventory covering calendar year 2019 emissions. In 2019, California emitted 418.2 million gross metric tons of CO_2e including from imported electricity. Combustion of fossil fuel in the transportation sector was the single largest source of California's GHG emissions in 2019, accounting for approximately 40 percent of total GHG emissions in the state. When emissions from extracting, refining and moving transportation fuels in California are included, transportation is responsible for over 50 percent of statewide emissions in 2019. Continuing the downward trend from 2018, transportation emissions decreased 3.5 million metric tons of CO_2e in 2019, only being outpaced by electricity, which reduced emissions by 4.3 million metric tons of CO_2e in 2019. Emissions from the electricity sector account for 14 percent of the inventory and have shown a substantial

decrease in 2019 due to increases in renewables. California's industrial sector accounts for the second largest source of the state's GHG emissions in 2019, accounting for 21 percent (CARB 2021b).

3.2 Regulatory Framework

3.2.1 State

Executive Orders S-3-05 and B-30-15

Executive Order (EO) S-3-05, signed by Governor Arnold Schwarzenegger in 2005, proclaims that California is vulnerable to the impacts of climate change. It declares that increased temperatures could reduce the Sierra Nevada snowpack, further exacerbate California's air quality problems, and potentially cause a rise in sea levels. To combat those concerns, the EO established total GHG emission targets for the State. Specifically, emissions are to be reduced to the 2000 level by 2010, the 1990 level by 2020, and to 80 percent below the 1990 level by 2050.

On April 20, 2015, Governor Brown signed EO B-30-15 to establish a California GHG reduction target of 40 percent below 1990 levels by 2030. The Governor's executive order aligns California's GHG reduction targets with those of leading international governments such as the European Union, which adopted the same target in October 2014. California's new emission reduction target of 40 percent below 1990 levels by 2030 will make it possible to reach the ultimate goal of reducing emissions 80 percent below 1990 levels by 2050. This is in line with the scientifically established levels needed in the U.S. to limit global warming below 2 degrees Celsius, the warming threshold at which major climate disruptions are projected, such as super droughts and rising sea levels.

Assembly Bill 32 Climate Change Scoping Plan and Updates

In 2006, the California legislature passed Assembly Bill (AB) 32 (Health and Safety Code § 38500 et seq., or AB 32), also known as the Global Warming Solutions Act. AB 32 required CARB to design and implement feasible and cost-effective emission limits, regulations, and other measures, such that statewide GHG emissions are reduced to 1990 levels by 2020 (representing a 25 percent reduction in emissions). Pursuant to AB 32, CARB adopted a Scoping Plan in December 2008, which outlined measures to meet the 2020 GHG reduction goals. California exceeded the target of reducing GHG emissions to 1990 levels by the year 2017.

The Scoping Plan is required by AB 32 to be updated at least every five years. The latest update, the 2017 Scoping Plan Update, addresses the 2030 target established by Senate Bill (SB) 32 as discussed below and establishes a proposed framework of action for California to meet a 40 percent reduction in GHG emissions by 2030 compared to 1990 levels. The key programs that the Scoping Plan Update builds on include increasing the use of renewable energy in the State, the Cap-and-Trade Regulation, the Low Carbon Fuel Standard, and reduction of methane emissions from agricultural and other wastes.

Senate Bill 32 and Assembly Bill 197 of 2016

In August 2016, Governor Brown signed SB 32 and AB 197, which serve to extend California's GHG reduction programs beyond 2020. SB 32 amended the Health and Safety Code to include § 38566, which contains language to authorize CARB to achieve a statewide GHG emission reduction of at least 40 percent below 1990 levels by no later than December 31, 2030. SB 32 codified the targets established by EO B-30-15 for 2030, which set the next interim step in the State's continuing efforts to pursue the long-term target expressed in EOs S-3-05 and B-30-15 of 80 percent below 1990 emissions levels by 2050.

Senate Bill 100 of 2018

In 2018, SB 100 was signed by Governor Brown, codifying a goal of 60 percent renewable procurement by 2030 and 100 percent by 2045 Renewables Portfolio Standard.

3.2.2 Local

San Joaquin County Air Pollution Control District

The SJVAPCD provides a tiered approach in assessing significance of project specific GHG emission increases. Projects implementing Best Performance Standards (BPS) would be determined to have a less than cumulatively significant impact. Otherwise, demonstration of a 29 percent reduction in GHG emissions, from business-as-usual (BAU), is required to determine that a project would have a less than cumulatively significant impact. The BAU approach was developed consistent with the GHG emission reduction targets established in the Scoping Plan. However, the BAU portion of the tiered approach is problematic based on the *Center for Biological Diversity v. Department of Fish & Wildlife* (2015) 62 Cal.4th 204, 225, 229 (also known as the "Newhall Ranch" decision). In the Newhall Ranch decision, the California Supreme Court explained that use of a BAU method, in which a project that demonstrates certain GHG reductions below the Scoping Plan's BAU scenario, is an acceptable methodology for determining potentially significant GHG emissions effects for purposes of CEQA; however, such a BAU approach must include substantial evidence showing how a project-level reduction in GHG emissions "in comparison to business as usual is consistent with achieving A.B. 32's statewide goal of a 29 percent reduction from business as usual." Examining the Newhall Ranch project's EIR, the Court further explained that:

[*a]t bottom, the EIR's deficiency stems from taking a quantitative comparison method developed by the Scoping Plan as a measure of the greenhouse gas emissions reduction effort required by the state as a whole, and attempting to use that method, without consideration of any changes or adjustments, for a purpose very different from its original design: To measure the efficiency and conservation measures incorporated in a specific land use development proposed for a specific location. The EIR simply assumes that the level of effort required in one context, a 29 percent reduction from business as usual statewide, will suffice in the other, a specific land use development. From the information in the administrative record, we cannot say that conclusion is wrong, but neither can we discern the contours of a logical argument that it is right. The analytical gap left by the EIR's failure to establish, through substantial evidence and reasoned explanation, a quantitative equivalence between the Scoping Plan's statewide comparison and the EIR's own*

project-level comparison deprived the EIR of its "sufficiency as an informative document." (*Center for Biological Diversity v. Department of Fish & Wildlife* (2015) 62 Cal.4th 204, 227, internal citations omitted.)

Thus, given this Project's scope and relatively low projected GHG emissions, the project-level to state-level BAU comparison required in the Newhall Ranch decision would be inappropriate for the Project's analysis of GHG emissions. The BAU approach is further inapt because the SJVAPCD thresholds are based on statewide GHG-reduction targets for the year 2020, and the Project would be implemented beginning in the year 2022 at the earliest.

California Air Pollution Control Officers Association

California law has established thirty-five local air pollution control districts in California. These range from small, single county districts such as Lassen, to multi-county agencies such as the Bay Area and South Coast AQMDs. Districts provide local expertise and knowledge of local conditions to deal with local problems. They are governed by Boards consisting primarily of elected officials, and are staffed by engineers, planners, attorneys, inspectors, meteorologists, chemists, and technicians. In general, these local districts are responsible for control of stationary sources of emissions. While mobile source emissions are mostly controlled by state and federal regulations, local districts do have authority to implement control measures which affect transportation sources, including automobiles. Local district activities are overseen by both the state and federal agencies. The California Air Pollution Control Officers Association (CAPCOA) is an association of the air pollution control officers from all 35 local air quality agencies throughout California, including the SJVAPCD. CAPCOA was formed in 1976 to promote clean air and to provide a forum for sharing of knowledge, experience, and information among the air quality regulatory agencies around the State. The Association promotes unity and efficiency and strives to encourage consistency in methods and practices of air pollution control. It is an organization of air quality professionals. CAPCOA meets regularly with federal and state air quality officials to develop statewide rules and to assure consistent application of rules and regulations. CAPCOA actively participates in the development and implementation of air quality bills that speed progress toward healthful air quality, reduce costs, and generally streamline air quality laws.

CAPCOA has established a GHG significance threshold of 900 metric tons of CO_2e annually for assessing proposed land use development projects. This threshold represents a 90 percent capture rate (i.e., this threshold captures projects that represent approximately 90 percent of GHG emissions from new sources). The 900 metric tons of CO_2e per year value is typically used in defining small projects within California that are considered less than significant because it represents less than one percent of future 2050 statewide GHG emissions target and the lead agency can provide more efficient implementation of CEQA by focusing its scarce resources on the top 90 percent. The 900 metric ton threshold is considered by CAPCOA to be low enough to capture a substantial fraction of future residential and nonresidential development that will be constructed to accommodate future statewide population and economic growth, while setting the emission threshold high enough to exclude small projects that will in aggregate contribute a relatively small fraction of the cumulative statewide GHG emissions.

3.3 Greenhouse Gas Emissions Impact Assessment

3.3.1 Thresholds of Significance

The impact analysis provided below is based on the following CEQA Guidelines Appendix G thresholds of significance. The Project would result in a significant impact to greenhouse gas emissions if it would:

1) Generate GHG emissions, either directly or indirectly, that may have a significant impact on the environment.

2) Conflict with any applicable plan, policy, or regulation of an agency adopted for the purpose of reducing the emissions of greenhouse gases or

The Appendix G thresholds for GHG's do not prescribe specific methodologies for performing an assessment, do not establish specific thresholds of significance, and do not mandate specific mitigation measures. Rather, the CEQA Guidelines emphasize the lead agency's discretion to determine the appropriate methodologies and thresholds of significance consistent with the manner in which other impact areas are handled in CEQA. With respect to GHG emissions, the CEQA Guidelines § 15064.4(a) states that lead agencies "shall make a good-faith effort, based to the extent possible on scientific and factual data, to describe, calculate or estimate" GHG emissions resulting from a project. The CEQA Guidelines note that an agency has the discretion to either quantify a project's GHG emissions or rely on a "qualitative analysis or other performance-based standards." (14 California Code of Regulations [CCR] 15064.4(b)). A lead agency may use a "model or methodology" to estimate GHG emissions and has the discretion to select the model or methodology it considers "most appropriate to enable decision makers to intelligently take into account the project's incremental contribution to climate change." (14 CCR 15064.4(c)). Section 15064.4(b) provides that the lead agency should consider the following when determining the significance of impacts from GHG emissions on the environment:

1. The extent a project may increase or reduce GHG emissions as compared to the existing environmental setting.

2. Whether the project emissions exceed a threshold of significance that the lead agency determines applies to the project.

3. The extent to which the project complies with regulations or requirements adopted to implement a statewide, regional, or local plan for the reduction or mitigation of GHG emissions (14 CCR 15064.4(b)).

In addition, Section 15064.7(c) of the CEQA Guidelines specifies that "[w]hen adopting or using thresholds of significance, a lead agency may consider thresholds of significance previously adopted or recommended by other public agencies, or recommended by experts, provided the decision of the lead agency to adopt such thresholds is supported by substantial evidence" (14 CCR 15064.7(c)). The CEQA Guidelines also clarify that the effects of GHG emissions are cumulative and should be analyzed in the context of CEQA's requirements for cumulative impact analysis (see CEQA Guidelines § 15130(f)). As a note, the CEQA Guidelines were amended in response to SB 97. In particular, the CEQA Guidelines were

amended to specify that compliance with a GHG emissions reduction plan renders a cumulative impact insignificant.

Per CEQA Guidelines § 15064(h)(3), a project's incremental contribution to a cumulative impact can be found not cumulatively considerable if the project would comply with an approved plan or mitigation program that provides specific requirements that would avoid or substantially lessen the cumulative problem within the geographic area of the project. To qualify, such plans or programs must be specified in law or adopted by the public agency with jurisdiction over the affected resources through a public review process to implement, interpret, or make specific the law enforced or administered by the public agency. Examples of such programs include a "water quality control plan, air quality attainment or maintenance plan, integrated waste management plan, habitat conservation plan, natural community conservation plans [and] plans or regulations for the reduction of greenhouse gas emissions." Put another way, CEQA Guidelines § 15064(h)(3) allows a lead agency to make a finding of less than significant for GHG emissions if a project complies with adopted programs, plans, policies and/or other regulatory strategies to reduce GHG emissions.

The significance of the Project's GHG emissions is evaluated consistent with CEQA Guidelines § 15064.4(b)(2) by considering whether the Project complies with applicable plans, policies, regulations and requirements adopted to implement a statewide, regional, or local plan for the reduction or mitigation of GHG emissions. As previously described, portions of the SJVAPCD significance thresholds are problematic based on the Newhall Ranch decision. Therefore, for the purposes of this analysis Project GHG emissions are quantified and compared to the thresholds issued by CAPCOA, which is an association of the air pollution control officers from all 35 local air quality agencies throughout California, including the SJVAPCD. CAPCOA recommends a significance threshold of 900 metric tons annually. This threshold is based on a capture rate of 90 percent of land use development projects, which in turn translates into a 90 percent capture rate of all GHG emissions. The 900 metric ton threshold is considered by CAPCOA to be low enough to capture a substantial fraction of future projects that will be constructed to accommodate future statewide population and economic growth, while setting the emission threshold high enough to exclude small projects that will in aggregate contribute a relatively small fraction of the cumulative statewide GHG emissions.

In *Center for Biological Diversity v. Department of Fish and Wildlife* (2015) 62 Cal. 4th 2014, 213, 221, 227, following its review of various potential GHG thresholds proposed in an academic study [Crockett, *Addressing the Significance of Greenhouse Gas Emissions: California's Search for Regulatory Certainty in an Uncertain World* (July 2011), 4 Golden Gate U. Envtl. L. J. 203], the California Supreme Court identified the use of numeric bright-line thresholds as a potential pathway for compliance with CEQA GHG requirements. The study found numeric bright line thresholds designed to determine when small projects were so small as to not cause a cumulatively considerable impact on global climate change was consistent with CEQA. Specifically, Public Resources Code section 21003(f) provides it is a policy of the state that "[a]ll persons and public agencies involved in the environmental review process be responsible for carrying out the process in the most efficient, expeditious manner in order to conserve the available financial, governmental, physical and social resources with the objective that those resources may be better applied toward the mitigation of actual significant effects on the environment." The Supreme

Court-reviewed study noted, "[s]ubjecting the smallest projects to the full panoply of CEQA requirements, even though the public benefit would be minimal, would not be consistent with implementing the statute in the most efficient, expeditious manner. Nor would it be consistent with applying lead agencies' scarce resources toward mitigating actual significant climate change impacts." (Crockett, *Addressing the Significance of Greenhouse Gas Emissions: California's Search for Regulatory Certainty in an Uncertain World* (July 2011), 4 Golden Gate U. Envtl. L. J. 203, 221, 227.)

3.3.2 Methodology

Where GHG emission quantification was required, emissions were modeled using the CalEEMod, version 2020.4.0. CalEEMod is a statewide land use emissions computer model designed to quantify potential GHG emissions associated with both construction and operations from a variety of land use projects. Project GHG emissions were calculated using a combination of model defaults for Madera County and information provided by the Project proponent, such as construction phasing and timing.

3.3.3 Impact Analysis

Generation of GHG Emissions

Construction-Generated GHG Emissions

Construction of the Project would generate GHG emissions from worker commute trips, haul trucks carrying supplies and materials to and from the Project site, and off-road construction equipment (e.g., excavators, graders). Table 3-2 illustrates the specific construction generated GHG emissions that would result from construction of the Project. Once construction is complete, the generation of these GHG emissions would cease.

Table 3-2. Construction-Related Greenhouse Gas Emissions

Emissions Source	CO_2e (Metric Tons/ Year)
Construction in 2022	16.35
CAPCOA's Potentially Significant Impact Threshold	*900*
Exceed CAPCOA's Significance Threshold?	**No**

Source: CalEEMod version 2020.4.0. Refer to Attachment A for Model Data Outputs.

As shown in Table 3-2, Project would result in the generation of approximately 16.35 metric tons of CO_2e during Project construction. Thus, emissions would not exceed the CAPCOA's potentially significant impact threshold of 900 metric tons of CO_2e annually. Once complete, the generation of these GHG emissions would cease.

Operational GHG Emissions

Per information provided by the Project proponent, once construction is complete no additional daily vehicle trips or personnel would be added to operate or maintain the water tank. Thus, the proposed Project would not include the provision of new permanent stationary or mobile sources of GHG emissions, and therefore, by its very nature, would not generate quantifiable GHG emissions from Project operations.

Conflict with any Applicable Plan, Policy, or Regulation of an Agency Adopted for the Purpose of Reducing the Emissions of Greenhouse Gases

The County of Madera does have an applicable plan, policy, or regulation adopted for the purpose of reducing GHG emissions. However, as previously described the State of California promulgates several mandates and goals to reduce statewide GHG emissions, including the goal to reduce statewide GHG emissions to 40 percent below 1990 levels by the year 2030 (SB 32). As previously described, temporary Project-related GHG emissions during construction would not exceed GHG significance thresholds, which were developed in consideration of statewide greenhouse reduction goals. Furthermore, the Project would not include new permanent sources of GHG emissions and would not generate new or unplanned permanent GHG emissions.

4.0 REFERENCES

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LIST OF ATTACHMENTS

Attachment A – CalEEMod Output Files Criteria Air Pollutants & Greenhouse Gas Emissions

Attachment B – SJVAPCD Prioritization Score Calculator

ATTACHMENT A

CalEEMod Output Files Criteria Air Pollutants & Greenhouse Gas Emissions

MD10A - Water Tank - Madera County, Annual

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

MD10A - Water Tank

Madera County, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
General Light Industry	10.00	1000sqft	0.23	10,000.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.9	**Precipitation Freq (Days)**	51
Climate Zone	3			**Operational Year**	2024
Utility Company	Pacific Gas and Electric Company				
CO2 Intensity (lb/MWhr)	203.98	**CH4 Intensity (lb/MWhr)**	0.033	**N2O Intensity (lb/MWhr)**	0.004

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use -

Construction Phase - No demolition or grading needed as installation to take place in existing site.

Trips and VMT - 20 hauling trips were assumed for tank materials

Grading - Assume one foot of top soil removed from area of impact.

Vehicle Trips - No additional operational trips associated with the Project.

Construction Off-road Equipment Mitigation - SJVAPCD Rule 9510 Complience

Table Name	Column Name	Default Value	New Value
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	4.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00

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

tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	4.00
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstructionPhase	NumDays	100.00	20.00
tblConstructionPhase	NumDays	5.00	2.00
tblConstructionPhase	NumDays	1.00	10.00
tblConstructionPhase	PhaseEndDate	6/21/2022	9/9/2022
tblConstructionPhase	PhaseEndDate	6/28/2022	8/16/2022
tblConstructionPhase	PhaseEndDate	2/1/2022	8/12/2022
tblConstructionPhase	PhaseStartDate	2/2/2022	8/15/2022
tblConstructionPhase	PhaseStartDate	6/22/2022	8/15/2022
tblConstructionPhase	PhaseStartDate	2/1/2022	8/1/2022
tblGrading	AcresOfGrading	5.00	0.50
tblGrading	MaterialExported	0.00	40.00
tblVehicleTrips	CC_TL	7.30	0.00
tblVehicleTrips	ST_TR	1.99	0.00
tblVehicleTrips	SU_TR	5.00	0.00
tblVehicleTrips	WD_TR	4.96	0.00

2.0 Emissions Summary

MD10A - Water Tank - Madera County, Annual

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

2.1 Overall Construction

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2022	0.0108	0.1125	0.1013	1.9000e-004	1.1000e-003	5.3200e-003	6.4300e-003	2.5000e-004	4.9000e-003	5.1600e-003	0.0000	16.3527	16.3527	4.9200e-003	1.0000e-004	16.5055
Maximum	**0.0108**	**0.1125**	**0.1013**	**1.9000e-004**	**1.1000e-003**	**5.3200e-003**	**6.4300e-003**	**2.5000e-004**	**4.9000e-003**	**5.1600e-003**	**0.0000**	**16.3527**	**16.3527**	**4.9200e-003**	**1.0000e-004**	**16.5055**

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					
2022	2.4700e-003	0.0108	0.1137	1.9000e-004	1.1000e-003	3.0000e-004	1.4100e-003	2.5000e-004	3.0000e-004	5.6000e-004	0.0000	16.3526	16.3526	4.9200e-003	1.0000e-004	16.5055
Maximum	**2.4700e-003**	**0.0108**	**0.1137**	**1.9000e-004**	**1.1000e-003**	**3.0000e-004**	**1.4100e-003**	**2.5000e-004**	**3.0000e-004**	**5.6000e-004**	**0.0000**	**16.3526**	**16.3526**	**4.9200e-003**	**1.0000e-004**	**16.5055**

	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	**77.09**	**90.39**	**-12.22**	**0.00**	**0.00**	**94.36**	**78.07**	**0.00**	**93.88**	**89.15**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

MD10A - Water Tank - Madera County, Annual

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

Quarter	Start Date	End Date	Maximum Unmitigated ROG + NOX (tons/quarter)	Maximum Mitigated ROG + NOX (tons/quarter)
3	8-1-2022	9-30-2022	0.1103	0.0119
		Highest	0.1103	0.0119

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	0.0460	0.0000	9.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	1.8000e-004	1.8000e-004	0.0000	0.0000	1.9000e-004
Energy	1.1200e-003	0.0102	8.5200e-003	6.0000e-005		7.7000e-004	7.7000e-004		7.7000e-004	7.7000e-004	0.0000	19.0126	19.0126	1.5000e-003	3.6000e-004	19.1570
Mobile	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
Waste						0.0000	0.0000		0.0000	0.0000	2.5171	0.0000	2.5171	0.1488	0.0000	6.2360
Water						0.0000	0.0000		0.0000	0.0000	0.7337	1.1577	1.8914	0.0755	1.8000e-003	4.3169
Total	**0.0471**	**0.0102**	**8.6100e-003**	**6.0000e-005**	**0.0000**	**7.7000e-004**	**7.7000e-004**	**0.0000**	**7.7000e-004**	**7.7000e-004**	**3.2507**	**20.1705**	**23.4213**	**0.2258**	**2.1600e-003**	**29.7101**

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

2.2 Overall Operational

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	0.0460	0.0000	9.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	1.8000e-004	1.8000e-004	0.0000	0.0000	1.9000e-004
Energy	1.1200e-003	0.0102	8.5200e-003	6.0000e-005		7.7000e-004	7.7000e-004		7.7000e-004	7.7000e-004	0.0000	19.0126	19.0126	1.5000e-003	3.6000e-004	19.1570
Mobile	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
Waste						0.0000	0.0000		0.0000	0.0000	2.5171	0.0000	2.5171	0.1488	0.0000	6.2360
Water						0.0000	0.0000		0.0000	0.0000	0.7337	1.1577	1.8914	0.0755	1.8000e-003	4.3169
Total	**0.0471**	**0.0102**	**8.6100e-003**	**6.0000e-005**	**0.0000**	**7.7000e-004**	**7.7000e-004**	**0.0000**	**7.7000e-004**	**7.7000e-004**	**3.2507**	**20.1705**	**23.4213**	**0.2258**	**2.1600e-003**	**29.7101**

	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	Paving	Paving	8/15/2022	8/16/2022	5	2	
2	Site Preparation	Site Preparation	8/1/2022	8/12/2022	5	10	
3	Building Construction	Building Construction	8/15/2022	9/9/2022	5	20	

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

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: 0; Non-Residential Outdoor: 0; Striped Parking Area: 0 (Architectural Coating – sqft)

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Paving	Cement and Mortar Mixers	4	6.00	9	0.56
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
Building Construction	Tractors/Loaders/Backhoes	2	8.00	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
Site Preparation	2	5.00	0.00	5.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	5	4.00	2.00	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

3.1 Mitigation Measures Construction

Use Cleaner Engines for Construction Equipment

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

3.2 Paving - 2022

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	6.5000e-004	5.9200e-003	7.0300e-003	1.0000e-005		3.0000e-004	3.0000e-004		2.8000e-004	2.8000e-004	0.0000	0.9397	0.9397	2.7000e-004	0.0000	0.9465
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**6.5000e-004**	**5.9200e-003**	**7.0300e-003**	**1.0000e-005**		**3.0000e-004**	**3.0000e-004**		**2.8000e-004**	**2.8000e-004**	**0.0000**	**0.9397**	**0.9397**	**2.7000e-004**	**0.0000**	**0.9465**

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	7.0000e-005	5.0000e-005	5.5000e-004	0.0000	1.4000e-004	0.0000	1.4000e-004	4.0000e-005	0.0000	4.0000e-005	0.0000	0.1239	0.1239	0.0000	0.0000	0.1252
Total	**7.0000e-005**	**5.0000e-005**	**5.5000e-004**	**0.0000**	**1.4000e-004**	**0.0000**	**1.4000e-004**	**4.0000e-005**	**0.0000**	**4.0000e-005**	**0.0000**	**0.1239**	**0.1239**	**0.0000**	**0.0000**	**0.1252**

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

3.2 Paving - 2022

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	1.1000e-004	4.9000e-004	6.9000e-003	1.0000e-005		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005	0.0000	0.9397	0.9397	2.7000e-004	0.0000	0.9465
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**1.1000e-004**	**4.9000e-004**	**6.9000e-003**	**1.0000e-005**		**1.0000e-005**	**1.0000e-005**		**1.0000e-005**	**1.0000e-005**	**0.0000**	**0.9397**	**0.9397**	**2.7000e-004**	**0.0000**	**0.9465**

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	7.0000e-005	5.0000e-005	5.5000e-004	0.0000	1.4000e-004	0.0000	1.4000e-004	4.0000e-005	0.0000	4.0000e-005	0.0000	0.1239	0.1239	0.0000	0.0000	0.1252
Total	**7.0000e-005**	**5.0000e-005**	**5.5000e-004**	**0.0000**	**1.4000e-004**	**0.0000**	**1.4000e-004**	**4.0000e-005**	**0.0000**	**4.0000e-005**	**0.0000**	**0.1239**	**0.1239**	**0.0000**	**0.0000**	**0.1252**

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

3.3 Site Preparation - 2022

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	2.9000e-003	0.0347	0.0198	5.0000e-005		1.2900e-003	1.2900e-003		1.1800e-003	1.1800e-003	0.0000	4.2752	4.2752	1.3800e-003	0.0000	4.3098
Total	**2.9000e-003**	**0.0347**	**0.0198**	**5.0000e-005**	**2.7000e-004**	**1.2900e-003**	**1.5600e-003**	**3.0000e-005**	**1.1800e-003**	**1.2100e-003**	**0.0000**	**4.2752**	**4.2752**	**1.3800e-003**	**0.0000**	**4.3098**

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	1.0000e-005	3.8000e-004	7.0000e-005	0.0000	4.0000e-005	0.0000	5.0000e-005	1.0000e-005	0.0000	2.0000e-005	0.0000	0.1456	0.1456	0.0000	2.0000e-005	0.1524
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	9.0000e-005	6.0000e-005	7.7000e-004	0.0000	2.0000e-004	0.0000	2.0000e-004	5.0000e-005	0.0000	5.0000e-005	0.0000	0.1721	0.1721	1.0000e-005	1.0000e-005	0.1739
Total	**1.0000e-004**	**4.4000e-004**	**8.4000e-004**	**0.0000**	**2.4000e-004**	**0.0000**	**2.5000e-004**	**6.0000e-005**	**0.0000**	**7.0000e-005**	**0.0000**	**0.3177**	**0.3177**	**1.0000e-005**	**3.0000e-005**	**0.3263**

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

3.3 Site Preparation - 2022

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	6.0000e-004	2.5800e-003	0.0266	5.0000e-005		8.0000e-005	8.0000e-005		8.0000e-005	8.0000e-005	0.0000	4.2752	4.2752	1.3800e-003	0.0000	4.3098
Total	**6.0000e-004**	**2.5800e-003**	**0.0266**	**5.0000e-005**	**2.7000e-004**	**8.0000e-005**	**3.5000e-004**	**3.0000e-005**	**8.0000e-005**	**1.1000e-004**	**0.0000**	**4.2752**	**4.2752**	**1.3800e-003**	**0.0000**	**4.3098**

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	1.0000e-005	3.8000e-004	7.0000e-005	0.0000	4.0000e-005	0.0000	5.0000e-005	1.0000e-005	0.0000	2.0000e-005	0.0000	0.1456	0.1456	0.0000	2.0000e-005	0.1524
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	9.0000e-005	6.0000e-005	7.7000e-004	0.0000	2.0000e-004	0.0000	2.0000e-004	5.0000e-005	0.0000	5.0000e-005	0.0000	0.1721	0.1721	1.0000e-005	1.0000e-005	0.1739
Total	**1.0000e-004**	**4.4000e-004**	**8.4000e-004**	**0.0000**	**2.4000e-004**	**0.0000**	**2.5000e-004**	**6.0000e-005**	**0.0000**	**7.0000e-005**	**0.0000**	**0.3177**	**0.3177**	**1.0000e-005**	**3.0000e-005**	**0.3263**

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

3.4 Building Construction - 2022

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	6.8600e-003	0.0703	0.0715	1.1000e-004		3.7200e-003	3.7200e-003		3.4200e-003	3.4200e-003	0.0000	10.0148	10.0148	3.2400e-003	0.0000	10.0957
Total	**6.8600e-003**	**0.0703**	**0.0715**	**1.1000e-004**		**3.7200e-003**	**3.7200e-003**		**3.4200e-003**	**3.4200e-003**	**0.0000**	**10.0148**	**10.0148**	**3.2400e-003**	**0.0000**	**10.0957**

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	5.0000e-005	1.1000e-003	3.5000e-004	0.0000	1.3000e-004	1.0000e-005	1.4000e-004	4.0000e-005	1.0000e-005	5.0000e-005	0.0000	0.4061	0.4061	0.0000	6.0000e-005	0.4239
Worker	1.5000e-004	1.0000e-004	1.2300e-003	0.0000	3.2000e-004	0.0000	3.2000e-004	8.0000e-005	0.0000	9.0000e-005	0.0000	0.2754	0.2754	1.0000e-005	1.0000e-005	0.2782
Total	**2.0000e-004**	**1.2000e-003**	**1.5800e-003**	**0.0000**	**4.5000e-004**	**1.0000e-005**	**4.6000e-004**	**1.2000e-004**	**1.0000e-005**	**1.4000e-004**	**0.0000**	**0.6815**	**0.6815**	**1.0000e-005**	**7.0000e-005**	**0.7021**

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

3.4 Building Construction - 2022

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	1.4000e-003	6.0500e-003	0.0773	1.1000e-004		1.9000e-004	1.9000e-004		1.9000e-004	1.9000e-004	0.0000	10.0148	10.0148	3.2400e-003	0.0000	10.0957
Total	**1.4000e-003**	**6.0500e-003**	**0.0773**	**1.1000e-004**		**1.9000e-004**	**1.9000e-004**		**1.9000e-004**	**1.9000e-004**	**0.0000**	**10.0148**	**10.0148**	**3.2400e-003**	**0.0000**	**10.0957**

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	5.0000e-005	1.1000e-003	3.5000e-004	0.0000	1.3000e-004	1.0000e-005	1.4000e-004	4.0000e-005	1.0000e-005	5.0000e-005	0.0000	0.4061	0.4061	0.0000	6.0000e-005	0.4239
Worker	1.5000e-004	1.0000e-004	1.2300e-003	0.0000	3.2000e-004	0.0000	3.2000e-004	8.0000e-005	0.0000	9.0000e-005	0.0000	0.2754	0.2754	1.0000e-005	1.0000e-005	0.2782
Total	**2.0000e-004**	**1.2000e-003**	**1.5800e-003**	**0.0000**	**4.5000e-004**	**1.0000e-005**	**4.6000e-004**	**1.2000e-004**	**1.0000e-005**	**1.4000e-004**	**0.0000**	**0.6815**	**0.6815**	**1.0000e-005**	**7.0000e-005**	**0.7021**

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

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	0.0000	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
Unmitigated	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

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
General Light Industry	0.00	0.00	0.00		
Total	0.00	0.00	0.00		

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	0.00	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	0.500104	0.052860	0.172660	0.158983	0.033384	0.008488	0.010945	0.028437	0.000810	0.000210	0.026444	0.001975	0.004700

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

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	7.9663	7.9663	1.2900e-003	1.6000e-004	8.0451
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	7.9663	7.9663	1.2900e-003	1.6000e-004	8.0451
NaturalGas Mitigated	1.1200e-003	0.0102	8.5200e-003	6.0000e-005		7.7000e-004	7.7000e-004		7.7000e-004	7.7000e-004	0.0000	11.0463	11.0463	2.1000e-004	2.0000e-004	11.1120
NaturalGas Unmitigated	1.1200e-003	0.0102	8.5200e-003	6.0000e-005		7.7000e-004	7.7000e-004		7.7000e-004	7.7000e-004	0.0000	11.0463	11.0463	2.1000e-004	2.0000e-004	11.1120

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

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
General Light Industry	207000	1.1200e-003	0.0102	8.5200e-003	6.0000e-005		7.7000e-004	7.7000e-004		7.7000e-004	7.7000e-004	0.0000	11.0463	11.0463	2.1000e-004	2.0000e-004	11.1120
Total		**1.1200e-003**	**0.0102**	**8.5200e-003**	**6.0000e-005**		**7.7000e-004**	**7.7000e-004**		**7.7000e-004**	**7.7000e-004**	**0.0000**	**11.0463**	**11.0463**	**2.1000e-004**	**2.0000e-004**	**11.1120**

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	207000	1.1200e-003	0.0102	8.5200e-003	6.0000e-005		7.7000e-004	7.7000e-004		7.7000e-004	7.7000e-004	0.0000	11.0463	11.0463	2.1000e-004	2.0000e-004	11.1120
Total		**1.1200e-003**	**0.0102**	**8.5200e-003**	**6.0000e-005**		**7.7000e-004**	**7.7000e-004**		**7.7000e-004**	**7.7000e-004**	**0.0000**	**11.0463**	**11.0463**	**2.1000e-004**	**2.0000e-004**	**11.1120**

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

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
General Light Industry	86100	7.9663	1.2900e-003	1.6000e-004	8.0451
Total		**7.9663**	**1.2900e-003**	**1.6000e-004**	**8.0451**

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
General Light Industry	86100	7.9663	1.2900e-003	1.6000e-004	8.0451
Total		**7.9663**	**1.2900e-003**	**1.6000e-004**	**8.0451**

6.0 Area Detail

6.1 Mitigation Measures Area

MD10A - Water Tank - Madera County, Annual

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

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	0.0460	0.0000	9.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	1.8000e-004	1.8000e-004	0.0000	0.0000	1.9000e-004
Unmitigated	0.0460	0.0000	9.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	1.8000e-004	1.8000e-004	0.0000	0.0000	1.9000e-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	6.9500e-003					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.0391					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	1.0000e-005	0.0000	9.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	1.8000e-004	1.8000e-004	0.0000	0.0000	1.9000e-004
Total	**0.0460**	**0.0000**	**9.0000e-005**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**1.8000e-004**	**1.8000e-004**	**0.0000**	**0.0000**	**1.9000e-004**

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

6.2 Area by SubCategory

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	6.9500e-003					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.0391					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	1.0000e-005	0.0000	9.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	1.8000e-004	1.8000e-004	0.0000	0.0000	1.9000e-004
Total	**0.0460**	**0.0000**	**9.0000e-005**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**1.8000e-004**	**1.8000e-004**	**0.0000**	**0.0000**	**1.9000e-004**

7.0 Water Detail

7.1 Mitigation Measures Water

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

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	1.8914	0.0755	1.8000e-003	4.3169
Unmitigated	1.8914	0.0755	1.8000e-003	4.3169

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
General Light Industry	2.3125 / 0	1.8914	0.0755	1.8000e-003	4.3169
Total		**1.8914**	**0.0755**	**1.8000e-003**	**4.3169**

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

7.2 Water by Land Use

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
General Light Industry	2.3125 / 0	1.8914	0.0755	1.8000e-003	4.3169
Total		**1.8914**	**0.0755**	**1.8000e-003**	**4.3169**

8.0 Waste Detail

8.1 Mitigation Measures Waste

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	2.5171	0.1488	0.0000	6.2360
Unmitigated	2.5171	0.1488	0.0000	6.2360

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

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
General Light Industry	12.4	2.5171	0.1488	0.0000	6.2360
Total		**2.5171**	**0.1488**	**0.0000**	**6.2360**

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
General Light Industry	12.4	2.5171	0.1488	0.0000	6.2360
Total		**2.5171**	**0.1488**	**0.0000**	**6.2360**

9.0 Operational Offroad

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

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

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

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

Boilers

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

User Defined Equipment

Equipment Type	Number

11.0 Vegetation

ATTACHMENT B

SJVAPCD Prioritization Calculator Output

Name

Prioritization Calculator

Applicability	Use to provide a Prioritization score based on the emission potency method. Entries required in yellow areas, output in gray areas.		
Author or updater	William Duvall	*Last Update*	February 3, 2022
Facility:	MD10A		
ID#:	CEQA		
Project #:	CEQA		
Unit and Process#	Construction		
Operating Hours hr/yr	320.00		

Receptor Proximity and Proximity Factors		Cancer Score	Chronic Score	Acute Score	Max Score
0< R<100	**1.000**	1.39E+00	2.05E-03	0.00E+00	1.39E+00
100≤R<250	**0.250**	3.47E-01	5.14E-04	0.00E+00	3.47E-01
250≤R<500	**0.040**	5.54E-02	8.22E-05	0.00E+00	5.54E-02
500≤R<1000	**0.011**	1.52E-02	2.26E-05	0.00E+00	1.52E-02
1000≤R<1500	**0.003**	4.16E-03	6.16E-06	0.00E+00	4.16E-03
1500≤R<2000	**0.002**	2.77E-03	4.11E-06	0.00E+00	2.77E-03
2000<R	**0.001**	1.39E-03	2.05E-06	0.00E+00	1.39E-03

Receptor proximity is in meters. Priortization scores are calculated by multiplying the total scores summed below by the proximity factors. Record the Max score for your receptor distance. If the substance list for the unit is longer than the number of rows here or if there are multiple processes use additional worksheets and sum the totals of the Max Scores.

Construction

Enter the unit's CAS# of the substances emitted and their amounts.

Prioritzation score for each substance generated below. Totals on last row.

Substance	CAS#	Annual Emissions (lbs/yr)	Maximum Hourly (lbs/hr)	Average Hourly (lbs/hr)	Cancer	Chronic	Acute
Diesel engine exhaust, particulate matter (Diesel PM)	**9901**	6.00E-01	3.59E-02	1.88E-03	1.39E+00	2.05E-03	0.00E+00
Carbon Monoxide [Criteria Pollutant]	**42101**	2.27E+02	1.53E+01	7.11E-01	0.00E+00	0.00E+00	0.00E+00
Oxides of Nitrogen	**42603**	2.16E+01	1.27E+00	6.75E-02	0.00E+00	0.00E+00	0.00E+00
Reactive Organic Gas	**16113**	4.94E+00	3.41E-01	1.54E-02	0.00E+00	0.00E+00	0.00E+00
Oxides of sulfur	**42401**	1.90E-04	2.47E-02	5.94E-07	0.00E+00	0.00E+00	0.00E+00
Particulate Matter	**11101**	2.82E+00	2.30E-01	8.81E-03	0.00E+00	0.00E+00	0.00E+00
Particulate Matter 2.5 Microns or less	**88101**	1.12E+00	8.76E-02	3.50E-03	0.00E+00	0.00E+00	0.00E+00
				Totals	**1.39E+00**	**2.05E-03**	**0.00E+00**

Note: Tier IV engines assumed per Rule 9510

Critiera pollutants included per lookup values, but no additional risk calculated per latest factors.

Appendix B

Biological Resources Assessment for the MD10A Water Tank Storage Project

Biological Resources Assessment
for the
MD10A Water Tank Storage Project

Madera County, California

Prepared For:

Benchmark Resources

Prepared By:

ECORP Consulting, Inc.
ENVIRONMENTAL CONSULTANTS
2525 Warren Drive
Rocklin, California 95677

February 9, 2022

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LIST OF ACRONYMS AND ABBREVIATIONS

Term	Description
BA	Biological Assessment
BCC	Birds of Conservation Concern
BO	Biological Opinion
BRA	Biological Resources Assessment
CDFW	California Department of Fish and Wildlife
CEQA	California Environmental Quality Act
CFR	Code of Federal Regulations

LIST OF ACRONYMS AND ABBREVIATIONS

Term	Description
CNDDB	California Natural Diversity Database
CNPS	California Native Plant Society
CRPR	California Rare Plant Rank
CWA	Clean Water Act
ESA	Endangered Species Act
DPS	Distinct Population Segment
F	Fahrenheit
LSA	Lake or Streambed Alteration
MBTA	Migratory Bird Treaty Act
NMFS	National Marine Fisheries Service
NOAA	National Oceanic and Atmospheric Administration
NPDES	National Pollutant Discharge Elimination System
NPPA	Native Plant Protection Act
NRCS	Natural Resources Conservation Service
Project	MD10A Water Tank Storage Project
RWQCB	Regional Water Quality Control Board
SSC	Species of Special Concern
Study Area	Environmental Study Limits
USACE	U.S. Army Corps of Engineers
USEPA	U.S. Environmental Protection Agency
USFWS	U.S. Fish and Wildlife Service
USGS	U.S. Geological Survey
WBWG	Western Bat Working Group

1.0 INTRODUCTION

On behalf of Benchmark Resources, ECORP Consulting, Inc. conducted a Biological Resources Assessment (BRA) for the MD10A Water Tank Storage Project (Project) located in Madera County, California. For this BRA, the Environmental Study Limits (Study Area) is approximately 2.2 acres (County Assessor's Parcel Number 049-140-020). The purpose of the assessment was to collect information on the biological resources present and evaluate the potential for special-status species and their habitats to occur in the Study Area, assess potential biological impacts related to Project activities, and identify potential mitigation measures to inform the Project's California Environmental Quality Act (CEQA) documentation for biological resources.

1.1 Project Location

The Study Area is located within the Madera Ranchos Dublin Water Plant, operated by Madera County Maintenance District 10A, on the southern side of Dublin Road between Road 37½ and Road 37¾ in unincorporated Madera County. The Study Area corresponds to a portion of Section 35, Township 11 South, and Range 19 East (Mount Diablo Base Meridian) of the Lanes Bridge, California 7.5′ topographic quadrangle (U.S. Geological Survey [USGS] 1964, photo inspection 1973; Figure 1-1). The approximate center of the Study Area is located at North American Datum 1983 coordinates 36.935084° latitude and -119.864162° longitude within the Middle San Joaquin-Lower Chowchilla Watershed (Hydrologic Unit Code #18040001; Natural Resources Conservation Service [NRCS] et al. 2016).

1.2 Project Description

The Proposed Project would install an approximately 1-million-gallon (1 MG) aboveground water storage tank, booster pumps, and ancillary equipment associated with previously approved groundwater supply facilities at the existing Dublin Plant site. The Project will install a 1 MG aboveground water storage tank approximately 30 feet in maximum height and 86 feet in diameter, in the southeast portion of the Dublin Plant site. Booster pumps and electrical power and control service systems will be installed on the north site of the water storage tank. The tank will be placed on a concrete ring foundation with an approximately 0.13-acre footprint and the approximately 0.31-acre area surrounding the tank and containing the booster pumps would be asphalt surfaced with a gradient to convey stormwater runoff to existing drainage facilities at the site. The combined tank footprint and paved area is approximately 0.44 acres.

Electricity needed for construction and booster pump operation will be obtained from connections to existing power supply sources at the site. Water supply for construction activities will be obtained through a metered connection with the existing water supply groundwater well at the site. Backflow prevention devices would be installed on temporary water lines to reduce the risk of cross contamination of the County's distribution system. Portable toilets and hand washing facilities will be provided at the site for use by construction workers and removed following the completion of construction. The facilities will be a minimum of 50 feet from the location of the existing onsite well and would comply with applicable laws, ordinances, and regulations pertaining to the public health and sanitation.

The site will be kept clean and free from rubbish and debris during construction, and materials and equipment would be removed from the site when they are no longer necessary. Following the completion of construction, the work site would be cleared of equipment, unused materials, and rubbish to present a clean and neat appearance.

Best management practices for controlling stormwater runoff will be installed and maintained during the construction phase as necessary to avoid potential erosion and sedimentation in surface water runoff. The street in front of the Dublin Plant site (Dublin Road) will be maintained clean of mud and/or dirt and if the street were to become dirty due to the Project-related construction activities or vehicles, the street will be cleaned by the end of each working day.

Construction activities will be managed to avoid emissions of smoke, dust, and other contaminants in conflict with any applicable local, state, or federal air pollutant emission regulations. Dust nuisance by cleaning, sweeping, and sprinkling with water or other means as necessary. Noise from Contractor's operations would be restricted so as to not exceed limits established by applicable laws or regulations and in no event to exceed 86 dBA at a distance of 50 feet from the noise source.

1.3 Purpose of this Biological Resources Assessment

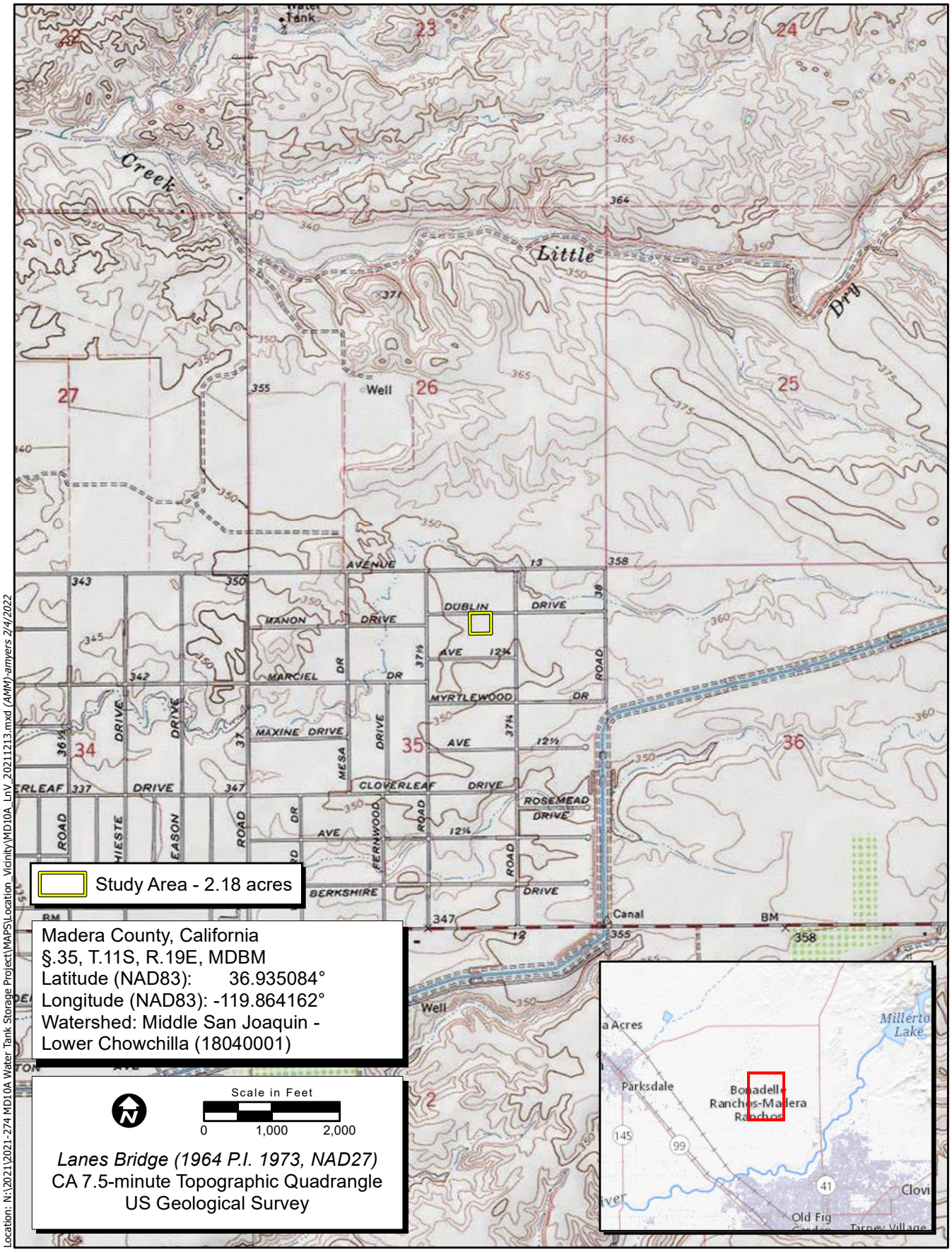
The purpose of this BRA is to assess the potential for occurrence of special-status plant and animal species or their habitats, and sensitive habitats such as wetlands, riparian communities, and sensitive natural communities within the Study Area.

This assessment includes information generated from literature review and an assessment-level reconnaissance site visit. This BRA does not include determinate field surveys for plant and animal species, nor does it include an aquatic resources delineation performed according to U.S. Army Corps of Engineers (USACE) protocol.

This assessment includes an analysis of potential impacts on biological resources anticipated to result from the Project, as presently defined. The mitigation recommendations presented in this assessment are based on the review of existing literature and the results of site reconnaissance surveys as described herein.

For the purposes of this assessment, special-status species are defined as plants or animals that:

- are listed, proposed for listing, or candidates for future listing as threatened or endangered under the federal Endangered Species Act (ESA);
- are listed or candidates for future listing as threatened or endangered under the California ESA;
- meet the definitions of endangered or rare under Section 15380 of the CEQA Guidelines;



Map Date: 2/4/2022

Figure 1-1. Study Area Location and Vicinity

2021-274 MD10A Water Tank Storage Project

ECORP Consulting, Inc.
ENVIRONMENTAL CONSULTANTS

- are identified as a species of special concern (SSC) by the California Department of Fish and Wildlife (CDFW);
- are birds identified as birds of conservation concern (BCC) by the U.S. Fish and Wildlife Service (USFWS);
- are plants considered by the California Native Plant Society (CNPS) to be "rare, threatened, or endangered in California" (California Rare Plant Rank [CRPR] 1 and 2), "plants about which more information is needed" (i.e., species with a CRPR of 3), or "plants of limited distribution – a watch list" (i.e., species with a CRPR of 4);
- are plants listed as rare under the California Native Plant Protection Act (NPPA; California Fish and Game Code, § 1900 et seq.); or
- are fully protected in California in accordance with the California Fish and Game Code, §§ 3511 (birds), 4700 (mammals), 5050 (amphibians and reptiles), and 5515 (fishes).

Only species that fall into one of the above-listed groups were considered for this assessment. While other species (i.e., special-status lichens, California Natural Diversity Database [CNDDB] tracked species with no special status) are sometimes found in database searches or within the literature, these species were not included within this analysis.

2.0 REGULATORY SETTING

2.1 Federal Regulations

2.1.1 Federal Endangered Species Act

The ESA protects plants and animals that are listed as endangered or threatened by the USFWS and the National Marine Fisheries Service (NMFS). Section 9 of ESA prohibits the taking of listed wildlife, where take is defined as "harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, collect, or attempt to engage in such conduct" (50 Code of Federal Regulations [CFR] 17.3). For plants, this statute governs removing, possessing, maliciously damaging, or destroying any listed plant on federal land and removing, cutting, digging up, damaging, or destroying any listed plant on non-federal land in knowing violation of state law (16 U.S. Code 1538). Under Section 7 of ESA, federal agencies are required to consult with the USFWS if their actions, including permit approvals or funding, could adversely affect a listed (or proposed) species (including plants) or its critical habitat. Through consultation and the issuance of a Biological Opinion (BO), the USFWS may issue an incidental take statement allowing take of the species that is incidental to an otherwise authorized activity provided the activity will not jeopardize the continued existence of the species. Section 10 of ESA provides for issuance of incidental take permits where no other federal actions are necessary provided a habitat conservation plan is developed.

2.1.1.1 Section 7

Section 7 of ESA mandates that all federal agencies consult with USFWS or NMFS to ensure that federal agencies' actions do not jeopardize the continued existence of a listed species or adversely modify Critical

Habitat for listed species. If direct or indirect effects will occur to Critical Habitat that appreciably diminish the value of Critical Habitat for both the survival and recovery of a species, the adverse modifications will require formal consultation with USFWS or NMFS. If adverse effects are likely, the applicant must conduct a Biological Assessment (BA) for the purpose of analyzing the potential effects of the project on listed species and critical habitat to establish and justify an "effect determination." The federal agency reviews the BA; if it concludes that the project may adversely affect a listed species or its habitat, it prepares a BO, which may recommend "reasonable and prudent alternatives" to the project to avoid jeopardizing or adversely modifying habitat.

2.1.1.2 Critical Habitat and Essential Habitat

Critical Habitat is defined in Section 3 of the ESA as:

1. the specific areas within the geographical area occupied by a species, at the time it is listed in accordance with the ESA, on which are found those physical or biological features essential to the conservation of the species and that may require special management considerations or protection; and

2. specific areas outside the geographical area occupied by a species at the time it is listed, upon a determination that such areas are essential for the conservation of the species.

Critical Habitat designations identify, to the extent known and using the best scientific data available, habitat areas that provide essential lifecycle needs of the species. These include but are not limited to the following:

1. Space for individual and population growth and for normal behavior;

2. Food, water, air, light, minerals, or other nutritional or physiological requirements;

3. Cover or shelter;

4. Sites for breeding, reproduction, or rearing (or development) of offspring; and

5. Habitats that are protected from disturbance or are representative of the historic, geographical, and ecological distributions of a species.

2.1.2 Migratory Bird Treaty Act

The Migratory Bird Treaty Act (MBTA) implements international treaties between the U.S. and other nations devised to protect migratory birds, any of their parts, eggs, and nests from activities such as hunting, pursuing, capturing, killing, selling, and shipping, unless expressly authorized in the regulations or by permit. As authorized under the MBTA, USFWS issues permits to qualified applicants for the following types of activities: falconry, raptor propagation, scientific collecting, special purposes (rehabilitation, education, migratory game bird propagation, and salvage), take of depredating birds, taxidermy, and waterfowl sale and disposal. The regulations governing migratory bird permits can be found in 50 CFR Part 13 General Permit Procedures and 50 CFR Part 21 Migratory Bird Permits. The State

of California has incorporated the protection of nongame birds in § 3800, migratory birds in § 3513, and birds of prey in § 3503.5 of the California Fish and Game Code.

2.1.3 Federal Clean Water Act

The purpose of the federal Clean Water Act (CWA) is to "restore and maintain the chemical, physical, and biological integrity of the nation's waters." Section 404 of the CWA prohibits the discharge of dredged or fill material into "Waters of the United States" without a permit from the USACE. The definition of Waters of the U.S. includes rivers, streams, estuaries, the territorial seas, ponds, lakes, and wetlands. Wetlands are defined as those areas "that are inundated or saturated by surface or ground water at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions" (33 CFR 328.3 7b). The U.S. Environmental Protection Agency also has authority over wetlands and may override a USACE permit.

Projects that would have substantial impacts to wetlands may require an individual permit. Projects that only minimally affect wetlands may meet the conditions of one of the existing Nationwide Permits. A Water Quality Certification or waiver pursuant to Section 401 of the CWA is required for Section 404 permit actions; in California, this certification or waiver is issued by the Regional Water Quality Control Board (RWQCB). Projects that would not affect wetlands or other Waters of the U.S. are not subject to CWA Section 404 or 401 authorizations.

2.2 State or Local Regulations

2.2.1 California Endangered Species Act

The California ESA (California Fish and Game Code §§ 2050-2116) protects species of fish, wildlife, and plants listed by the state as endangered or threatened. Species identified as candidates for listing may also receive protection. Section 2080 of the California ESA prohibits the taking, possession, purchase, sale, and import or export of endangered, threatened, or candidate species, unless otherwise authorized by permit. Take is defined in Section 86 of the California Fish and Game Code as "hunt, pursue, catch, capture, or kill, or attempt to hunt, pursue, catch, capture, or kill." The California ESA allows for take incidental to otherwise lawful projects under permits issued by CDFW.

2.2.2 Fully Protected Species

The State of California first began to designate species as "fully protected" prior to the creation of the federal and California ESAs. Lists of fully protected species were initially developed to provide protection to those animals that were rare or faced possible extinction and included fish, amphibians and reptiles, birds, and mammals. Most fully protected species have since been listed as threatened or endangered under the federal or California ESAs. Fully protected species are identified in the California Fish and Game Code § 4700 for mammals, § 3511 for birds, § 5050 for reptiles and amphibians, and § 5515 for fish.

These sections of the California Fish and Game Code provide that fully protected species may not be taken or possessed at any time, including prohibition of CDFW from issuing incidental take permits for fully protected species under the California ESA. CDFW will issue licenses or permits for take of these

species for necessary scientific research or live capture and relocation pursuant to the permit and may allow incidental take for lawful activities carried out under an approved Natural Community Conservation Plan within which such species are covered.

2.2.3 Native Plant Protection Act

The NPPA of 1977 (California Fish and Game Code §§ 1900-1913) was established with the intent to "preserve, protect and enhance rare and endangered plants in this state." The NPPA is administered by CDFW. The Fish and Game Commission has the authority to designate native plants as "endangered" or "rare." The NPPA prohibits the take of plants listed under the NPPA, but the NPPA contains a number of exemptions to this prohibition that have not been clarified by regulation or judicial rule. In 1984, the California ESA brought under its protection all plants previously listed as endangered under NPPA. Plants listed as rare under NPPA are not protected under the California ESA but are still protected under the provisions of NPPA. The Fish and Game Commission no longer lists plants under NPPA, reserving all listings to the California ESA.

2.2.4 California Fish and Game Code Special Protections for Birds

In addition to protections contained within the California ESA and California Fish and Game Code § 3511 described above, the California Fish and Game Code includes a number of sections that specifically protect certain birds:

- Section 3800 states that it is unlawful to take nongame birds, such as those occurring naturally in California that are not resident game birds, migratory game birds, or fully protected birds, except when in accordance with regulations of the California Fish and Game Commission or a mitigation plan approved by CDFW for mining operations.
- Section 3503 prohibits the take, possession, or needless destruction of the nest or eggs of any bird.
- Section 3503.5 protects birds of prey (which includes eagles, hawks, falcons, kites, ospreys, and owls) and prohibits the take, possession, or destruction of any birds and their nests.
- Section 3505 makes it unlawful to take, sell, or purchase egrets, ospreys, and several exotic nonnative species, or any part of these birds.
- Section 3513 specifically prohibits the take or possession of any migratory nongame bird as designated in the MBTA.

2.2.5 Lake or Streambed Alteration Agreements

Section 1602 of the California Fish and Game Code requires individuals or agencies to provide a Notification of Lake or Streambed Alteration (LSA) to CDFW for "any activity that may substantially divert or obstruct the natural flow or substantially change the bed, channel, or bank of any river, stream, or lake." CDFW reviews the proposed actions and, if necessary, proposed measures to protect affected fish and wildlife resources. The final proposal mutually agreed upon by CDFW and the applicant is the LSA Agreement.

2.2.6 Porter-Cologne Water Quality Act

The RWQCB implements water quality regulations under the federal CWA and the state Porter-Cologne Water Quality Act. These regulations require compliance with the National Pollutant Discharge Elimination System (NPDES), including compliance with the California Storm Water NPDES General Construction Permit for discharges of storm water runoff associated with construction activities. General Construction Permits for projects that disturb one or more acres of land require development and implementation of a Storm Water Pollution Prevention Plan. Under the Porter-Cologne Water Quality Act, the RWQCB regulates actions that would involve "discharging waste, or proposing to discharge waste, with any region that could affect the water of the state" (Water Code 13260(a)). Waters of the State are defined as "any surface water or groundwater, including saline waters, within the boundaries of the state" (Water Code 13050 (e)). The RWQCB regulates all such activities, as well as dredging, filling, or discharging materials into Waters of the State that are not regulated by the USACE due to a lack of connectivity with a navigable water body. The RWQCB may require issuance of a Waste Discharge Requirement for these activities.

2.2.7 California Environmental Quality Act

In accordance with CEQA Guidelines § 15380, a species or subspecies not specifically protected under the federal or California ESAs or NPPA may be considered endangered, rare, or threatened for CEQA review purposes if the species meets certain criteria specified in the Guidelines. These criteria parallel the definitions used in the ESA, California ESA, and NPPA. Section 15380 was included in the CEQA Guidelines primarily to address situations in which a project under review may have a significant effect on a species that has not been listed under the ESA, California ESA, or NPPA, but that may meet the definition of endangered, rare, or threatened. Animal species identified as SSC by CDFW, birds identified as a conservation concern by USFWS, and plants identified by the CNPS as rare, threatened, or endangered may meet the CEQA definition of rare or endangered.

2.2.7.1 Species of Special Concern

The CDFW defines SSC as a species, subspecies, or distinct population of an animal native to California that are not legally protected under the ESA, California ESA, or California Fish and Game Code, but currently satisfies one or more of the following criteria:

- The species has been completely extirpated from the state or, as in the case of birds, it has been extirpated from its primary seasonal or breeding range.
- The species is listed as federally (but not state) threatened or endangered or meets the state definition of threatened or endangered but has not formally been listed.
- The species has or is experiencing serious (noncyclical) population declines or range retractions (not reversed) that, if continued or resumed, could qualify it for state threatened or endangered status.

- The species has naturally small populations that exhibit high susceptibility to risk from any factor that if realized, could lead to declines that would qualify it for state threatened or endangered status.
- SSC are typically associated with habitats that are threatened.

Projects that result in substantial impacts to SSC may be considered significant under CEQA.

2.2.7.2 U.S. Fish and Wildlife Service Birds of Conservation Concern

The 1988 amendment to the Fish and Wildlife Conservation Act mandates USFWS "identify species, subspecies, and populations of all migratory nongame birds that, without additional conservation actions, are likely to become candidates for listing under ESA." To meet this requirement, USFWS published a list of BCC (USFWS 2021) for the U.S. The list identifies the migratory and nonmigratory bird species (beyond those already designated as federally threatened or endangered) that represent USFWS' highest conservation priorities. Projects that result in substantial impacts to BCC may be considered significant under CEQA.

2.2.7.3 Sensitive Natural Communities

The CDFW maintains the California Natural Community List (CDFW 2020), which provides a list of vegetation alliances, associations, and special stands as defined in *A Manual of California Vegetation, Second Edition* (Sawyer et al. 2009), along with their respective state and global rarity ranks. Natural communities with a state rarity rank of S1, S2, or S3 are considered sensitive natural communities. Impacts to sensitive natural communities may be considered significant under CEQA.

2.2.7.4 California Rare Plant Ranks

The CNPS maintains the electronic Inventory of Rare and Endangered Plants of California (CNPS 2021), which provides a list of plant species native to California that are threatened with extinction, have limited distributions, or low populations. Plant species meeting one of these criteria are assigned to one of six CRPRs. The rank system was developed in collaboration with government, academia, non-governmental organizations, and private-sector botanists, and is jointly managed by CDFW and the CNPS. The CRPRs are currently recognized in the CNDDB. The following are definitions of the CNPS CRPRs:

- Rare Plant Rank 1A – presumed extirpated in California and either rare or extinct elsewhere.
- Rare Plant Rank 1B – rare, threatened, or endangered in California and elsewhere.
- Rare Plant Rank 2A – presumed extirpated in California, but more common elsewhere.
- Rare Plant Rank 2B – rare, threatened, or endangered in California but more common elsewhere.
- Rare Plant Rank 3 – a review list of plants about which more information is needed.
- Rare Plant Rank 4 – a watch list of plants of limited distribution.

Additionally, CNPS has defined Threat Ranks that are added to the CRPR as an extension. Threat Ranks designate the level of threat on a scale of 1 through 3, with 1 being the most threatened and 3 being the least threatened. Threat Ranks are generally present for all plants ranked 1B, 2B, or 4, and for the majority of plants ranked 3. Plant species ranked 1A and 2A (presumed extirpated in California), and some species ranked 3, which lack threat information, do not typically have a Threat Rank extension. The following are definitions of the CNPS Threat Ranks:

- Threat Rank 0.1 – Seriously threatened in California (over 80 percent of occurrences threatened/high degree and immediacy of threat).
- Threat Rank 0.2 – Moderately threatened in California (20 to 80 percent occurrences threatened/moderate degree and immediacy of threat).
- Threat Rank 0.3 – Not very threatened in California (less than 20 percent of occurrences threatened/low degree and immediacy of threat or no current threats known).

Factors such as habitat vulnerability and specificity, distribution, and condition of occurrences are considered in setting the Threat Rank; and differences in Threat Ranks do not constitute additional or different protection (CNPS 2022).

Substantial impacts to plants ranked 1A, 1B, 2, and 3 are typically considered significant under CEQA Guidelines § 15380. Significance under CEQA is typically evaluated on a case-by-case basis for plants ranked 4 and at the discretion of the CEQA lead agency.

2.2.7.5 California Environmental Quality Act Significance Criteria

Sections 15063-15065 of the CEQA Guidelines address how an impact is identified as significant. Generally, impacts to listed (rare, threatened, or endangered) species are considered significant. Assessment of "impact significance" to populations of non-listed species (e.g., SSC) usually considers the proportion of the species' range that will be affected by a project, impacts to habitat, and the regional and population level effects.

Specifically, § 15064.7 of the CEQA Guidelines encourages local agencies to develop and publish the thresholds that the agency uses in determining the significance of environmental effects caused by projects under its review. However, agencies may also rely upon the guidance provided by the expanded Initial Study checklist contained in Appendix G of the CEQA Guidelines, which provides examples of impacts that would normally be considered significant.

An evaluation of whether an impact on biological resources would be substantial must consider both the resource itself and how that resource fits into a regional or local context. Substantial impacts would be those that would diminish, or result in the loss of, an important biological resource, or those that would obviously conflict with local, state, or federal resource conservation plans, goals, or regulations. Impacts are sometimes locally important but not significant under CEQA. The reason for this is that although the impacts would result in an adverse alteration of existing conditions, they would not substantially diminish or result in the permanent loss of an important resource on a population-wide or region-wide basis.

3.0 METHODS

3.1 Literature Review

The following resources were queried to determine the special-status species that had been documented within or in the vicinity of the Study Area:

- CDFW CNDDB data for the "Lanes Bridge, California" 7.5-minute USGS quadrangle and the eight surrounding USGS quadrangles (CDFW 2022).
- USFWS Information, Planning, and Consultation System Resource Report List for the Study Area (USFWS 2022).
- CNPS electronic Inventory of Rare and Endangered Plants of California for the "Lanes Bridge, California" 7.5-minute USGS quadrangle and the eight surrounding USGS quadrangles (CNPS 2022).
- National Oceanic and Atmospheric Administration (NOAA)/NMFS species list for the Lanes Bridge, California quadrangle (NOAA 2016).

The results of the database queries are included in Attachment A.

3.2 Field Surveys Conducted

This BRA includes a reconnaissance site visit to generally characterize onsite resources including aquatic resources (including wetlands), plant communities, wildlife, special-status species, and sensitive natural communities. The field assessment was conducted by ECORP biologist Keith Kwan on January 11, 2022. The purpose of this assessment was to identify potential biological resources constraints (e.g., aquatic resources, special-status species) onsite, identify regulatory requirements for development of the site, and assess potential mitigation needs.

3.3 Special-Status Species Considered for the Project

Based on species occurrence information from the literature review and field observations, a list of special-status species considered to have the potential to occur within the Study Area was generated (Table 4-1 in Section 4.6). Each of the species that were considered as potentially occurring within the Study Area or vicinity was evaluated based on the following criteria:

- **Present** - Species was observed during field surveys or is known to occur within the Study Area based on documented occurrences within the CNDDB or other literature.
- **Potential to Occur** - Habitat (including soils and elevation requirements) for the species occurs within the Study Area.
- **Low Potential to Occur** - Marginal or limited amounts of habitat occur, or the species is not known to occur within the vicinity of the Study Area based on CNDDB records and other available documentation.

- **Absent** - No suitable habitat (including soils and elevation requirements), or the species is not known to occur within the Study Area, or the vicinity of the Study Area based on CNDDB records and other documentation or determinate field surveys.

3.4 Sensitive Natural Communities

A Manual of California Vegetation, Second Edition (Sawyer et al. 2009) was used to describe vegetation communities onsite. Sensitive natural communities are those that are defined by CDFW and listed in the CNDDB.

4.0 RESULTS

4.1 Site Characteristics and Land Use

The Study Area is located on a partially developed parcel with solar panels and solar energy infrastructure. The undeveloped portion of the site where the Proposed Project will be constructed, currently consists of barren vacant land. The Study Area is situated at an elevation of approximately 350 feet above mean sea level in the San Joaquin Valley subregion of the Great Central Valley region of California (Baldwin et al. 2012). The average winter minimum temperature is 37.2 degrees Fahrenheit (˚F) and the average summer maximum temperature is 93.9˚F; the average annual precipitation is approximately 12.23 inches (NOAA 2022).

The surrounding lands include rural residences.

Representative photographs of the Study Area are included as Attachment B.

4.2 Vegetation Communities

The Study Area is partially developed and heavily impacted. There are no vegetation communities present. The undeveloped portion of the Study Area is comprised of barren ground with very few scattered weedy plants, including filaree (*Erodium* species), shepherd's purse (*Capsella bursa-pastoris*), wild radish (*Raphanus* species), yellow star-thistle (*Centaurea solstitialis*), and barley (*Hordeum murinum*). Sapling oaks (*Quercus* sp.) have been planted at the perimeter of the Study Area and a few mature gum (*Eucalyptus* sp.) trees are rooted on adjacent properties but overhang onto the Study Area.

4.3 Wildlife Observations, Movement Corridors, and Nursery Sites

The Study Area lacks any significant wildlife habitat elements such as aquatic habitat, emergent wetlands, or woodlands. Further, the Study Area is currently enclosed with fencing and surrounding by rural residences. The Study Area is not located within an area mapped in the Essential Habitat Connectivity Project (Spencer et al. 2010). Wildlife observed during the reconnaissance site visit included mourning dove (*Zenaida macroura*), Anna's hummingbird (*Calypte anna*), ruby-crowned kinglet (*Corthylio calendula*), white-crowned sparrow (*Zonotrichia leucophrys*), house finch (*Haemorhous mexicanus*), and yellow-rumped warbler (*Setaophaga coronata*). There is minimal wildlife use onsite and no movement/migratory corridors or nursery site are present. No California ground squirrels

(*Otospermophilus beecheyi*) or their burrows, including burrow surrogates (e.g., debris piles, pipes, or culverts), or other small mammal burrows were found onsite.

4.4 Soils

According to the Web Soil Survey there is one soil mapped within the Study Area: SaA – San Joaquin sandy loam, 0 to 3 percent slopes, MLRA 17 (Figure 4-1; NRCS 2022a). This soil unit is considered hydric with unnamed hydric components on fan remnants, open depression land forms (NRCS 2022b).

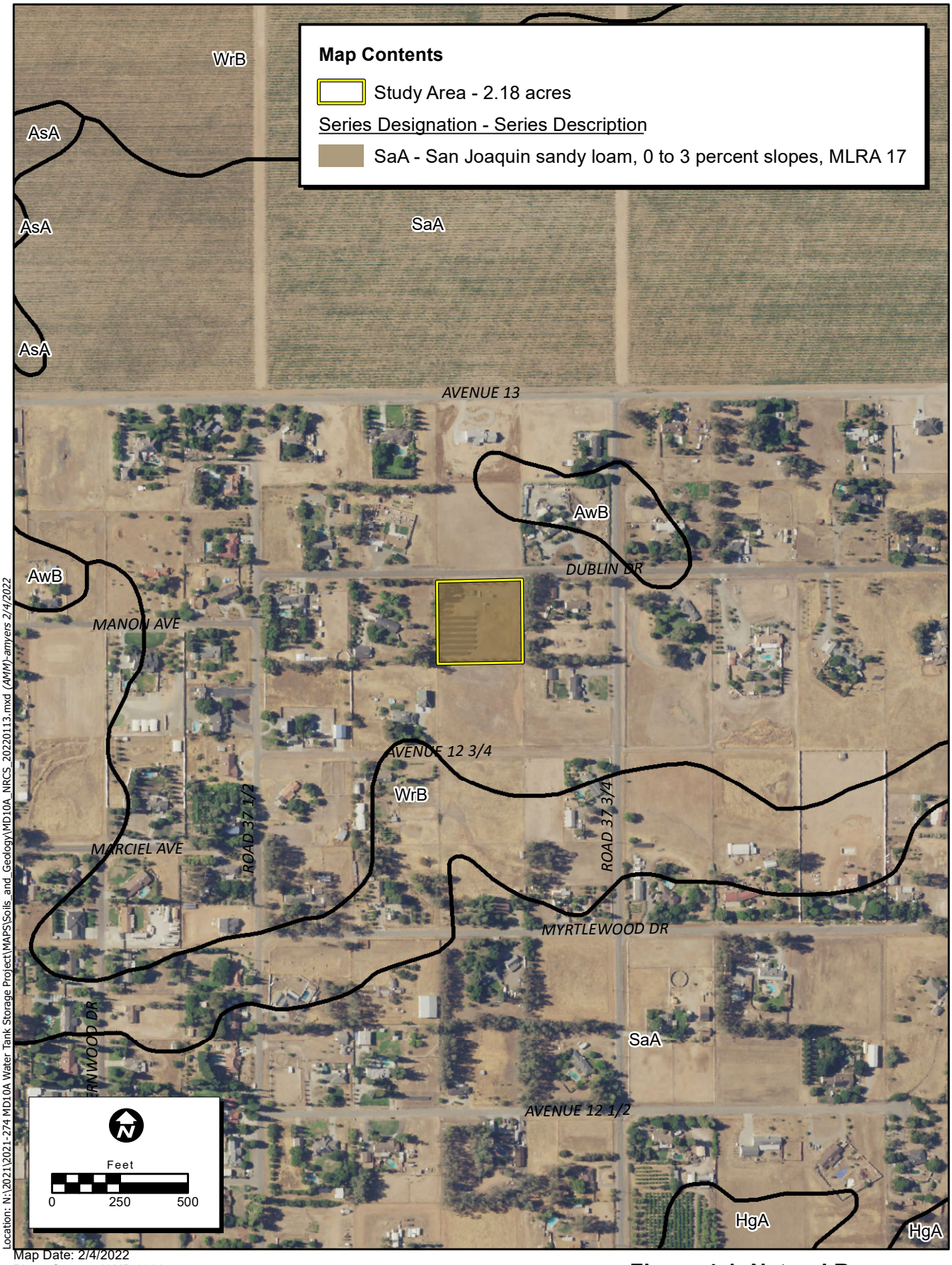
The San Joaquin soil series consists of shallow iron-silica hardpan soils developed in old alluvium derived mostly from granitic rocks. SaA-San Joaquin sandy loams, 0 to 3 percent slopes, includes closely associated fine sandy loam, sandy loam, and coarse sandy loam.

4.5 Aquatic Resources

A preliminary aquatic resources assessment was performed to identify potential Waters of the U.S./State concurrent with the BRA site visit. There are no aquatic resources present within the Study Area. The Study Area has been leveled, partially developed, and historically farmed. There are no topographic depressions or topographic relief onsite that could support pooling water or drainageways to the extent that wetland indicators would develop and persist. According to the California Aquatic Resources Inventory, no aquatic resources have been previously mapped onsite (Figure 4-2; SFEI 2017).

4.6 Evaluation of Potentially Occurring Special-Status Species

Table 4-1 lists all the special-status plant and wildlife species (as defined in Section 3.3) identified in the literature review as potentially occurring within the Study Area. Included in this table is the listing status for each species, a brief habitat description, and a determination on the potential to occur within the Study Area. Following the table is a brief description and discussion of each special-status species that is known to occur in the Study Area (from the literature review) or is considered to potentially occur within the Study Area.



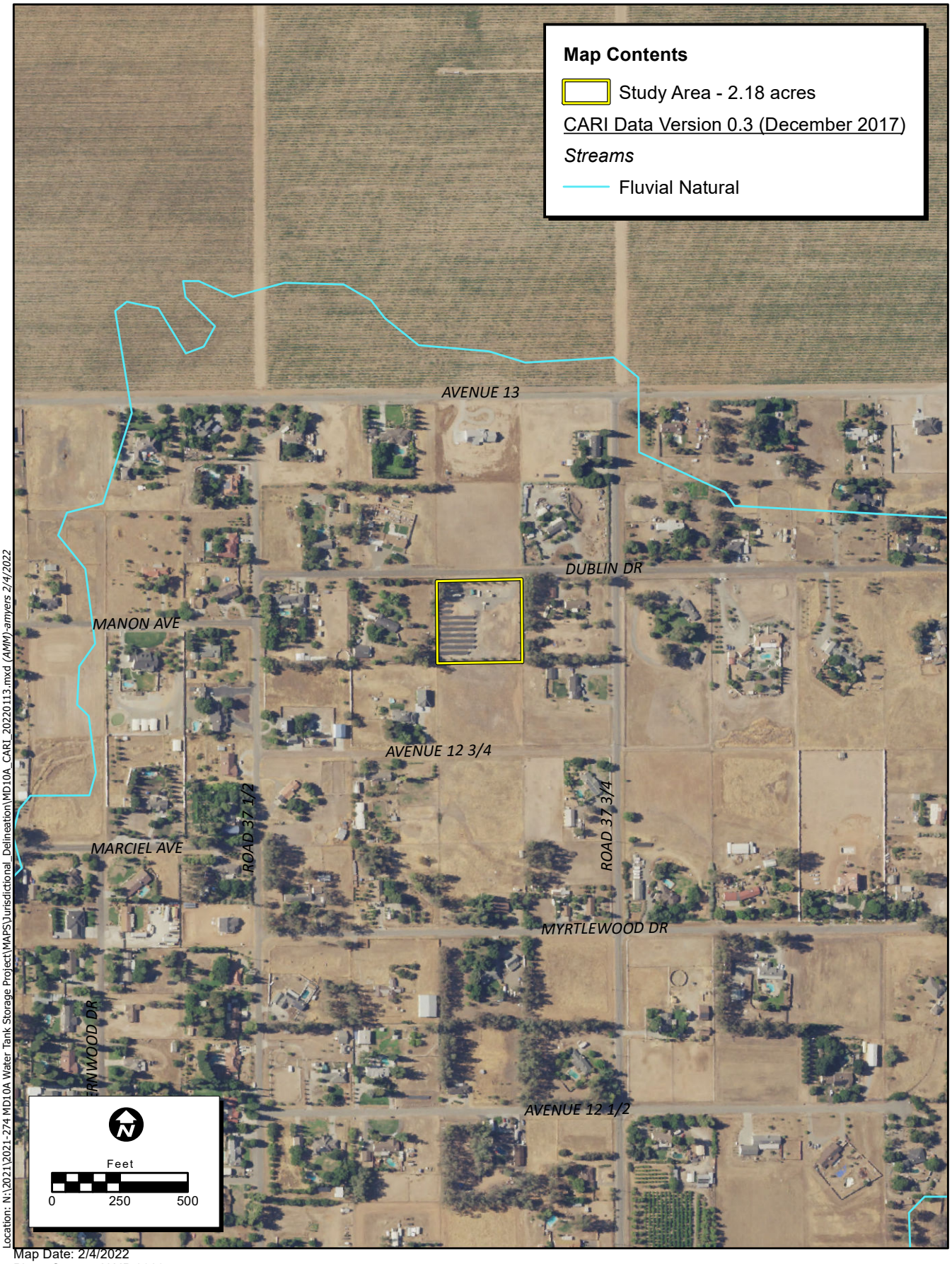
Location: N:\2021\2021-274 MD10A Water Tank Storage Project\MAPS\Soils_and_Geology\MD10A_NRCS_20220113.mxd (AMM)-amyers 2/4/2022

Map Date: 2/4/2022
Photo Source: NAIP 2020

Figure 4-1. Natural Resources Conservation Service Soil Types

2021-274 MD10A Water Tank Storage Project

ECORP Consulting, Inc.
ENVIRONMENTAL CONSULTANTS



Location: N:\2021\2021-274 MD10A Water Tank Storage Project\MAPS\Jurisdictional_Delineation\MD10A_CARI_20220113.mxd (AMM)-amyers 2/4/2022

Map Date: 2/4/2022
Photo Source: NAIP 2020

Figure 4-2. California Aquatic Resource Inventory

2021-274 MD10A Water Tank Storage Project

ECORP Consulting, Inc.
ENVIRONMENTAL CONSULTANTS

Table 4-1. Potentially Occurring Special-Status Species						
Common Name (Scientific Name)	**Status**			**Habitat Description**	**Survey Period**	**Potential to Occur Onsite**
	ESA	**CESA/ NPPA**	**Other**			
Plants						
Hoover's calycadenia *(Calycadenia hooveri)*	–	–	1B.3	Rocky soils in cismontane woodland and valley and foothill grassland (213'–984').	July–September	Absent-No suitable habitat onsite.
Succulent owl's clover *(Castilleja campestris* ssp. *succulenta)*	FT	CE	1B.2	Vernal pools, often in acidic environments (164'–2,461').	April–May	Absent-No suitable habitat onsite.
California jewelflower *(Caulanthus californicus)*	FE	CE	1B.1	Chenopod scrub, pinyon and juniper woodland, and valley and foothill grassland (200'–3,281').	February–May	Absent-No suitable habitat onsite.
Hoover's cryptantha *(Cryptantha hooveri)*	–	–	1A	Inland dunes, sandy substrates in valley and foothill grassland (30'–492').	April–May	Absent-No suitable habitat onsite.
Ewan's larkspur *(Delphinium hansenii* ssp. *ewanianum)*	–	–	4.2	Rocky soils in cismontane woodland, and valley and foothill grassland (196'–1,969').	March–May	Absent-No suitable habitat onsite.
Dwarf downingia *(Downingia pusilla)*	–	–	2B.2	Mesic areas in valley and foothill grassland, and vernal pools. Species has also been found in disturbed wet areas such as tire ruts and scraped depressions (5'–1,460').	March–May	Absent-No suitable habitat onsite.
Spiny-sepaled button-celery *(Eryngium spinosepalum)*	–	–	1B.2	Swales, roadside ditches (Preston et al. 2012), vernal pools and valley and foothill grassland (262'–3,199').	April–June	Absent-No suitable habitat onsite.
Kings River monkeyflower *(Erythranthe acutidens)*	–	–	3	Cismontane woodland and lower montane coniferous forest (1,001'–4,003').	April–July	Absent-No suitable habitat onsite.
California satintail *(Imperata brevifolia)*	–	–	2B.1	Mesic areas in chaparral, coastal scrub, Mojavean desert scrub, meadows and seeps (often alkali) and riparian scrub (0'–3,986').	September - May	Absent-No suitable habitat onsite.

Table 4-1. Potentially Occurring Special-Status Species						
Common Name (Scientific Name)	**Status**			**Habitat Description**	**Survey Period**	**Potential to Occur Onsite**
	ESA	**CESA/ NPPA**	**Other**			
Munz's tidy tips *(Layia munzii)*	–	–	1B.2	Alkaline clay soils in chenopod scrub and valley and foothill grasslands (492'–2,297').	March–April	Absent-No suitable habitat onsite.
Madera leptosiphon (*Leptosiphon serrulatus)*	–	–	1B.2	Cismontane woodland and lower montane coniferous forest (984'–4,265').	April–May	Absent-No suitable habitat onsite.
Orange lupine (*Lupinus citrinus* var. *citrinus*)	–	–	1B.2	Granitic substrates in chaparral, cismontane woodland, and lower montane coniferous forest (1,246'–5,577').	April–July	Absent-No suitable habitat onsite.
Pincushion navarretia *(Navarretia myersii* ssp. *myersii)*	–	–	1B.1	Often acidic soils in vernal pools (66'–1,083').	April–May	Absent-No suitable habitat onsite.
Shining navarretia *(Navarretia nigelliformis* ssp. *radians)*	–	–	1B.2	Vernal pools within cismontane woodland and valley or foothill grassland (213'–3,281').	April–July	Absent-No suitable habitat onsite.
San Joaquin Valley Orcutt grass *(Orcuttia inaequalis)*	FT	CE	1B.1	Vernal pools (33'–2,477').	April–September	Absent-No suitable habitat onsite.
Hairy Orcutt grass *(Orcuttia pilosa)*	FE	CE	1B.1	Vernal pools (151'–656').	May–September	Absent-No suitable habitat onsite.
Hartweg's Golden Sunburst *(Pseudobahia bahiifolia)*	FE	CE	1B.1	Clay, often acidic soils in cismontane woodland, valley and foothill grasslands (49'–492').	March–April	Absent-No suitable habitat onsite.
Sanford's arrowhead *(Sagittaria sanfordii)*	–	–	1B.2	Shallow marshes and freshwater swamps (0'–2,133').	May–October	Absent-No suitable habitat onsite.
Greene's tuctoria *(Tuctoria greenei)*	FE	CR	1B.1	Vernal pools (98'–3,510').	May–July	Absent-No suitable habitat onsite.
Invertebrates						
Conservancy fairy shrimp (*Branchinecta conservatio)*	FE	-	-	Vernal pools/wetlands.	November-April	Absent-No suitable habitat onsite.

Table 4-1. Potentially Occurring Special-Status Species						
Common Name (Scientific Name)	**Status**			**Habitat Description**	**Survey Period**	**Potential to Occur Onsite**
	ESA	**CESA/ NPPA**	**Other**			
Vernal pool fairy shrimp (*Branchinecta lynchi*)	FT	-	-	Vernal pools/wetlands.	November-April	Absent-No suitable habitat onsite.
Monarch butterfly (*Danaus plexippus*)	FC	-	-	Adult monarchs west of the Rocky Mountains typically overwinter in sheltered wooded groves of Monterey pine, Monterey cypress, and gum eucalyptus along coastal California, then disperse in spring throughout California, Nevada, Arizona, and parts of Oregon and Washington. Adults require milkweed and additional nectar sources during the breeding season. Larval caterpillars feed exclusively on milkweed.	Any season	Absent-No suitable habitat onsite.
Valley elderberry longhorn beetle (*Desmocerus californicus dimorphus*)	FT	-	-	Elderberry shrubs.	Any season	Absent-No suitable habitat onsite.
Fish						
Delta smelt (*Hypomesus transpacificus*)	FT	CE	-	Sacramento-San Joaquin delta.	N/A	Absent-No suitable habitat onsite.
Hardhead (*Mylopharodon conocephalus*)	-	-	SSC	Relatively undisturbed streams at low to mid elevations in the Sacramento-San Joaquin and Russian River drainages. In the San Joaquin River, scattered populations found in tributary streams, but only rarely in the valley reaches of the San Joaquin River.	N/A	Absent-No suitable habitat onsite.

Table 4-1. Potentially Occurring Special-Status Species

Common Name (Scientific Name)	Status			Habitat Description	Survey Period	Potential to Occur Onsite
	ESA	CESA/ NPPA	Other			
Steelhead (California Central Valley Distinct Population Segment [DPS]) (*Oncorhynchus mykiss irideus*)	FT	-	-	Fast-flowing, unobstructed, well-oxygenated rivers and streams.	N/A	Absent-No suitable habitat onsite.
Amphibians						
California red-legged frog (*Rana draytonii*)	FT	-	SSC	Lowlands or foothills at waters with dense shrubby or emergent riparian vegetation. Adults must have aestivation habitat to endure summer dry down.	May 1-November 1	Absent-No suitable habitat onsite.
Foothill yellow-legged frog East/Southern Sierra Clade (*Rana boylii*)	-	CE	SSC	Foothill yellow-legged frogs can be active all year in warmer locations but may become inactive or hibernate in colder climates. At lower elevations, foothill yellow-legged frogs likely spend most of the year in or near streams. Adult frogs, primarily males, will gather along main-stem rivers during spring to breed.	May - October	Absent-No suitable habitat onsite.
Western spadefoot (*Spea hammondii*)	-	-	SSC	California endemic species of vernal pools, swales, wetlands and adjacent grasslands throughout the Central Valley.	March-May	Absent-No suitable habitat onsite.
California tiger salamander (Central California DPS) (*Ambystoma californiense*)	FT	CT	SSC	Vernal pools, wetlands (breeding) and adjacent grassland or oak woodland; needs underground refuge (e.g., ground squirrel and/or gopher burrows). Largely terrestrial as adults.	March-May	Absent-No suitable habitat onsite.

Table 4-1. Potentially Occurring Special-Status Species						
Common Name (Scientific Name)	**Status**			**Habitat Description**	**Survey Period**	**Potential to Occur Onsite**
	ESA	**CESA/ NPPA**	**Other**			
Reptiles						
Northern legless lizard (*Anniella pulchra*)	-	-	SSC	The most widespread of California's *Anniella* species. Occurs in sandy or loose soils under sparse vegetation from Antioch south coastally to Ventura. Bush lupine is often an indicator plant, and two melanistic populations are known.	Generally spring, but depends on location and conditions	Absent-No suitable habitat onsite.
Northwestern pond turtle (*Actinemys marmorata*)	-	-	SSC	Requires basking sites and upland habitats up to 0.5 kilometers from water for egg laying. Uses ponds, streams, detention basins, and irrigation ditches.	April-September	Absent-No suitable habitat onsite.
California glossy snake (*Arizona elegans occidentalis*)	-	-	SSC	Occurs from the eastern part of the San Francisco Bay Area south to northwestern Baja California. Inhabits arid scrub, rocky washes, grasslands, and chaparral (Stebbins and McGinnis 2012)	April-October	Absent-No suitable habitat onsite.
Blunt-nosed leopard lizard (*Gambelia silus*)	FE	CE	FP	Occurs in sparsely vegetated alkali scrub habitats in the southern San Joaquin Valley. Uses mammal burrows, shrubs and other structures for shade.	April - July	Absent-No suitable habitat onsite.

Table 4-1. Potentially Occurring Special-Status Species						
Common Name (Scientific Name)	**Status**			**Habitat Description**	**Survey Period**	**Potential to Occur Onsite**
	ESA	**CESA/ NPPA**	**Other**			
Blainville's ("Coast") horned lizard (*Phrynosoma blainvillii*)	-	-	SSC	Formerly a wide-spread horned lizard found in a wide variety of habitats, often in lower elevation areas with sandy washes and scattered low bushes. Also occurs in Sierra Nevada foothills. Requires open areas for basking, but with bushes or grass clumps for cover, patches of loamy soil or sand for burrowing and an abundance of ants (Stebbins and McGinnis 2012). In the northern Sacramento area, this species appears restricted to the foothills between 1,000 to 3,000 feet from Cameron Park (El Dorado County) north and west to Grass Valley and Nevada City.	Apr-Oct	Absent-No suitable habitat onsite.
Giant garter snake (*Thamnophis gigas*)	FT	CT	-	Freshwater ditches, sloughs, and marshes in the Central Valley. Almost extirpated from the southern parts of its range.	April-October	Absent-No suitable habitat onsite.

Table 4-1. Potentially Occurring Special-Status Species						
Common Name (Scientific Name)	**Status**			**Habitat Description**	**Survey Period**	**Potential to Occur Onsite**
	ESA	**CESA/ NPPA**	**Other**			
Birds						
Yellow-billed cuckoo (*Coccyzus americanus*)	FT	CE	BCC	Breeds in California, Arizona, Utah, Colorado, and Wyoming. In California, they nest along the upper Sacramento River and the South Fork Kern River from Isabella Reservoir to Canebrake Ecological Reserve. Other known nesting locations include Feather River (Butte, Yuba, Sutter counties), Prado Flood Control Basin (San Bernardino and Riverside County), Amargosa River and Owens Valley (Inyo County), Santa Clara River (Los Angeles County), Mojave River and Colorado River (San Bernardino County). Nests in riparian woodland. Winters in South America.	June 15-August 15	Absent-No suitable habitat onsite.
Swainson's hawk (*Buteo swainsoni*)	-	CT	BCC	Nesting occurs in trees in agricultural, riparian, oak woodland, scrub, and urban landscapes. Forages over grassland, agricultural lands, particularly during discing/ harvesting, irrigated pastures	March-August	Absent-No suitable habitat onsite.

Table 4-1. Potentially Occurring Special-Status Species						
Common Name (Scientific Name)	**Status**			**Habitat Description**	**Survey Period**	**Potential to Occur Onsite**
	ESA	**CESA/ NPPA**	**Other**			
Burrowing owl *(Athene cunicularia)*	-	-	BCC, SSC	Nests in burrows or burrow surrogates in open, treeless, areas within grassland, steppe, and desert biomes. Often with other burrowing mammals (e.g., prairie dogs, California ground squirrels). May also use human-made habitat such as agricultural fields, golf courses, cemeteries, roadside, airports, vacant urban lots, and fairgrounds.	February-August	Absent-No suitable habitat onsite.
Nuttall's woodpecker *(Dryobates nuttallii)*	-	-	BCC	Resident from northern California south to Baja California. Nests in tree cavities in oak woodlands and riparian woodlands.	April-July	Absent-No suitable habitat onsite.
Least Bell's vireo (*Vireo bellii pusillus*)	FE	CE	-	In California, breeding range includes Ventura, Los Angeles, Riverside, Orange, San Diego, and San Bernardino counties, and rarely Stanislaus and Santa Clara counties. Nesting habitat includes dense, low shrubby vegetation in riparian areas, brushy fields, young second-growth woodland, scrub oak, coastal chaparral, and mesquite brushland. Winters in southern Baja California Sur.	April 1-July 31	Absent-No suitable habitat onsite.
California horned lark (*Eremophila alpestris actia*)	-	-	CDFW WL	San Joaquin Valley, coast range from Sonoma County south to Baja California; grassland, agricultural.	March-July	Absent-No suitable habitat onsite.

Table 4-1. Potentially Occurring Special-Status Species						
Common Name (Scientific Name)	**Status**			**Habitat Description**	**Survey Period**	**Potential to Occur Onsite**
	ESA	**CESA/ NPPA**	**Other**			
Mammals						
Pallid bat *(Antrozous pallidus)*	-	-	SSC	Crevices in rocky outcrops and cliffs, caves, mines, trees (e.g., basal hollows of redwoods, cavities of oaks, exfoliating pine and oak bark, deciduous trees in riparian areas, and fruit trees in orchards). Also roosts in various human structures such as bridges, barns, porches, bat boxes, and human occupied as well as vacant buildings (Western Bat Working Group [WBWG] 2022).	April-September	Absent-No suitable habitat onsite.
Fresno kangaroo rat *(Dipodomys nitratoides exilis)*	FE	CE	-	Elevated grassy patches on alkali plains or in grassy terrain with scattered alkali patches. Friable soils for burrow digging and annual and native forbs and grasses for foraging are necessary habitat components. Distribution is limited to the flat San Joaquin Valley Floor from Merced County to the northern border of Kings County.	Any season	Absent-No suitable habitat onsite.
Spotted bat *(Euderma maculatum)*	-	-	SSC	Roost in cracks, crevices, and caves, usually high in fractured rock cliffs. Found in desert, sub-alpine meadows, desert-scrub, pinyon-juniper woodland, ponderosa pine, mixed conifer forest, canyon bottoms, rims of cliffs, riparian areas, fields, and open pastures (WBWG 2022).	April-September	Absent-No suitable habitat onsite.

Table 4-1. Potentially Occurring Special-Status Species

Common Name (Scientific Name)	Status			Habitat Description	Survey Period	Potential to Occur Onsite
	ESA	CESA/ NPPA	Other			
Greater mastiff bat (*Eumops perotis californicus*)	-	-	SSC	Primarily a cliff-dwelling species, found in similar crevices in large boulders and buildings (WBWG 2022).	April-September	Absent-No suitable habitat onsite.
American badger *(Taxidea taxus)*	-	-	SSC	Drier open stages of most shrub, forest, and herbaceous habitats with friable soils.	Any season	Absent-No suitable habitat onsite.
San Joaquin kit fox *(Vulpes macrotis mutica)*	FE	CT	-	Grasslands, sagebrush scrub.	April 15 - July 15, September 1 - December 1	Absent-No suitable habitat onsite.

Status Codes:

FESA	Federal Endangered Species Act
CESA	California Endangered Species Act
FE	FESA listed, Endangered
FPT	Formally Proposed for FESA listing
FT	FESA listed, Threatened
FC	FESA Candidate Species
BCC	USFWS Bird of Conservation Concern (USFWS 2021)
CR	CESA- or NPPA-listed, Rare
CT	CESA- or NPPA-listed, Threatened
CE	CESA or NPPA listed, Endangered
CDFW WL	CDFW Watch List
SSC	CDFW Species of Special Concern
1A	CRPR/Presumed extinct
1B	CRPR/Rare or Endangered in California and elsewhere
2B	Plants rare, threatened, or endangered in California but more common elsewhere
3	CRPR/Plants About Which More Information is Needed – A Review List
4	CRPR/Plants of Limited Distribution – A Watch List
0.1	Threat Rank/Seriously threatened in California (over 80% of occurrences threatened / high degree and immediacy of threat)
0.2	Threat Rank/Moderately threatened in California (20-80% occurrences threatened / moderate degree and immediacy of threat)
0.3	Threat Rank/Not very threatened in California (<20% of occurrences threatened / low degree and immediacy of threat or no current threats known)

4.6.1 Plants

Nineteen special-status plant species were identified as potentially occurring in the Study Area based on the initial literature review and database queries (Table 4-1). However, upon further analysis and after the site visit, all of these species were absent due to a lack of suitable habitat within the Study Area. No further discussion of these species is included in the report.

4.6.2 Invertebrates

Four special-status invertebrate species were identified as potentially occurring in the Study Area based on the initial literature review (Table 4-1). However, upon further review and after the site visit, that all

these species were absent due to a lack of suitable habitat within the Study Area.. No further discussion of these species is provided in this analysis.

4.6.3 Fish

Three special-status fish were identified as having potential to occur in the Study Area based on the literature review (Table 4-1). However, upon further review and after the site visit all of these species are absent due to a lack of suitable habitat within the Study Area. No further discussion of these species is provided in this analysis.

4.6.4 Amphibians

Four special-status amphibian species were identified as having potential to occur in the Study Area based on the literature review (Table 4-1). However, upon further analysis and after the site visit, both of these species are absent due to a lack of suitable habitat within the Study Area. No further discussion of these species is provided in this analysis.

4.6.5 Reptiles

Six special-status reptile species were identified as having the potential to occur in the Study Area based on the literature review (Table 4-1). However, upon further analysis and after the site visit, all of these species are considered absent from the site due to the lack of suitable habitat within the Study Area. No further discussion of this species is provided in this analysis.

4.6.6 Birds

Eight special-status bird species were identified as having the potential to occur within the Study Area based on the literature review (Table 4-1). However, upon further analysis and after the site visit, all of these species were considered absent from the site due to the lack of suitable habitat or the Study Area is outside the known breeding range of the species. No further discussion of these species is provided in this analysis. (Discussion of potential effects on migratory bird species are discussed further in Sections 5.1 and 6.0.)

4.6.7 Mammals

Six special-status mammal species were identified as having the potential to occur within the Study Area based on the literature review (Table 4-1). However, upon further analysis and after the site visit, all of these species are considered absent from the site due to the lack of suitable habitat within the Study Area. No further discussion of these species is provided in this analysis.

4.7 Sensitive Natural Communities

Four sensitive natural communities were identified as having the potential to occur within or in the vicinity of the Study Area based on the literature review (CDFW 2022). These are: Northern Hardpan Vernal Pool, Northern Claypan Vernal Pool, Great Valley Mixed Riparian Forest, and Sycamore Alluvial Woodland. However, upon further analysis and after the site visit, neither these nor any other sensitive natural

communities are considered to be present within the Study Area. No further discussion of sensitive natural communities is provided within this assessment.

5.0 IMPACT ANALYSIS

This section specifically addresses the questions raised by the CEQA - Appendix G Environmental Checklist Form, IV. Biological Resources. This impact analysis assumes the Project will implement measures that fulfill the intent of recommended measures described in Section 6.0.

5.1 Special Status Species

Would the Project result in effects, either directly or through habitat modifications, to species identified as a candidate, sensitive, or special-status species in local or regional plans, policies, or regulations, or by the CDFW or USFWS?

The Proposed Project is located in an area that has been previously disturbed within a rural residential setting, so there is no suitable habitat for special-status species present onsite. However, the Study Area and adjacent parcels support potential nesting habitat for several commonly occurring birds that are protected under MBTA. Measure BIO-1 is recommended to be implemented in order to minimize effect to protected birds and their nests.

5.2 Riparian Habitat and Sensitive Natural Communities

Would the Project 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?

The Study Area supports weedy nonnative annual grassland habitat. There are no sensitive natural communities as defined by CDFW, and there is no riparian habitat onsite. Therefore, the Project will not impact riparian habitat or sensitive natural communities.

5.3 Aquatic Resources, Including Waters of the U.S. and State

Would the Project have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the CWA (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?

Based on this biological resources assessment, there are no aquatic resources, or potential waters of the U.S. or State, present within the Study Area. Therefore, the Project will not impact aquatic resources or wetlands.

5.4 Wildlife Movement/Corridors

Would the Project 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?

The Study Area provides limited migratory opportunities for terrestrial wildlife because of the developed nature of the site and surrounding lands, the absence of significant wildlife habitat elements onsite, and existing site perimeter fencing. Project construction is likely to temporarily disturb and displace some wildlife from the vicinity of the Study Area. Some wildlife such as birds or nocturnal species are likely to continue to use the habitats opportunistically for the duration of construction. Once construction is complete, wildlife movements are expected to resume but will likely be more limited through the Study Area. The Project is not expected to substantially interfere with wildlife movement.

There are no documented nursery sites and no nursery sites were observed within the Study Area during the site reconnaissance. Therefore, the Project is not expected to impact wildlife nursery sites.

5.5 Local Policies, Ordinances, and Other Plans

Does the Project conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?

The Project would not conflict with local policies or ordinances protecting biological resources.

Does the Project conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?

The Study Area is not covered by any local, regional, or state conservation plan. Therefore, the Project would not conflict with a local, regional, or state conservation plan. There would be no impact.

6.0 RECOMMENDATIONS

The Study Area does not support aquatic resources, potential Waters of the U.S. or State, and does not support sensitive natural communities, special-status species, or potentially suitable habitat special-status species. However, Project construction could affect birds and their active nests protected under the MBTA. The following measure is recommended in order to mitigate impacts to biological resources.

6.1 BIO-1, Nesting Birds

A qualified biologist shall conduct a preconstruction nesting bird survey of all areas associated with construction activities, and all accessible areas within 100 feet, within 14 days prior to commencement of construction if construction occurs during the nesting season (February 1 through September 30). If active nests are found, a no-disturbance buffer around the nest shall be established. The buffer distance shall be established by a qualified biologist in consultation with the CDFW. The buffer shall be maintained until the fledglings are capable of flight and become independent of the nest, to be determined by a qualified biologist. Once the young are independent of the nest, no further measures are necessary.

7.0 REFERENCES

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LIST OF ATTACHMENTS

Attachment A – Results of Database Queries

Attachment B – Representative Site Photos

ATTACHMENT A

Results of Database Queries

Search Results

20 matches found. Click on scientific name for details

Search Criteria: 9-Quad include [**3611976:3611986:3711918:3711917:3611988:3611978:3611987:3611977:3711916**]

▲ SCIENTIFIC NAME	COMMON NAME	FAMILY	LIFEFORM	BLOOMING PERIOD	FED LIST	STATE LIST	GLOBAL RANK	STATE RANK	CA RARE PLANT RANK	PHOTO
Bryum chryseum	brassy bryum	Bryaceae	moss		None	None	G5	S3	4.3	No Photo Available
Calycadenia hooveri	Hoover's calycadenia	Asteraceae	annual herb	Jul-Sep	None	None	G2	S2	1B.3	No Photo Available
Castilleja campestris var. *succulenta*	succulent owl's-clover	Orobanchaceae	annual herb (hemiparasitic)	(Mar)Apr-May	FT	CE	G4? T2T3	S2S3	1B.2	No Photo Available
Caulanthus californicus	California jewelflower	Brassicaceae	annual herb	Feb-May	FE	CE	G1	S1	1B.1	No Photo Available
Cryptantha hooveri	Hoover's cryptantha	Boraginaceae	annual herb	Apr-May	None	None	GH	SH	1A	No Photo Available
Delphinium hansenii ssp. *ewanianum*	Ewan's larkspur	Ranunculaceae	perennial herb	Mar-May	None	None	G4T3	S3	4.2	No Photo Available
Downingia pusilla	dwarf downingia	Campanulaceae	annual herb	Mar-May	None	None	GU	S2	2B.2	No Photo Available
Eryngium spinosepalum	spiny-sepaled button-celery	Apiaceae	annual/perennial herb	Apr-Jun	None	None	G2	S2	1B.2	No Photo Available
Erythranthe acutidens	Kings River monkeyflower	Phrymaceae	annual herb	Apr-Jul	None	None	G2G3	S2S3	3	 Barry Breckling
Imperata brevifolia	California satintail	Poaceae	perennial rhizomatous herb	Sep-May	None	None	G4	S3	2B.1	 © 2020 Matt C. Berger
Layia munzii	Munz's tidy-tips	Asteraceae	annual herb	Mar-Apr	None	None	G2	S2	1B.2	 © 2017 Neal Kramer

Leptosiphon serrulatus	Madera leptosiphon	Polemoniaceae	annual herb	Apr-May	None	None	G3	S3	1B.2	 © 2008 Chris Winchell
Lupinus citrinus var. *citrinus*	orange lupine	Fabaceae	annual herb	Apr-Jul	None	None	G2T2	S2	1B.2	No Photo Available
Navarretia myersii ssp. *myersii*	pincushion navarretia	Polemoniaceae	annual herb	Apr-May	None	None	G2T2	S2	1B.1	No Photo Available
Navarretia nigelliformis ssp. *radians*	shining navarretia	Polemoniaceae	annual herb	(Mar)Apr-Jul	None	None	G4T2	S2	1B.2	No Photo Available
Orcuttia inaequalis	San Joaquin Valley Orcutt grass	Poaceae	annual herb	Apr-Sep	FT	CE	G1	S1	1B.1	No Photo Available
Orcuttia pilosa	hairy Orcutt grass	Poaceae	annual herb	May-Sep	FE	CE	G1	S1	1B.1	 © 2003 George W. Hartwell
Pseudobahia bahiifolia	Hartweg's golden sunburst	Asteraceae	annual herb	Mar-Apr	FE	CE	G1	S1	1B.1	No Photo Available
Sagittaria sanfordii	Sanford's arrowhead	Alismataceae	perennial rhizomatous herb (emergent)	May-Oct(Nov)	None	None	G3	S3	1B.2	No Photo Available
Tuctoria greenei	Greene's tuctoria	Poaceae	annual herb	May-Jul(Sep)	FE	CR	G1	S1	1B.1	No Photo Available

Showing 1 to 20 of 20 entries

Suggested Citation:

California Native Plant Society, Rare Plant Program. 2022. Inventory of Rare and Endangered Plants of California (online edition, v9-01 1.0). Website https://www.rareplants.cnps.org [accessed 24 January 2022].

Selected Elements by Element Code

California Department of Fish and Wildlife

California Natural Diversity Database

Query Criteria: Quad IS (Lanes Bridge (3611987) OR Clovis (3611976) OR Friant (3611986) OR Daulton (3711918) OR Little Table Mtn. (3711917) OR Gregg (3611988) OR Herndon (3611978) OR Fresno North (3611977) OR Millerton Lake West (3711916))

Element Code	Species	Federal Status	State Status	Global Rank	State Rank	Rare Plant Rank/CDFW SSC or FP
AAAAA01181	***Ambystoma californiense pop. 1*** California tiger salamander - central California DPS	Threatened	Threatened	G2G3	S3	WL
AAABF02020	***Spea hammondii*** western spadefoot	None	None	G2G3	S3	SSC
AAABH01050	***Rana boylii*** foothill yellow-legged frog	None	Endangered	G3	S3	SSC
ABNFD01020	***Nannopterum auritum*** double-crested cormorant	None	None	G5	S4	WL
ABNGA04040	***Ardea alba*** great egret	None	None	G5	S4	
ABNGA06030	***Egretta thula*** snowy egret	None	None	G5	S4	
ABNGA11010	***Nycticorax nycticorax*** black-crowned night heron	None	None	G5	S4	
ABNKC19070	***Buteo swainsoni*** Swainson's hawk	None	Threatened	G5	S3	
ABNRB02022	***Coccyzus americanus occidentalis*** western yellow-billed cuckoo	Threatened	Endangered	G5T2T3	S1	
ABNSB10010	***Athene cunicularia*** burrowing owl	None	None	G4	S3	SSC
ABPAT02011	***Eremophila alpestris actia*** California horned lark	None	None	G5T4Q	S4	WL
ABPBW01114	***Vireo bellii pusillus*** least Bell's vireo	Endangered	Endangered	G5T2	S2	
ABPBXB0020	***Agelaius tricolor*** tricolored blackbird	None	Threatened	G1G2	S1S2	SSC
AFCJB25010	***Mylopharodon conocephalus*** hardhead	None	None	G3	S3	SSC
AMACC07010	***Euderma maculatum*** spotted bat	None	None	G4	S3	SSC
AMACC10010	***Antrozous pallidus*** pallid bat	None	None	G4	S3	SSC
AMACD02011	***Eumops perotis californicus*** western mastiff bat	None	None	G4G5T4	S3S4	SSC
AMAFD01060	***Perognathus inornatus*** San Joaquin pocket mouse	None	None	G2G3	S2S3	
AMAFD03151	***Dipodomys nitratoides exilis*** Fresno kangaroo rat	Endangered	Endangered	G3TH	SH	

Element Code	Species	Federal Status	State Status	Global Rank	State Rank	Rare Plant Rank/CDFW SSC or FP
AMAJA03041	***Vulpes macrotis mutica*** San Joaquin kit fox	Endangered	Threatened	G4T2	S2	
AMAJF04010	***Taxidea taxus*** American badger	None	None	G5	S3	SSC
ARAAD02030	***Emys marmorata*** western pond turtle	None	None	G3G4	S3	SSC
ARACC01020	***Anniella pulchra*** Northern California legless lizard	None	None	G3	S3	SSC
ARACF12100	***Phrynosoma blainvillii*** coast horned lizard	None	None	G3G4	S3S4	SSC
ARADB01017	***Arizona elegans occidentalis*** California glossy snake	None	None	G5T2	S2	SSC
CTT44110CA	***Northern Hardpan Vernal Pool*** Northern Hardpan Vernal Pool	None	None	G3	S3.1	
CTT44120CA	***Northern Claypan Vernal Pool*** Northern Claypan Vernal Pool	None	None	G1	S1.1	
CTT61420CA	***Great Valley Mixed Riparian Forest*** Great Valley Mixed Riparian Forest	None	None	G2	S2.2	
CTT62100CA	***Sycamore Alluvial Woodland*** Sycamore Alluvial Woodland	None	None	G1	S1.1	
ICBRA03030	***Branchinecta lynchi*** vernal pool fairy shrimp	Threatened	None	G3	S3	
ICBRA03150	***Branchinecta mesovallensis*** midvalley fairy shrimp	None	None	G2	S2S3	
ICBRA06010	***Linderiella occidentalis*** California linderiella	None	None	G2G3	S2S3	
IICOL48011	***Desmocerus californicus dimorphus*** valley elderberry longhorn beetle	Threatened	None	G3T2	S3	
IICOL4C020	***Lytta moesta*** moestan blister beetle	None	None	G2	S2	
IICOL4C030	***Lytta molesta*** molestan blister beetle	None	None	G2	S2	
IIDIP07010	***Efferia antiochi*** Antioch efferian robberfly	None	None	G1G2	S1S2	
IIDIP08010	***Metapogon hurdi*** Hurd's metapogon robberfly	None	None	G1G2	S1S2	
IIHYM24480	***Bombus crotchii*** Crotch bumble bee	None	None	G3G4	S1S2	
ILARAU8070	***Calicina mesaensis*** Table Mountain harvestman	None	None	G1	S1	
IMBIV19010	***Gonidea angulata*** western ridged mussel	None	None	G3	S1S2	

Element Code	Species	Federal Status	State Status	Global Rank	State Rank	Rare Plant Rank/CDFW SSC or FP
PDAPI0Z0Y0	***Eryngium spinosepalum*** spiny-sepaled button-celery	None	None	G2	S2	1B.2
PDAST1P040	***Calycadenia hooveri*** Hoover's calycadenia	None	None	G2	S2	1B.3
PDAST5N0B0	***Layia munzii*** Munz's tidy-tips	None	None	G2	S2	1B.2
PDAST7P010	***Pseudobahia bahiifolia*** Hartweg's golden sunburst	Endangered	Endangered	G1	S1	1B.1
PDBOR0A190	***Cryptantha hooveri*** Hoover's cryptantha	None	None	GH	SH	1A
PDBRA31010	***Caulanthus californicus*** California jewelflower	Endangered	Endangered	G1	S1	1B.1
PDCAM060C0	***Downingia pusilla*** dwarf downingia	None	None	GU	S2	2B.2
PDFAB2B103	***Lupinus citrinus var. citrinus*** orange lupine	None	None	G2T2	S2	1B.2
PDPLM09130	***Leptosiphon serrulatus*** Madera leptosiphon	None	None	G3	S3	1B.2
PDPLM0C0J2	***Navarretia nigelliformis ssp. radians*** shining navarretia	None	None	G4T2	S2	1B.2
PDPLM0C0X1	***Navarretia myersii ssp. myersii*** pincushion navarretia	None	None	G2T2	S2	1B.1
PDSCR0D3Z1	***Castilleja campestris var. succulenta*** succulent owl's-clover	Threatened	Endangered	G4?T2T3	S2S3	1B.2
PMALI040Q0	***Sagittaria sanfordii*** Sanford's arrowhead	None	None	G3	S3	1B.2
PMPOA3D020	***Imperata brevifolia*** California satintail	None	None	G4	S3	2B.1
PMPOA4G040	***Orcuttia pilosa*** hairy Orcutt grass	Endangered	Endangered	G1	S1	1B.1
PMPOA4G060	***Orcuttia inaequalis*** San Joaquin Valley Orcutt grass	Threatened	Endangered	G1	S1	1B.1
PMPOA6N010	***Tuctoria greenei*** Greene's tuctoria	Endangered	Rare	G1	S1	1B.1

Record Count: 57

IPaC resource list

This report is an automatically generated list of species and other resources such as critical habitat (collectively referred to as *trust resources*) under the U.S. Fish and Wildlife Service's (USFWS) jurisdiction that are known or expected to be on or near the project area referenced below. The list may also include trust resources that occur outside of the project area, but that could potentially be directly or indirectly affected by activities in the project area. However, determining the likelihood and extent of effects a project may have on trust resources typically requires gathering additional site-specific (e.g., vegetation/species surveys) and project-specific (e.g., magnitude and timing of proposed activities) information.

Below is a summary of the project information you provided and contact information for the USFWS office(s) with jurisdiction in the defined project area. Please read the introduction to each section that follows (Endangered Species, Migratory Birds, USFWS Facilities, and NWI Wetlands) for additional information applicable to the trust resources addressed in that section.

Location

Madera County, California

Local office

Sacramento Fish And Wildlife Office

(916) 414-6600
(916) 414-6713

Federal Building
2800 Cottage Way, Room W-2605
Sacramento, CA 95825-1846

Endangered species

This resource list is for informational purposes only and does not constitute an analysis of project level impacts.

The primary information used to generate this list is the known or expected range of each species. Additional areas of influence (AOI) for species are also considered. An AOI includes areas outside of the species range if the species could be indirectly affected by activities in that area (e.g., placing a dam upstream of a fish population even if that fish does not occur at the dam site, may indirectly impact the species by reducing or eliminating water flow downstream). Because species can move, and site conditions can change, the species on this list are not guaranteed to be found on or near the project area. To fully determine any potential effects to species, additional site-specific and project-specific information is often required.

Section 7 of the Endangered Species Act **requires** Federal agencies to "request of the Secretary information whether any species which is listed or proposed to be listed may be present in the area of such proposed action" for any project that is conducted, permitted, funded, or licensed by any Federal agency. A letter from the local office and a species list which fulfills this requirement can **only** be obtained by requesting an official species list from either the Regulatory Review section in IPaC (see directions below) or from the local field office directly.

For project evaluations that require USFWS concurrence/review, please return to the IPaC website and request an official species list by doing the following:

1. Draw the project location and click CONTINUE.
2. Click DEFINE PROJECT.
3. Log in (if directed to do so).
4. Provide a name and description for your project.
5. Click REQUEST SPECIES LIST.

Listed species[1] and their critical habitats are managed by the Ecological Services Program of the U.S. Fish and Wildlife Service (USFWS) and the fisheries division of the National Oceanic and Atmospheric Administration (NOAA Fisheries[2]).

Species and critical habitats under the sole responsibility of NOAA Fisheries are **not** shown on this list. Please contact NOAA Fisheries for species under their jurisdiction.

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1. Species listed under the Endangered Species Act are threatened or endangered; IPaC also shows species that are candidates, or proposed, for listing. See the listing status page for more information. IPaC only shows species that are regulated by USFWS (see FAQ).
2. 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.

The following species are potentially affected by activities in this location:

Mammals

NAME	STATUS
Fresno Kangaroo Rat Dipodomys nitratoides exilis Wherever found There is **final** critical habitat for this species. The location of the critical habitat is not available. https://ecos.fws.gov/ecp/species/5150	Endangered
San Joaquin Kit Fox Vulpes macrotis mutica Wherever found No critical habitat has been designated for this species. https://ecos.fws.gov/ecp/species/2873	Endangered

Reptiles

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

Amphibians

NAME	STATUS
California Red-legged Frog Rana draytonii Wherever found There is **final** critical habitat for this species. The location of the critical habitat is not available. https://ecos.fws.gov/ecp/species/2891	Threatened
California Tiger Salamander Ambystoma californiense There is **final** critical habitat for this species. The location of the critical habitat is not available. https://ecos.fws.gov/ecp/species/2076	Threatened

Fishes

NAME	STATUS

Delta Smelt Hypomesus transpacificus — Threatened

Wherever found

There is **final** critical habitat for this species. The location of the critical habitat is not available.
https://ecos.fws.gov/ecp/species/321

Insects

NAME	STATUS

Monarch Butterfly Danaus plexippus — Candidate

Wherever found

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

Valley Elderberry Longhorn Beetle Desmocerus californicus dimorphus — Threatened

Wherever found

There is **final** critical habitat for this species. The location of the critical habitat is not available.
https://ecos.fws.gov/ecp/species/7850

Crustaceans

NAME	STATUS

Conservancy Fairy Shrimp Branchinecta conservatio — Endangered

Wherever found

There is **final** critical habitat for this species. The location of the critical habitat is not available.
https://ecos.fws.gov/ecp/species/8246

Vernal Pool Fairy Shrimp Branchinecta lynchi — Threatened

Wherever found

There is **final** critical habitat for this species. The location of the critical habitat is not available.
https://ecos.fws.gov/ecp/species/498

Flowering Plants

NAME	STATUS

Fleshy Owl's-clover Castilleja campestris ssp. succulenta — Threatened

Wherever found

There is **final** critical habitat for this species. The location of the critical habitat is not available.
https://ecos.fws.gov/ecp/species/8095

Hairy Orcutt Grass Orcuttia pilosa — Endangered
Wherever found
There is **final** critical habitat for this species. The location of the critical habitat is not available.
https://ecos.fws.gov/ecp/species/2262

San Joaquin Orcutt Grass Orcuttia inaequalis — Threatened
Wherever found
There is **final** critical habitat for this species. The location of the critical habitat is not available.
https://ecos.fws.gov/ecp/species/5506

Critical habitats

Potential effects to critical habitat(s) in this location must be analyzed along with the endangered species themselves.

THERE ARE NO CRITICAL HABITATS AT THIS LOCATION.

Migratory birds

Certain birds are protected under the Migratory Bird Treaty Act[1] and the Bald and Golden Eagle Protection Act[2].

Any person or organization who plans or conducts activities that may result in impacts to migratory birds, eagles, and their habitats should follow appropriate regulations and consider implementing appropriate conservation measures, as described below.

1. The Migratory Birds Treaty Act of 1918.
2. The Bald and Golden Eagle Protection Act of 1940.

Additional information can be found using the following links:

- Birds of Conservation Concern http://www.fws.gov/birds/management/managed-species/birds-of-conservation-concern.php
- Measures for avoiding and minimizing impacts to birds http://www.fws.gov/birds/management/project-assessment-tools-and-guidance/conservation-measures.php
- Nationwide conservation measures for birds http://www.fws.gov/migratorybirds/pdf/management/nationwidestandardconservationmeasures.pdf

The birds listed below are birds of particular concern either because they occur on the USFWS Birds of Conservation Concern (BCC) list or warrant special attention in your project location. To learn more about the levels of concern for birds on your list and how this list is generated, see the FAQ

below. This is not a list of every bird you may find in this location, nor a guarantee that every bird on this list will be found in your project area. To see exact locations of where birders and the general public have sighted birds in and around your project area, visit the E-bird data mapping tool (Tip: enter your location, desired date range and a species on your list). For projects that occur off the Atlantic Coast, additional maps and models detailing the relative occurrence and abundance of bird species on your list are available. Links to additional information about Atlantic Coast birds, and other important information about your migratory bird list, including how to properly interpret and use your migratory bird report, can be found below.

For guidance on when to schedule activities or implement avoidance and minimization measures to reduce impacts to migratory birds on your list, click on the PROBABILITY OF PRESENCE SUMMARY at the top of your list to see when these birds are most likely to be present and breeding in your project area.

NAME	BREEDING SEASON (IF A BREEDING SEASON IS INDICATED FOR A BIRD ON YOUR LIST, THE BIRD MAY BREED IN YOUR PROJECT AREA SOMETIME WITHIN THE TIMEFRAME SPECIFIED, WHICH IS A VERY LIBERAL ESTIMATE OF THE DATES INSIDE WHICH THE BIRD BREEDS ACROSS ITS ENTIRE RANGE. "BREEDS ELSEWHERE" INDICATES THAT THE BIRD DOES NOT LIKELY BREED IN YOUR PROJECT AREA.)
Lawrence's Goldfinch *Carduelis lawrencei* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/9464	Breeds Mar 20 to Sep 20
Nuttall's Woodpecker *Picoides nuttallii* This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA https://ecos.fws.gov/ecp/species/9410	Breeds Apr 1 to Jul 20

Probability of Presence Summary

The graphs below provide our best understanding of when birds of concern are most likely to be present in your project area. This information can be used to tailor and schedule your project activities to avoid or minimize impacts to birds. Please make sure you read and understand the FAQ "Proper Interpretation and Use of Your Migratory Bird Report" before using or attempting to interpret this report.

Probability of Presence (■)

Each green bar represents the bird's relative probability of presence in the 10km grid cell(s) your project overlaps during a particular week of the year. (A year is represented as 12 4-week months.) A taller bar indicates a higher probability of species presence. The survey effort (see below) can be used to establish a level of confidence in the presence score. One can have higher confidence in the presence score if the corresponding survey effort is also high.

How is the probability of presence score calculated? The calculation is done in three steps:

1. The probability of presence for each week is calculated as the number of survey events in the week where the species was detected divided by the total number of survey events for that week. For example, if in week 12 there were 20 survey events and the Spotted Towhee was found in 5 of them, the probability of presence of the Spotted Towhee in week 12 is 0.25.
2. To properly present the pattern of presence across the year, the relative probability of presence is calculated. This is the probability of presence divided by the maximum probability of presence across all weeks. For example, imagine the probability of presence in week 20 for the Spotted Towhee is 0.05, and that the probability of presence at week 12 (0.25) is the maximum of any week of the year. The relative probability of presence on week 12 is 0.25/0.25 = 1; at week 20 it is 0.05/0.25 = 0.2.
3. The relative probability of presence calculated in the previous step undergoes a statistical conversion so that all possible values fall between 0 and 10, inclusive. This is the probability of presence score.

To see a bar's probability of presence score, simply hover your mouse cursor over the bar.

Breeding Season (▫)
Yellow bars denote a very liberal estimate of the time-frame inside which the bird breeds across its entire range. If there are no yellow bars shown for a bird, it does not breed in your project area.

Survey Effort (|)
Vertical black lines superimposed on probability of presence bars indicate the number of surveys performed for that species in the 10km grid cell(s) your project area overlaps. The number of surveys is expressed as a range, for example, 33 to 64 surveys.

To see a bar's survey effort range, simply hover your mouse cursor over the bar.

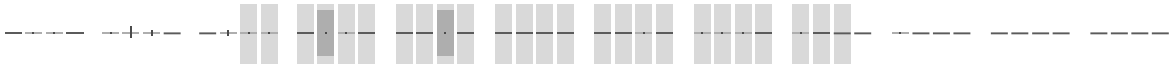
No Data (–)
A week is marked as having no data if there were no survey events for that week.

Survey Timeframe
Surveys from only the last 10 years are used in order to ensure delivery of currently relevant information. The exception to this is areas off the Atlantic coast, where bird returns are based on all years of available data, since data in these areas is currently much more sparse.

■ probability of presence ▫ breeding season | survey effort — no data

SPECIES	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC

Lawrence's Goldfinch BCC Rangewide (CON) (This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.)



Nuttall's Woodpecker BCC - BCR (This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA)

Tell me more about conservation measures I can implement to avoid or minimize impacts to migratory birds.

Nationwide Conservation Measures describes measures that can help avoid and minimize impacts to all birds at any location year round. Implementation of these measures is particularly important when birds are most likely to occur in the project area. When birds may be breeding in the area, identifying the locations of any active nests and avoiding their destruction is a very helpful impact minimization measure. To see when birds are most likely to occur and be breeding in your project area, view the Probability of Presence Summary. Additional measures or permits may be advisable depending on the type of activity you are conducting and the type of infrastructure or bird species present on your project site.

What does IPaC use to generate the migratory birds potentially occurring in my specified location?

The Migratory Bird Resource List is comprised of USFWS Birds of Conservation Concern (BCC) and other species that may warrant special attention in your project location.

The migratory bird list generated for your project is derived from data provided by the Avian Knowledge Network (AKN). The AKN data is based on a growing collection of survey, banding, and citizen science datasets and is queried and filtered to return a list of those birds reported as occurring in the 10km grid cell(s) which your project intersects, and that have been identified as warranting special attention because they are a BCC species in that area, an eagle (Eagle Act requirements may apply), or a species that has a particular vulnerability to offshore activities or development.

Again, the Migratory Bird Resource list includes only a subset of birds that may occur in your project area. It is not representative of all birds that may occur in your project area. To get a list of all birds potentially present in your project area, please visit the AKN Phenology Tool.

What does IPaC use to generate the probability of presence graphs for the migratory birds potentially occurring in my specified location?

The probability of presence graphs associated with your migratory bird list are based on data provided by the Avian Knowledge Network (AKN). This data is derived from a growing collection of survey, banding, and citizen science datasets .

Probability of presence data is continuously being updated as new and better information becomes available. To learn more about how the probability of presence graphs are produced and how to interpret them, go the Probability of Presence Summary and then click on the "Tell me about these graphs" link.

How do I know if a bird is breeding, wintering, migrating or present year-round in my project area?

To see what part of a particular bird's range your project area falls within (i.e. breeding, wintering, migrating or year-round), you may refer to the following resources: The Cornell Lab of Ornithology All About Birds Bird Guide, or (if you are unsuccessful in locating the bird of interest there), the Cornell Lab of Ornithology Neotropical Birds guide. If a bird on your migratory bird species list has a breeding season associated with it, if that bird does occur in your project area, there may be nests present at some point within the timeframe specified. If "Breeds elsewhere" is indicated, then the bird likely does not breed in your project area.

What are the levels of concern for migratory birds?

Migratory birds delivered through IPaC fall into the following distinct categories of concern:

1. "BCC Rangewide" birds are Birds of Conservation Concern (BCC) that are of concern throughout their range anywhere within the USA (including Hawaii, the Pacific Islands, Puerto Rico, and the Virgin Islands);
2. "BCC - BCR" birds are BCCs that are of concern only in particular Bird Conservation Regions (BCRs) in the continental USA; and
3. "Non-BCC - Vulnerable" birds are not BCC species in your project area, but appear on your list either because of the Eagle Act requirements (for eagles) or (for non-eagles) potential susceptibilities in offshore areas from certain types of development or activities (e.g. offshore energy development or longline fishing).

Although it is important to try to avoid and minimize impacts to all birds, efforts should be made, in particular, to avoid and minimize impacts to the birds on this list, especially eagles and BCC species of rangewide concern. For more information on conservation measures you can implement to help avoid and minimize migratory bird impacts and requirements for eagles, please see the FAQs for these topics.

Details about birds that are potentially affected by offshore projects

For additional details about the relative occurrence and abundance of both individual bird species and groups of bird species within your project area off the Atlantic Coast, please visit the Northeast Ocean Data Portal. The Portal also offers data and information about other taxa besides birds that may be helpful to you in your project review. Alternately, you may download the bird model results files underlying the portal maps through the NOAA NCCOS Integrative Statistical Modeling and Predictive Mapping of Marine Bird Distributions and Abundance on the Atlantic Outer Continental Shelf project webpage.

Bird tracking data can also provide additional details about occurrence and habitat use throughout the year, including migration. Models relying on survey data may not include this information. For additional information on marine bird tracking data, see the Diving Bird Study and the nanotag studies or contact Caleb Spiegel or Pam Loring.

What if I have eagles on my list?

If your project has the potential to disturb or kill eagles, you may need to obtain a permit to avoid violating the Eagle Act should such impacts occur.

Proper Interpretation and Use of Your Migratory Bird Report

The migratory bird list generated is not a list of all birds in your project area, only a subset of birds of priority concern. To learn more about how your list is generated, and see options for identifying what other birds may be in your project area, please see the FAQ "What does IPaC use to generate the migratory birds potentially occurring

in my specified location". Please be aware this report provides the "probability of presence" of birds within the 10 km grid cell(s) that overlap your project; not your exact project footprint. On the graphs provided, please also look carefully at the survey effort (indicated by the black vertical bar) and for the existence of the "no data" indicator (a red horizontal bar). A high survey effort is the key component. If the survey effort is high, then the probability of presence score can be viewed as more dependable. In contrast, a low survey effort bar or no data bar means a lack of data and, therefore, a lack of certainty about presence of the species. This list is not perfect; it is simply a starting point for identifying what birds of concern have the potential to be in your project area, when they might be there, and if they might be breeding (which means nests might be present). The list helps you know what to look for to confirm presence, and helps guide you in knowing when to implement conservation measures to avoid or minimize potential impacts from your project activities, should presence be confirmed. To learn more about conservation measures, visit the FAQ "Tell me about conservation measures I can implement to avoid or minimize impacts to migratory birds" at the bottom of your migratory bird trust resources page.

Facilities

National Wildlife Refuge lands

Any activity proposed on lands managed by the National Wildlife Refuge system must undergo a 'Compatibility Determination' conducted by the Refuge. Please contact the individual Refuges to discuss any questions or concerns.

THERE ARE NO REFUGE LANDS AT THIS LOCATION.

Fish hatcheries

THERE ARE NO FISH HATCHERIES AT THIS LOCATION.

Wetlands in the National Wetlands Inventory

Impacts to NWI wetlands and other aquatic habitats may be subject to regulation under Section 404 of the Clean Water Act, or other State/Federal statutes.

For more information please contact the Regulatory Program of the local U.S. Army Corps of Engineers District.

WETLAND INFORMATION IS NOT AVAILABLE AT THIS TIME

This can happen when the National Wetlands Inventory (NWI) map service is unavailable, or for very large projects that intersect many wetland areas. Try again, or visit the NWI map to view wetlands at this location.

Data limitations

The Service's objective of mapping wetlands and deepwater habitats is to produce reconnaissance level information on the location, type and size of these resources. The maps are prepared from the analysis of high altitude imagery. Wetlands are identified based on vegetation, visible hydrology and geography. A margin of error is inherent in the use of imagery; thus, detailed on-the-ground inspection of any particular site may result in revision of the wetland boundaries or classification established through image analysis.

The accuracy of image interpretation depends on the quality of the imagery, the experience of the image analysts, the amount and quality of the collateral data and the amount of ground truth verification work conducted. Metadata should be consulted to determine the date of the source imagery used and any mapping problems.

Wetlands or other mapped features may have changed since the date of the imagery or field work. There may be occasional differences in polygon boundaries or classifications between the information depicted on the map and the actual conditions on site.

Data exclusions

Certain wetland habitats are excluded from the National mapping program because of the limitations of aerial imagery as the primary data source used to detect wetlands. These habitats include seagrasses or submerged aquatic vegetation that are found in the intertidal and subtidal zones of estuaries and nearshore coastal waters. Some deepwater reef communities (coral or tuberficid worm reefs) have also been excluded from the inventory. These habitats, because of their depth, go undetected by aerial imagery.

Data precautions

Federal, state, and local regulatory agencies with jurisdiction over wetlands may define and describe wetlands in a different manner than that used in this inventory. There is no attempt, in either the design or products of this inventory, to define the limits of proprietary jurisdiction of any Federal, state, or local government or to establish the geographical scope of the regulatory programs of government agencies. Persons intending to engage in activities involving modifications within or adjacent to wetland areas should seek the advice of appropriate federal, state, or local agencies concerning specified agency regulatory programs and proprietary jurisdictions that may affect such activities.

NMFS Species List

Quad Name: Lanes Bridge

Quad Number: 36119-H7

ESA Anadromous Fish

CCV Steelhead DPS (T)

ESA Anadromous Fish Critical Habitat

None

Essential Fish Habitat

Chinook Salmon EFH

Accessed January 2022
(https://archive.fisheries.noaa.gov/wcr/maps_data/california_species_list_tools.html)

ATTACHMENT B

Representative Site Photos

Photo 1. Project Area, facing SE, January 11, 2022

Photo 2. Project Area, facing W, January 11, 2022

Photo 3. Dublin Road frontage, facing E, January 11, 2022

Photo 4. Southern Boundary, facing W, January 11, 2022