COUNTY OF TULARE
RESOURCE MANAGEMENT AGENCY

5961 South Mooney Boulevard
Visalia, CA 93277

Initial Study and Mitigated Negative Declaration

Visalia Ranch at St Johns
(TSM 22-002, PZC 22-012, WAC 22-005, WAN 22-018)

April 2023

Prepared by Crawford & Bowen Planning, Inc.
for
County of Tulare Resource Management Agency
Economic Development and Planning Branch
Environmental Planning Division

INITIAL STUDY CHECKLIST

1. **Project Title:** Visalia Ranch at St. John's (TSM 22-002, PZC 22-012, WAC 22-005, WAN 22-018)

2. **Lead Agency:** County of Tulare
Resource Management Agency
5961 S. Mooney Blvd.
Visalia, CA 93277

3. **Contact Persons:** Sandy Roper, Chief Planner (Project Planner) – 559-624-7106
Hector Guerra, Chief, Environmental Planning Division – 559-624-7121

4. **Project Location:** Southwest of the intersection of Road 132 and Karolina Drive (APNs 079-073-001, 079-071-014, and 079-072-005), adjacent to and north of the City of Visalia in Tulare County, California.

5. **Applicant:** Malli Investment, LLC.
9201 Avenue 272
Visalia, CA 93277

6. **Owner(s)** Malli Investment, LLC.
9201 Avenue 272
Visalia, CA 93277

7. **General Plan Designation:** Rural Residential

8. **Zoning:** R-A-100 (Residential) and AE-20 (Exclusive Agriculture)

9. **Description of Project (Describe the whole action involved, including but not limited to later phases of the project, and any secondary, support, or off-site features necessary for its implementation. Attach additional sheets if necessary.)** The proposed Project consists of subdividing approximately 67.60 acres into 35 single-family residential parcels ranging in size from 1.0 - 2.5 acres (see Figure 3) with associated access roads, lighting and landscaping. Specifically, the Project includes 24 1.0-acre parcels and 11 2.5-acre parcels. The proposed Project site covers three land parcels: APN 079-073-001, zoned as R-A-100, and APNs 079-071-014 and 079-072-005, zoned as AE-20. To accommodate the proposed Project a Williamson Act Partial Non-Renewal (WAN 22-018) was approved by the Tulare County Board of Supervisors (Board) on February 7, 2023, and a Williamson Act Cancellation (WAC 22-005) was approved by the Board on April 4, 2023.[1, 2] The proposed Project will also require Board approval of a Zone Change from R-A-100 and AE-20 to R-A-110 (PZC 22-012) and a Tentative Subdivision Map (TSM 22-002).

10. **Surrounding land uses and setting (Brief description):**

[1] WAN 22-018 was approved by the Tulare County Board of Supervisors on February 7, 2023, under Resolution No. 2023-0118. Tulare County Board of Supervisor Agendas and Minutes are available on the Board of Supervisors Meetings webpage at: https://tularecounty.ca.gov/board/board-meetings/board-of-supervisors-meetings/.

[2] WAC 22-005 was approved by the Tulare County Board of Supervisors on April 4, 2023, under Resolution No. 2023-0272.

North: Single-Family Residences, Vacant Land.
South: Single-Family Residences, Vacant Land.
East: Single-Family Residences, Vacant Land.
West: Vacant Land.

11. **Other public agencies whose approval is required (e.g., permits, financing approval, or participation agreement):** Tulare County, Tulare County Health & Human Services, Central Valley Regional Water Quality Control Board, San Joaquin Valley Air Pollution Control District, other TBD.

12. **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 include, for example, the determination of significance of impacts to tribal cultural resources, procedures regarding confidentiality, etc?** Pursuant to AB 52 and SB 18, a Sacred Land File search request was submitted to the Native American Heritage Commission on December 23, 2022 and was returned on January 15, 2023 with "negative" results. On December 23, 2022, tribal consultation notices were sent to thirteen (13) tribal contacts representing eight (8) Native American tribes. As of the date of release of this document, the County has received a two (2) responses, from the Santa Rosa Rancheria and Tule River Indian Tribes. No other responses from the tribes have been received. Mitigation measures have been included in the project to reduce potential impacts on tribal cultural resources in the event that any potential resources are unearthed during construction-related activities.

Figure 1. Location Map

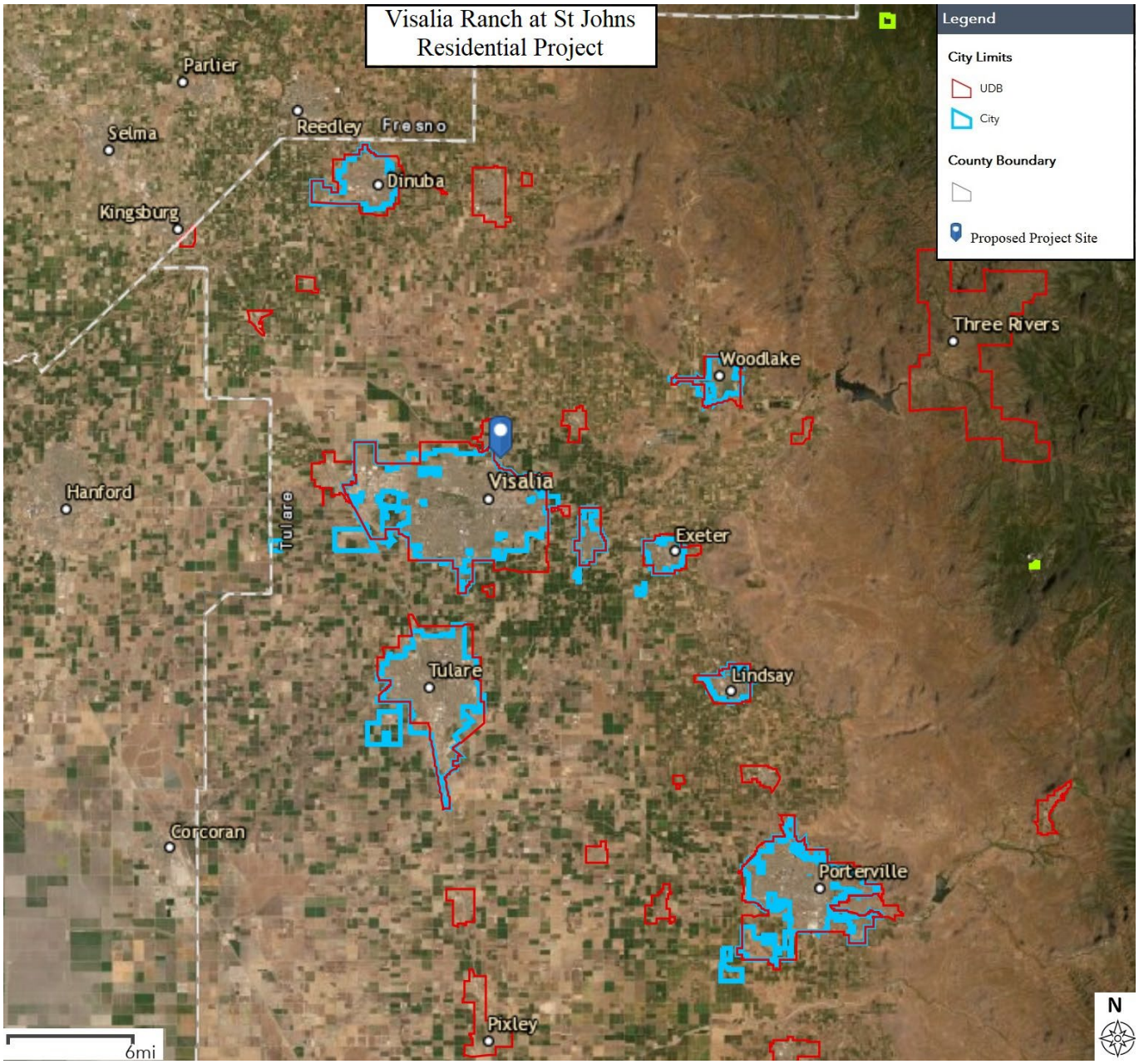


Figure 2. Vicinity Map

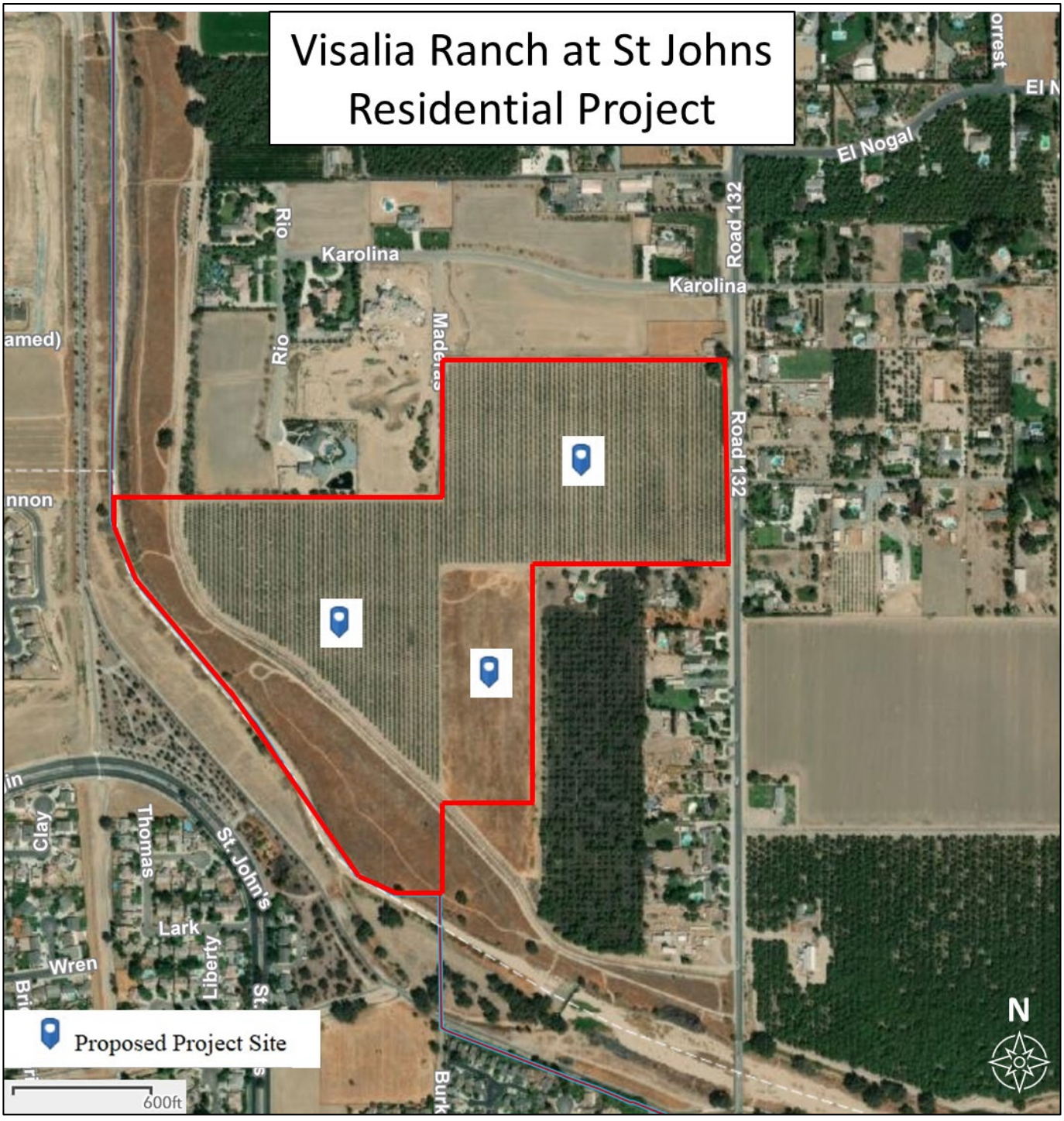
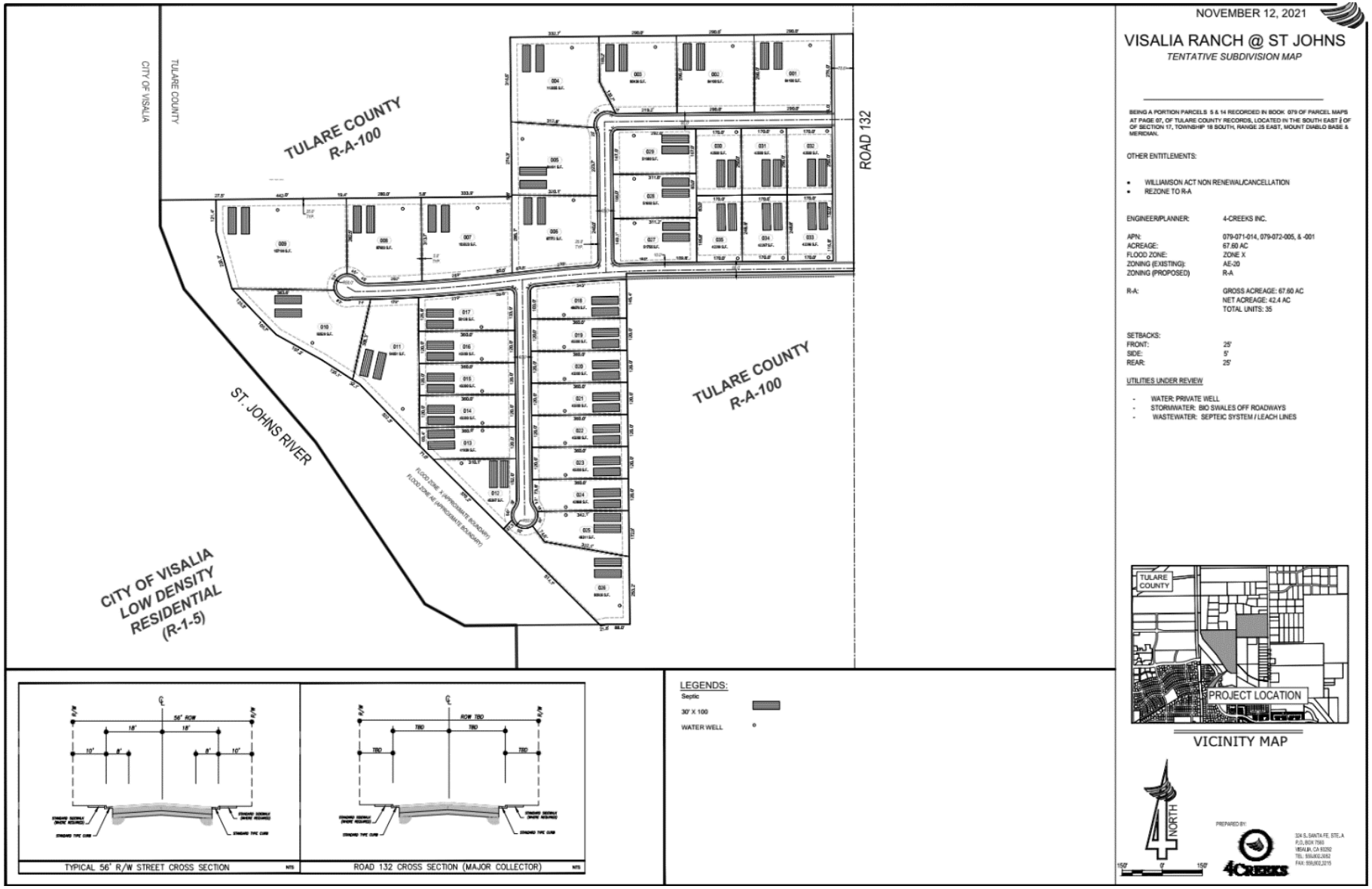


Figure 3. Site Plan



A. ENVIRONMENTAL FACTORS POTENTIALLY AFFECTED

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

☐ Aesthetics	☒ Agriculture / Forestry Resources	☐ Air Quality
☒ Biological Resources	☒ Cultural Resources	☐ Energy
☒ Geology / Soils	☐ Greenhouse Gas Emissions	☐ Hazards and 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

B. DETERMINATION

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.

Signature: _____ Date: 04/17/23

Hector Guerra — Chief Environmental Planner
Printed Name — Title

Signature: _____ For Date: 04/18/23

Reed Schenke, P.E. — Environmental Assessment Officer
Printed Name — Title

C. EVALUATION OF ENVIRONMENTAL IMPACTS

1) A brief explanation is required for all answers except "No Impact" answers that are adequately supported by the information sources a lead agency cites in the parentheses following each question. A "No Impact" answer is adequately supported if the referenced information sources show that the impact simply does not apply to projects like the one involved (e.g., the project falls outside a fault rupture zone). A "No Impact" answer should be explained where it is based on project-specific factors as well as general standards (e.g., the project will not expose sensitive receptors to pollutants, based on a project-specific screening analysis).

2) All answers must take account of the whole action involved, including off-site as well as on-site, cumulative as well as project-level, indirect as well as direct, and construction as well as operational impacts.

3) Once the lead agency has determined that a particular physical impact may occur, then the checklist answers must indicate whether the impact is potentially significant, less than significant with mitigation, or less than significant. "Potentially Significant Impact" is appropriate if there is substantial evidence that an effect may be significant. If there are one or more "Potentially Significant Impact" entries when the determination is made, an EIR is required.

4) "Negative Declaration: Less Than Significant With Mitigation Incorporated" applies where the incorporation of mitigation measures has reduced an effect from "Potentially Significant Impact" to a "Less Than Significant Impact." The lead agency must describe the mitigation measures, and briefly explain how they reduce the effect to a less than significant level (mitigation measures from "Earlier Analyses," as described in (5) below, may be cross-referenced).

5) Earlier analyses may be used where, pursuant to the tiering, program EIR, or other CEQA process, an effect has been adequately analyzed in an earlier EIR or negative declaration. Section 15063(c)(3)(D). In this case, a brief discussion should identify the following:

   a) Earlier Analysis Used. Identify and state where they are available for review.

   b) Impacts Adequately Addressed. Identify which effects from the above checklist were within the scope of and adequately analyzed in an earlier document pursuant to applicable legal standards, and state whether such effects were addressed by mitigation measures based on the earlier analysis.
   c) Mitigation Measures. For effects that are "Less than Significant with Mitigation Measures Incorporated," describe the mitigation measures which were incorporated or refined from the earlier document and the extent to which they address site-specific conditions for the project.

6) Lead agencies are encouraged to incorporate into the checklist references to information sources for potential impacts (e.g., general plans, zoning ordinances). Reference to a previously prepared or outside document should, where appropriate, include a reference to the page or pages where the statement is substantiated.

7) Supporting Information Sources: A source list should be attached, and other sources used or individuals contacted should be cited in the discussion.

8) This is only a suggested form, and lead agencies are free to use different formats; however, lead agencies should normally address the questions from this checklist that are relevant to a project's environmental effects in whatever format is selected.

9) The explanation of each issue should identify:

   a) the significance criteria or threshold, if any, used to evaluate each question; and

   b) the mitigation measure identified, if any, to reduce the impact to less than significance.

I. AESTHETICS

Would the project:		Significant Impact	Less Than Significant Impact With Mitigation	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?	☐	☐	☒	☐

Environmental Setting

Tulare County is located in a predominately agricultural region of central California. The terrain in the County varies. The western portion of the County includes a portion of the San Joaquin Valley (Valley), and is generally flat, with large agricultural areas with generally compact towns interspersed. In the eastern portion of the County are foothills and the Sierra-Nevada mountain range. The project site is located on the Valley floor in the Rural Valley Lands Plan, which is very fertile and has been intensively cultivated for many decades. Agriculture and related industries such as agricultural packing and shipping operations and small and medium sized manufacturing plants make up the economic base of the Valley region. Many communities are small and rural, surrounded by agricultural uses such as row crops, orchards, and dairies. From several locations on major roads and highways throughout the County, electric towers and telephone poles are noticeable. Mature trees, residential, commercial, and industrial development, utility structures, and other vertical forms are highly visible in the region because of the flat terrain. Where such vertical elements are absent, views are expansive. Most structures are small; usually one story in height, though occasionally two-story structures can be seen commercial or industrial agricultural complexes. The County provides a wide range of views from both mobile and stationary locations.[3]

The proposed Project site is located on the San Joaquin Valley floor portion of Tulare County, immediately north of the City of Visalia, in Tulare County. The site is bounded to the east by Road 132, with residential development beyond the roadway, and to the south by vacant land and single-family residences. St. Johns River runs south and west of the Project site. An unnamed irrigation canal, a distributary of the St. Johns River, borders the Project site to the south and west. The aesthetic features of the existing visual environment in the proposed Project area are residential and some agricultural.

[3] Tulare County 2030 General Plan: Recirculated Draft EIR (RDEIR). Page 3.1-11.

Regulatory Setting

Federal

Aesthetic resources are protected by several federal regulations, none of which are relevant to the proposed Project because it will not be located on lands administered by a federal agency nor is the Project applicant requesting federal funding or any federal permits.

State

Nighttime Sky – Title 24 Outdoor Lighting Standards

The California Energy Commission (CEC) adopted changes to Title 24, Parts 1 and 6, Building Energy Efficiency Standards (Standards), on November 5, 2003. These new Standards became effective on October 1, 2005. The most recent edition of the Standards (as of the preparation date of this IS/MND) are contained in the 2019 Building Energy Efficiency Standards. Included in the changes to the Standards are new requirements for outdoor lighting. The requirements vary according to which "Lighting Zone" the lighting equipment is located. The Standards contain lighting power allowances for newly installed equipment and specific alterations that are dependent on which Lighting Zone the project is located. Existing outdoor lighting systems are not required to meet these lighting power allowances. However, alterations that increase the connected load, or replace more than 50% of the existing luminaires (for each outdoor lighting application that is regulated by the Standards) must comply with the lighting power allowances for newly installed equipment.

The Standards base the allowable lighting power on the brightness of the surrounding conditions. The eyes adapt to darker surrounding conditions, and less light is needed to properly see; conversely, when the surrounding conditions are brighter, more light is needed to see. The least lighting power is allowed in Lighting Zone 1 and increasingly more lighting power is allowed in Lighting Zones 2, 3, and 4.

The CEC defines the boundaries of Lighting Zones based on U.S. Census Bureau boundaries for urban and rural areas as well as the legal boundaries of wilderness and park areas (see Standards Table 10-114-A). By default, government designated parks, recreation areas and wildlife preserves are Lighting Zone 1; rural areas are Lighting Zone 2; and urban areas are Lighting Zone 3. Lighting Zone 4 is a special use district that may be adopted by a local government[4]

California Scenic Highway Program

The Scenic Highway Program allows county and city governments to apply to the California Department of Transportation (Caltrans) to establish a scenic corridor protection program which was created by the Legislature in 1963. Its purpose is to protect and enhance the natural scenic beauty of California highways and adjacent corridors through special conservation treatment. The state laws governing the Scenic Highway Program are found in the Streets and Highways Code, Sections 260 through 263[5]. Two Eligible State Scenic Highways occur in Tulare County, SRs 198 and 190; however, they are not Designated State Scenic Highways.

[4] California Department of Energy. Title 24 2019 Building Energy Efficiency Standards. 10-114-Determination of Outdoor Lighting Zone and Administrative Rule for Use. Pages 42 and 43. Accessed October 2022 at: https://www.energy.ca.gov/sites/default/files/2021-06/CEC-400-2018-020-CMF_0.pdf

[5] California Department of Transportation (Caltrans). Landscape Architecture Program. Division of Design. Scenic Highway Guidelines. Page 1. Accessed December 2022 at: https://dot.ca.gov/-/media/dot-media/programs/design/documents/scenic-hwy-guidelines-04-12-2012.pdf

Local

Tulare County General Plan 2030 Update

The following Tulare County General Plan 203 Update policies for this resource apply to this Project:

SL-1.1 Natural Landscapes which requires new development to not significantly impact or block views of Tulare County's natural landscapes*;*

SL-1.2 Working Landscapes which requires that new non-agricultural structures and infrastructure located in or adjacent to croplands, orchards, vineyards, and open rangelands be sited so as to not obstruct important viewsheds and to be designed to reflect unique relationships with the landscape; and

SL-2.1 Designated Scenic Routes and Highways which is intended to protect views of natural and working landscapes along the County's highways and roads by maintaining a designated system of County scenic routes and State scenic highways.

Project Impact Analysis

a) Less Than Significant Impact: For the purposes of the proposed Project, a scenic vista is defined as an area that is designated, signed, and accessible to the public for the purpose of viewing and sightseeing. The proposed Project includes the construction of up to 35 single-family residential units and the improvements associated with a new residential development (including access roads, lighting, and site landscaping, etc.). The structures will conform to design standards set forth by the County's General Plan and Zoning Ordinance. The proposed Project site is located in an area that is predominantly surrounded by urban uses, with some agricultural/vacant land to the north and south and will not result in a use that is visually incompatible with the surrounding area. A scenic vista is generally considered a view of an area that has remarkable scenery or a resource that is indigenous to the area. The proposed Project is located in an area of minimal topographic relief, and views of the site are easily obscured by buildings, other structures, and trees. Neither the proposed Project area nor any surrounding land use contains features typically associated with scenic vistas (e.g., ridgelines, peaks, overlooks). Construction-related activities will be visible from the adjacent roadsides; however, the construction-related activities will be temporary and short-term in nature and will not affect a scenic vista. No parts of the proposed Project would obstruct local scenic views or be visually intrusive or incompatible with the surrounding area. There are no designated scenic vistas within visible distance of the Project site. Therefore, the proposed Project would have less than significant impact on a scenic vista.

b) Less Than Significant Impact: There are no state designated scenic highways within the immediate proximity to the proposed Project site. California Department of Transportation Scenic Highway Mapping System identifies SR 198, east of SR 99, as an Eligible State Scenic Highway. This is the nearest highway (located approximately two miles south of the proposed Project site) and the proposed Project site is both physically and visually separated from SR 198 by intervening land uses.

The Tulare County General Plan designates County Scenic Roads, Road 216 is the nearest Scenic Road which is approximately 1.5 miles southeast of the proposed Project site. The proposed residential Project will conform to County landscaping and design standards and will be designed to blend in with the existing residential development to the north, east, and west.

Based on the National Register of Historic Places (NRHP) and the Tulare County General Plan, no historic buildings exist on the proposed Project site. The proposed Project would not cause damage to rock outcroppings or historic buildings within a State scenic highway corridor. Any impacts would be less than significant.

c) Less Than Significant Impact: Site construction will include residences, internal access roads, lighting and site landscaping. The residences will be single-family and will conform to design standards set forth by the County's General Plan, Zoning Ordinance, and the Housing Element. The proposed Project site is located in an area that is predominantly surrounded by urban uses, including residential, and as such, will not result in a use that is visually incompatible with the surrounding area. The proposed Project will not substantially degrade the existing visual character or quality of the area or its surroundings. The impact will be less than significant.

d) Less Than Significant Impact: Nighttime lighting is necessary to provide and maintain safe, secure, and attractive environments; however, these lights have the potential to produce spillover light and glare and waste energy, and if designed incorrectly, could be considered unattractive. Light that falls beyond the intended area is referred to as "light trespass." Types of light trespass include spillover light and glare. Minimizing all these forms of obtrusive light is an important environmental consideration. A less obtrusive and well-designed energy efficient fixture would face downward, emit the correct intensity of light for the use, and incorporate energy timers.

Spillover light is light emitted by a lighting installation that falls outside the boundaries of the property on which the installation is sited. Spillover light can adversely affect light-sensitive uses, such as residential neighborhoods at nighttime. Because light dissipates as it travels from the source, the intensity of a light fixture is often increased at the source to compensate for the dissipated light. This can further increase the amount of light that illuminates adjacent uses. Spillover light can be minimized by using only the level of light necessary, and by using cutoff type fixtures or shielded light fixtures, or a combination of fixture types.

Glare results when a light source directly in the field of vision is brighter than the eye can comfortably accept. Squinting or turning away from a light source is an indication of glare. The presence of a bright light in an otherwise dark setting may be distracting or annoying, referred to as discomfort glare, or it may diminish the ability to see other objects in the darkened environment, referred to as disability glare. Glare can be reduced by design features that block direct line of sight to the light source and that direct light downward, with little or no light emitted at high (near horizontal) angles, since this light would travel long distances. Cutoff-type light fixtures minimize glare because they emit relatively low-intensity light at these angles.

Current sources of light in the proposed Project area include streetlights, light from vehicle headlights traveling along adjacent roadways and light from nearby residences. The proposed Project would require street lighting which would be subject to the requirements of the Tulare County General Plan and Building Code. Accordingly, the proposed Project would not create substantial new sources of light or glare resulting in a less than significant impact.

Cumulative Analysis

Less Than Significant Impact: The geographic area of this cumulative analysis is Tulare County. This cumulative analysis is based on the information provided in the Tulare County 2030 General Plan, General Plan Background Report, Tulare County 2030 General Plan EIR, and/or Rural Valley Lands Plan Update and EIR.

As the proposed Project will not create significant Project-specific visual impacts, Cumulative Impacts would also be less than significant related to this Checklist Item.

II. AGRICULTURAL AND FOREST RESOURCES

	SIGNIFICANT IMPACT	LESS THAN SIGNIFICANT IMPACT WITH MITIGATION	LESS THAN SIGNIFICANT IMPACT	NO IMPACT
In determining whether impacts to agricultural resources are significant environmental effects, lead agencies may refer to the Rural Valley Lands Plan point evaluation system prepared by the County of Tulare 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:				
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 agriculture use, or a Williamson Act contract?	☐	☐	☒	☐
c) Conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources code 12220(g), timberland (as defined in Public Resource 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?	☐	☐	☒	☐

Environmental Setting

The *2021 Tulare County Annual Crop and Livestock Report* stated "Tulare County's total gross production value for 2021 is $8,089,621,300. This represents an increase of $949,544,800 or 13.3% above 2020's value of $7,140,076,500. Milk continues to be the leading agricultural commodity in Tulare County; with a gross value of $1,943,043,000, an increase of $76,347,000 or 4%. Milk represents 23% of the total crop and livestock value for 2021. Total milk production increased by 1%. Livestock and Poultry's gross value of $732,406,000 represents an increase of 9% above 2020, mostly due to a higher per unit value for cattle and poultry. The total value of all Field Crop production in 2021 was $571,436,000, an increase of 13% from

the previous year. This increase is mostly attributed to better yields and prices for several field crops. Fruit and Nut commodities were valued at $4,607,905,000 an increase of 20%. This increase can be partially attributed to the increase in Almond, Pistachio, and Tangerine acreage. Nursery Products increased by 9% compared to 2020 with an overall value of $118,779,000. Vegetable crops were valued at $20,544,000, representing a 22% decrease. This can be attributed to a decrease in acreage for Sweet Corn compared to 2020. Tulare County's agricultural strength is based on the diversity of the crops produced. The 2021 crop report covers more than 150 different commodities, 42 of which have a gross value in excess of $1,000,000. Although individual commodities may experience difficulties from year to year, Tulare County continues to produce high-quality crops that provide food and fiber to more than 90 countries throughout the world."[6]

The most recent statewide California Farmland Conversion Report (CFCR) from the California Department of Conservation Farmland Mapping and Monitoring Program (FMMP) assesses statewide farmlands from the period 2014-2016. However, Tulare County specific data from the period 2014-2016 indicates that agricultural lands in Tulare County in 2014 included 859,171 acres of important farmland (designated as FMMP Prime, Farmland of Statewide Importance, Unique Farmland, or Farmland of Local Importance) and 439,961 acres of grazing land, for a total of 1,299,132 acres of agricultural land.[7] [8]

Farmlands of Statewide Importance are defined as "lands similar to Prime Farmland but with minor shortcomings, such as greater slopes or less ability to store soil moisture. Land must have been used for irrigated agricultural production at some time during the four years prior to the mapping date."[9]

Important Farmland Trends

Using data collected by the FMMP, farmland acreage has been consistently decreasing for each two-year period since 1998[10]. In the 2010 FMMP analysis, Tulare County lost 17,502 acres of important farmland, and 17,748 acres of total farmland between 2008 and 2010; 13,815 acres of important farmland, and 14,216 acres of total farmland between 2010 and 2012; and 17,441 acres of important farmland, and 17,678 acres of total farmland between 2012 and 2014.[11] However, as recent as 2014-2016, Tulare County gained 1,469 acres of important farmland, but also lost 2,513 acres of total farmland.[12] Between 2016 and 2018, the county lost 109 acres of important farmland while overall gaining 171 acres across all agricultural land.[13]

"For Tulare County and the surrounding region, the reported major cause of this conversion is the downgrading of important farmlands to other agricultural uses (e.g., such as expanded or new livestock

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[6] 2020 Tulare County Crop and Livestock Report, September 2022. Cover letter from Tom Tucker, II, Agricultural Commissioner. Accessed September 2022 at https://agcomm.co.tulare.ca.us/pest-exclusion-standardization/crop-reports1/crop-reports-2021-2030/crop-and-livestock-report-2021/.

[7] California Department of Conservation, Division of Land Resource Protection. Department of Conservation, Farmland Mapping and Monitoring Program, *Table 2014-2016. Table A-44, Part I.* Accessed September 2022 at: http://www.conservation.ca.gov/dlrp/fmmp/Pages/Tulare.aspx.

[8] *The California Farmland Conversion Report 2014-2016* Accessed September 2022 at: https://www.conservation.ca.gov/dlrp/fmmp/Pages/2014-2016_Farmland_Conversion_Report.aspx.

[9] Ibid.

[10] California Department of Conservation, Division of Land Resource Protection, "Williamson Act Status Report (2010)". Page 14. Accessed September 2022 at: https://www.conservation.ca.gov/dlrp/wa/Pages/stats_reports.aspx

[11] Tulare County Land Use Conversion Tables 2008-2010, 2010-2012, 2012-2014, and 2014-2016. Table A-44, Part III. Accessed September 2022 at: https://www.conservation.ca.gov/dlrp/fmmp/Pages/Tulare.aspx .

[12] Tulare County Land Use Conversion Tables 2014-2016. Table A-44, Part I. Accessed September 2022 at: https://www.conservation.ca.gov/dlrp/fmmp/Pages/Tulare.aspx.

[13] Tulare County Land Use Conversion Tables 2016-2018. Accessed September 2022 at: https://www.conservation.ca.gov/dlrp/fmmp/Pages/Tulare.aspx .

facilities, replacing irrigated farmland with non-irrigated crops, or land that has been fallow for six years or longer)."[14] [15]

Forest Lands

"Timberlands that are available for harvesting are located in the eastern portion of Tulare County in the Sequoia National Forest. Hardwoods found in the Sequoia National Forest are occasionally harvested for fuel wood, in addition to use for timber production. Since most of the timberlands are located in Sequoia National Forest, the U.S. Forest Service has principal jurisdiction, which encompasses over 3 million acres. The U.S. Forest Service leases these federal lands for timber harvests."[16]

As the proposed Project is located on the Valley floor, there is no timberland or forest in the Project vicinity.

Regulatory Setting

Federal

Federal regulations for agriculture and forest resources are not relevant to this project because it is not a federal undertaking (the proposed Project site is not located on lands administered by a federal agency, and the Project applicant is not requesting federal funding or any federal permits).

State

California Environmental Quality Act (CEQA) Definition of Agricultural Lands

Public Resources Code Section 21060.1 defines "agricultural land" for the purposes of assessing environmental impacts using the FMMP. The FMMP was established in 1982 to assess the location, quality, and quantity of agricultural lands and the conversion of these lands. The FMMP serves as a tool to analyze agricultural land use and land use changes throughout California. As such, this Project is being evaluated using the FMMP pursuant to CEQA.

California Department of Conservation, Division of Land Resource Protection Farmland Mapping and Monitoring Program

The California Department of Conservation (DOC) applies the Natural Resources Conservation Service (NRCS) soil classifications to identify agricultural lands. These agricultural designations are used in planning for the present and future of California's agricultural land resources. Pursuant to the DOC's FMMP, these designated agricultural lands are included in the Important Farmland Maps (IFM). As noted earlier the FMMP was established in 1982 to assess the location, quality and quantity of agricultural lands, and the conversion of these lands. The FMMP serves as tool to analyze agricultural land use and land use changes throughout California. The DOC has a minimum mapping unit of 10 acres, with parcels that are smaller than 10 acres being absorbed into the surrounding classifications.

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[14] Tulare County General Plan 2030 Update Recirculated Draft EIR (SCH # 2006041162). Page 3.10-6. Accessed September 2020 at: http://generalplan.co.tulare.ca.us/documents.html then locate "Recirculated Draft Environmental Impact Report February 2010 Draft", select "Recirculated DEIR".

[15] Tulare County General Plan 2030 Update Background Report. Page 4-25. Tulare County. General Plan 2030 Update Background Report. Accessed September 2022 at: http://generalplan.co.tulare.ca.us/documents.html then locate "Background Report February 2010", select "February 2010 Background Report".

[16] Ibid. 4-20.

The following list provides a comprehensive description of all the categories mapped by the DOC. Collectively, lands classified as Prime Farmland, Farmland of Statewide Importance, and Unique Farmland are referred to as Farmland.[17]

- Prime Farmland. Farmland that has the best combination of physical and chemical features able to sustain long-term agricultural production. This land has the soil quality, growing season, and moisture supply needed to produce sustained high yields. Land must have been used for irrigated agricultural production at some time during the four years prior to the mapping date.
- Farmland of Statewide Importance. Farmland similar to Prime Farmland but with minor shortcomings, such as greater slopes or less ability to store soil moisture. Land must have been used for irrigated agricultural production at some time during the four years prior to the mapping date.
- Unique Farmland. Farmland of lesser quality soils used for the production of the State's leading agricultural crops. This land is usually irrigated, but may include non-irrigated groves or vineyards as found in some climatic zones in California. Land must have been cropped at some time during the four years prior to the mapping date.
- Farmland of Local Importance. Land of importance to the local agricultural economy as determined by each county's board of supervisors and a local advisory committee.
- Grazing Land. Land on which the existing vegetation is suited to the grazing of livestock. This category was developed in cooperation with the California Cattlemen's Association, University of California Cooperative Extension, and other groups interested in the extent of grazing activities. The minimum mapping unit for Grazing Land is 40 acres.
- Urban and Builtup Land. Land occupied by structures with a building density of at least 1 unit to 1.5 acres, or approximately 6 structures to a 10-acre parcel. This land is used for residential, industrial, commercial, institutional, public administrative purposes, railroad and other transportation yards, cemeteries, airports, golf courses, sanitary landfills, sewage treatment, water control structures, and other developed purposes.
- Other Land. Land not included in any other mapping category. Common examples include low density rural developments; brush, timber, wetland, and riparian areas not suitable for livestock grazing; confined livestock, poultry or aquaculture facilities; strip mines and borrow pits; and water bodies smaller than 40 acres. Vacant and nonagricultural land surrounded on all sides by urban development and greater than 40 acres is mapped as Other Land.

California Land Conservation Act (Williamson Act)

The Williamson Act, also known as the California Land Conservation Act of 1965, enables local governments to enter into contracts with private landowners for the purpose of restricting specific parcels of land to agricultural or related open space use. In return, landowners receive property tax assessments which are much lower than normal because they are based upon farming and open space uses as opposed to full market value. The Department of Conservation assists all levels of government, and landowners in the interpretation of the Williamson Act related government code. The Department also researches, publishes and disseminates information regarding the policies, purposes, procedures, and administration of the Williamson Act according to government code. Participating counties and cities are required to establish

[17] California Department of Conservation. FMMP – Important Farmland Map Categories. Accessed September 2022 at: https://www.conservation.ca.gov/dlrp/fmmp/Pages/Important-Farmland-Categories.aspx.

their own rules and regulations regarding implementation of the Act within their jurisdiction. These rules include but are not limited to: enrollment guidelines, acreage minimums, enforcement procedures, allowable uses, and compatible uses.[18]

Williamson Act Contracts are formed between a county or city and a landowner for the purpose of restricting specific parcels of land to agricultural or related open space use. Private land within locally-designated agricultural preserve areas are eligible for enrollment under a contract. The minimum term for contracts is ten years. However, since the contract term automatically renews on each anniversary date of the contract, the actual term is essentially indefinite. Landowners receive substantially reduced property tax assessments in return for enrollment under a Williamson Act contract. Property tax assessments of Williamson Act contracted land are based upon generated income as opposed to potential market value of the property.[19]

Forestry Resources

State regulations regarding forestry resources are not relevant to the proposed project because no forestry resources exist at the proposed Project site.

Local

Tulare County General Plan 2030 Update

The Tulare County General Plan has a number of policies that apply to projects within the County of Tulare.[20] The following General Plan policies apply to the proposed Project: Policies designed to promote future development patterns that focus growth within established community areas and to mitigate loss of agricultural lands include the following:

AG-1.4 Primary Land Use wherein the County shall support non-renewal or cancellation processes that meet State law for lands within UDBs and HDBs;

AG-1.6 Conservation Easements wherein the County shall consider developing an Agricultural Conservation Easement Program (ACEP) to help protect and preserve agricultural lands (including "Important Farmlands"), as defined in this Element;

LU-2. Agricultural Lands the County shall maintain agriculturally-designated areas for agriculture use and by directing urban development away from valuable agricultural lands to cities, unincorporated communities, hamlets, and planned community areas where public facilities and infrastructure are available;

LU-2.2 Agricultural Parcel Splits wherein the County shall deny requests to create parcels less than the minimum allowed size in agricultural designated areas, unless specifically provided by Division of Land Exceptions in the Tulare County Zoning Ordinance, as may be adopted by the Board of Supervisors, based on concerns that these parcels are less viable economic farming units and that the resultant increase in residential density increases the potential for conflict with normal agricultural practices on adjacent parcels. Evidence that the affected parcel may be an uneconomic farming unit due to its current size, soil conditions, or other factors shall not alone be considered a sufficient basis to grant an exception. The RVLP shall be

[18] California Department of Conservation. Williamson Act Program. Accessed September 2022 at: https://www.conservation.ca.gov/dlrp/wa.
[19] California Department of Conservation. Williamson Act Contracts. Accessed September 2022 at: https://www.conservation.ca.gov/dlrp/wa/Pages/contracts.aspx.
[20] Tulare County General Plan 2030 Update, Part 1 – Goals and Policies Report.

the tool to determine the viability of a given agricultural parcel in the valley and its ability to be subdivided, unless specifically provided by Division of Land Exceptions in the Tulare County Zoning Ordinance;

LU-2.5 Agricultural Support Facilities wherein the County shall encourage beneficial reuse of existing or vacant agricultural support facilities for new businesses (including non-agricultural uses);

PF-1.1 Maintain Urban Edges wherein the County shall strive to maintain distinct urban edges for all unincorporated communities within the valley region or foothill region, while creating a transition between urban uses and agriculture and open space;

PF-1.2 Location of Urban Development wherein the County shall ensure that urban development only takes place in the following areas:

1. Within incorporated cities and CACUDBs;
2. Within the UDBs of adjacent cities in other counties, unincorporated communities, planned community areas, and HDBs of hamlets;
3. Within foothill development corridors as determined by procedures set forth in Foothill Growth Management Plan;
4. Within areas set aside for urban use in the Mountain Framework Plan and the mountain sub-area plans; and
5. Within other areas suited for non-agricultural development, as determined by the procedures set forth in the Rural Valley Lands Plan;

PF-1.3 Land Uses in UDBs/HDBs wherein the County shall encourage those types of urban land uses that benefit from urban services to develop within UDBs and HDBs. Permanent uses which do not benefit from urban services shall be discouraged within these areas. This shall not apply to agricultural or agricultural support uses, including the cultivation of land or other uses accessory to the cultivation of land provided that such accessory uses are time-limited through Special Use Permit procedures;

PF-1.4 Available Infrastructure wherein the County shall encourage urban development to locate in existing UDBs and HDBs where infrastructure is available or may be established in conjunction with development. The County shall ensure that development does not occur unless adequate infrastructure is available, that sufficient water supplies are available or can be made available, and that there are adequate provisions for long term management and maintenance of infrastructure and identified water supplies;

PF-1.5 Planning Areas wherein County policies reflect the unique attributes of the various locations and geographic areas in the County. As such, there are policies applicable to one area of the County that are not applicable to others based on natural setting, topography, habitat, existing development, or other attributes which are unique within the planning context of the County;

PF-1.6 Appropriate Land Uses by Location wherein the County shall utilize the Land Use Element and adopted CAC General Plans, Community Plans, Hamlet Plans, Planned Communities, Corridor Areas, or Area Plans to designate land uses and intensities that reflect and maintain the appropriate level of urbanized development in each CAC General Plan, Community Plan, Hamlet Plan, Planned Community, Corridor Area, or Area Plan;

PF-2.3 UDB and Other Boundaries wherein the County shall provide notice and opportunity for special districts, school districts, and other service providers when evaluating the expansion of a Community's UDB; and

PF-2.4 Community Plans wherein the County shall ensure that community plans are prepared, updated, and maintained for each of the communities. These plans shall include the entire area within the community's UDB and shall address the community's short and long term ability to provide necessary urban services.

Rural Valley Land Plans

For the unincorporated valley portions of Tulare County, growth is guided by the land use policies in the Rural Valley Lands Plan (RVLP)[21] and Planning Framework Element[22] of the Tulare County General Plan 2030 Update.

"Tulare County has identified land for urbanization according to four categories: 1) lands in and around incorporated cities, 2) lands in and around unincorporated communities, 3) lands in foothill development corridors, and 4) lands that qualify under the RVLP. The county is legally responsible for the planning and regulation of all lands that fall outside incorporated city limits, even though cities adopt their own general plans for the incorporated area and a portion of surrounding unincorporated area."[23]

"The RVLP applies to about 773,500 acres of the valley portion of the County, outside the planned Urban Development Boundaries (UDB) and generally below the 600-foot elevation contour line along the foothills of the Sierra Nevada Mountain Range. … The purpose of the RVLP is to protect and maintain the agricultural viability of rural valley areas by establishing requirements for exclusive agricultural zoning (containing minimum parcel sizes) appropriate to sustain agriculture and implementing a policy that utilizes resource information to determine the suitability of rural lands for nonagricultural uses. The goal of the RVLP is to "sustain the viability of Tulare County agriculture by restraining division and use of land which is harmful to continued agricultural use." The RVLP utilizes five exclusive agriculture (AE) zones, each requiring a different minimum parcel size (ranging from five to eighty acres). These zones are as follows: AE, AE-10, AE-20, AE-40, and AE-80. The number designation on each zone generally reflects the minimum acres of land needed to productively farm a certain crop at a commercial level."[24]

"In order to grant an exception for the use of the AE zone on properties that have minimal or no agricultural value, a point system is used to evaluate property suitability. Points are awarded for various factors such as parcel size, available public services, and surrounding land uses. Parcels determined to be more suitable for nonagricultural uses may be zoned (discretionary review required) for urban/suburban uses. Parcels that do not meet the requirements for rezoning are not allowed to rezone and must remain agriculturally zoned. … The RVLP point system [is used] to determine whether a site is suitable to rezone from an agricultural zone on the Valley floor to an urban zone. The county shall not allow re-zoning of parcels that accumulate 17 or more points according to the RVLP Development Criteria. If the number of points accumulated is 11 or less, the parcel may be considered for nonagricultural zoning. A parcel receiving 12 to 16 points shall be determined to have fallen within a "gray" area in which no clear cut decision is readily apparent. In such

[21] Tulare County General Plan 2030 Update, Part II – Area Plan Policies, Chapter 1 – Rural Valley Lands Plan.
[22] Ibid, Part I – Goals and Policies Report, Chapter 2 – Planning Framework.
[23] Tulare County General Plan 2030 Update Background Report. Page 3-6.
[24] Ibid. 3-13.

instances, the Planning Commission and Board of Supervisors shall make a decision based on the unique circumstances pertaining to the particular parcel of land, including factors not covered by this system."[25]

Tulare County Agricultural Conservation Easement Program

The Tulare County Agricultural Conservation Easement Program (ACEP, see Appendix "A") was established to allow the use of agricultural easements to reduce or mitigate any significant impacts resulting from the conversion of certain agricultural land to non-agricultural uses. Resolution 2016-0323, adopted by the Tulare County Board of Supervisors on May 3, 2016, requires the use of farmland conservation easements or other farmland conservation mechanisms for projects requiring County discretionary land use entitlements and the conversion of five (5) or more acres of Prime Farmland, Unique Farmland, or Farmland of Statewide Importance to non-agricultural uses.

"CRITERIA FOR AN EASEMENT: A "Farmland conservation easement" means for the purposes of this ACEP, an easement over agricultural land for the purpose of restricting its use for the term set forth in this resolution for primarily agricultural and agricultural-compatible uses. Any easement offered or used under this program shall, at a minimum, meet these criteria:

A) Preferably the easement will be located in Tulare County but other suitable land may be encumbered subject to approval by the Board of Supervisors.

B) The easement will include Prime Farmland, Unique Farmland, or Farmland of Statewide Importance, as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency.

C) The land placed under the easement must be of substantially the same quality, have or could acquire access to water, and could otherwise be feasibly cultivated.

D) The land placed under the easement must be at a minimum of a one to one (1:1) ratio or its functional equivalent to the loss of defined agricultural lands mitigated." [26]

Project Impact Analysis

a) Less Than Significant Impact with Mitigation: The proposed Project site is located outside the Visalia City limits and the Urban Development Boundary, but within the Visalia Planning Area. The proposed Project consists of subdividing approximately 67.60 acres into 35 residential parcels ranging in size from 1 - 2.5 acres. Specifically, the Project includes 24- 1-acre parcels and 11- 2.5-acre parcels. To accommodate the proposed Project a Williamson Act Partial Non-Renewal (WAN 22-018) was approved by the Tulare County Board of Supervisors (Board) on February 7, 2023, and a Williamson Act Cancellation (WAC 22-005) was approved by the Board on April 4, 2023.[27, 28] The proposed Project will also require Board approval of a Zone Change from R-A-100 and AE-20 to R-A-l10 (PZC 22-012) and a Tentative Subdivision Map (TSM 22-002).

The site consists of three land parcels. APNs 079-071-014 and 079-072-005 are currently zoned as AE-20 and considered Prime Farmland by the State Farmland Mapping and Monitoring Program while APN

[25] Op. Cit. 3-14.

[26] Tulare County Agricultural Conservation Easement Program. Pages 6 to 7.

[27] WAN 22-018 was approved by the Tulare County Board of Supervisors on February 7, 2023, under Resolution No. 2023-0118. Tulare County Board of Supervisor Agendas and Minutes are available on the Board of Supervisors Meetings webpage at: https://tularecounty.ca.gov/board/board-meetings/board-of-supervisors-meetings/.

[28] WAC 22-005 was approved by the Tulare County Board of Supervisors on April 4, 2023, under Resolution No. 2023-0272.

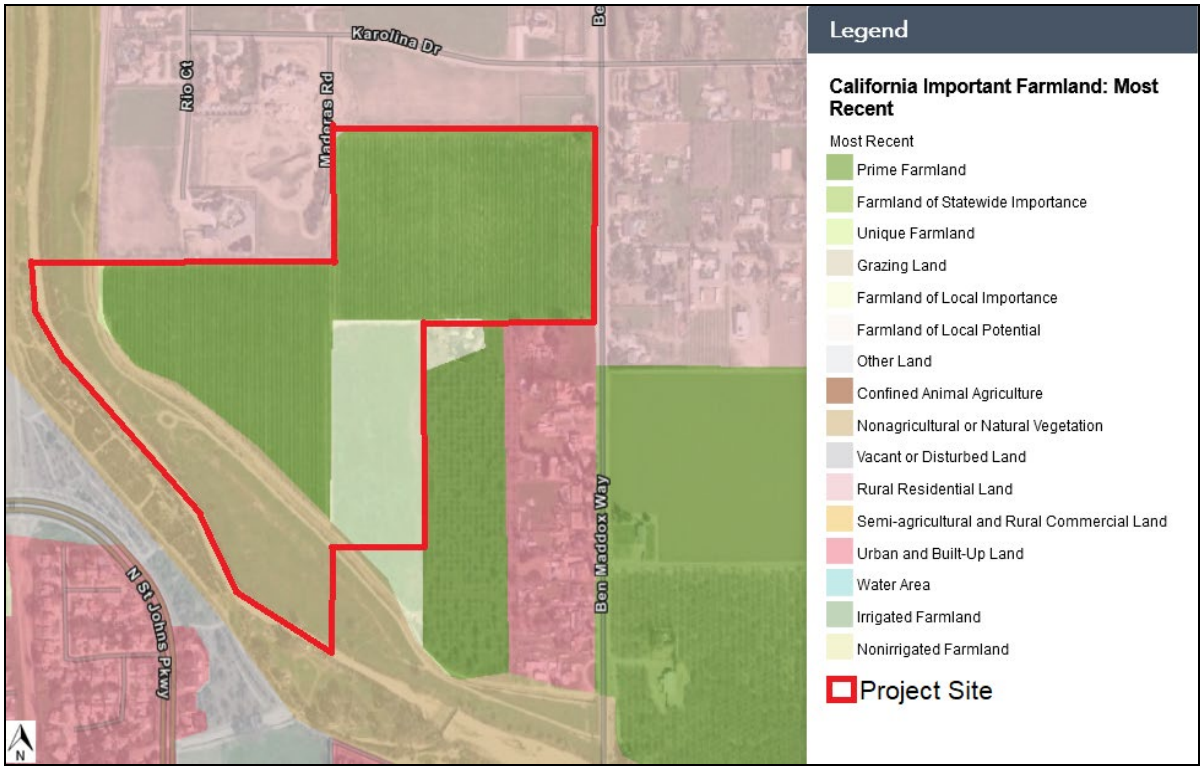
079-073-001 is currently zoned as R-A-100 and considered Farmland of Local Importance. See **Figure 4.**

Agricultural conversion impacts resulting from the zone change from AE-20 to Residential were analyzed using the California Land Evaluation & Site Assessment (LESA) Model. The LESA model is a point-based approach for rating the relative importance of agricultural land resources based upon specific measurable features.[29] The California LESA Model was developed to provide lead agencies with an optional methodology to ensure that potentially significant effects on the environment of agricultural land conversions are quantitatively and consistently considered in the environmental review process (Public Resources Code Section 21095), including in CEQA reviews.[30]

The LESA model consists of two Land Evaluation (LE) factors and four Site Assessment (SA) factors. The final LESA score was 50.91, with the LE subscore as 33.66 and the SA subscore as 17.25 and the model worksheets are provided in Attachment "A". Per LESA scoring thresholds, the impacts are considered significant only if LE and SA subscores are each greater than or equal to 20 points.[31] Therefore, the results of the LESA model are less than significant.

The ACEP requires the use of an agricultural easement for any project that will convert more than five acres of Farmland to non-farmland uses. As such, Implementation of **Mitigation Measure 2-1** (which can be found in its entirety in Attachment "F" of this IS/MND) shall be implemented to reduce potential Project-specific impacts related to this Checklist Item to less than significant.

Figure 4: FMMP Map



[29] Department of Conservation. California Agricultural Land Evaluation and Site Assessment (LESA) Model. Instruction Manual. 1997.Page 2. Accessed December 2022 at: https://www.conservation.ca.gov/dlrp/Pages/qh_lesa.aspx.

[30] Ibid 4

[31] Op. Cit. Table 9. California LESA Model Scoring Thresholds.

Summary of Mitigation Measures:

2-1. Agricultural Easement

The applicant will be required to create an agricultural land conservation easement at a ratio of one acre of developed property for 57 acres of conserved agricultural land (a 1:1 ratio). This amount of 1:1 will be represented by 57 acres within the County. Any replacement acreage will be to the satisfaction of the Planning Director of Tulare County. The applicant will purchase an agricultural land conservation easement, of like agricultural land within the County, on the entire 57 acres to be maintained and kept in agriculture in perpetuity. The "ultimate" agricultural easement shall be placed on other suitable and agriculturally compatible property, of the same soil types and arability, within Tulare County; at a replacement ratio of 1:1, and to be established as an agricultural land conservation easement in perpetuity. If creating a 57-acre agricultural land conservation easement is not feasible, the applicant will be required to provide to the County in-lieu fees sufficient to purchase an agricultural land conservation easement at a ratio of one acre of developed property for 57 acres of conserved agricultural land (a 1:1 ratio). The applicant will be required to either create an agricultural land conservation easement at a 1:1 ratio as described above, pay in-lieu fees to the Tulare County Resource Management Agency to purchase an agricultural land conservation easement at a ratio of 1:1, or a combination thereof to satisfy the ultimate 1:1 ratio prior to the issuance of any building permit.

b) Less Than Significant: APNs 079-071-014 and 079-072-005 were under Williamson Act contract number 4381 and agricultural preserve number 1300 were under Williamson Act; however, a Williamson Act Partial Non-Renewal (WAN 22-018) was approved by the Tulare County Board of Supervisors (Board) on February 7, 2023, and a Williamson Act Cancellation (WAC 22-005) was approved by the Board on April 4, 2023.[32, 33] As such, the proposed Project would not conflict with existing Williamson Act contracts and the impact is considered less than significant.

c) and d) No Impact: The proposed Project is not zoned for forestland and does not propose any zone changes related to forest or timberland. No conversion of forestland, as defined under Public Resource Code or General Code, as referenced earlier, would occur as a result of the proposed Project. There would be no impact.

e) Less Than Significant Impact: Surrounding land uses primarily include residential and agricultural, and since the proposed Project is site-specific, it is not expected to involve land use changes to these surrounding areas. Potential impacts are considered less than significant.

Cumulative Impacts Analysis

Less Than Significant Impact. The geographic area of this cumulative analysis is the State of California. While the physical area of the Project is limited to Tulare County, agricultural lands and associated activities occur throughout the San Joaquin Valley and the State. Therefore, the cumulative impacts would extend beyond Tulare County political boundaries. This cumulative analysis is based on the information provided

[32] WAN 22-018 was approved by the Tulare County Board of Supervisors on February 7, 2023, under Resolution No. 2023-0118. Tulare County Board of Supervisor Agendas and Minutes are available on the Board of Supervisors Meetings webpage at: https://tularecounty.ca.gov/board/board-meetings/board-of-supervisors-meetings/.

[33] WAC 22-005 was approved by the Tulare County Board of Supervisors on April 4, 2023, under Resolution No. 2023-0272.

in the Tulare County 2030 General Plan[34], General Plan Background Report[35], the Tulare County 2020 Annual Crop Report[36], the LESA scoring, and the Tulare County ACEP. The proposed Project would only contribute to cumulative impacts related to this Checklist Item if Project-specific impacts were to occur.

There are no forestland or timberlands within the Project site. Implementation of **Mitigation Measure 2-1** (which can be found in its entirety in Attachment "F" of this IS/MND), as applicable, would result in less than significant impacts to Prime Farmland or Farmlands of State or Local Importance. As there are no significant Project-specific impacts to this resource area, potential cumulative impacts to agricultural resources are less than significant.

Summary of Mitigation Measures:

See **Mitigation Measure 2-1** in Attachment "F" (in its entirety).

[34] Tulare County General Plan 2030 Update. http://generalplan.co.tulare.ca.us/documents.html then locate "February 2010 General Plan 2030 Update Report"

[35] Tulare County General Plan 2030 Update Background Report. http://generalplan.co.tulare.ca.us/documents.html then locate "February 2020 Background Report".

[36] 2020 Tulare County Crop and Livestock Report, September 2022. Cover letter from Tom Tucker, II, Agricultural Commissioner. Accessed September 2022 at https://agcomm.co.tulare.ca.us/pest-exclusion-standardization/crop-reports1/crop-reports-2021-2030/crop-and-livestock-report-2021/.

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.	SIGNIFICANT IMPACT	LESS THAN SIGNIFICANT IMPACT WITH MITIGATION	LESS THAN SIGNIFICANT IMPACT	NO IMPACT
Would the project:				
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 is other emissions (such as those leading to odors adversely affecting a substantial number of people?	☐	☐	☒	☐

Environmental Setting

The climate of the San Joaquin Valley is characterized by long, hot summers and stagnant, foggy, winters. Precipitation is low and temperature inversions are common. These characteristics are conducive to the formation and retention of air pollutants and are in part influenced by the surrounding mountains which intercept precipitation and act as a barrier to the passage of cold air and air pollutants.

Air Quality Standards and Attainment Status

Air quality plans or attainment plans are used to bring the applicable air basin into attainment with all state and federal ambient air quality standards designed to protect the health and safety of residents within that air basin. Air basins are classified under the Federal Clean Air Act as either "attainment", "non-attainment", or "extreme non-attainment" areas for each criteria pollutant based on whether the NAAQS have been achieved or not. Attainment is achieved when monitored ambient air quality data is in compliance with the standards for a specified pollutant. Non-compliance with an established standard will result in a nonattainment designation and an unclassified designation indicates insufficient data is available to determine compliance for that pollutant. Attainment relative to the State standards is determined by the California Air Resources Board (CARB).

The proposed Project lies within the San Joaquin Valley Air Basin, which is managed by the San Joaquin Valley Air Pollution Control District (SJVAPCD or Air District). National Ambient Air Quality Standards (NAAQS) and California Ambient Air Quality Standards (CAAQS) have been established for the following criteria pollutants: carbon monoxide (CO), ozone (O_3), sulfur dioxide (SO_2), nitrogen dioxide (NO_2), particulate matter (PM_{10} and $PM_{2.5}$), and lead (Pb). The CAAQS also set standards for sulfates, hydrogen sulfide, and visibility. The San Joaquin Valley is designated as a State and Federal extreme non-attainment

area for O_3, a State and Federal non-attainment area for $PM_{2.5,}$ a State non-attainment area for $PM_{10,}$ and Federal and State attainment area for CO, SO_2, NO_2, and Pb.[37]

Standards and attainment status for listed pollutants in the Air District can be found in **Table 3-1.** Note that both state and federal standards are presented.

Table 3-1: Standards[38] and Attainment Status[39] for Listed Pollutants in the Air District

Pollutant	Federal		California	
	Standard	Attainment Status	Standard	Attainment Status
Ozone (O_3)	0.075 ppm (8-hr avg)	Nonattainment/Extreme (eight hour); Revoked in 2005 (one hour)	0.07 ppm (8-hr avg) 0.09 ppm (1-hr avg)	Nonattainment (eight hour); Nonattainment/Severe (one hour)
Carbon Monoxide (CO)	9.0 ppm (8-hr avg) 35.0 ppm (1-hr avg)	Attainment/ Unclassified	9.0 ppm (8-hr avg) 20.0 ppm (1-hr avg)	Attainment/ Unclassified
Nitrogen Dioxide (NO_2)	0.053 ppm (annual avg)	Attainment/ Unclassified	0.30 ppm (annual avg) 0.18 ppm (1-hr avg)	Attainment
Sulfur Dioxide (SO_2)	0.03 ppm (annual avg) 0.14 ppm (24-hr avg) 0.5 ppm (3-hr avg)	Attainment/ Unclassified	0.04 ppm (24-hr avg) 0.25 ppm (1hr avg)	Attainment
Lead (Pb)	1.5 µg/m3 (calendar quarter) 0.15 µg/m3 (rolling 3-month avg)	No Designation/ Classification	1.5 µg/m3 (30-day avg)	Attainment
Particulate Matter (PM10)	150 µg/m3 (24-hr avg)	Attainment	20 µg/m3 (annual avg) 50 µg/m3 (24-hr avg)	Nonattainment
Particulate Matter (PM2.5)	15 µg/m3 (annual avg)	Nonattainment/ Moderate	35 µg/m3 (24-hr avg) 12 µg/m3 (annual avg)	Nonattainment

µg/m3 = micrograms per cubic meter

Criteria Pollutants Assessed

The following criteria air pollutants were assessed in the Technical Memo (Attachment A): reactive organic gases (ROG), oxides of nitrogen (NOX), carbon monoxide (CO), sulfur dioxide (SO2), particulate matter less than 10 microns in diameter (PM10), and particulate matter less than 2.5 microns in diameter (PM2.5). Note that the proposed Project would emit ozone precursors ROG and NOX. However, the proposed project would not directly emit ozone since it is formed in the atmosphere during the photochemical reaction of ozone precursors.

[37] San Joaquin Valley Air Pollution Control District. Ambient Air Quality Standards & Valley Attainment Status. http://www.valleyair.org/aqinfo/attainment.htm. Accessed August 2022

[38] San Joaquin Valley Air Pollution Control District. Guide to Assessing and Mitigating Air Quality Impacts. February 19, 2015. Table 3, Pg 91. https://www.valleyair.org/transportation/GAMAQI-2015/FINAL-DRAFT-GAMAQI.PDF. Accessed September 2022.

[39] Ibid, Table 1, Pg 29

General descriptions and most relevant effects from pollutant exposure of the criteria pollutants of concern are listed in Table 3-2.

Table 3-2: Descriptions of Criteria Pollutants of Concern[40]

Criteria Pollutant	Physical Description and Properties	Sources	Most Relevant Effects from Pollutant Exposure
Ozone	Ozone is a photochemical pollutant as it is not emitted directly into the atmosphere, but is formed by a complex series of chemical reactions between volatile organic compounds (VOC), nitrous oxides (NO_X), and sunlight. Ozone is a regional pollutant that is generated over a large area and is transported and spread by the wind.	Ozone is a secondary pollutant; thus, it is not emitted directly into the lower level of the atmosphere. The primary sources of ozone precursors (VOC and NO_X) are mobile sources (on-road and off-road vehicle exhaust).	Irritate respiratory system; reduce lung function; breathing pattern changes; reduction of breathing capacity; inflame and damage cells that line the lungs; make lungs more susceptible to infection; aggravate asthma; aggravate other chronic lung diseases; cause permanent lung damage; some immunological changes; increased mortality risk; vegetation and property damage.
Particulate matter (PM_{10}) Particulate matter ($PM_{2.5}$)	Suspended particulate matter is a mixture of small particles that consist of dry solid fragments, droplets of water, or solid cores with liquid coatings. The particles vary in shape, size, and composition. PM_{10} refers to particulate matter that is between 2.5 and 10 microns in diameter, (one micron is one-millionth of a meter). $PM_{2.5}$ refers to particulate matter that is 2.5 microns or less in diameter, about one-thirtieth the size of the average human hair.	Stationary sources include fuel or wood combustion for electrical utilities, residential space heating, and industrial processes; construction and demolition; metals, minerals, and petrochemicals; wood products processing; mills and elevators used in agriculture; erosion from tilled lands; waste disposal, and recycling. Mobile or transportation related sources are from vehicle exhaust and road dust. Secondary particles form from reactions in the atmosphere.	• Short-term exposure (hours/days): irritation of the eyes, nose, throat; coughing; phlegm; chest tightness; shortness of breath; aggravate existing lung disease, causing asthma attacks and acute bronchitis; those with heart disease can suffer heart attacks and arrhythmias. • Long-term exposure: reduced lung function; chronic bronchitis; changes in lung morphology; death.
Nitrogen dioxide (NO_2)	During combustion of fossil fuels, oxygen reacts with nitrogen to produce nitrogen oxides—NO_X (NO, NO_2, NO_3, N_2O, N_2O_3, N_2O_4, and N_2O_5). NO_X is a precursor to ozone, PM_{10}, and $PM_{2.5}$ formation. NO_X can react with compounds to form nitric acid and related small particles and result in particulate matter (PM) related health effects.	NO_X is produced in motor vehicle internal combustion engines and fossil fuel-fired electric utility and industrial boilers. Nitrogen dioxide forms quickly from NO_X emissions. NO_2 concentrations near major roads can be 30 to 100 percent higher than those at monitoring stations.	Potential to aggravate chronic respiratory disease and respiratory symptoms in sensitive groups; risk to public health implied by pulmonary and extra-pulmonary biochemical and cellular changes and pulmonary structural changes; contributions to atmospheric discoloration; increased visits to hospital for respiratory illnesses.
Carbon monoxide (CO)	CO is a colorless, odorless, toxic gas. CO is somewhat soluble in water; therefore, rainfall and fog can suppress CO conditions. CO enters the body through the lungs, dissolves in the blood, replaces	CO is produced by incomplete combustion of carbon-containing fuels (e.g., gasoline, diesel fuel, and biomass). Sources include motor vehicle exhaust, industrial processes	Ranges depending on exposure: slight headaches; nausea; aggravation of angina pectoris (chest pain) and other aspects of coronary heart disease; decreased exercise tolerance in persons with

[40] U.S. Environmental Protection Agency (EPA). Criteria Air Pollutants. Access December 2021 at: https://www.epa.gov/criteria-air-pollutants.

Table 3-2: Descriptions of Criteria Pollutants of Concern[40]			
	oxygen as an attachment to hemoglobin, and reduces available oxygen in the blood.	(metals processing and chemical manufacturing), residential wood burning, and natural sources.	peripheral vascular disease and lung disease; impairment of central nervous system functions; possible increased risk to fetuses; death.
Sulfur dioxide (SO_2)	Sulfur dioxide is a colorless, pungent gas. At levels greater than 0.5 parts per million (ppm), the gas has a strong odor, similar to rotten eggs. Sulfur oxides (SO_X) include sulfur dioxide and sulfur trioxide. Sulfuric acid is formed from sulfur dioxide, which can lead to acid deposition and can harm natural resources and materials. Although sulfur dioxide concentrations have been reduced to levels well below state and federal standards, further reductions are desirable because sulfur dioxide is a precursor to sulfate and PM_{10}.	Human caused sources include fossil-fuel combustion, mineral ore processing, and chemical manufacturing. Volcanic emissions are a natural source of sulfur dioxide. The gas can also be produced in the air by dimethyl sulfide and hydrogen sulfide. Sulfur dioxide is removed from the air by dissolution in water, chemical reactions, and transfer to soils and ice caps. The sulfur dioxide levels in the State are well below the maximum standards.	Bronchoconstriction accompanied by symptoms which may include wheezing, shortness of breath and chest tightness, during exercise or physical activity in persons with asthma. Some population-based studies indicate that the mortality and morbidity effects associated with fine particles show a similar association with ambient sulfur dioxide levels. It is not clear whether the two pollutants act synergistically or one pollutant alone is the predominant factor.

Toxic Air Contaminants

A Toxic Air Contaminant (TAC) is defined as an air pollutant that may cause or contribute to an increase in mortality or serious illness, or that may pose a hazard to human health. TACs are usually present in minute quantities in the ambient air; however, their high toxicity or health risk may pose a threat to public health even at low concentrations.

The California Almanac of Emissions and Air Quality—2009 Edition presents the relevant concentration and cancer risk data for the ten TACs that pose the most substantial health risk in California based on available data. The ten TACs are acetaldehyde, benzene, 1.3-butadiene, carbon tetrachloride, hexavalent chromium, para-dichlorobenzene, formaldehyde, methylene chloride, perchloroethylene, and diesel particulate matter (DPM).

Some studies indicate that DPM poses the greatest health risk among the TACs listed above. A 10-year research program demonstrated that DPM from diesel-fueled engines is a human carcinogen and that chronic (long-term) inhalation exposure to DPM poses a chronic health risk. In addition to increasing the risk of lung cancer, exposure to diesel exhaust can have other health effects. Diesel exhaust can irritate the eyes, nose, throat, and lungs, and it can cause coughs, headaches, lightheadedness, and nausea. Diesel exhaust is a major source of fine particulate pollution as well, and studies have linked elevated particle levels in the air to increased hospital admissions, emergency room visits, asthma attacks, and premature deaths among those suffering from respiratory problems.

<u>Diesel Particulate Matter</u>

For purposes of this study, DPM exhaust emissions are represented as PM10.

The project would generate passenger vehicle and truck trips from employees, visitors, deliveries, and service vehicles traveling to and from the project site. The main source of DPM from the long-term operations of the proposed project would be from combustion of diesel fuel in diesel-powered engines in

on-road trucks, while additional DPM would be emitted from on-site equipment. On-site motor vehicle emissions refer to DPM exhaust emissions from the motor vehicle traffic that would travel and idle within the project site each day.

Asbestos

Asbestos is the name given to a number of naturally occurring fibrous silicate minerals that have been mined for their useful properties such as thermal insulation, chemical and thermal stability, and high tensile strength. The three most common types of asbestos are chrysotile, amosite, and crocidolite. Chrysotile, also known as white asbestos, is the most common type of asbestos found in buildings.

Chrysotile makes up approximately 90 to 95 percent of all asbestos contained in buildings in the United States. Exposure to asbestos is a health threat; exposure to asbestos fibers may result in health issues such as lung cancer, mesothelioma (a rare cancer of the thin membranes lining the lungs, chest, and abdominal cavity), and asbestosis (a non-cancerous lung disease that causes scarring of the lungs). Exposure to asbestos can occur during demolition or remodeling of buildings that were constructed prior to the 1977 ban on asbestos for use in buildings. Exposure to naturally occurring asbestos can occur during soil-disturbing activities in areas with deposits present.

Regulatory Setting

Federal

Federal Clean Air Act

The federal Clean Air Act of 1970 (as amended in 1990) required the U.S. Environmental Protection Agency (EPA) to develop standards for pollutants considered harmful to public health or the environment. Two types of National Ambient Air Quality Standards (NAAQS) were established. Primary standards protect public health, while secondary standards protect public welfare, by including protection against decreased visibility, and damage to animals, crops, landscaping and vegetation, or buildings. NAAQS have been established for six "criteria" pollutants: carbon monoxide (CO), nitrogen dioxide (NO_2), sulfur dioxide (SO_2), ozone (O_3), particulate matter (PM_{10} and $PM_{2.5}$), and lead (Pb).

State

California Clean Air Act

"The California CAA of 1988 establishes an air quality management process that generally parallels the federal process. The California CAA, however, focuses on attainment of the State ambient air quality standards (see Table 3.3-1 of the Tulare County General Plan Recirculated Draft EIR), which, for certain pollutants and averaging periods, are more stringent than the comparable federal standards. Responsibility for meeting California's standards is addressed by the CARB and local air pollution control districts (such as the eight county SJVAPCD, which administers air quality regulations for Tulare County). Compliance strategies are presented in district-level air quality attainment plans.

The California CAA requires that air districts prepare an air quality attainment plan if the district violates State air quality standards for criteria pollutants including carbon monoxide, sulfur dioxide, nitrogen dioxide, PM2.5, or ozone. Locally prepared attainment plans are not required for areas that violate the State PM10 standards. The California CAA requires that the State air quality standards be met as expeditiously

as practicable but does not set precise attainment deadlines. Instead, the act established increasingly stringent requirements for areas that will require more time to achieve the standards."[41]

California Air Resources Board

The California Air Resources Board (CARB) is the state agency responsible for implementing the federal and state Clean Air Acts. CARB has established California Ambient Air Quality Standards (CAAQS), which include all criteria pollutants established by the NAAQS, but with additional regulations for Visibility Reducing Particles, sulfates, hydrogen Sulfide (H_2S), and vinyl chloride. Standards and attainment status for listed pollutants in the Air District can be found in **Table 3-1.** Note that both state and federal standards are presented.

"The CARB is responsible for establishing and reviewing the State ambient air quality standards, compiling the California State Implementation Plan (SIP) and securing approval of that plan from the U.S. EPA. As noted previously, federal clean air laws require areas with unhealthy levels of ozone, inhalable particulate matter, carbon monoxide, nitrogen dioxide, and sulfur dioxide to develop SIPs. SIPs are comprehensive plans that describe how an area will attain NAAQS. The 1990 amendments to the Federal CAA set deadlines for attainment based on the severity of an area's air pollution problem. State law makes CARB the lead agency for all purposes related to the SIP. The California SIP is periodically modified by the CARB to reflect the latest emission inventories, planning documents, and rules and regulations of various air basins. The CARB produces a major part of the SIP for pollution sources that are statewide in scope; however, it relies on the local Air Districts to provide emissions inventory data and additional strategies for sources under their jurisdiction. The SIP consists of the emission standards for vehicular sources and consumer products set by the CARB, and attainment plans adopted by the local air agencies as approved by CARB. The EPA reviews the air quality SIPs to verify conformity with CAA mandates and to ensure that they will achieve air quality goals when implemented. If EPA determines that a SIP is inadequate, it may prepare a Federal Implementation Plan for the nonattainment area and may impose additional control measures.

In addition to preparation of the SIP, the CARB also regulates mobile emission sources in California, such as construction equipment, trucks, automobiles, and oversees the activities of air quality management districts and air pollution control districts, which are organized at the county or regional level. The local or regional Air Districts are primarily responsible for regulating stationary emission sources at industrial and commercial facilities within their jurisdiction and for preparing the air quality plans that are required under the Federal CAA and California CAA.[42]

Regional

San Joaquin Valley Air Pollution Control District

The San Joaquin Valley Air Pollution Control District (SJVAPCD) is the local agency charged with preparing, adopting, and implementing mobile, stationary, and area air emission control measures and standards. The SJVAPCD has several rules and regulations that may apply to the proposed Project:

Rule 3135 (Dust Control Plan Fees) – This rule requires the project applicant to submit a fee in addition to a Dust Control Plan. The purpose of this rule is to recover the SJVAPCD's cost for reviewing these plans and conducting compliance inspections.

[41] Tulare County General Plan 2030 Update Recirculated Draft Environmental Impact Report. http://generalplan.co.tulare.ca.us/documents/generalplan2010/RecirculatedDraftEIR.pdf. Accessed January 2023.

[42] Ibid. Pages 3.3-6 to 3.3-7.

Rules 4101 (Visible Emissions) and 4102 (Nuisance) – These rules apply to any source of air contaminants and prohibits the visible emissions of air contaminants or any activity which creates a public nuisance.

Rule 4641 (Cutback, Slow Cure, and Emulsified Asphalt, Paving and Maintenance Operations) – This rule applies to use of asphalt for paving new roadways or restoring existing roadways disturbed by project activities.

Regulation VIII (Fugitive PM_{10} Prohibitions) – This regulation, a series of eight regulations, is designed to reduce PM_{10} emissions by reducing fugitive dust. Regulation VIII requires implementation of control measures to ensure that visible dust emissions are substantially reduced. The control measures are summarized in **Table 3-3.**

Table 3-3: San Joaquin Valley Air Pollution Control District Regulation VIII Control Measures for Construction Related Emissions of PM_{10}[43]
The following are required to be implemented at all construction sites:
All disturbed areas, including storage piles, which are not actively utilized for construction purposes, shall be effectively stabilized of dust emissions using water, chemical stabilizers/suppressants, covered with a tarp or other similar cover, or vegetative ground cover.
All on-site unpaved roads and off-site unpaved access roads shall be effectively stabilized of dust emissions during construction using water or chemical stabilizer suppressant.
All land clearing, grubbing, scraping, excavation, land leveling, grading cut and fill, and demolition activities during construction shall be effectively controlled of fugitive dust emissions utilizing application of water or pre-soaking.
When materials are transported off-site, all material shall be covered, or effectively wetted to limit visible dust emissions, and at least six inches of freeboard space from top of container shall be maintained.
All operations shall limit, or expeditiously remove the accumulation of mud or dirt from adjacent public streets at the end of each workday. The use of dry rotary brushes is expressly prohibited except where preceded or accompanied by sufficient wetting to limit the visible dust emissions. Use of blower devices is expressly forbidden.
Following the addition of materials to, or the removal of materials from, the surface of outdoor storage piles, said piles shall be effectively stabilized of fugitive dust emissions utilizing sufficient water or chemical stabilizer/suppressant.
Within urban areas, trackout shall be immediately removed when it extends 50 or more feet from the site at the end of each workday.
Any site with 150 or more vehicle trips per day shall prevent carryout and trackout.

Local

Tulare County General Plan 2030 Update

The Tulare County General Plan 2030 Update contains a number of policies that apply to projects within Tulare County that support air pollutant reduction efforts.[44] The following General Plan policies have potential relevance to the proposed Project's CEQA review:

[43] San Joaquin Valley Air Pollution Control District. Current District Rules and Regulations. http://www.valleyair.org/rules/1ruleslist.htm#reg8. Accessed September 2022.

[44] Tulare County General Plan 2030 Update, Part 1 – Goals and Policies Report.

AQ-1.1 Cooperation with Other Agencies requiring the County to cooperate with other local, regional, Federal, and State agencies (e.g., Air District) in developing and implementing air quality plans to achieve State and federal Ambient Air Quality Standards to achieve better air quality conditions locally and regionally;

AQ-1.2 Cooperation with Local Jurisdictions requiring the County to coordinate with regional agencies, such as the Air District, to address cross-jurisdictional air quality issues;

AQ-1.3 Cumulative Air Quality Impacts requiring development to be located, designed, and construction in a manner that minimizes cumulative air quality impacts;

AQ-1.4 Air Quality Land Use Compatibility requiring the County to evaluate compatibility of proposed land uses;

AQ-1.5 California Environmental Quality Act (CEQA) Compliance where the County will ensure that air quality impacts identified during the CEQA review process are consistently and reasonable mitigated when feasible*;*

AQ-2.2 Indirect Source Review regarding mitigating major development projects, as defined by the SJVAPCD, to reasonably mitigate air quality impacts associated with the project. The County shall notify developers of SJVAPCD Rule 9510 – Indirect Source Review requirements and work with SJVAPCD to determine mitigations, as feasible, that may include, but are not limited to the following:

1. Providing bicycle access and parking facilities,
2. Increasing density,
3. Encouraging mixed use developments,
4. Providing walkable and pedestrian-oriented neighborhoods,
5. Providing increased access to public transportation,
6. Providing preferential parking for high-occupancy vehicles, carpools, or alternative fuels vehicles, and
7. Establishing telecommuting programs or satellite work centers.

AQ-3.4 Landscape regarding the use of ecologically based landscape design principles that can improve local air quality by absorbing CO_2, producing oxygen, providing shade that reduces energy required for cooling, and filtering particulates*;*

AQ-4.1 Air Pollution Control Technology where the County shall utilize the BACM and RACM as adopted by the County to support SJVAPCD air quality attainment plans to achieve and maintain healthful air quality and high visibility standards. These measures shall be applied to new development approvals and permit modifications as appropriate; and

AQ-4.2 Dust Suppression Measures regarding implementation of dust suppression measures during excavation, grading, and site preparation activities consistent with Air District Regulation VIII – Fugitive Dust Prohibitions. Techniques may include, but are not limited to, the following:

1. Site watering or application of dust suppressants,
2. Phasing or extension of grading operations,
3. Covering of stockpiles,

4. Suspension of grading activities during high wind periods (typically winds greater than 25 miles per hour), and
5. Re-vegetation of graded areas.

Project Impact Analysis

a) Less Than Significant Impact: Air Quality Plans (AQPs) are plans for reaching attainment of air quality standards. The assumptions, inputs, and control measures are analyzed to determine if the Air Basin can reach attainment for the ambient air quality standards. The proposed Project site is located within the jurisdictional boundaries of the SJVAPCD. To show attainment of the standards, the SJVAPCD analyzes the growth projections in the Valley, contributing factors in air pollutant emissions and formations, and existing and adopted emissions controls. The SJVAPCD then formulates a control strategy to reach attainment that includes both State and SJVAPCD regulations and other local programs and measures.

The CEQA Guidelines indicate that a significant impact would occur if the proposed Project would conflict with or obstruct implementation of the applicable air quality plan. The GAMAQI indicates that projects that do not exceed SJVAPCD regional criteria pollutant emissions quantitative thresholds would not conflict with or obstruct the applicable AQP. As shown in **Table 3-4**, the proposed Project's construction and operational regional emissions would not exceed SJVAPCD's regional criteria pollutant emissions quantitative thresholds. Therefore, the proposed Project would not be considered in conflict with or obstruct implementation of the applicable air quality plan and the impact is less than significant.

b) Less Than Significant Impact: The proposed Project lies within the San Joaquin Valley Air Basin (SJVAB). At the Federal level, the SJVAB is designated as extreme nonattainment for the 8-hour ozone standard, attainment for PM_{10} and CO, and nonattainment fort $PM_{2.5}$. At the State level, the SJVAB is designated as nonattainment for the 8-hour ozone, PM_{10}, and $PM_{2.5}$ standards. Although the Federal 1-hour ozone standard was revoked in 2005, areas must still attain this standard, and the SJVAPCD recently requested an EPA finding that the SJVAB has attained the standard based on 2011-2013 data. To meet Federal Clean Air Act (CAA) requirements, the SJVAPCD has multiple air quality attainment plan (AQAP) documents, including:

- Extreme Ozone Attainment Demonstration Plan (EOADP) for attainment of the 1-hour ozone standard (2004);
- 2007 Ozone Plan for attainment of the 8-hour ozone standard;
- 2016 Ozone Plan for 2008 8-Hour Ozone Standard;
- 2022 Plan for the 2015 8-Hour Ozone Standard:
- 2007 PM_{10} Maintenance Plan and Request for Redesignation;
- 2008 PM2.5 Plan;
- 2012 PM2.5 Plan;
- 2015 Plan for the 1997 PM2.5 Standard;
- 2016 Moderate Area Plan for the 2012 PM2.5 Standard; and
- 2018 Plan for the 1997, 2006, and 2012 PM2.5 Standards

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

attainment plans. In addition, if the project uses were to result in a change in land use and corresponding increases in vehicle miles traveled, they may result in an increase in vehicle miles traveled that is unaccounted for in regional emissions inventories contained in regional air quality control plans.

The annual significance thresholds to be used for the proposed Project for construction and operational emissions are as follows[45]:

- 10 tons per year ROG;
- 10 tons per year NOx;
- 100 tons per year CO;
- 27 tons per year SO_2;
- 15 tons per year PM_{10}; and
- 15 tons per year $PM_{2.5}$.

Project Emissions

Site preparation and proposed Project construction would involve excavation, grading, hauling, and various activities needed to construct the proposed Project. During construction, the proposed Project could generate pollutants such as hydrocarbons, oxides of nitrogen, carbon monoxide, and suspended PM. A major source of PM would be fugitive dust generated during construction-related activities. Sources of fugitive dust would include disturbed soils at the construction site and trucks carrying uncovered loads of soils. Vehicles leaving the site could deposit dirt and mud on local streets, which could be an additional source of airborne dust after it dries. PM_{10} emissions would vary from day to day, depending on the nature and magnitude of construction activity and local weather conditions. PM_{10} emissions would depend on soil moisture, the silt content of soil, wind speed, and the amount of operating equipment. Larger dust particles would settle near the source, while fine particles would be dispersed over greater distances from the construction site. These emissions would be temporary and limited to the immediate area surrounding the construction site.

"To streamline the process of assessing significance of criteria pollutant emissions from commonly encountered projects, the District has developed the screening tool, Small Project Analysis Level (SPAL). Using project type and size, the District has pre-quantified emissions and determined a size below which it is reasonable to conclude that a project would not exceed applicable thresholds of significance for criteria pollutants.

The District pre-calculated the emissions on a large number and types of projects to identify the level at which they have no possibility of exceeding the emissions thresholds. The information is provided in terms of vehicle trips required to exceed the SPAL threshold for five general land use categories. Sizes of various specific development types meeting SPAL are also provided. For a multi-use project, if its combined trip generation rate exceeds the lowest applicable trip threshold from, an air quality analysis should be prepared."[46]

The SJVAPCD SPAL limits for residential uses are shown in **Table 3-4**. As demonstrated in **Table 3-4**, the proposed Project qualifies for SPAL and quantification of emissions is not required as the emission

[45] San Joaquin Valley Air Control District – Air Quality Threshold of Significance – Criteria Pollutants. http://www.valleyair.org/transportation/0714-GAMAQI-Criteria-Pollutant-Thresholds-of-Significance.pdf. Accessed September 2022.

[46] Air District, GAMAQI, Section 8.3.4, Page 85

have been pre-determined to be less than significant.[47] However, for disclosure purposes, the emissions resulting from the proposed Project have been quantified and provided in **Table 3-5**.

Table 3 – 4: Air District Small Project Analysis Level					
Residential Land Use Type	**Size**	**Unit**		**1-way ADT, except HHDT**	**1-way ADT, HHDT (50-mile trip length)**
Single Family	155	dwelling units	and less than	800	15
Apartment, Low Rise	224	dwelling units	and less than		
Apartment, Mid Rise	225	dwelling units	and less than		
Apartment, High Rise	340	dwelling units	and less than		
Mobile Home Park	292	dwelling units	and less than		
Source: SJVAPCD, http://www.valleyair.org/transportation/CEQA%20Rules/GAMAQI-SPAL.PDF					

The proposed Project construction schedule would begin in late 2022 and would last through 2028. Emissions were estimated using the California Emissions Estimator Model (CalEEMod), ver. 2020.4.0. Construction related emissions are shown in **Table 3-5**. Refer to Attachment "B" – CalEEMod Output files for the full emissions output estimates for construction and operational activities.

Table 3 – 5: Project Construction and Operational Emissions						
Construction Year	**VOC (ROG) (tons/year)**	**NO_x (tons/year)**	**CO (tons/year)**	**SO_2 (tons/year)**	**PM_{10} (tons/year)**	**$PM_{2.5}$ (tons/year)**
2023	0.3361	3.3363	2.7942	0.0006	1.0614	0.5414
2024	0.1983	1.7875	2.1640	0.0004	0.0977	0.0804
2025	0.1835	1.6531	2.1420	0.0004	0.0650	0.0696
2026	0.1832	1.6527	2.1397	0.0004	0.0650	0.0696
2027	0.1829	1.6523	2.1376	0.0004	0.0650	0.0696
2028	1.0606	0.6631	1.0112	0.0002	0.0281	0.0304
Maximum Annual Construction Emissions	**1.0606**	**3.3363**	**2.7942**	**0.0006**	**1.0614**	**0.5414**
Total Construction Emissions*	2.1446	10.7450	12.3887	0.0024	1.3822	0.8610
Annual Operational Emissions:	**2.8464**	**0.3740**	**4.2188**	**0.0007**	**0.6901**	**0.4299**
Threshold of Significance (Annual)	10	10	100	27	15	15
Exceed Threshold?	No	No	No	No	No	No
Source: CalEEMod Report included as Attachment "B" of this document * Represents worst-case development scenario (i.e., all construction occurs in a 12-month period).						

As indicated in **Table 3-5**, annual construction- and operational-related emissions would be below the SJVAPCD's annual significance thresholds. Additionally, the SJVAPCD has adopted Regulation VIII measures for dust control related to construction projects, which are applicable to the proposed Project and will be enforced by the County and the developer's contractor, which will further reduce construction PM_{10} emissions.

[47] San Joaquin Valley Air Pollution Control District. Small Project Analysis Levels (SPAL). November 2020. Accessed March 2023. at http://www.valleyair.org/transportation/CEQA%20Rules/GAMAQI-SPAL.PDF.

As shown in **Table 3-5**, construction- and operational-related emissions would not exceed the SJVAPCD's significance thresholds for ROG, NOx, and PM_{10}. As a result, the proposed Project would not conflict with emissions inventories contained in regional air quality attainment plans and would not result in a significant contribution to the region's air quality non-attainment status[48]. Likewise, the proposed Project would not result in a cumulatively considerable net increase of any criteria pollutant within the SJVAPCD jurisdiction. Finally, the proposed Project would also not expose sensitive receptors to substantial pollutant concentrations. It will not cumulatively increase any criteria pollutant and will not result in substantial pollutant concentrations.

As discussed above, the proposed Project-related criteria pollutant emissions would not result in cumulatively considerable emissions; therefore, impacts to air resources from implementation of the proposed Project would be less than significant.

c) Less Than Significant Impact: Proposed Project generated emissions have the potential to create a localized impact that could expose sensitive receptors to substantial pollutant concentrations. The SJVAPCD considers a sensitive receptor to be a location that houses or attracts children, the elderly, people with illnesses, or others who are especially sensitive to the effects of air pollutants. Examples of sensitive receptors include hospitals, residences, convalescent facilities, and schools. The closest existing sensitive receptors (to the site area) are residential land uses located approximately 100 ft north, east, and south of the proposed Project site (see **Figure 1**). Projects below the applicable SPAL value, as described in **Table 3-4,** have been determined to not exceed any ambient air quality standard and as such, would not be required to prepare an ambient air quality analysis.[49] The proposed Project will have a less than significant impacts on nearby sensitive receptors.

d) Less Than Significant Impact: Due to the subjective nature of odor impacts, the SJVAPCD recommends odor analyses strive to fully disclose all pertinent information.[50] The SJVAPCD recommends a qualitative assessment of a project's potential to adversely affect area receptors based on the distances of common odor-producing land uses identified in Table 6 of the GAMAQI.[51] The Air District has determined that if a project is a potential odor source, then additional evaluation would be required.[52]

It is anticipated that Project construction related activities would result in diesel exhaust emissions from use of construction equipment which may release odors into the atmosphere. However, construction related emissions would be short-term, temporary, and intermittent and are not anticipated to affect a substantial number of receptors at any given time. Residential land uses typically do not generate odors. Therefore, the Project will result in a Less Than Significant Impact related to this Checklist Item.

Cumulative Impact Analysis

Less Than Significant Impact: The geographic area of this cumulative analysis is Tulare County and the State of California. This cumulative analysis is based on the information provided in the Tulare County 2030

[48] San Joaquin Valley Air Pollution Control District. Guidance to Assessing and Mitigating Air Quality Impacts. February 19, 2015. Page 65. https://www.valleyair.org/transportation/GAMAQI-2015/FINAL-DRAFT-GAMAQI.PDF. Accessed September 2022.
[49] San Joaquin Valley Air Pollution Control District. Small Project Analysis Levels for Ambient Air Quality Analysis – Combustion Exhaust Emissions. http://www.valleyair.org/transportation/CEQA%20Rules/Small-Project-Analysis-Levels-for-Ambient-Air-Quality-Analysis-Combust.pdf. Accessed April 2023.
[50] Air District. GAMAQI, Section 7-16. Pages 66-67.
[51] Air District. GAMAQI. Section 8.6, Table 6. Page 103, or online at: https://www.valleyair.org/transportation/GAMAQI-2015/GAMAQI-Criteria-Pollutant-Thresholds-of-Odors.pdf. Accessed February 2023.
[52] The Air District provides guidance for detailed odor analysis online at https://www.valleyair.org/transportation/GAMAQI-Detailed-Analysis-for-Assessing-Odor-Impacts-to-Sensitive-Receptors.pdf. Accessed February 2023.

General Plan, General Plan Background Report, General Plan EIR, and the CalEEMod report prepared for the Project (Attachment "B").

The Project is consistent with the Tulare County General Plan 2030 Update. The proposed Project site is outside the Visalia City limits and the Urban Development Boundary, but within the Visalia Planning Area and has a designation of Rural Residential which allows residential growth at the site. As presented in **Table 3-3**, proposed Project construction- and operational-related emissions would not exceed the annual Air District thresholds of significance for ROG, NOx, SOx, CO, PM_{10}, and $PM_{2.5}$. The proposed Project will not result in exposure of substantial pollutant concentrations or odors to sensitive receptors as the construction-related activities would be intermittent, short-term, and temporary. Lastly, consultation with the Air District, and implementation of County policies and compliance with applicable Air District rules and would reduce potential impacts of the proposed Project. Therefore, less than significant project-specific and cumulative impacts related to this Checklist Item will occur.

IV. BIOLOGICAL RESOURCES

Would the project:		Significant Impact	Less Than Significant Impact With Mitigation	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, and regulations or by the California Department of Fish and Game or U.S. Fish and Wildlife Service?	☐	☐	☐	☒
c)	Have a substantial adverse effect on state or federally protected wetlands (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?	☐	☐	☐	☒
d)	Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?	☐	☒	☐	☐
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?	☐	☐	☒	☐

Environmental Setting

The proposed Project site is located in a portion of the central San Joaquin Valley that has, for decades, experienced intensive agricultural and urban disturbances. Current agricultural endeavors in the region include orange groves, olive orchards and row crops.

Like most of California, the Central San Joaquin Valley experiences a Mediterranean climate. Warm dry summers are followed by cool moist winters. Summer temperatures usually exceed 90 degrees Fahrenheit, and the relative humidity is generally very low. Winter temperatures rarely raise much above 70 degrees Fahrenheit, with daytime highs often below 60 degrees Fahrenheit. Annual precipitation within the proposed Project site is about 10 inches, almost 85% of which falls between the months of October and

March. Nearly all precipitation falls in the form of rain and stormwater readily infiltrates the soils of the surrounding the sites.

Native plant and animal species once abundant in the region have become locally extirpated or have experienced large reductions in their populations due to conversion of upland, riparian, and aquatic habitats to agricultural and urban uses. Remaining native habitats are particularly valuable to native wildlife species including special status species that still persist in the region.

The following analysis is taken from the Biological Resource Evaluation (BRE) that was performed on behalf of the proposed Project by Colibri Ecological Consulting, LLC. The report is available in its entirety in Attachment "C".

Regulatory Setting

Federal

Endangered Species Act

The USFWS and the National Oceanographic and Atmospheric Administration's (NOAA) National Marine Fisheries Service (NMFS) enforce the provisions stipulated in the Federal Endangered Species Act of 1973 (FESA, 16 United States Code [USC] § 1531 et seq.). Threatened and endangered species on the federal list (50 Code of Federal Regulations [CFR] 17.11 and 17.12) are protected from take unless a Section 10 permit is granted to an entity other than a federal agency or a Biological Opinion with incidental take provisions is rendered to a federal lead agency via a Section 7 consultation. Take is defined as harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect or attempt to engage in any such conduct.

Pursuant to the requirements of the FESA, an agency reviewing a proposed action within its jurisdiction must determine whether any federally listed species may be present in the proposed action area and determine whether the proposed action may affect such species. Under the FESA, habitat loss is considered an effect to a species. In addition, the agency is required to determine whether the proposed action is likely to jeopardize the continued existence of any species that is listed or proposed for listing under the FESA (16 USC § 1536[3], [4]). Therefore, proposed action-related effects to these species or their habitats would be considered significant and would require mitigation.

Migratory Bird Treaty Act

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

U.S. Army Corps of Engineers Jurisdiction

Areas meeting the regulatory definition of "waters of the United States" (jurisdictional waters) are subject to the jurisdiction of the United States Army Corps of Engineers (USACE) under provisions of Section 404 of the Clean Water Act (1972) and Section 10 of the Rivers and Harbors Act (1899). These waters may include all waters used, or potentially used, for interstate commerce, including all waters subject to the ebb and flow of the tide, all interstate waters, all other waters (intrastate lakes, rivers, streams, mudflats, sandflats, playa lakes, natural ponds, etc.), all impoundments of waters otherwise defined as waters of the United States, tributaries of waters otherwise defined as waters of the United States, the territorial seas, and wetlands adjacent to waters of the United States (33 CFR part 328.3). Ditches and drainage canals where water flows intermittently or ephemerally are not regulated as waters of the United States. Wetlands on non-agricultural lands are identified using the *Corps of Engineers Wetlands Delineation Manual* and related Regional Supplement.[53,54]

Construction activities, including direct removal, filling, hydrologic disruption, or other means in jurisdictional waters are regulated by the USACE. The placement of dredged or fill material into such waters must comply with permit requirements of the USACE. No USACE permit will be effective in the absence of state water quality certification pursuant to Section 401 of the Clean Water Act. The State Water Resources Control Board is the state agency (together with the Regional Water Quality Control Boards) charged with implementing water quality certification in California.

State

California Endangered Species Act

The California Endangered Species Act (CESA) of 1970 (Fish and Game Code § 2050 et seq. and California Code of Regulations (CCR) Title 14, Subsection 670.2, 670.51) prohibits the take of species listed under CESA (14 CCR Subsection 670.2, 670.5). Take is defined as hunt, pursue, catch, capture, or kill or attempt to hunt, pursue, catch, capture, or kill. Under CESA, state agencies are required to consult with the California Department of Fish and Wildlife when preparing CEQA documents. Consultation ensures that proposed projects or actions do not have a negative effect on state-listed species. During consultation, CDFW determines whether take would occur and identifies "reasonable and prudent alternatives" for the project and conservation of special-status species. CDFW can authorize take of state-listed species under Sections 2080.1 and 2081(b) of Fish and Game Code in those cases where it is demonstrated that the impacts are minimized and mitigated. Take authorized under section 2081(b) must be minimized and fully mitigated.

A CESA permit must be obtained if a project will result in take of listed species, either during construction or over the life of the project. Under CESA, CDFW is responsible for maintaining a list of threatened and endangered species designated under state law (Fish and Game Code § 2070). CDFW also maintains lists of species of special concern, which serve as "watch lists". Pursuant to the requirements of CESA, a state or local agency reviewing a proposed project within its jurisdiction must determine whether the proposed project will have a potentially significant impact upon such species. Project-related impacts to species on the CESA list would be considered significant and would require mitigation. Impacts to species of concern or fully protected species would be considered significant under certain circumstances.

[53] United States Army Corps of Engineers (USACE). 1987. Corps of Engineers Wetlands Delineation Manual. Wetland Research Program Technical Report Y-87-1.

[54] United Sates Army Corps of Engineers (USACE). 2008. Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Arid West Region (Version 2.0). ERDC/EL TR-08-28. https://www.nrcs.usda.gov/Internet/FSE_DOCUMENTS/stelprdb1046489.pdf. Accessed September 2022.

Native Plant Protection Act

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

Nesting Birds

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

California Department of Fish and Wildlife Jurisdiction

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

California Environmental Quality Act

The California Environmental Quality Act (CEQA) of 1970 (Subsections 21000–21178) requires that CDFW be consulted during the CEQA review process regarding impacts of proposed projects on special-status species. Special-status species are defined under CEQA Guidelines subsection 15380(b) and (d) as those listed under FESA and CESA and species that are not currently protected by statute or regulation but would be considered rare, threatened, or endangered under these criteria or by the scientific community. Therefore, species considered rare or endangered are addressed in this biological resource evaluation regardless of whether they are afforded protection through any other statute or regulation. The California Native Plant Society (CNPS) inventories the native flora of California and ranks species according to rarity.[55] Plants with Rare Plant Ranks 1A, 1B, 2A, or 2B are considered special-status species under CEQA.

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

[55] California Native Plant Society, Rare Plant Program (CNPS). 2019. Inventory of Rare and Endangered Plants (online edition, v8-03 0.39). California Native Plant Society, Sacramento, CA. http://www.rareplants.cnps.org/ Accessed September 2022.

Project Impact Analysis

a) Less Than Significant Impact: The proposed Project site consists of agricultural land cover including fallowed row crop fields and maintained almond orchard. The proposed Project site is 250–350 feet north and east of the St. Johns River. An unnamed irrigation canal borders the proposed Project site to the south and west. The irrigation canal is a distributary of the St. Johns River and contained water at the time of the BRE survey.

According to the BRE, the USFWS species list for the Project included eight species listed as threatened, endangered, or candidate under the FESA, while the CNDDB records show 10 special-status species known to occur within 5 miles of the Project site. None of these could occur on or near the Project site due to either (1) the lack of habitat, (2) the Project site being outside the current range of the species, or (3) the presence of development that would otherwise preclude occurrence (Table 1 of Attachment "C").

b) and c) No Impact: There is no riparian habitat or other sensitive natural community on site or adjacent to the proposed Project. St Johns River and an unnamed canal flow west and south of the site, and a buffer to the proposed Project development will be maintained. According to the National Wetlands Inventory[56], no wetlands occur in or near the proposed Project site. There would be no impacts**.**

d) Less Than Significant Impact with Mitigation: Bird species that may nest on or near the property include, but are not limited to, mourning dove (*Zenaida macroura*) and California scrubjay (*Aphelocoma californica*). The proposed Project could impede the use of nursery sites for native birds protected under the MBTA and CFGC. Migratory birds are expected to nest on and near the Project site. Construction disturbance during the breeding season could result in the incidental loss of fertile eggs or nestlings or otherwise lead to nest abandonment. Disturbance that causes nest abandonment or loss of reproductive effort can be considered take under the MBTA and CFGC. Loss of fertile eggs or nesting birds, or any activities resulting in nest abandonment, could constitute a significant effect if the species is particularly rare in the region. Construction-related activities such as excavating, trenching, and grading that disturb a nesting bird on the Project site or immediately adjacent to the construction zone could result in a significant impact. With the implementation of **Mitigation Measure 4-1**, the potential impacts will be less than significant.

Implementation of **Mitigation Measure 4-1** (which can be found in its entirety in Attachment "F" of this IS/MND) shall be implemented to reduce potential Project-specific impacts related to this Checklist Item to less than significant.

Summary of Mitigation Measures:

4-1. Protect Nesting Birds

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

2. If it is not possible to schedule construction between September and January, preconstruction surveys for nesting birds shall be conducted by a qualified biologist to ensure that no active nests will be disturbed during the implementation of the Project. A

[56] U.S. Fish & Wildlife Service. National Wetlands Inventory. https://fwsprimary.wim.usgs.gov/wetlands/apps/wetlands-mapper/. Accessed August 2022.

pre-construction survey shall be conducted no more than 14 days prior to the initiation of construction activities. During this survey, the qualified biologist shall inspect all potential nest substrates in and immediately adjacent to the impact areas. If an active nest is found close enough to the construction area to be disturbed by these activities, the qualified biologist shall determine the extent of a construction-free buffer to be established around the nest. If work cannot proceed without disturbing the nesting birds, work may need to be halted or redirected to other areas until nesting and fledging are completed or the nest has otherwise failed for non-construction related reasons.

e) Less Than Significant Impact: The Tulare County General Plan includes various policies for the protection of biological resources. The proposed Project would not conflict with any of the adopted policies and any impacts would be considered less than significant.

f) Less Than Significant Impact: The proposed Project would not conflict with any adopted Habitat Conservation or any Natural Community Conservation Plans. As such, any impacts would be less than significant.

Cumulative Impact Analysis

Less Than Significant With Mitigation: The geographic area of this cumulative analysis is the San Joaquin Valley. While the study area is limited to Tulare County, sensitive species with similar habitat requirements may exist in other portions of the San Joaquin Valley, and therefore cumulative impacts would extend beyond Tulare County political boundaries. The proposed Project would only contribute to cumulative impacts related to this Checklist Item if Project-specific impacts were to occur.

Implementation of **Mitigation Measure 4-1** (which can be found in its entirety in Attachment "F" of this IS/MND), as applicable, would result in a less than significant impacts to this resource area. As there are no significant Project-specific impacts to this resource area, potential cumulative impacts to biological resources are less than significant.

Summary of Mitigation Measures:

See **Mitigation Measure 4-1** in Attachment "F" (in its entirety).

V. CULTURAL RESOURCES

Would the project:		Significant Impact	Less Than Significant Impact With Mitigation	Less Than Significant Impact	No Impact
a)	Cause a substantial adverse change in the significance of a historical resource pursuant to Section 15064.5?	☐	☒	☐	☐
b)	Cause a substantial adverse change in the significance of an archaeological resource pursuant to Section 15064.5?	☐	☒	☐	☐
c)	Disturb any human remains, including those interred outside of formal cemeteries?	☐	☒	☐	☐

Environmental Setting

Archaeological resources are places where human activity has measurably altered the earth or left deposits of physical remains. Archaeological resources may be either prehistoric (before the introduction of writing in a particular area) or historic (after the introduction of writing). The majority of such places in this region are associated with either Native American or Euroamerican occupation of the area. The most frequently encountered prehistoric and early historic Native American archaeological sites are village settlements with residential areas and sometimes cemeteries; temporary camps where food and raw materials were collected; smaller, briefly occupied sites where tools were manufactured or repaired; and special-use areas like caves, rock shelters, and sites of rock art. Historic archaeological sites may include foundations or features such as privies, corrals, and trash dumps.

Tulare County was inhabited by indigenous California Native American groups consisting of the Southern Valley Yokuts, Foothill Yokuts, Monache, and Tubatulabal. Most information regarding these groups is based on Spanish government and Franciscan mission records of the 18th and 19th centuries, and in studies conducted during the 1900s to 1930s by American and British ethnographers. The ethnographic setting presented below is derived from the early works, compiled by W. J. Wallace, Robert F.G. Spier, and Charles R. Smith, with statistical information provided by the California Native American Heritage Commission.

Of the four main groups inhabiting the Tulare County area, the Southern Valley Yokuts occupied the largest territory, which is defined roughly by the crest of the Diablo Range on the west and the foothills of the Sierra Nevada on the east, and from the Kings River on the north, to the Tehachapi Mountains on the south. The Foothill Yokuts inhabited the western slopes of the Sierra Nevada, between the Fresno River and Kern River, with settlements generally occurring between the 2,000 to 4,000-foot elevations. The Tubatulabal inhabited the Sierra Nevada Mountains, at the higher elevations, near Mt. Whitney in the east, extending westward along the drainages of the Kern River, and the Kern River-South Fork. The Monache were comprised of six small groups that lived in the Sierras east of the Foothill Yokuts, in locations ranging between 3,000- to 7,000-foot elevations.

Regulatory Setting

Federal

Cultural resources are protected by several federal regulations, none of which are relevant to this project because it will not be located on lands administered by a federal agency and the project applicant is not requesting federal funding and does not require any permits from any federal agencies.

State

The proposed Project is subject to CEQA which requires public or private projects financed or approved by public agencies to assess their effects on historical resources. CEQA uses the term "historical resources" to include buildings, sites, structures, objects or districts, each of which may have historical, prehistoric, architectural, archaeological, cultural, or scientific importance. CEQA states that if implementation of a project results in significant effects on historical resources, then alternative plans or mitigation measures must be considered; however, only significant historical resources need to be addressed (CCR 15064.5, 15126.4). For the purposes of this CEQA document, a significant impact would occur if project implementation:

- Causes a substantial change in the significance of a historical resource
- Causes a substantial adverse change in the significance of an archaeological resource
- Disturbs any human remains, including those interred outside of formal cemeteries

Therefore, before impacts and mitigation measures can be identified, the significance of historical resources must be determined. CEQA guidelines define three ways that a property may qualify as a historical resource for the purposes of CEQA review:

- If the resource is listed in or determined eligible for listing in the California Register of Historical Resources (CRHR)
- If the resource is included in a local register of historical resources, as defined in Section 5020.1(k) of the PRC or identified as significant in an historical resource survey meeting the requirements of Section 5024.1(g) of the PRC unless the preponderance of evidence demonstrates that it is not historically or culturally significant
- The lead agency determines the resource to be significant as supported by substantial evidence in light of the whole record (CCR, Title 14, Division 6, Chapter 3, Section 15064.5(a))

Each of these ways of qualifying as a historical resource for the purpose of CEQA is related to the eligibility criteria for inclusion in the CRHR (PRC 5020.1(k), 5024.1, 5024.1(g)).

A historical resource may be eligible for inclusion in the CRHR if it:

- Is associated with events that have made a significant contribution to the broad patterns of California's history and cultural heritage
- Is associated with the lives of persons important in our past
- Embodies the distinctive characteristics of a type, period, region, or method of construction, or represents the work of an important creative individual, or possesses high artistic values
- Has yielded, or may be likely to yield, information important in prehistory or history Properties that area listed in or eligible for listing in the National Register of Historic Places are considered eligible

for listing in the CRHR, and thus are significant historical resources for the purpose of CEQA (PRC Section 5024.1(d)(1)).

Public Resources Code §5097.5

California Public Resources Code §5097.5 prohibits excavation or removal of any "vertebrate paleontological site...or any other archaeological, paleontological or historical feature, situated on public lands, except with express permission of the public agency having jurisdiction over such lands." Public lands are defined to include lands owned by or under the jurisdiction of the state or any city, county, district, authority or public corporation, or any agency thereof. Section 5097.5 states that any unauthorized disturbance or removal of archaeological, historical, or paleontological materials or sites located on public lands is a misdemeanor.

Human Remains

Section 7050.5 of the California Health and Safety Code states that in the event of discovery or recognition of any human remains in any location other than a dedicated cemetery, there shall be no further excavation or disturbance of the site or any nearby area reasonably suspected to overlie adjacent remains until the coroner of the county in which the remains are discovered has determined whether or not the remains are subject to the coroner's authority. If the human remains are of Native American origin, the coroner must notify the Native American Heritage Commission within 24 hours of this identification. The Native American Heritage Commission will identify a Native American Most Likely Descendant (MLD) to inspect the site and provide recommendations for the proper and dignified treatment of the remains and associated grave artifacts.

Local

Tulare County General Plan Background Report

According to the University of California Museum of Paleontology (UCMP), 12 paleontological resources have been recorded in Tulare County, generally within the valley portion of the County. These resources primarily consist of invertebrates, vertebrate, and plant fossils (UCMP, 2009).[57] Any evidence of cultural resources that might be unearthed in the process of construction becomes immediate grounds for halting all construction until the extent and significance of any find is properly cataloged and evaluated by archaeological and cultural resource authorities recognized as having competence by the State of California.

Tulare County General Plan 2030 Update

The following Tulare County General Plan 2030 Update policies for this resource apply to this Project:

ERM-6.1 Evaluation of Cultural and Archaeological Resources which states that the County shall participate in and support efforts to identify its significant cultural and archaeological resources using appropriate State and Federal standards;

ERM-6.2 Protection of Resources with Potential State or Federal Designations wherein the County shall protect cultural and archaeological sites with demonstrated potential for placement on the National Register of Historic Places and/or inclusion in the California State Office of Historic Preservation's California Points

[57] Ch 9. Biological, Archaeological, and Historical Resources. Tulare County General Plan Background Report. Pg 9-53

of Interest and California Inventory of Historic Resources. Such sites may be of Statewide or local significance and have anthropological, cultural, military, political, architectural, economic, scientific, religious, or other values as determined by a qualified archaeological professional;

ERM-6.3 Alteration of Sites with Identified Cultural Resources which states that when planning any development or alteration of a site with identified cultural or archaeological resources, consideration should be given to ways of protecting the resources. Development can be permitted in these areas only after a site specific investigation has been conducted pursuant to CEQA to define the extent and value of resource, and mitigation measures proposed for any impacts the development may have on the resource;

ERM-6.4 Mitigation – which states that if preservation of cultural resources is not feasible, every effort shall be made to mitigate impacts, including relocation of structures, adaptive reuse, preservation of facades, and thorough documentation and archival of records;

ERM-6.7 Cooperation of Property Owners where the County should encourage the cooperation of property owners to treat cultural resources as assets rather than liabilities, and encourage public support for the preservation of these resources;

ERM-6.8 Solicit Input from Local Native Americans (which is consistent with AB 52 in regards to Tribal Consultation) wherein the County shall continue to solicit input from the local Native American communities in cases where development may result in disturbance to sites containing evidence of Native American activity and/or to sites of cultural importance;

ERM-6.9 Confidentiality of Archaeological Sites which is also consistent with AB 52) where the County shall, within its power, maintain confidentiality regarding the locations of archaeological sites in order to preserve and protect these resources from vandalism and the unauthorized removal of artifacts; and

ERM-6.10 Grading Cultural Resources Sites wherein the County shall ensure all grading activities conform to the County's Grading Ordinance and California Code of Regulations, Title 20, § 2501 et. Seq.

Project Impact Analysis

a) Less Than Significant with Mitigation: The records search conducted by the SSJVIC (Attachment "D") indicated that there are no recorded cultural resources within the Project area. There is one known resource within the one-half mile radius, P-54-004632, known as the Santa Fe Railroad. There has been one cultural resource study within the proposed Project area, TU-00624, which was completed approximately 50 years prior and is considered out of date. There have been two additional cultural resource studies conducted within the one-half mile radius, TU-00535, 01499. There are no recorded cultural resources within the proposed Project area or within ½ mile that are listed in the National Register of Historic Places, the California Register of Historical Resources, the California Points of Historical Interest, California Inventory of Historic Resources, or the California State Historic Landmarks.

Subsurface disturbance from construction-related activities associated with the proposed Project could potentially damage or destroy previously undiscovered historic resources. This is considered a potentially significant impact; however, implementation of **Mitigation Measures 5-1** through **5-4**, as applicable, will ensure that the proposed Project would result in a less than significant impact with mitigation.

Summary of Mitigation Measures:

5-1. Before initiation of construction or ground-disturbing activities associated with the Project, the County shall require all construction personnel to be alerted to the possibility of buried cultural resources, including historic, archeological and paleontological resources;

5-2 The general contractor and its supervisory staff shall be responsible for monitoring the construction Project for disturbance of cultural resources; and

5-3 If a potentially significant historical, archaeological, or paleontological resource, such as structural features, unusual amounts of bone or shell, artifacts, human remains, or architectural remains or trash deposits are encountered during subsurface construction activities (i.e., trenching, grading), all construction activities within a 100-foot radius of the identified potential resource shall cease until a qualified archaeologist evaluates the item for its significance and records the item on the appropriate State Department of Parks and Recreation (DPR) forms. The archaeologist shall determine whether the item requires further study. If, after the qualified archaeologist conducts appropriate technical analyses, the item is determined to be significant under California Environmental Quality Act, the archaeologist shall recommend feasible mitigation measures, which may include avoidance, preservation in place or other appropriate measure, as outlined in Public Resources Code section 21083.2. The Tulare County shall implement said measures.

b) Less Than Significant Impact With Mitigation: Although unlikely, it is possible that subsurface disturbance from construction-related activities may result in the discovery of archaeological resources within the proposed Project site. Implementation of **Mitigation Measure 5-3** would require implementation of discovery protocols in the event previously undiscovered archeological resources are encountered. As such, impacts to undiscovered archeological resources would be less than significant with the implementation of **Mitigation Measure 5-3** (which can be found in its entirety in Attachment "F" of this IS/MND). Therefore, potential Project-specific impacts related to this Checklist Item would be less than significant.

c) Less Than Significant Impact With Mitigation: There are no unique geological features or known fossil-bearing sediments in the vicinity of the proposed Project site. However unlikely, it is possible that previously unknown, subsurface paleontological resources or unique geological sites could be uncovered during subsurface construction-related activities. Therefore, this would be a potentially significant impact. Implementation of **Mitigation Measure 5-4** would reduce impacts to this resource to less than significant.

Summary of Mitigation Measures:

5-4. The Project applicant will incorporate into the construction contract(s) a provision that in the event a fossil or fossil formations are discovered during any subsurface construction activities for the proposed Project (i.e., trenching, grading), all excavations within 100 feet of the find shall be temporarily halted until the find is examined by a qualified paleontologist, in accordance with Society of Vertebrate Paleontology standards. The paleontologist shall notify the appropriate representative at the Tulare County, who shall coordinate with the paleontologist as to any necessary investigation of the find. If the find is determined to be significant under CEQA, the County shall implement those measures, which may include

avoidance, preservation in place, or other appropriate measures, as outlined in Public Resources Code section 21083.2.

Cumulative Impact Analysis

Less Than Significant Impact With Mitigation: The geographic area of this cumulative analysis is Tulare County. This cumulative analysis is based on the information provided in the Tulare County 2030 General Plan, General Plan background Report, and the Tulare County 2030 General Plan EIR.

It is not anticipated that Native American remains or other cultural will be found at the proposed Project site. However, consistent with CEQA requirements, **Mitigation Measures 5-1** through **5-4** are included in the unlikely event that if Native American remains are unearthed during any ground disturbance activities, or if any cultural resources are discovered, such finds will be mitigated to less than significant Project-specific and Cumulative Impacts.

Summary of Mitigation Measures:

See **Mitigation Measures 5-1** through **5-4** in Attachment "F" (in their entirety).

VI. ENERGY

Would the project:		Significant Impact	Less Than Significant Impact With Mitigation	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?	☐	☐	☒	☐

Environmental Setting

The proposed Project would encompass all of Tulare County, which has two electricity providers (that is, utility companies). Pacific Gas & Electric (PG&E) Company serving a relatively small area in northern and southwestern Tulare County (see **Table 6-1 and Figure 5**); while Southern California Edison (SCE) serves the balance of areas not served by PG&E (see **Figure 6**). Southern California Gas ("The Gas Company") is the only natural gas service provider in Tulare County and is generally provided with or near urbanized areas (see **Figure 7**). Rural residents are not required to connect to a natural gas provider and it is typical for rural residents to use compressed natural gas (CNG) or propane as their gas source.

Table 6-1

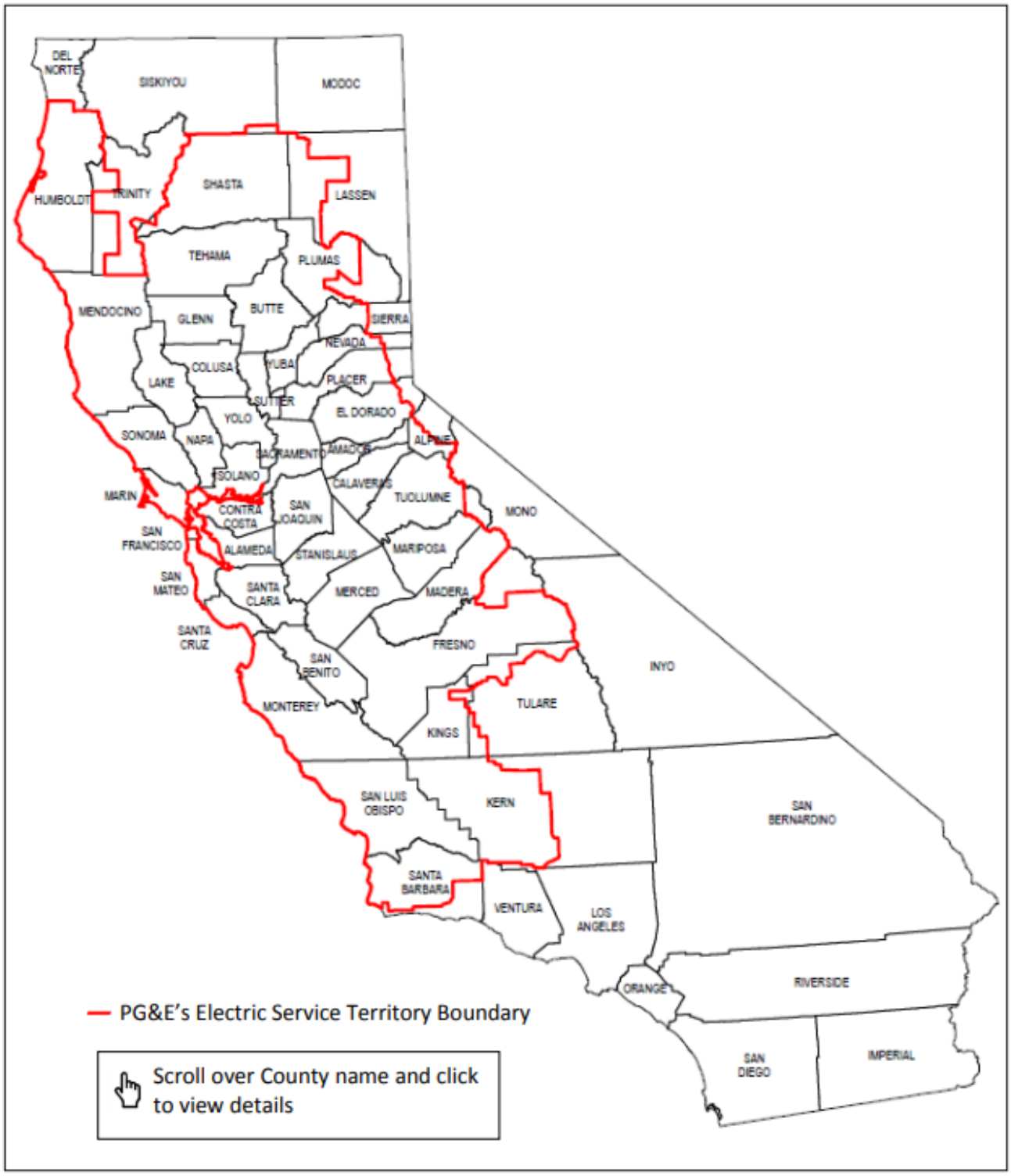
PG&E's Electric Service Territory[58]

TULARE	ALPAUGH	93201
	BADGER	93603
	CUTLER	93615
	DINUBA	93618
	EARLIMART	93219
	OROSI	93647
	PIXLEY	93256
	SPRINGVILLE	93265
	SULTANA	93666
	TIPTON	93272
	TRAVER	93673
	TULARE	93274
	VISALIA	93277, 93279, 93291, 93292
	WAUKENA	93282
	WOODLAKE	93286
	YETTEM	93670

[58] Pacific Gas & Electric Company. PG& E's Electric Territory. Accessed November 2022 at: Microsoft Word - Electric Maps, Service Area Map_ Pg 1 (Eff 2014-12-17) 34575-E.doc (pge.com) or https://www.pge.com/tariffs/assets/pdf/tariffbook/ELEC_MAPS_Service%20Area%20Map.pdf.

Figure 5

PG&E's Electric Service Territory[59]



[59] Ibid. PG& E's Electric Territory Map. Accessed November 2022 at: Microsoft Word - Electric Maps, Service Area Map_ Pg 1 (Eff 2014-12-17) 34575-E.doc (pge.com) or https://www.pge.com/tariffs/assets/pdf/tariffbook/ELEC_MAPS_Service%20Area%20Map.pdf

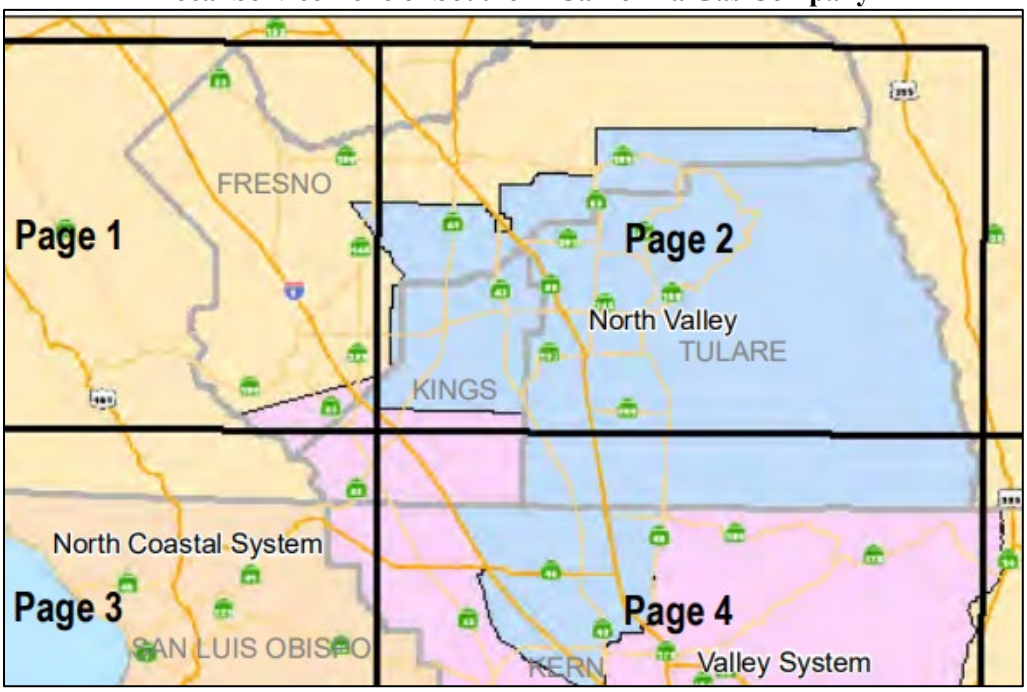
Figure 6

SCE Service Area[60]

[60] SCE. Our Service Territory. Accessed November 2022 at: SCE Territory Map | Leadership | Who We Are | About Us | Home - SCE or https://www.sce.com/about-us/who-we-are/leadership/our-service-territory

Figure 7

Local Service Zone of Southern California Gas Company



As shown in **Figure 8**, SCE's gas transmission pipeline network generally serves urbanized areas near incorporated cities, both east and west of State Route 99, within the San Joaquin Valley floor. Foothill and mountainous areas do not have gas service available. The non-urbanized areas typically provide their own gas in the form of compressed natural gas or propane.

Figure 8

SCE Gas Transmission Pipeline Network

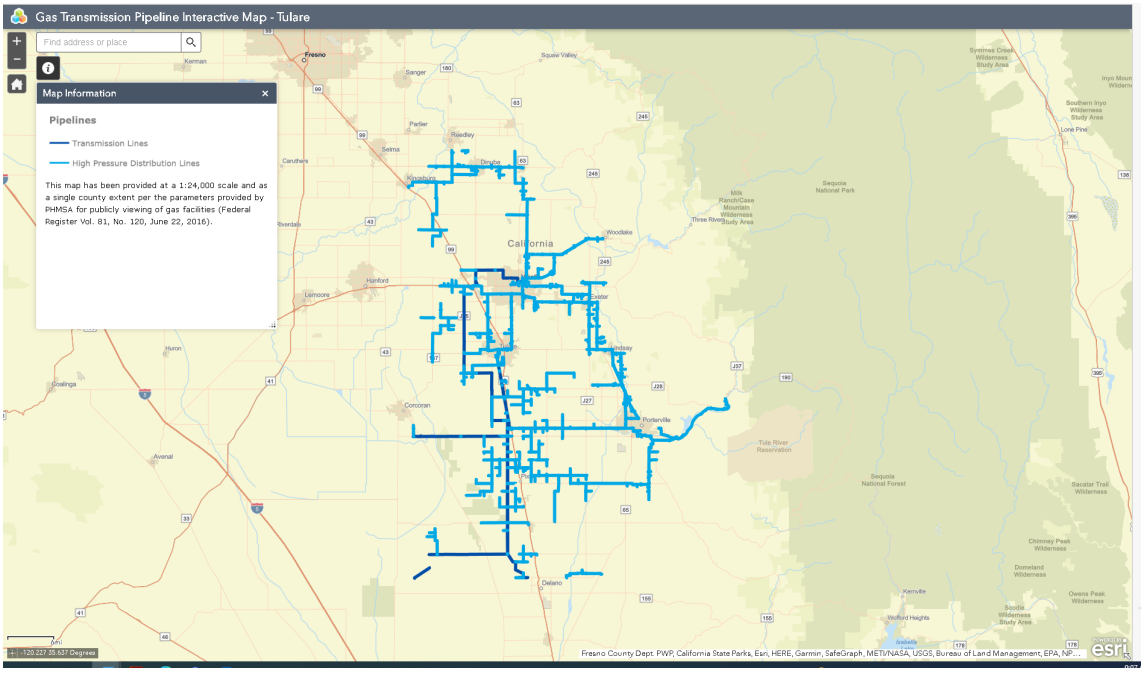


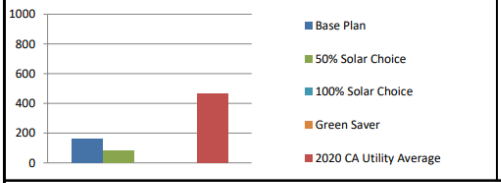
Table 6-2 and **Table 6-3**, show PG&E's and SCE's Year 2020 "Power Content Label"; respectively, which includes wind, geothermal, solar, eligible hydroelectric, and biomass and biowaste; large hydroelectric; natural gas; percent nuclear; unspecified sources of power; and other.

Table 6-2[61]: PGE 2020 Power Content Label

2020 POWER CONTENT LABEL
Pacific Gas and Electric Company
www.pge.com/billinserts

Greenhouse Gas Emissions Intensity (lbs CO_2e/MWh)

Base Plan	50% Solar Choice	100% Solar Choice	Green Saver	2020 CA Utility Average
160	80	0	0	466



Energy Resources	Base Plan	50% Solar Choice	100% Solar Choice	Green Saver	2020 CA Power Mix
Eligible Renewable[1]	**30.6%**	**65.3%**	**100.0%**	**100.0%**	**33.1%**
Biomass & Biowaste	2.6%	1.3%	0.0%	0.0%	2.5%
Geothermal	2.6%	1.3%	0.0%	0.0%	4.9%
Eligible Hydroelectric	1.2%	0.6%	0.0%	0.0%	1.4%
Solar	15.9%	57.9%	100.0%	100.0%	13.2%
Wind	8.3%	4.2%	0.0%	0.0%	11.1%
Coal	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**2.7%**
Large Hydroelectric	**10.1%**	**5.1%**	**0.0%**	**0.0%**	**12.2%**
Natural Gas	**16.4%**	**8.2%**	**0.0%**	**0.0%**	**37.1%**
Nuclear	**42.8%**	**21.4%**	**0.0%**	**0.0%**	**9.3%**
Other	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**0.2%**
Unspecified Power[2]	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**5.4%**
TOTAL	**100.0%**	**100.0%**	**100.0%**	**100.0%**	**100.0%**
Percentage of Retail Sales Covered by Retired Unbundled RECs[3]:	**2%**	**0%**	**0%**	**0%**	

[1]The eligible renewable percentage above does not reflect RPS compliance, which is determined using a different methodology.
[2]Unspecified power is electricity that has been purchased through open market transactions and is not traceable to a specific generation source.
[3]Renewable energy credits (RECs) are tracking instruments issued for renewable generation. Unbundled renewable energy credits (RECs) represent renewable generation that was not delivered to serve retail sales. Unbundled RECs are not reflected in the power mix or GHG emissions intensities above.

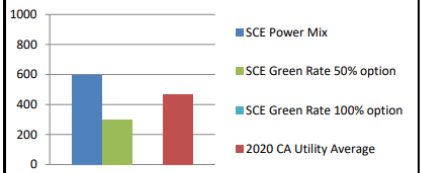
For specific information about this electricity portfolio, contact:	**Pacific Gas and Electric Company 1-800-743-5000**
For general information about the Power Content Label, visit:	http://www.energy.ca.gov/pcl/
For additional questions, please contact the California Energy Commission at:	Toll-free in California: 844-454-2906 Outside California: 916-653-0237

Table 6-3[62]: SCE 2020 Power Content Label

2020 POWER CONTENT LABEL
Southern California Edison
www.sce.com

Greenhouse Gas Emissions Intensity (lbs CO_2e/MWh)

SCE Power Mix	SCE Green Rate 50% option	SCE Green Rate 100% option	2020 CA Utility Average
598	299	0	466



Energy Resources	SCE Power Mix	SCE Green Rate 50% option	SCE Green Rate 100% option	2020 CA Power Mix
Eligible Renewable[1]	**30.9%**	**65.4%**	**100.0%**	**33.1%**
Biomass & Biowaste	0.1%	0.1%	0.0%	2.5%
Geothermal	5.5%	2.8%	0.0%	4.9%
Eligible Hydroelectric	0.8%	0.4%	0.0%	1.4%
Solar	15.1%	57.6%	100.0%	13.2%
Wind	9.4%	4.7%	0.0%	11.1%
Coal	**0.0%**	**0.0%**	**0.0%**	**2.7%**
Large Hydroelectric	**3.3%**	**1.6%**	**0.0%**	**12.2%**
Natural Gas	**15.2%**	**7.6%**	**0.0%**	**37.1%**
Nuclear	**8.4%**	**4.2%**	**0.0%**	**9.3%**
Other	**0.3%**	**0.2%**	**0.0%**	**0.2%**
Unspecified Power[2]	**42.0%**	**21.0%**	**0.0%**	**5.4%**
TOTAL	**100.0%**	**100.0%**	**100.0%**	**100.0%**
Percentage of Retail Sales Covered by Retired Unbundled RECs[3]:	**3%**	**2%**	**0%**	

[1]The eligible renewable percentage above does not reflect RPS compliance, which is determined using a different methodology.
[2]Unspecified power is electricity that has been purchased through open market transactions and is not traceable to a specific generation source.
[3]Renewable energy credits (RECs) are tracking instruments issued for renewable generation. Unbundled renewable energy credits (RECs) represent renewable generation that was not delivered to serve retail sales. Unbundled RECs are not reflected in the power mix or GHG emissions intensities above.

For specific information about this electricity portfolio, contact:	Southern California Edison 1-800-655-4555
For general information about the Power Content Label, visit:	http://www.energy.ca.gov/pcl/
For additional questions, please contact the California Energy Commission at:	Toll-free in California: 844-454-2906 Outside California: 916-653-0237

"The large IOUs serving electric load in California are Pacific Gas and Electric Company (PG&E), Southern California Edison Company (SCE), and San Diego Gas & Electric Company (SDG&E). PG&E's service territory spans from Santa Barbara to Shasta Counties [including Tulare County], SCE's territory spans from Riverside to Mono Counties [including Tulare County], and SDG&E serves San Diego County and

[61] California Energy Commission. 2020 Power Content Label. Accessed November 2022 at: 2020 Power Content Label submitted by PG&E (ca.gov) or https://www.energy.ca.gov/filebrowser/download/3882

[62] California Energy Commission. 2020 Power Content Label. Accessed November 2022 at: 2020 Power Content Label submitted by Southern California Edison or https://www.energy.ca.gov/filebrowser/download/3902.

southern Orange County. The three large IOUs [investor-owned operators] are on track to meet their 60 percent 2030 RPS procurement mandate. The IOUs have procured to either meet or surpass the 2021 annual RPS percentage target of 35.75 percent, as illustrated in Table 1 [of the RPS Annual Report and shown below in **Table 6-4**]."[63]

Table 6-4: 2021 Large Investor-Owned Utilities' RPS Procurement Percentages	
Pacific Gas and Electric	54%
Southern California Edison	36%
San Diego Gas and Electric	55%
Data source: IOUs' 2022 Draft RPS Procurement Plan (July 2022)	

"The IOUs forecast that they will exceed their RPS requirements by using online generation from existing contracts with a physical deficit beginning in 2028. However, these forecasts may change after the VAMO [Voluntary Allocation and Market Offer] process is completed, as discussed later in this report. As Figure 2 [in the RPS Annual Report] shows, the IOUs will have a forecasted surplus of renewable generation through 2027 (otherwise known as excess procurement), which may be used to fulfill RPS obligations in subsequent compliance periods or be sold to other retail sellers. Given that the IOUs have significant excess eligible RPS procurement to apply in later years, they did not conduct annual RPS procurement solicitations in 2016, 2017, 2018, 2019, 2020, and 2021. While PG&E and SDG&E will not conduct annual solicitations for renewables in 2022, SCE was granted approval to hold an RPS solicitation in 2022. The three IOUs have requested in their 2022 RPS Plans authorizations to hold solicitations for additional renewables in 2023."[64]

Regulatory Setting

Federal

Energy Policy Act of 2005

The Energy Policy Act of 2005 seeks to reduce reliance on non-renewable energy resources and provide incentives to reduce current demand on these resources. For example, under the Act, consumers and businesses can obtain federal tax credits for purchasing fuel-efficient appliances and products, including buying hybrid vehicles, building energy-efficient buildings, and improving the energy efficiency of commercial buildings. Additionally, tax credits are available for the installation of qualified fuel cells, stationary microturbine power plants, and solar power equipment.

State

California Energy Code (Title 24, Part 6, Building Energy Efficiency Standards)

California Code of Regulations Title 24, Part 6 comprises the California Energy Code, which was adopted to ensure that building construction, system design and installation achieve energy efficiency. The California Energy Code was first established in 1978 by the CEC in response to a legislative mandate to reduce California's energy consumption, and apply to energy consumed for heating, cooling, ventilation,

[63] California Public Utilities Commission. 2022 California Renewable Portfolio Standard Annual Report. Page 11. Accessed November 2022 at: 2020 California Renewables Portfolio Standard Annual Report or https://www.cpuc.ca.gov/-/media/cpuc-website/industries-and-topics/documents/energy/rps/2022-rps-annual-report-to-the-legislature.pdf.

[64] Ibid. 12.

water heating, and lighting in new residential and non-residential buildings. The standards are updated periodically to increase the baseline energy efficiency requirements. The 2013 Building Energy Efficiency Standards focus on several key areas to improve the energy efficiency of newly constructed buildings and additions and alterations to existing buildings and include requirements to enable both demand reductions during critical peak periods and future solar electric and thermal system installations. Although it was not originally intended to reduce greenhouse gas (GHG) emissions, electricity production by fossil fuels results in GHG emissions and energy efficient buildings require less electricity. Therefore, increased energy efficiency results in decreased GHG emissions.

California Green Building Standards Code (Title 24, Part II, CALGreen)

The California Building Standards Commission adopted the California Green Buildings Standards Code (CALGreen in Part 11 of the Title 24 Building Standards Code) for all new construction statewide on July 17, 2008. Originally a volunteer measure, the code became mandatory in 2010 and the most recent update (2019) went on January 1, 2020. CALGreen sets targets for energy efficiency, water consumption, dual plumbing systems for potable and recyclable water, diversion of construction waste from landfills, and use of environmentally sensitive materials in construction and design, including eco-friendly flooring, carpeting, paint, coatings, thermal insulation, and acoustical wall and ceiling panels. The 2019 CALGreen Code includes mandatory measures for non-residential development related to site development; water use; weather resistance and moisture management; construction waste reduction, disposal, and recycling; building maintenance and operation; pollutant control; indoor air quality; environmental comfort; and outdoor air quality. Mandatory measures for residential development pertain to green building; planning and design; energy efficiency; water efficiency and conservation; material conservation and resource efficiency; environmental quality; and installer and special inspector qualifications.

Clean Energy and Pollution Reduction Act (SB 350)

The Clean Energy and Pollution Reduction Act (SB 350) was passed by California Governor Brown on October 7, 2015, and establishes new clean energy, clean air, and greenhouse gas reduction goals for the year 2030 and beyond. SB 350 establishes a greenhouse gas reduction target of 40 percent below 1990 levels for the State of California, further enhancing the ability for the state to meet the goal of reducing greenhouse gas emissions by 80 percent below 1990 levels by the year 2050.

Renewable Portfolio Standard (SB 1078 and SB 107)

Established in 2002 under SB 1078, the state's Renewables Portfolio Standard (RPS) was amended under SB 107 to require accelerated energy reduction goals by requiring that by the year 2010, 20 percent of electricity sales in the state be served by renewable energy resources. In years following its adoption, Executive Order S-14-08 was signed, requiring electricity retail sellers to provide 33 percent of their service loads with renewable energy by the year 2020. In 2011, SB X1-2 was signed, aligning the RPS target with the 33 percent requirement by the year 2020. This new RPS applied to all state electricity retailers, including publicly owned utilities, investor-owned utilities, electrical service providers, and community choice aggregators. All entities included under the RPS were required to adopt the RPS 20 percent by year 2020 reduction goal by the end of 2013, adopt a reduction goal of 25 percent by the end of 2016, and meet the 33 percent reduction goal by the end of 2020. In addition, the Air Resources Board, under Executive Order S-21-09, was required to adopt regulations consistent with these 33 percent renewable energy targets.

Local

Tulare County General Plan 2030 Update

The following Tulare County General Plan 2030 Update policies for this resource apply to this Project:

ERM-4.1 Energy Conservation and Efficiency Measures wherein the County encourages the use of solar energy, solar hot water panels, and other energy conservation and efficiency features;

ERM-4.3 Local and State Programs wherein the County shall participate, to the extent feasible, in local and State programs that strive to reduce the consumption of natural or man-made energy sources; and

ERM-4.3 Local and State Programs wherein the County shall participate, to the extent feasible, in local and State programs that strive to reduce the consumption of natural or man-made energy sources.

Project Impact Analysis

a) and b) Less Than Significant Impact: The proposed Project consists of the development of 24 1-acre parcels and 11 2.5-acre parcels for a total of 35 single-family residential units. The proposed Project would introduce energy usage on a site that is currently demanding minimal energy. By comparison, at buildout, the proposed Project would consume amounts of energy in both the short-term during Project construction and in the long-term during Project operation.

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

Operational-related proposed Project energy consumption would occur for multiple purposes, including but not limited to, building heating and cooling, refrigeration, lighting and electronics. Operational energy would also be consumed during each vehicle trip associated with the proposed use. CalEEMod version 2020.4.0 was utilized to generate the estimated energy demand of the proposed Project, and the results are provided in **Table 6-5** and in Attachment "B".

Table 6-5: Annual Project Energy Consumption

Land Use	Electricity Use in kWh/year	Natural Gas Use in kBTU/year
Single Family Housing	277,863.5	831,705

The proposed Project would be required to comply with Title 24 Building Energy Efficiency Standards, which provide minimum efficiency standards related to various building features, including appliances, water and

space heating and cooling equipment, building insulation and roofing, and lighting. Implementation of Title 24 standards significantly increases energy savings, and it is generally assumed that compliance with Title 24 ensures projects will not result in the inefficient, wasteful, or unnecessary consumption of energy.

As discussed in Impact XVII – Transportation/Traffic, the proposed Project at full buildout would generate approximately 322 daily vehicle trips. The length of these trips and the individual vehicle fuel efficiencies are not known; therefore, the resulting energy consumption cannot be accurately calculated. Adopted federal vehicle fuel standards have continually improved since their original adoption in 1975 and assists in avoiding the inefficient, wasteful, and unnecessary use of energy by vehicles.

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

Cumulative Impact Analysis

Less Than Significant Impact: The geographic area of this cumulative analysis is Tulare County. This cumulative analysis is based on the information provided in the Tulare County 2030 General Plan, General Plan background Report, Tulare County 2030 General Plan EIR, and technical study provided in Attachment A.

The proposed Project would incrementally contribute to adverse impacts on energy resource demand and conservation when considering the cumulative impact of concurrently planned projects; however, like the proposed Project, discretionary actions requiring agency approval are required to comply with local, regional, state, and federal policies designed to reduce wasteful energy consumption, and improve overall energy conservation and sustainability. For instance, all local projects involving the development of new buildings must be designed to conform to CALGreen and the current California Energy Code (for this Project it will be the 2019 Code). Therefore, it is anticipated that the proposed Project's contribution to cumulative impacts would not result in a significantly considerable wasteful use of energy resources, such that the proposed Project, and other cumulative projects, would not have a cumulative effect on energy conservation. The proposed Project will not have a direct or cumulative impact, or create wasteful, inefficient, or unnecessary consumption of energy resources during project construction-related activities or operations, nor will it conflict with or obstruct a state or local plan for renewable energy or energy efficiency. Therefore, Project-specific and Cumulative Impacts as of a result of the proposed Project would be less than significant.

VII. GEOLOGY/SOILS

Would the project:	Significant Impact	Less Than Significant Impact With Mitigation	Less Than Significant Impact	No Impact
a) Directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving:				
i) Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault? Refer to Division of Mines and Geology Special Publication No. 42.	☐	☐	☒	☐
ii) Strong seismic ground shaking?	☐	☐	☒	☐
iii) Seismic-related ground failure, including liquefaction?	☐	☐	☒	☐
iv) Landslides?	☐	☐	☒	☐
b) Result in substantial soil erosion or the loss of topsoil?	☐	☐	☒	☐
c) Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction or collapse?	☐	☐	☒	☐
d) Be located on expansive soil, as defined in Table 18-1-B of the 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 waste water disposal systems where sewers are not available for the disposal of waste water?	☐	☐	☒	☐
f) Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?	☐	☒	☐	☐

Environmental Setting

"Tulare County is divided into two major physiographic and geologic provinces: the Sierra Nevada Mountains and the Central Valley. The Sierra Nevada Physiographic Province, in the eastern portion of the county, is underlain by metamorphic and igneous rock. It consists mainly of homogeneous granitic rocks, with several islands of older metamorphic rock. The central and western parts of the county are part of the Central Valley Province, underlain by marine and non-marine sedimentary rocks. It is basically a flat, alluvial plain, with soil consisting of material deposited by the uplifting of the mountains. The foothill area of the county is essentially a transition zone, containing old alluvial soils that have been dissected by the

west-flowing rivers and streams that carry runoff from the Sierra Nevada Mountains. This gently rolling topography is punctured in many areas by outcropping soft bedrock. The native mountain soils are generally quite dense and compact"[65]

"The Central Valley is an asymmetrical structural trough filled with marine and continental sediments up to 15-kilometers (km) thick covering an area of more than 50,000 square kilometers (km2), bounded by the Cascade Range to the north, the Sierra Nevada ranges to the east, the Klamath Mountains and Coast Ranges to the west, and the Tehachapi Mountains to the south. The aquifer system in the Central Valley comprises unconfined, semi-confined, and confined aquifers, which are primarily contained within the upper 300 meters (m; though some wells exceed that depth) of alluvial sediments deposited by streams draining the surrounding Sierra Nevada and Coast Ranges (Page, 1986; California Department of Water Resources, 2003; Faunt, 2009). The [Sacramento] SAC occupies the northern third of the Central Valley and the [San Joaquin Valley] SJV occupies the southern two-thirds of the Central Valley (Fig. 1[in the Scientific Investigations Report 2019-506]). The SJV is often further divided into the San Joaquin River Basin, which occupies the northern half of the SJV, and the Tulare Basin, which occupies the southern half of SJV. The Tulare Basin is, hydrologically, a closed basin, but it receives imported water from the San Joaquin and Sacramento Rivers. These will collectively be referred to as the SJV. In much of the western side of the SJV, the aquifer system is divided into an upper and lower zone by the Corcoran Clay Member of the Tulare Formation, a regionally extensive clay layer that limits vertical movement of groundwater (Page, 1986; Williamson and others, 1989; Belitz and Heimes, 1990; Burow and others, 2004). Both zones of the aquifer in the area of the Corcoran Clay generally are tapped for groundwater withdrawals (Shelton and others, 2013; Fram, 2017)."[66]

Geology & Seismic Hazards

Seismic hazards, such as earthquakes, can cause loss of human life and property damage, disrupt the local economy, and undermine the fiscal condition of a community. Secondary seismic hazards, including subsidence and liquefaction, can cause building and infrastructure damage.

Seismicity

"Seismicity varies greatly between the two major geologic provinces represented in Tulare County. The Central Valley is an area of relatively low tectonic activity bordered by mountain ranges on either side. The Sierra Nevada Mountains, partially located within Tulare County, are the result of movement of tectonic plates which resulted in the creation of the mountain range. The Coast Range on the west side of the Central Valley is also a result of these forces, and the continued uplifting of Pacific and North American tectonic plates continues to elevate these ranges. The remaining seismic hazards in Tulare County generally result from movement along faults associated with the creation of these ranges.

Earthquakes are typically measured in terms of magnitude and intensity. The most commonly known measurement is the Richter Scale, a logarithmic scale which measures the strength of a quake. The Modified Mercalli Intensity Scale measures the intensity of an earthquake as a function of the following factors:

- Magnitude and location of the epicenter;
- Geologic characteristics;

[65] Tulare County 2030 General Plan 2030 Update Background Report. Page 8-4 through 8-5.

[66] United States Department of the Interior United States Geologic Survey. "Delineation of Spatial Extent, Depth, Thickness, and Potential Volume of Aquifers Used for Domestic and Public Water-Supply in the Central Valley, California. Scientific Investigations Report 2019-5076 (SIR). Page 2. Accessed September 2022 at: https://pubs.usgs.gov/sir/2019/5076/sir20195076.pdf.

- Groundwater characteristics;
- Duration and characteristic of the ground motion;
- Structural characteristics of a building."[67]

Faults

"Faults are the indications of past seismic activity. It is assumed that those that have been active most recently are the most likely to be active in the future. Recent seismic activity is measured in a geologic timescale. Geologically recent is defined as having occurred within the last two million years (the Quaternary Period). All faults believed to have been active during Quaternary time are considered "potentially active."[68]. "In 1973, five counties within the Southern San Joaquin Valley undertook the preparation of the Five County Seismic Safety Element to assess seismic hazards… In general, zones C1, S1, and V1 are safer than zones C2, S2, and V2. Hazards due to groundshaking are considered to be "minimal" in the S1 Zone and "minimal" to "moderate" in the S2 and S2S Zones. Development occurring within the S1 Seismic Zone must conform to the Uniform Building Code-Zone II; while development within the S2 Zone must conform to Uniform Building Code-Zone III. There are three faults within the region that have been, and will be, principal sources of potential seismic activity within Tulare County. These faults are described below:

- **San Andreas Fault** is located approximately 40 miles west of the Tulare County boundary and [approximately] 60 miles west of the project area. This fault has a long history of activity, and is thus the primary focus in determining seismic activity within the County. Seismic activity along the fault varies along its span from the Gulf of California to Cape Mendocino. Just west of Tulare County lays the "Central California Active Area," section of the San Andreas Fault where many earthquakes have originated.

- **Owens Valley Fault Group** is a complex system containing both active and potentially active faults, located on the eastern base of the Sierra Nevada Mountains approximately [approximately] 60 miles east of the project area. The Group is located within Tulare and Inyo Counties and has historically been the source of seismic activity within Tulare County.

- **Clovis Fault** is considered to be active within the Quaternary Period, although there is no historic evidence of its activity, and is therefore classified as "potentially active." This fault lies approximately six miles south of the Madera County boundary in Fresno County and [approximately] 70 miles north of the project area. Activity along this fault could potentially generate more seismic activity in Tulare County than the San Andreas or Owens Valley fault systems. In particular, a strong earthquake on the Fault could affect northern Tulare County. However, because of the lack of historic activity along the Clovis Fault, inadequate evidence exists for assessing maximum earthquake impacts." [69]

There are other unnamed faults north of Bakersfield and near Tulare Buttes about 30 miles north of Porterville. These faults are small and have exhibited activity in the last 1.6 million years, but not in the last 200 years. It is also possible, but unlikely, that previously unknown faults could become active in the area. As shown in **Figure 9**, the proposed Project parcel site is not within an earthquake fault zone.[70]

[67] Tulare County General Plan 2030 Update. General Plan Background Report. Page 8-5. Accessed September 2022 at: http://generalplan.co.tulare.ca.us/documents.html, locate "Recirculated Draft Environmental Impact Report (February 2010 Draft)" then click on "Appendix B-Background Report."

[68] Ibid.

[69] Op. Cit. 8-5 through 8-7.

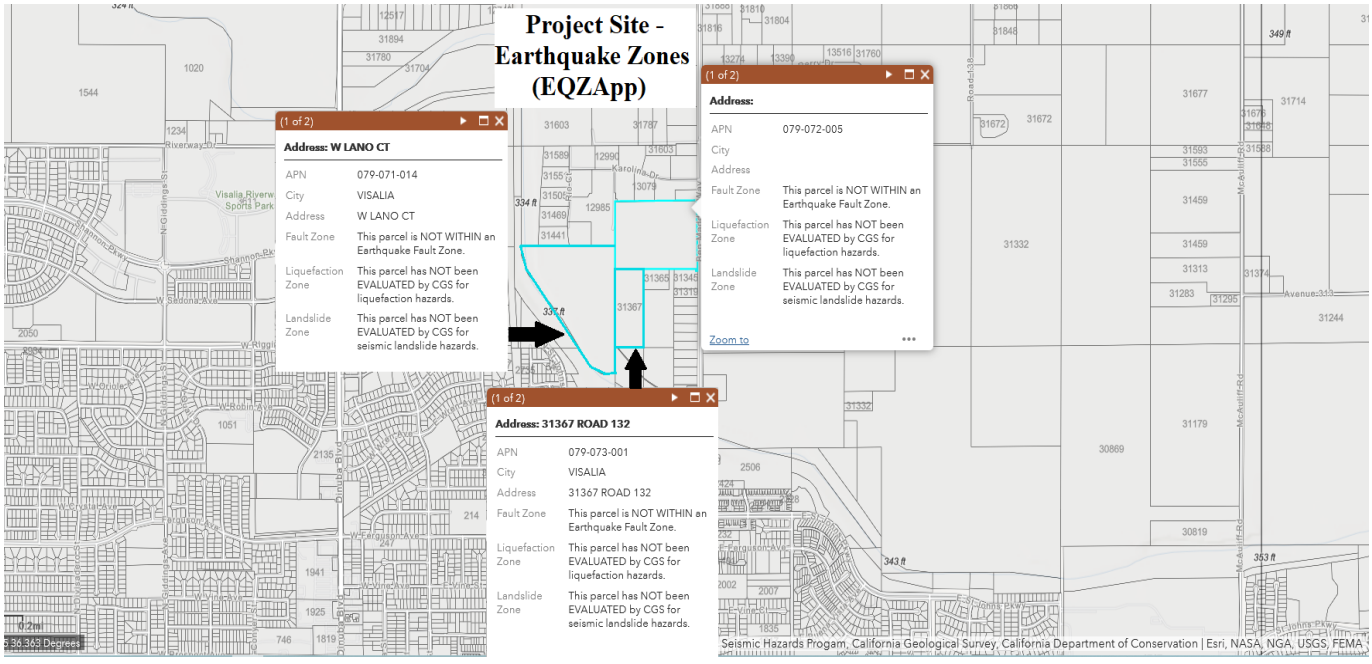
[70] California Department of Conservation. EQ Zapp: California Earthquake Hazards Zone Application. Earthquake Zones of Required Investigation. Accessed

Groundshaking

"Ground-shaking is the primary seismic hazard in Tulare County because of the county's seismic setting and its record of historical activity. Thus, emphasis focuses on the analysis of expected levels of ground-shaking, which is directly related to the magnitude of a quake and the distance from a quake's epicenter. Magnitude is a measure of the amount of energy released in an earthquake, with higher magnitudes causing increased ground-shaking over longer periods of time, thereby affecting a larger area. Ground-shaking intensity, which is often a more useful measure of earthquake effects than magnitude, is a qualitative measure of the effects felt by population."[71] "The San Joaquin Valley portion of Tulare County is located on alluvial deposits, which tend to experience greater ground-shaking intensities than areas located on hard rock. Therefore, structures located in the valley will tend to suffer greater damage from ground-shaking than those located in the foothill and mountain areas. However, existing alluvium valleys and weathered or decomposed zones are scattered throughout the mountainous portions of the county which could also experience stronger intensities than the surrounding solid rock areas. The geologic characteristics of an area can therefore be a greater hazard than its distance to the epicenter of the quake."[72] "Older buildings constructed before current building codes were in effect, and even newer buildings constructed before earthquake resistance provisions were included in the current building codes, are most likely to suffer damage in an earthquake. Most of Tulare County's buildings are no more than one or two stories in height and are of wood frame construction, which is considered the most structurally resistant to earthquake damage. Older masonry buildings (without earthquake resistance reinforcement) are the most susceptible to structural failure, which causes the greatest loss of life. The State of California has identified unreinforced masonry buildings (URMs) as a safety issue during earthquakes. In high risk areas (Bay Area), inventories and programs to mitigate this issue are required. Because Tulare County is not a high-risk area, state law only recommends that programs to retrofit URMs are adopted by jurisdictions."[73]

Figure 9

Earthquake, Fault Zones



September 2022. See: https://maps.conservation.ca.gov/cgs/EQZApp/app/

[71] Tulare County General Plan 2030 Update. General Plan Background Report. Page 8-7.

[72] Ibid.

[73] Op. Cit.8-8.

Liquefaction

"Liquefaction is a process whereby soil is temporarily transformed to a fluid form during intense and prolonged groundshaking. Areas most prone to liquefaction are those that are water saturated (e.g., where the water table is less than 30 feet below the surface) and consist of relatively uniform sands that are low to medium density. In addition to necessary soil conditions, the ground acceleration and duration of the earthquake must be of sufficient energy to induce liquefaction. Scientific studies have shown that the ground acceleration must approach 0.3g before liquefaction occurs in a sandy soil with relative densities typical of the San Joaquin alluvial deposits."

"Liquefaction during major earthquakes has caused severe damage to structures on level ground as a result of settling, tilting, or floating. Such damage occurred in San Francisco on bay-filled areas during the 1989 Loma Prieta earthquake, even though the epicenter was several miles away. If liquefaction occurs in or under a sloping soil mass, the entire mass may flow toward a lower elevation, such as that which occurred along the coastline near Seward, Alaska during the 1964 earthquake. Also of particular concern in terms of developed and newly developing areas are fill areas that have been poorly compacted. No specific countywide assessments to identify liquefaction hazards have been performed in Tulare County. Areas where groundwater is less than 30 feet below the surface occur primarily in the valley. However, soil types in the area are not conducive to liquefaction because they are either too coarse or too high in clay content. Areas subject to 0.3g acceleration or greater are located in a small section of the Sierra Nevada Mountains along the Tulare-Inyo County boundary. However, the depth to groundwater in such areas is greater than in the valley, which would minimize liquefaction potential as well. Detailed geotechnical engineering investigations would be necessary to more accurately evaluate liquefaction potential in specific areas and to identify and map the areal extent of locations subject to liquefaction."

Settlement

"Settlement can occur in poorly consolidated soils during ground-shaking. During settlement, the soil materials are physically rearranged by the shaking and result in reduced stabling alignment of the individual minerals. Settlement of sufficient magnitude to cause significant structural damage is normally associated with rapidly deposited alluvial soils, or improperly founded or poorly compacted fill. These areas are known to undergo extensive settling with the addition of irrigation water, but evidence due to ground-shaking is not available. Fluctuating groundwater levels also may have changed the local soil characteristics. Sufficient subsurface data is lacking to conclude that settlement would occur during a large earthquake; however, the data is sufficient to indicate that the potential exists in Tulare County."

Other Geologic Hazards

Landslides

"Landslides are a primary geologic hazard and are influenced by four factors:

- Strength of rock and resistance to failure, which is a function of rock type (or geologic formation);
- Geologic structure or orientation of a surface along which slippage could occur;
- Water (can add weight to a potentially unstable mass or influence strength of a potential failure surface); and,
- Topography (amount of slope in combination with gravitation forces).

"As of June 2009, the California Geological Survey had not developed landslide hazard identification maps for Tulare County. However, it is reasonable to assume that certain areas in Tulare County are more prone to landslides than other areas… [As such,] There is no risk of large landslides in the valley area of the county due to its relatively flat topography."[74]

Subsidence

"Subsidence occurs when a large portion of land is displaced vertically, usually due to the withdrawal of groundwater, oil, or natural gas. Soils that are particularly subject to subsidence include those with high silt or clay content. Subsidence caused by groundwater withdrawal generally presents a more serious problem, since it can affect large areas. Oil and gas withdrawal, on the other hand, tends to affect smaller, localized areas. Some areas of the Central Valley have subsided more than 20 feet during the past 50 years." [75]

Seiche

"A seiche is a standing wave produced in a body of water such as a reservoir, lake, or harbor, by wind, atmospheric changes, or earthquakes. Seiches have the potential to damage shoreline structures, dams, and levees…Since this is less than wave heights that could be expected from wind induced waves, earthquake-induced seiches are not considered a risk in Tulare County. In addition, the effects from a seiche would be similar to the flood hazard for a particular area, and the risk of occurrence is perceived as considerably less than the risk of flooding."[76]

Volcanic Hazard

"The nearest volcanoes lie to the northeast of Tulare County in Mono County, in the Mammoth Lakes/Long Valley area. The most serious effect on Tulare County of an eruption in the Mammoth Lakes, area according to the California Geological Survey, would be ash deposition."[77] "A volcanic eruption during the winter could result in snowmelt and lead to flooding. The state has formulated a contingency plan, the "Long Valley Caldera Response Plan," designed to notify the public in the event of an earthquake in the Long Valley area (outside of Tulare County)."[78]

Paleontology

"Paleontological resources are any fossilized remains, traces, or imprints of organisms, preserved in or on the earth's crust, that are of paleontological interest and that provide information about the history of life on earth, with the exception of materials associated with an archaeological resource (as defined in Section 3(1) of the Archaeological Resources Protection Act of 1979 (16 U.S.C. 470bb[1]), or any cultural item as defined in Section 2 of the Native American Graves Protection and Repatriation Act (25 U.S.C. 3001)."[79] " According to the University of California Museum of Paleontology (UCMP), 12 paleontological resources have been recorded in Tulare County, generally within the valley portion of the County. These resources primarily consist of invertebrates, vertebrate, and plant fossils (UCMP, 2009)."[80] CEQA requires that a determination be made as to whether a project would directly or indirectly destroy a unique paleontological

[74] Op. Cit. 8-10.
[75] Op. Cit. 8-10 through 8-11.
[76] Op. Cit. 8-11.
[77] Op. Cit.
[78] Op. Cit.
[79] Op. Cit. 9-43.
[80] Op. Cit. 9-53.

resource or site or unique geological feature (CEQA Appendix G(v)(c)). If an impact is significant, CEQA requires feasible measures to minimize the impact (CCR Title 14(3) §15126.4 (a)(1)). California Public Resources Code §5097.5 also applies to paleontological resources.

Soil Characteristics

"The San Joaquin Valley portion of Tulare County is located on alluvial deposits, which tend to experience greater groundshaking intensities than areas located on hard rock. Therefore, structures located in the valley will tend to suffer greater damage from groundshaking than those located in the foothill and mountain areas. However, existing alluvium valleys and weathered or decomposed zones are scattered throughout the mountainous portions of the county which could also experience stronger intensities than the surrounding solid rock areas. The geologic characteristics of an area can therefore be a greater hazard than its distance to the epicenter of the quake."[81] As shown in **Figure 10**, the Project site contains primarily of Grangeville sandy loam and Riverwash soils.

Figure 10
USDA Web Soil Survey Map of the Project Site[82]

Map Unit Legend

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
122	Grangeville sandy loam, drained, 0 to 2 percent slopes	54.2	79.2%
134	Riverwash	14.3	20.8%
Totals for Area of Interest		68.5	100.0%

[81] Tulare County General Plan 2030 Update. Background Report. Page 8-7

[82] United States Department of Agriculture. Natural Resources Conservation Service. Web Soil Survey. Accessed September 2022 at: https://websoilsurvey.sc.egov.usda.gov/App/WebSoilSurvey.aspx . See Attachment "A" of this IS/MND.

Regulatory Setting

Federal

None that apply to the Project.

State

California Building Code

California law provides a minimum standard for building design through the California Building Code (CBC). The CBC is based on the IBC, with amendments for California conditions. Part 2, Volume 2, Chapter 16 of the CBC contains specific requirements for seismic safety. Part 2, Volume 2, Chapter 18 of the CBC regulates soils and foundations. Part 2, Volume 2, Appendix J of the CBC regulates grading activities. Construction activities also are subject to occupational safety standards for excavation, shoring, and trenching as specified in California Occupational Safety and Health Administration regulations (Title 8 of the California Code of Regulations) and in section A33 of the CBC. About one-third of the text within the California Building Code has been tailored for California earthquake conditions.

Paleontological Resources

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

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

Alquist-Priolo Earthquake Fault Zoning Act

"The Alquist- Priolo Earthquake Fault Zoning Act (formerly the Alquist- Priolo Special Studies Zone Act), signed into law December 1972, requires the delineation of zones along active faults in California. The purpose of the Alquist-Priolo Act is to regulate development on or near active fault traces to reduce the hazards associated with fault rupture and to prohibit the location of most structures for human occupancy across these traces."[83]

Local

Tulare County General Plan Policies

The General Plan has a number of policies that apply to projects within Tulare County. General Plan policies that relate to the proposed Project include:

[83] Op. Cit.

HS-1.11 Site Investigations wherein the County shall conduct site investigations in areas planned for new development to determine susceptibility to landslides, subsidence/settlement, contamination, and/or flooding;

HS-2.1 Continued Evaluation of Earthquake Risks wherein the County shall continue to evaluate areas to determine levels of earthquake risk;

HS-2.4 Structure Siting The wherein the County shall permit development on soils sensitive to seismic activity permitted only after adequate site analysis, including appropriate siting, design of structure, and foundation integrity;

HS-2.7 Subsidence wherein the County shall confirm that development is not located in any known areas of active subsidence;

HS-2.8 Alquist-Priolo Act Compliance wherein The County shall not permit any structure for human occupancy to be placed within designated Earthquake Fault Zones;

WR-2.2 NPDES Enforcement wherein the County shall continue to support the State in monitoring and enforcing provisions to control non-point source water pollution contained in the U.S. EPA NPDES program as implemented by the Water Quality Control Board;

WR-2.3 Best Management Practices wherein the County shall continue to require the use of feasible BMPs and other mitigation measures designed to protect surface water and groundwater from the adverse effects of construction activities, agricultural operations requiring a County Permit and urban runoff in coordination with the Water Quality Control Board; and

WR-2.4 Construction Site Sediment Control wherein the County shall continue to enforce provisions to control erosion and sediment from construction sites.

Five County Seismic Safety Element (FCSSE)

The FCSSE report represents a cooperative effort between the governmental entities within Fresno, Kings, Madera, Mariposa and Tulare Counties to develop an adoptable Seismic Safety Element as required by State law. Part I, the Technical Report, is designed to be used when necessary to provide background for the Summary document. Part II, the Summary Report, establishes the framework and rationale for evaluation of seismic risks and hazards in the region. Part II of the Seismic Safety Element, the Policy Report, has been prepared as a "model" report designed to address seismic hazards as delineated in the Technical Report. The intent has been to develop a planning tool for use by county and city governments in implementing their seismic safety elements. The planning process utilized to develop the Element was developed through the efforts of Technical and Policy Committees, composed of both staff and elected representatives from Cities, Counties, and Special Districts or Areawide Planning Organizations in cooperation with the consulting firms of Envicom Corporation and Quinton-Redgate.[84]

Project Impact Analysis

[84] Five County Seismic Safety Element. Fresno, Kings, Madera, Mariposa, & Tulare Counties. 1974. Pages 4-7. Prepared by Envicom Corporation. Accessed September 2022 at https://tularecounty.ca.gov/rma/planning-building/environmental-planning/environmental-planning-resources/five-county-seismic-safety-element-1974/.

a) Less Than Significant Impact: According to the Tulare County General Plan, the planning area lies in the V-1 seismic study area, characterized by a relatively thin section of sedimentary rock overlying a granitic basement.

The V-1 seismic zone, which is characterized by a relatively thick section of sedimentary rock overlying a granitic basement, has "low" risks for shaking hazards, "minimal" risk for landslides, "low to moderate" risk for subsidence, "low" risks for liquefaction and "minimal" risk for seiching.[85]

The distance to area faults (i.e. the Clovis Group, Pond-Poso, and San Andreas faults), the likely sources of significant shaking, is sufficiently great that shaking effects should be minimal.

i) *Fault Rupture:* **Less Than Significant Impact:** The proposed Project site is not located within a currently designated Alquist-Priolo Earthquake Fault Zone. There are no active faults in Tulare County. Since no known surface expression of active faults is believed to cross the site, fault rupture through the site is not anticipated. Less than significant impacts would occur as the requirements of Zone II of the Uniform Building Code should be adequate for normal facilities.[86]

ii) *Ground Shaking:* **Less than Significant Impact:** Although the proposed Project area occurs in an area with historically low to moderate level of seismicity, strong ground shaking could occur in the region; however, the proposed Project would be designed to withstand strong ground shaking, in compliance with the California Building Code, to minimize the potential effects of ground shaking and other seismic activity. Impacts from seismic ground shaking would result in less than significant impacts.

iii) *Ground Failure and Liquefaction:* **Less than Significant Impact:** See Response a-ii). The proposed Project's Valley location has a low risk of liquefaction. No Subsidence prone soils or oil or gas production is involved with the proposed Project. Therefore, the impact is less than significant.

iv) *Landslides:* **Less than Significant Impact:** The proposed Project site is located on relatively flat topography and is not located adjacent to any steep slopes or areas that would otherwise be subject to landslides. Therefore, the impact is less than significant.

The existing proposed Project area is not located within a published Earthquake Fault Zone and the potential for ground rupture is low. As earthquakes are possible throughout the State of California, the Project will be required to comply with the Tulare County General Plan and Zone II of the Uniform Building Code. In addition, the existing proposed Project area is not located within an area mapped to have a potential for soil liquefaction. As the proposed Project area is relatively flat, there is no potential for landslides. Less than significant project specific impacts related to this Checklist Item would occur.

b) Less Than Significant Impact: According to the Tulare County General Plan Background Report, the central and western parts of the county are part of the Central Valley Province, underlain by marine and non-marine sedimentary rocks. It is basically a flat, alluvial plain, with soil consisting of material deposited by the uplifting of the mountains.[87] The proposed Project site consists of primarily of

[85] 1974. Summary of Seismic Hazards & Safety Recommendations. Five County Seismic Safety Element Fresno, Kings, Madera, Mariposa & Tulare Counties. 1974. Prepared by Envicom Corporation.

[86] Five County Seismic Safety Element, Summary & Policy Recommendations II. 1974. Pages 3 and 15. Prepared by Envicom Corporation.

[87] Tulare County General Plan Update – Background Report. February 2010. Pg 8-4.

Grangeville sandy loam soil, which is very deep, somewhat poorly drained soil that formed in moderate coarse textured alluvium dominantly from granitic rock sources.

During construction, nuisance flow caused by minor rain could flow off-site. The Project developer would be required to employ appropriate sediment and erosion control BMPs as part of a Stormwater Pollution Prevention Plan (SWPPP) that would be required by the California National Pollution Discharge Elimination System (NPDES). In addition, soil erosion and loss of topsoil would be minimized through implementation of the SVJAPCD fugitive dust control measures (See Section III). Once construction is complete, the Project would not result in soil erosion or loss of topsoil. Compliance with state regulations will ensure that impacts remain less than significant.

As such, the Project would not result in substantial soil erosion and the Project site is in an established urban area and has a primarily flat topography. Therefore, the impact is less than significant.

c) and d) Less Than Significant Impact: No Impact. The proposed Project site is located in the western half of Tulare County, which is comprised of flat valley lands of the southern San Joaquin Valley. It is basically a flat, alluvial plain, with soil consisting of material deposited by the uplifting of the mountains. The proposed Project site consists of primarily of Grangeville sandy loam soil, which is very deep, somewhat poorly drained soil that formed in moderate coarse textured alluvium dominantly from granitic rock sources. See also Response a-ii. There would be less than significant impact.

e) Less Than Significant Impact: The proposed Project includes installation of septic systems for each residential unit to address sewage needs. The installation of a septic tank is regulated and monitored by the Tulare County Environmental Health Department (TCEHD). Upon submission of an application to install a septic system, TCEHD requires that percolation tests are performed, in accordance with U.S. Environmental Protection Agency's "Manual of Septic Tank Practice".[88] The final design will be based off the percolation testing results, ensuring that the soils at the proposed Project site will support the use of the septic system. The installation of septic systems will comply with the existing TCEHD regulations/permit requirements through Project design features. Property owners are generally responsible for maintenance and improvements to individual septic systems. The impact will be less than significant.

f) Less Than Significant Impact with Mitigation: There are no known paleontological resources on or near the site (See Item 5. for more details). Mitigation measures have been added that will protect unknown, subsurface resources during construction-related activities (resulting in ground disturbance), including paleontological resources. There are no known unique geological features on site or in the area. Implementation of **Mitigation Measures 5-1, 5-2** and **5-4** would reduce potential impacts to less than significant.

Summary of Mitigation Measures:

5-1. Discovery of resources during excavation, suspension of work, retention of qualified archaeologist/paleontologist, implementation of measures to protect resources.

5-2. Cessation of work activities, County notification, determination of significance, actions to be taken as determined by a qualified archaeologist/paleontologist, treatment plan, collaboration with affected Native American Tribe.

[88] U.S. Environmental Protection Agency, Public Health Service Publication No. 526.

5-4. Discovery of resources during excavation, establishment of buffer areas, suspension of work, retention of qualified archaeologist/paleontologist, implementation of measures to protect resources.

Cumulative Impact Analysis

Less Than Significant Impact With Mitigation: The geographic area of this cumulative analysis is Tulare County. This cumulative analysis is based on the information provided in the Tulare County 2030 General Plan, General Plan background Report, and the Tulare County 2030 General Plan EIR.

The proposed Project will not increase geological-related impacts off-site. It is not anticipated that paleontological remains will be discovered at the proposed Project site. However, consistent with CEQA requirements, **Mitigation Measures 5-1, 5-2** and **5-4** are included in the unlikely event that if paleontological remains are unearthed during any ground disturbance activities, such finds will be reduced to less than significant Project-specific and Cumulative Impacts.

Summary of Mitigation Measures:

See **Mitigation Measures 5-1, 5-2** and **5-4** in Attachment "F" (in their entirety).

VIII. GREENHOUSE GAS EMISSIONS

Would the project:		Significant Impact	Less Than Significant Impact With Mitigation	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 any applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases?	☐	☐	☐	☒

Environmental Setting

Various gases in the earth's atmosphere play an important role in moderating the earth's surface temperature. Solar radiation enters earth's atmosphere from space and a portion of the radiation is absorbed by the earth's surface. The earth emits this radiation back toward space, but the properties of the radiation change from high-frequency solar radiation to lower-frequency infrared radiation. GHGs are transparent to solar radiation but are effective in absorbing infrared radiation. Consequently, radiation that would otherwise escape back into space is retained, resulting in a warming of the earth's atmosphere. This phenomenon is known as the greenhouse effect. Scientific research to date indicates that some of the observed climate change is a result of increased GHG emissions associated with human activity.

Among the GHGs contributing to the greenhouse effect are water vapor, carbon dioxide (CO_2), methane (CH_4), ozone, Nitrous Oxide (NO_x), and chlorofluorocarbons. Human-caused emissions of these GHGs in excess of natural ambient concentrations are considered responsible for enhancing the greenhouse effect. GHG emissions contributing to global climate change are attributable, in large part, to human activities associated with the industrial/manufacturing, utility, transportation, residential, and agricultural sectors.

In California, the transportation sector is the largest emitter of GHGs, followed by electricity generation. Global climate change is, indeed, a global issue. GHGs are global pollutants, unlike criteria pollutants and TACs (which are pollutants of regional and/or local concern). Global climate change, if it occurs, could potentially affect water resources in California. Rising temperatures could be anticipated to result in sea-level rise (as polar ice caps melt) and possibly change the timing and amount of precipitation, which could alter water quality. According to some, climate change could result in more extreme weather patterns; both heavier precipitation that could lead to flooding, as well as more extended drought periods. There is uncertainty regarding the timing, magnitude, and nature of the potential changes to water resources as a result of climate change; however, several trends are evident.

Snowpack and snowmelt may also be affected by climate change. Much of California's precipitation falls as snow in the Sierra Nevada and southern Cascades, and snowpack represents approximately 35 percent of the state's useable annual water supply. The snowmelt typically occurs from April through July; it provides natural water flow to streams and reservoirs after the annual rainy season has ended. As air temperatures increase due to climate change, the water stored in California's snowpack could be affected by increasing temperatures resulting in: (1) decreased snowfall, and (2) earlier snowmelt.

Regulatory Setting

Federal

The USEPA Mandatory Reporting Rule (40 CFR Part 98), which became effective December 29, 2009, requires that all facilities that emit more than 25,000 metric tons CO_2-equivalent per year beginning in 2010, report their emissions on an annual basis. On May 13, 2010, the USEPA issued a final rule that established an approach to addressing GHG emissions from stationary sources under the CAA permitting programs. The final rule set thresholds for GHG emissions that define when permits under the New Source Review Prevention of Significant Deterioration and title V Operating Permit programs are required for new and existing industrial facilities.

In addition, the Supreme Court decision in Massachusetts v. EPA (Supreme Court Case 05-1120) found that the USEPA has the authority to list GHGs as pollutants and to regulate emissions of GHGs under the CAA. On April 17, 2009, the USEPA found that CO_2, CH_4, NO_x, hydrofluorocarbons, perfluorocarbons, and sulfur hexafluoride may contribute to air pollution and may endanger public health and welfare. This finding may result in the USEPA regulating GHG emissions; however, to date the USEPA has not proposed regulations based on this finding.

State

In 2002, with the passage of Assembly Bill 1493 (AB 1493), California launched an innovative and pro-active approach to dealing with GHG emissions and climate change at the state level. AB 1493 requires the Air Resources Board (ARB) to develop and implement regulations to reduce automobile and light truck GHG emissions; these regulations applied to automobiles and light trucks beginning with the 2009 model year.

California has taken action to reduce GHG emissions. In June 2005, Governor Schwarzenegger signed Executive Order S-3-05 to address climate change and GHG emissions in California. This Order sets the following goals for statewide GHG emissions:

- Reduce to 2000 levels by 2010
- Reduce to 1990 levels by 2020
- Reduce to 80 percent below 1990 levels by 2050

"In 2006, the Legislature passed the California Global Warming Solutions Act of 2006 [Assembly Bill 32 (AB 32 Opens in New Window)], which created a comprehensive, multi-year program to reduce greenhouse gas (GHG) emissions in California. AB 32 required the California Air Resources Board (ARB or Board) to develop a Scoping Plan that describes the approach California will take to reduce GHGs to achieve the goal of reducing emissions to 1990 levels by 2020. The Scoping Plan was first approved by the Board in 2008 and must be updated every five years. Since 2008, there have been two updates to the Scoping Plan. Each of the Scoping Plans have included a suite of policies to help the State achieve its GHG targets, in large part leveraging existing programs whose primary goal is to reduce harmful air pollution."[89]

"The First Update to the Scoping Plan was approved by the Board on May 22, 2014, and builds upon the initial Scoping Plan with new strategies and recommendations. The First Update identifies opportunities to leverage existing and new funds to further drive GHG emission reductions through strategic planning and targeted low carbon investments. The First Update defines ARB's climate change priorities for the next five years, and also sets the groundwork to reach long-term goals set forth in Executive Orders S-3-05 and B-

[89] ARB.AB 32 Scoping Plan. Accessed September 2022 at: https://www.arb.ca.gov/cc/scopingplan/scopingplan.htm.

16-2012. The Update highlights California's progress toward meeting the "near-term" 2020 GHG emission reduction goals defined in the initial Scoping Plan. It also evaluates how to align the State's "longer-term" GHG reduction strategies with other State policy priorities for water, waste, natural resources, clean energy, transportation, and land use."[90]

"On April 29, 2015, the Governor issued Executive Order B-30-15 establishing a mid-term GHG reduction target for California of 40 percent below 1990 levels by 2030. All state agencies with jurisdiction over sources of GHG emissions were directed to implement measures to achieve reductions of GHG emissions to meet the 2030 and 2050 targets. ARB was directed to update the AB 32 Scoping Plan to reflect the 2030 target, and therefore, is moving forward with the update process. The mid-term target is critical to help frame the suite of policy measures, regulations, planning efforts, and investments in clean technologies and infrastructure needed to continue driving down emissions."[91]

"This Scoping Plan for Achieving California's 2030 Greenhouse Gas Target (Scoping Plan or 2017 Scoping Plan) identifies how the State can reach our 2030 climate target to reduce greenhouse gas (GHG) emissions by 40 percent from 1990 levels, and substantially advance toward our 2050 climate goal to reduce GHG emissions by 80 percent below 1990 levels. By selecting and pursuing a sustainable and clean economy path for 2030, the State will continue to successfully execute existing programs, demonstrate the coupling of economic growth and environmental progress, and enhance new opportunities for engagement within the State to address and prepare for climate change."[92]

"This Scoping Plan builds on and integrates efforts already underway to reduce the State's GHG, criteria pollutant, and toxic air contaminant emissions. Successful implementation of existing programs has put California on track to achieve the 2020 target. Programs such as the Low Carbon Fuel Standard and Renewables Portfolio Standard are delivering cleaner fuels and energy, the Advanced Clean Cars Program has put more than a quarter million clean vehicles on the road, and the Sustainable Freight Action Plan will result in efficient and cleaner systems to move goods throughout the State. Enhancing and implementing these ongoing efforts puts California on the path to achieving the 2030 target. This Scoping Plan relies on these, and other, foundational programs paired with an extended, more stringent Cap-and-Trade Program, to deliver climate, air quality, and other benefits."[93]

<u>California Environmental Quality Act (CEQA) Requirements</u>

Section 15064.4 Determining the Significance of Impacts from Greenhouse Gas Emissions

(a) The determination of the significance of greenhouse gas emissions calls for a careful judgment by the lead agency consistent with the provisions in section 15064. A lead agency should make a good-faith effort, based to the extent possible on scientific and factual data, to describe, calculate or estimate the amount of greenhouse gas emissions resulting from a project. A lead agency shall have discretion to determine, in the context of a particular project, whether to:

(1) Use a model or methodology to quantify greenhouse gas emissions resulting from a project, and which model or methodology to use. The lead agency has discretion to select the model or methodology it considers most appropriate provided it supports its decision with substantial

[90] ARB. First Update to the AB 32 Scoping Plan. Accessed September 2022 at: https://www.arb.ca.gov/cc/scopingplan/document/updatedscopingplan2013.htm.
[91] ARB. Scoping Plan Update to Reflect 2030 Target. Accessed September 2022 at: https://www.arb.ca.gov/cc/scopingplan/scopingplan.htm.
[92] ARB. California's 2017 Climate Change Scoping Plan. Page 1. Accessed September 2022 at: https://ww3.arb.ca.gov/cc/scopingplan/scoping_plan_2017.pdf.
[93] Ibid.

evidence. The lead agency should explain the limitations of the particular model or methodology selected for use; and/or

(2) Rely on a qualitative analysis or performance based standards.

(b) A lead agency should consider the following factors, among others, when assessing the significance of impacts from greenhouse gas emissions on the environment:

(1) The extent to which the project may increase or reduce greenhouse gas 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 greenhouse gas emissions. Such requirements must be adopted by the relevant public agency through a public review process and must reduce or mitigate the project's incremental contribution of greenhouse gas emissions. If there is substantial evidence that the possible effects of a particular project are still cumulatively considerable notwithstanding compliance with the adopted regulations or requirements, an EIR must be prepared for the project.[94]

Regional

California Air Pollution Control Officers Association (CAPCOA)

"In January 2008, the California Air Pollution Control Officers Association (CAPCOA) issued a "white paper" on evaluating GHG emissions under CEQA (CAPCOA, 2008). The CAPCOA white paper strategies are not guidelines and have not been adopted by any regulatory agency; rather, the paper is offered as a resource to assist lead agencies in considering climate change in environmental documents."[95]

The California Association of Air Pollution Control Officers (CAPCOA) represents all thirty-five local air quality agencies throughout California. CAPCOA, which has been in existence since 1975, is dedicated to protecting the public health and providing clean air for all our residents and visitors to breathe, and initiated the Greenhouse Gas Reduction Exchange.[96]

"The Greenhouse Gas Reduction Exchange (GHG Rx) is a registry and information exchange for greenhouse gas emissions reduction credits designed specifically to benefit the state of California. The GHG Rx is a trusted source of locally generated credits from projects within California, and facilitates communication between those who create the credits, potential buyers, and funding organizations."[97] Four public workshops were held throughout the state including in the SJVAPCD. The mission is to provide a trusted source of high quality California-based greenhouse gas credits to keep investments, jobs, and benefits in-state, through an Exchange with integrity, transparency, low transaction costs and exceptional customer service.[98]

[94] California Environmental Quality Act (CEQA). Section 15064.4 Determining the Significance of Impacts from Greenhouse Gas Emissions

[95] Op. Cit. Page 6-28. Background Report citation: CEQA and Climate Change: Evaluating and Addressing Greenhouse Gas Emissions from Projects Subject to the California Environmental Quality Act. January 2008.

[96] California Air Pollution Control Officers Association. Accessed September 2022 at: http://www.capcoa.org/.

[97] Ibid. See "CAPCOA GHG RX" tab.

[98] California Air Pollution Control Officers Association. CAPCOA Greenhouse Gas Reduction Exchange. Accessed September 2022 at: http://www.ghgrx.org/.

San Joaquin Valley Air Pollution Control District (Air District)

The Air District is made up of eight counties in California's Central Valley: San Joaquin, Stanislaus, Merced, Madera, Fresno, Kings, Tulare and the San Joaquin Valley Air Basin portion of Kern. "The San Joaquin Valley Air District is a public health agency whose mission is to improve the health and quality of life for all Valley residents through efficient, effective and entrepreneurial air quality-management strategies."[99]

The Air District adopted the *Climate Change Action Plan* (CCAP) in August 2008. "The CCAP directed the District Air Pollution Control Officer to develop guidance to assist Lead Agencies, project proponents, permit applicants, and interested parties in assessing and reducing the impacts of project specific greenhouse gas (GHG) emissions on global climate change.

On December 17, 2009, the San Joaquin Valley Air Pollution Control District (District) adopted the guidance: Guidance for Valley Land-use Agencies in Addressing GHG Emission Impacts for New Projects under CEQA, and the policy: District Policy – Addressing GHG Emission Impacts for Stationary Source Projects Under CEQA When Serving as the Lead Agency. The guidance and policy rely on the use of performance-based standards, otherwise known as Best Performance Standards (BPS), to assess significance of project specific greenhouse gas emissions on global climate change during the environmental review process, as required by CEQA.

Use of BPS is a method of streamlining the CEQA process of determining significance and is not a required emission reduction measure. Projects implementing 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, is required to determine that a project would have a less than cumulatively significant impact. The guidance does not limit a lead agency's authority in establishing its own process and guidance for determining significance of project related impacts on global climate change."[100]

The Air District's *Guidance for Valley Land-use Agencies in Addressing GHG Emission Impacts for New Project under CEQA* document provides guidance to lead agencies for evaluating the significance of project-specific and cumulative impacts related to GHG emissions.[101] This guidance established the following process for evaluating the significance of project-specific GHG emissions on global climate change:

- "Projects determined to be exempt from the requirements of CEQA would be determined to have a less than significant individual and cumulative impact for GHG emissions and would not require further environmental review, including analysis of project specific GHG emissions. Projects exempt under CEQA would be evaluated consistent with established rules and regulations governing project approval and would not be required to implement [Best Performance Practices] BPS.

- Projects complying with an approved GHG emission reduction plan or GHG mitigation program which avoids or substantially reduces GHG emissions within the geographic area in which the project is located would be determined to have a less than significant individual and cumulative impact for GHG emissions. Such plans or programs must be specified in law or approved by the

[99] Air District. About the District: The Air District's Mission. Accessed December 2022 at: Website: https://ww2.valleyair.org/about/.

[100] Air District. Accessed September 2022 at: http://www.valleyair.org/Programs/CCAP/CCAP_menu.htm

[101] Air District. Guidance for Valley Land-use Agencies in Addressing GHG Emission Impacts for New Project under CEQA. Accessed September 2022 at: http://www.valleyair.org/Programs/CCAP/12-17-09/3%20CCAP%20-%20FINAL%20LU%20Guidance%20-%20Dec%2017%202009.pdf.

lead agency with jurisdiction over the affected resource and supported by a CEQA compliant environmental review document adopted by the lead agency. Projects complying with an approved GHG emission reduction plan or GHG mitigation program would not be required to implement BPS.

- Projects implementing Best Performance Standards would not require quantification of project specific GHG emissions. Consistent with CEQA Guideline, such projects would be determined to have a less than significant individual and cumulative impact for GHG emissions.
- Projects not implementing Best Performance Standards would require quantification of project specific GHG emissions and demonstration that project specific GHG emissions would be reduced or mitigated by at least 29%, compared to Business-As-Usual (BAU), including GHG emission reductions achieved since the 2002-2004 baseline period. Projects achieving at least a 29% GHG emission reduction compared to BAU would be determined to have a less than significant individual and cumulative impact for GHG.
- Notwithstanding any of the above provisions, projects requiring preparation of an Environmental Impact Report for any other reason would require quantification of project specific GHG emissions. Projects implementing BPS or achieving at least a 29% GHG emission reduction compared to BAU would be determined to have a less than significant individual and cumulative impact for GHG."[102]

Local

Tulare County General Plan 2030 Update

The Tulare County General Plan 2030 Update contains a number of policies that apply to projects within Tulare County that support GHG reduction efforts.[103] The following General Plan policies have potential relevance to the proposed Project's CEQA review:

AQ-1.3 Cumulative Air Quality Impacts wherein the County shall require development to be located, designed, and constructed in a manner that would minimize cumulative air quality impacts;

AQ-1.5 California Environmental Quality Act (CEQA) Compliance wherein the County shall ensure that air quality impacts identified during the CEQA review process are consistently and reasonably mitigated when feasible;

AQ-1.7 Support Statewide Climate Change Solutions wherein the County shall monitor and support the efforts of Cal/EPA, CARB, and the SJVAPCD, under AB 32 (Health and Safety Code §38501 et seq.), to develop a recommended list of emission reduction strategies, as appropriate, the County will evaluate each new project under the updated General Plan to determine its consistency with the emission reduction strategies;

AQ-1.8 Greenhouse Gas Emissions Reduction Plan/Climate Action Plan wherein the County will develop a Greenhouse Gas Emissions Reduction Plan (Plan) that identifies greenhouse gas emissions within the County as well as ways to reduce those emissions. The Plan will incorporate the requirements adopted by the California Air Resources Board specific to this issue. In addition, the County will work with the Tulare

[102] Ibid. Pages 4 to 5.

[103] Tulare County General Plan 2030 Update. Part 1 – Goals and Policies Report.

County Association of Governments and other applicable agencies to include the following key items in the regional planning efforts;

AQ-3.2 Infill near Employment requiring the County of identify opportunities for infill development near employment areas;

AQ-3.3 Street Design regarding street designed to encourage transit use, biking, and pedestrian movement;

AQ-3.4 Landscape regarding the use of ecologically based landscape design principles that can improve local air quality by absorbing CO_2, producing oxygen, providing shade that reduces energy required for cooling, and filtering particulates*;*

AQ-3.5 Alternative Energy Design wherein the County shall encourage all new development to incorporate energy conservation and green building practices to maximum extent feasible;

ERM-4.1 Energy Conservation and Efficiency Measures wherein the County shall encourage energy conservation and efficiency features in new construction in accordance with State law; and

ERM-4.8 Energy Efficiency Standards wherein the County shall encourage new developments to incorporate energy efficiency and conservation measures that exceed State Title 24 standards.

Tulare County Climate Action Plan

"The CAP serves as a guiding document for County of Tulare ("County") actions to reduce greenhouse gas emissions and adapt to the potential effects of climate change. The CAP is an implementation measure of the 2030 General Plan Update. The General Plan provides the supporting framework for development in the County to produce fewer greenhouse gas emissions during Plan buildout. The CAP builds on the General Plan's framework with more specific actions that will be applied to achieve emission reduction targets consistent with California legislation."[104]

"The County of Tulare (County) adopted the Tulare County Climate Action Plan (CAP) in August 2012. The CAP includes provisions for an update when the State of California Air Resources Board (CARB) adopts a Scoping Plan Update that provides post-2020 targets for the State and an updated strategy for achieving a 2030 target. Governor Brown signed Senate Bill (SB) 32 on September 8, 2016 which contains the new 2030 target. The CARB 2017 Scoping Plan Update for the Senate Bill (SB) 32 2030 targets was adopted by the CARB on December 14, 2017 which provided new emission inventories and a comprehensive strategy for achieving the 2030 target (CARB 2017a). With the adoption of the 2017 Scoping Plan, the County proceeded with the 2018 CAP Update that is provided in this document.

The 2018 CAP Update incorporates new baseline and future year inventories to reflect the latest information and updates the County's strategy to address the SB 32 2030 target. The 2030 target requires the State to reduce emissions by 40 percent below 1990 levels from the 2017 Scoping Plan and County data. The CAP identifies the County's fair share of reductions required to maintain consistency with the State target."[105]

[104] Tulare County Climate Action Plan, December 2018 Update. Page 1. Accessed September 2022 at: http://generalplan.co.tulare.ca.us/documents/GP/001Adopted%20Tulare%20County%20General%20Plan%20Materials/220Climate%20Action%20Plan/CLIMATE%20ACTION%20PLAN%202018%20UPDATE.pdf.

[105] Ibid.

Project Impact Analysis

a) Less Than Significant Impact: The analysis below relies on the guidance and expertise of the Air District in addressing GHG emissions and follows the Air District's recommendation for evaluation of potential impacts on GHG emissions as provided in their guidance documents: *Guidance for Assessing and Mitigating Air Quality Impacts* (GAMAQI) and *Guidance for Valley Land-use Agencies in Addressing GHG Emission Impacts for New Project under CEQA*. As previously noted, the Air District has determined that projects complying with an approved GHG emission reduction plan or GHG mitigation program, which avoids or substantially reduces GHG emissions within the geographic area in which the project is located, would be determined to have a less than significant individual and cumulative impact for GHG emissions.

The Tulare County CAP was initially adopted in August 2012 and serves as a guiding document for County actions to reduce GHG emissions and adapt to the potential effects of climate change. The CAP is an implementation measure of the Tulare County General Plan 2030 Update (General Plan) which provides the supporting framework for development in the County. The CAP builds on the General Plan's framework with more specific actions that will be applied to achieve emission reduction targets required by State of California legislation. The General Plan fulfills many sustainability and GHG reduction objectives at the program level. The CAP identifies the policies from the various General Plan elements that promote more efficient development, and reduce travel and energy consumption. The CAP requires projects achieve reductions in excess of the reduction identified in the Scoping Plan. The CAP identifies General Plan policies in place to assist the County in reducing GHG emissions. The 2018 CAP Update incorporates new baseline and future year inventories to reflect the latest information and updates the County's strategy to address the SB 32 2030 target. The CAP identifies the County's fair share of reductions required to maintain consistency with the State's target.

The CAP thresholds for determining consistency with the CAP are 500 dwelling units, 100,000 square feet of retail, or equivalent intensity for other uses. These thresholds are the amounts currently required from development related sources within the County to demonstrate consistency with SB 32 2030 targets. Projects exceeding the consistency thresholds must comply with the requirements of the CAP, which requires a GHG analysis report demonstrating emission reductions of at least 31% below 2015 levels by 2030 or a 9% reduction from 2030 BAU emissions. As the CAP implements the County's strategy to achieve the State's 2030 reduction targets, projects below the consistency thresholds have been determined to be consistent with the State's targets and do not require GHG emissions quantification. Projects below the consistency thresholds would not generate GHG emissions, either directly or indirectly, that may have a significant impact on the environment.

The proposed Project consists of the development of 35 single-family residential lots; as such, the Project does not require a consistency determination or GHG analysis report. As the proposed Project falls below the CAP consistency thresholds, the proposed Project would not generate GHG emissions, either directly or indirectly, that may have a significant impact on the environment.

As such, the proposed Project is consistent with the GHG reduction requirements of the County's CAP and demonstrates continued progress towards the County achieving the 2017 Scoping Plan Update 2030 reduction requirements with an overall GHG reduction. Furthermore, the State anticipates increases in the number of zero emission vehicles operated in the State under the Advanced Clean Car Program. Compliance with SB 375 reduction targets for light duty vehicles will provide continued reductions in emissions from that source through SB 375's 2035 milestone year. Since the proposed Project will

continue to comply with existing and future regulations, and the General Plan and CAP will continue to be implemented through 2030, the proposed Project would not generate greenhouse gas emissions, either directly or indirectly that may have a significant impact on the environment. Impacts are less than significant.

b) No Impact: Since the proposed Project is located in an unincorporated area of Tulare County, the most applicable GHG plans are the Tulare County *Climate Action Plan* and ARB's *2017 Climate Change Scoping Plan*. As previously noted, the CAP, initially adopted in August 2012, serves as a guiding document for County actions to reduce GHG emissions and adapt to the potential effects of climate change. The CAP is an implementation measure of the Tulare County General Plan which provides the supporting framework for development in the County. The CAP builds on the General Plan's framework with more specific actions that will be applied to achieve emission reduction targets required by State of California legislation. The General Plan fulfills many sustainability and GHG reduction objectives at the program level. The CAP identifies the policies from the various General Plan elements that promote more efficient development, and reduce travel and energy consumption. The CAP requires projects achieve reductions in excess of the reduction identified in the Scoping Plan. The CAP identifies General Plan policies in place to assist the County in reducing GHG emissions. The 2018 CAP Update incorporates new baseline and future year inventories to reflect the latest information and updates the County's strategy to address the SB 32 2030 target. The CAP identifies the County's fair share of reductions required to maintain consistency with the State's target.

"The 2018 CAP Update includes an additional method of determining project consistency with the CAP and 2030 targets. Projects subject to CEQA review could use a checklist containing design features and measures that are needed to determine consistency. Large projects (500-unit subdivisions and 100,000 square feet of retail or equivalent intensity for other uses) and new specific plans should provide a greenhouse gas analysis report quantifying GHG emissions to demonstrate that the project emissions are at least 31 percent below 2015 levels by 2030 or 9 percent below BAU emissions in 2030. These are the amounts currently required from development related sources to demonstrate consistency with SB 32 2030 targets. Smaller projects may also prepare a GHG analysis report if the checklist is not appropriate for a particular project or is deemed necessary by the project proponent or County staff. The GHG analysis should incorporate as many measures as possible from the CalEEMod mitigation component as described in Table 15 and can take credit for 2017 Scoping Plan measures that have not been incorporated into CalEEMod but that will be adopted prior to 2030 such as 50 percent RPS.

Table 17 [in the CAP, **Table 8-1** of this MND] lists the overarching consistency requirements for all projects based on consistency with County land use plans that apply to the project location. Reviews for consistency with land use plans require planning staff to review projects to determine if they comply with applicable plan policies and implementation measures."[106]

Table 8-1: CEQA Project Requirements for Consistency with CAP

Item	Required
Project helps to meet the density goals from the Tulare Blueprint	Yes
Consistency with General Plan policies	Yes
Consistency with Rural Valley Lands Plan or Foothill Growth Management Plan development criteria	Yes

[106] Op. Cit. Page 73.

Table 8-1: CEQA Project Requirements for Consistency with CAP	
Consistency with Urban Growth Boundary expansion criteria	Yes
Consistency for development within Rural Community Urban Development Boundaries (UDB) and Hamlet Development Boundaries (HDB), and Legacy Development Boundaries (LDB)	Yes

"A more detailed review for compliance with CAP measures is required to ensure that a project is doing its part in reducing emissions. Table 18 [**Table 8-2** of this MND] provides a checklist containing measures that will provide reductions necessary to achieve CAP consistency. A project checklist that can be used by staff is provided as Appendix C."[107]

Table 8-2: CAP Consistency Checklist	
CAP Measure	**Compliance**
Land Use: Project is consistent with the Tulare County General Plan policies listed in the CAP applicable to GHG emissions and sustainability.	Review for compliance during project review process.
Land Use—Residential: Subdivisions and multifamily projects propose densities consistent with County commitments for the Tulare Blueprint. Densities in subdivisions within the boundaries of Valley rural communities must be at least 5.0 units per acre. (County R-1 zoning has a 6,000 square foot minimum lot size or 7.26 units per gross acre). Overall residential density is 5.3 units per acre for the entire County including the cities. Mountain subdivisions over 50 lots require review to determine if they are consistent with the Blueprint.	Review development plans during project review to determine if densities are consistent with Blueprint.
Land Use—Non-Residential: Retail and office projects should be constructed within the boundaries of Rural Communities, HDB, UDB, LDB, and in designated transportation corridors to provide needed local goods services to residents and the traveling public. Agricultural industrial projects may be constructed in rural locations as long as consistent with the General Plan.	Review development plans to ensure locations are appropriate for type of project that is proposed and consistent with County plans.
Land Use Design: Projects that require construction of new roads or major intersection improvements provide a fair share of improvements such as sidewalks and pedestrian friendly crossings, and bike lanes/paths connecting to schools, shopping, and other uses consistent with County development standards.	Include roadway improvements as conditions of approval of subdivision or commercial site plan
Energy Efficiency: Project complies with current version of Title 24. (Current version is 2016 Title 24)	Provide copy of the Title 24 Report demonstrating compliance with the applicable standards with Building Permit application.
Renewable Energy: Project includes solar panels or other alternative energy source meeting County Solar Ordinance or new Title 24 standards whichever is more stringent.	Include solar on building plans and provide Title 24 compliance reports with Building Permit applications.
EV Charging: Project meets charging installation/charging ready requirements of the CalGreen Code.	Include charging in building plans
CalGreen Building Code Water: Project complies with indoor and outdoor water conservation measures.	Provide copy of report showing code compliance.
Water Conservation Landscaping:	Project complies with County water conservation ordinance requirements for landscaping.
Solid Waste: Project has access to recycling service for homes and businesses meeting CalRecycle requirements.	County verify that providers are in compliance with CalRecycle regulations regarding recycling and

[107] Op. Cit.

Table 8-2: CAP Consistency Checklist	
	diversion of solid waste.
Note: Criteria as identified in the General Plan Planning Framework *Source: 2018 CAP Update. Table 18. Pages 73-74.*	

As the County CAP requires projects to achieve reductions in excess of the reductions required in the Scoping Plan and by State legislation, projects that are consistent with the County CAP would not conflict with any applicable plan, policy or regulation adopted for reducing GHG emissions. The proposed Project consists of the development of 35 single-family residential lots; as such, the proposed Project does not require a consistency determination and therefore, does not conflict with the reduction strategies included in the Scoping Plan. Furthermore, although not required, the proposed Project demonstrates consistency with the CAP as follows:

- The proposed Project will comply with all applicable General Plan policies.
- The proposed Project will include sidewalks, curbs, and gutters, and the elementary school is located directly east of the Project site.
- The proposed Project will comply with the most recent version of Title 24 as required by building permits.
- The proposed Project will comply with the County's Solar Ordinance.
- The proposed Project will comply with the CalGreen Code for EV charging and indoor/outdoor water conservation measures.
- The proposed Project will comply with the County's Model Water Efficient Landscaping Ordinance (MWELO).
- Solid waste providers supplying services for the proposed Project are in compliance with CalRecycle regulations.

As demonstrated earlier, the Project is consistent with the CAP, and thereby consistent with the emission reduction strategies included in the Scoping Plan. Therefore, the proposed Project will not conflict with any applicable plan, policy or regulation adopted for reducing GHG emissions. There are no impacts related to this Checklist Item.

Cumulative Impact Analysis

Less Than Significant Impact: The proposed Project is consistent with the Tulare County General Plan 2030 Update. As previously discussed, implementation of the proposed Project is consistent with the Tulare County CAP and applicable AB 32 Scoping Plan reductions measures. The proposed Project will implement applicable Tulare County General Plan and Tulare County CAP policies. As such, implementation of the proposed Project will not conflict with applicable state, regional, and local plans, policies or regulation adopted for the purpose of reducing the emissions of greenhouse gases. Less Than Significant Cumulative Impacts related to this Checklist Item will occur. Therefore, less than significant project-specific and cumulative impacts related to this Checklist Item will occur

IX. HAZARDS AND HAZARDOUS MATERIALS

Would the project:		Significant Impact	Less Than Significant Impact With Mitigation	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 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?	☐	☐	☐	☒

Environmental Setting

The proposed Project site is located immediately north of the City of Visalia in the unincorporated Tulare County, near primarily residential land uses. A portion of the site is currently fallowed row crops while the remaining portion is an active orchard.

Residences exist within a quarter-mile of the proposed Project site on north, east, and south, with vacant land to the west. The St Johns Rivers runs west-southwest on the southern edge of the site. The nearest airport to the proposed Project site (Visalia Municipal Airport) is located approximately 6.5 miles northeast.

Regulatory Setting

Federal

The primary federal agencies with responsibility for hazardous materials management include the EPA, U.S. Department of Labor Occupational Safety and Health Administration (OSHA), and the U.S. Department of Transportation (DOT). The Environmental Protection Agency (EPA) was created to protect human health and to safeguard the natural environment – air, water and land – and works closely with other federal agencies, and state and local governments to develop and enforce regulations under existing environmental laws. Where national standards are not met, EPA can issue sanctions and take other steps to assist the states in reaching the desired levels of environmental quality. EPA also works with industries and all levels of government in a wide variety of voluntary pollution prevention programs and energy conservation efforts.

State

The California Department of Industrial Relations, Division of Occupational Safety and Health is the administering agency designed to protect worker health and general facility safety. The California Department of Forestry and Fire Protection has designated the area that includes the proposed Project site as a Local Responsibility Area, defined as an area where the local fire jurisdiction is responsible for emergency fire response.

Project Impact Analysis

a) Less Than Significant Impact: The proposed Project would include the construction of up to 35 residential homes with the associated improvements. Proposed Project construction-related activities may involve the use and transport of hazardous materials. These materials may include fuels, oils, mechanical fluids, and other chemicals used during construction-related activities. Transportation, storage, use, and disposal of hazardous materials during construction-related activities would be required to comply with applicable federal, state, and local statutes and regulations. Compliance would ensure that human health and the environment are not exposed to hazardous materials. In addition, the Project would be required to comply with the National Pollutant Discharge Elimination System (NPDES) permit program through the submission and implementation of a Stormwater Pollution Prevention Plan during construction-related activities to prevent contaminated runoff from leaving the project site. Therefore, no significant impacts would occur during construction-related activities.

The operational phase of the proposed Project would occur after construction is completed and residents move in to occupy the structures on a day-to-day basis. Upon approval of entitlements proposed as part of the proposed Project, the proposed Project will include land uses that are considered compatible with the surrounding uses. The current land uses are also considered compatible with the surrounding uses. None of these land uses routinely transport, use, or dispose of hazardous materials, or present a reasonably foreseeable release of hazardous materials, with the exception of common residential grade hazardous materials such as household and commercial cleaners, paint, etc. The proposed Project would not create a significant hazard through the routine transport, use, or disposal of hazardous materials, nor would a significant hazard to the public or to the environment through the reasonably foreseeable upset and accidental conditions involving the likely release of hazardous materials into the environment occur. Therefore, the proposed Project will not create a significant hazard to the public or the environment and any impacts would be less than significant.

b) Less than Significant Impact: See Response a). Any accumulated hazardous construction or operational wastes will be collected and transported away from the site in compliance with all federal, state and local regulations. Impacts would be less than significant.

c) Less Than Significant Impact: There are no schools located within one-quarter mile of the proposed Project site. As the proposed Project includes the development of single-family residences, it is not reasonably foreseeable that the proposed Project will cause a significant impact by emitting hazardous waste or bringing hazardous materials near a proposed or existing school. Residential land uses do not generate, store, or dispose of significant quantities of hazardous materials. Such uses also do not normally involve dangerous activities that could expose persons onsite or in the surrounding areas to large quantities of hazardous materials. See also Responses a. and b. regarding hazardous material handling. The impact is less than significant.

d) No Impact: The proposed Project site is not located on a list of hazardous materials sites complied pursuant to Government Code Section 65962.5 (Geotracker and DTSC Envirostor databases – accessed in August 2022). The nearest Department of Toxic Substances Control listed site is a Certified Voluntary Cleanup site on Riverway Drive, located approximately 0.6-miles west of the proposed Project site. There are no hazardous materials sites that impact the proposed Project.

e) No Impact: The proposed Project site is approximately 6.5 miles northeast of the Visalia Municipal Airport. Land use controls for this area are provided by the Tulare County General Plan and Zoning Ordinance, Part 77.21 and the Tulare County Comprehensive Airport Land Use Plan, 2012. The Project site is outside the height and safety restriction zones imposed by these plans. There is no impact.

f) and g) No Impact: The proposed Project will not interfere with any adopted emergency response or evacuation plan. There are no wildlands on or near the proposed Project site. There would be no impact.

Cumulative Impact Analysis

Less Than Significant Impact: The geographic area of this cumulative analysis is Tulare County. This cumulative analysis based on the information provided in the Tulare County 2030 General Plan, General Plan background Report, and/or Tulare County 2030 General Plan EIR. Cumulative development throughout the proposed Project area and its vicinity, under Year 2030 build out conditions will cumulatively increase the potential for exposure to existing hazards associated with any State Route. However, as discussed earlier, the transportation of hazardous materials will continue to be regulated by federal, state, and regional agencies, and all new development will be subject to independent environmental review and all applicable regulations to minimize any potential health risks associated with freeways. Therefore, through appropriate regulations, potential cumulative health impacts associated with the build out of the Project area (including the proposed Project) would result in less than significant Project-specific and Cumulative Impacts related to this Checklist Item.

X. HYDROLOGY AND WATER QUALITY

Would the project:		Significant Impact	Less Than Significant Impact With Mitigation	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?	☐	☐	☒	☐
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 water quality control plan or sustainable groundwater management plan?	☐	☐	☒	☐

Environmental Setting

According to the Tulare County General Plan Background Report, the County is located primarily within the Tulare Lake Basin, the closed drainage basin at the south end of the San Joaquin Valley, south of the San Joaquin River watershed, encompassing basins draining to Kern, Tulare, and Buena Vista Lakes. The demands for water resources within Tulare County are met from 4 major sources. These sources include groundwater, local streams and rivers, imported surface water and imported surface water by exchange. The predominant water supply for domestic use within the unincorporated communities of Tulare County is the individual system. Principal among these systems are those that utilize groundwater that is, in most cases, untreated.[108]

[108] Ch 7. Public Service and Utilities, Tulare County General Plan Background Report. Pg 7-9.

Storm drainage systems exist in various urban areas throughout Tulare County. Storm drainage infrastructure projects in the unincorporated areas the County are generally constructed through redevelopment projects, and/or in conjunction with transportation improvement and site development projects (i.e., residential subdivisions). Localized storm drainage systems in unincorporated areas discharge to various surface waters including streams, rivers, ditches, other surface water courses, and ponding basins.

Flooding

"Flooding is a natural occurrence in the Central Valley because it is a natural drainage basin for thousands of watershed acres of Sierra Nevada and Coast Range foothills and mountains. Two kinds of flooding can occur in the Central Valley: general rainfall floods occurring in the late fall and winter in the foothills and on the valley floor; and snowmelt floods occurring in the late spring and early summer. Most floods are produced by extended periods of precipitation during the winter months. Floods can also occur when large amounts of water (due to snowmelt) enter storage reservoirs, causing an increase in the amount of water that is released."[109]

"Official floodplain maps are maintained by the Federal Emergency Management Agency (FEMA). FEMA determines areas subject to flood hazards and designates these areas by relative risk of flooding on a map for each community, known as the Flood Insurance Rate Map (FIRM). A 100-year flood is considered for purposes of land use planning and protection of property and human safety. The boundaries of the 100-year floodplain are delineated by FEMA on the basis of hydrology, topography, and modeling of flow during predicted rainstorms."[110]

"The flood carrying capacity in rivers and streams has decreased as trees, vegetation, and structures (e.g., bridges, trestles, buildings) have increased along the Kaweah, Kings, and Tule Rivers. Unsecured and uprooted material can be carried down a river, clogging channels and piling up against trestles and bridge abutments that can, in turn, give way or collapse, increasing blockage and flooding potential. Flooding can force waters out of the river channel and above its ordinary floodplain. Confined floodplains can result in significantly higher water elevations and higher flow rates during high runoff and flood events."[111]

"Dam failure can result from numerous natural or human activities, such as earthquakes, erosion, improper siting, rapidly rising flood waters, and structural and design flaws. Flooding due to dam failure can cause loss of life, damage to property, and other ensuing hazards. Damage to electric-generating facilities and transmission lines associated with hydro-electric dams could also affect life support systems in communities outside the immediate hazard area."[112]

Storm Drainage

"The entire County of Tulare is under the jurisdiction of the Tulare County Flood Control District which has the authority to address local drainage, flooding, and related issues. According to the Tulare County General Plan Update, localized drainage issues do occur throughout the County but they are generally in proximity to floodplains.

[109] Op. Cit. 3.9-17 and 3.9-18.
[110] Op. Cit. 3.9-18.
[111] Op. Cit.
[112] Op. Cit.

Federal

Clean Water Act

The Clean Water Act (CWA) is intended to restore and maintain the chemical, physical, and biological integrity of the nation's waters (33 CFR 1251). The regulations implementing the CWA protect waters of the U.S. including streams and wetlands (33 CFR 328.3). The CWA requires states to set standards to protect, maintain, and restore water quality by regulating point source and some non-point source discharges. Under Section 402 of the CWA, the National Pollutant Discharge Elimination System (NPDES) permit process was established to regulate these discharges.

The National Flood Insurance Act (1968) makes available federally subsidized flood insurance to owners of flood-prone properties. To facilitate identifying areas with flood potential, Federal Emergency Management Agency (FEMA) has developed Flood Insurance Rate Maps (FIRM) that can be used for planning purposes.

State

State Water Resources Control Board

The State Water Resources Control Board (SWRCB), located in Sacramento, is the agency with jurisdiction over water quality issues in the State of California. The SWRCB is governed by the Porter-Cologne Water Quality Act (Division 7 of the California Water Code), which establishes the legal framework for water quality control activities by the SWRCB. The intent of the Porter-Cologne Act is to regulate factors which may affect the quality of waters of the State to attain the highest quality which is reasonable, considering a full range of demands and values. Much of the implementation of the SWRCB's responsibilities is delegated to its nine Regional Boards. The proposed Project site is located within the Central Valley Region.

The Porter-Cologne Water Quality Control Act

"The Porter-Cologne Act is the principal law governing water quality regulation in California. It establishes a comprehensive program to protect water quality and the beneficial uses of water. The Porter-Cologne Act applies to surface waters, wetlands, and ground water and to both point and nonpoint sources of pollution. Pursuant to the Porter-Cologne Act (California Water Code section 13000 et seq.), the policy of the State is as follows:

- That the quality of all the waters of the State shall be protected,
- That all activities and factors affecting the quality of water shall be regulated to attain the highest water quality within reason, and
- That the State must be prepared to exercise its full power and jurisdiction to protect the quality of water in the State from degradation.

The Porter-Cologne Act established nine Regional Water Boards (based on hydrogeologic barriers) and the State Water Board, which are charged with implementing its provisions and which have primary responsibility for protecting water quality in California. The State Water Board provides program guidance and oversight, allocates funds, and reviews Regional Water Boards decisions. In addition, the State Water

Board allocates rights to the use of surface water. The Regional Water Boards have primary responsibility for individual permitting, inspection, and enforcement actions within each of nine hydrologic regions."[113]

Regional Water Quality Board

The Regional Water Quality Control Board (RWQCB) administers the NPDES storm water-permitting program in the Central Valley region. Construction activities on one acre or more are subject to the permitting requirements of the NPDES General Permit for Discharges of Storm Water Runoff Associated with Construction Activity (General Construction Permit). The General Construction Permit requires the preparation and implementation of a Stormwater Pollution Prevention Plan (SWPPP). The plan will include specifications for Best Management Practices (BMPs) that will be implemented during proposed Project construction to control degradation of surface water by preventing the potential erosion of sediments or discharge of pollutants from the construction area. The General Construction Permit program was established by the RWQCB for the specific purpose of reducing impacts to surface waters that may occur due to construction activities. BMPs have been established by the RWQCB in the California Storm Water Best Management Practice Handbook (2003) and are recognized as effectively reducing degradation of surface waters to an acceptable level. Additionally, the SWPPP will describe measures to prevent or control runoff degradation after construction is complete and identify a plan to inspect and maintain these facilities or project elements.

California Department of Water Resources and State Water Resources Control Board – Sustainable Groundwater Management Act

In 2014, the State of California adopted legislation to help manage its groundwater, the Sustainable Groundwater Management Act (SGMA). According to the act, local Groundwater Sustainability Agencies (GSAs) must be formed for all high and medium priority basins in the state. These GSAs must develop and implement Groundwater Sustainability Plans (GSPs) for managing and using groundwater without causing undesirable results: significant groundwater-level declines, groundwater-storage reductions, seawater intrusion, water-quality degradation, land subsidence, and surface-water depletions; these are also referred to as sustainability indicators. The California Department of Water Resources (DWR) and the State Water Resources Control Board (Water Board) are the two lead state agencies implementing SGMA.

Local

Tulare County Environmental Health Services

"The mission of the Division of Environmental Health Services (EHS) is to enhance the quality of life in Tulare County through implementation of environmental health programs that protect public health and safety as well as the environment. We accomplish this goal by overseeing and enforcing numerous programs, from food facility inspections to hazardous waste. All of our inspectors are licensed and/or certified in their field of practice and participate in continuing education to maintain licensure"[114] This division requires water quality testing of public water systems.

[113] California Water Boards. State Laws Porter-Cologne Act. Accessed September 2022 at: https://www.waterboards.ca.gov/water_issues/programs/nps/encyclopedia/0a_laws_policy.html.

[114] Tulare County Environmental Health Division. Accessed September 2022 at: https://tularecountyeh.org/eh/about-us/career-guide-brochure/.

Any project that involves septic tanks and water wells within Tulare County is subject to approval by this agency. All recommendations provided by this division will be added as mitigation measures to ensure reduction of environmental impacts.

Tulare County Land Development Regulations

The Tulare County Resource Management Agency (RMA) is responsible for review, approval, and enforcement of planning and land development throughout the unincorporated portions of Tulare County. County of Tulare regulations that direct planning and land development (and related water and wastewater utilities) include the Tulare County General Plan, Zoning Ordinance, Subdivision Ordinance, and CEQA procedures. These responsibilities are divided between Planning Branch, Public Works Branch, and other divisions or departments of RMA, and in coordination with the Environmental Health Division of the Tulare County Health and Human Services Agency, and the Tulare County Fire Department.

The County's flood damage prevention code is intended to promote public health, safety, and general welfare in addition to minimizing public and private losses due to flood conditions. The County code provisions to protect against flooding include requiring uses vulnerable to floods be protected against flood damage at the time of initial construction; controlling the alteration of natural flood plains; and preventing or regulating the construction of flood barriers which will unnaturally divert flood waters or which may increase flood hazards in other areas. The County flood damage prevention code, most recently amended by Ord. No. 3212 and effective October 29, 1998, is modeled based upon FEMA guidance.

Tulare County General Plan 2030 Update

The Tulare County General Plan 2030 Update has a number of policies that apply to projects within Tulare County. General Plan policies that relate to the proposed Project are listed as follows:

PF-4.14 Compatible Project Design wherein the County may ensure proposed development within CACUABs is compatible with future sewer and water systems, and circulation networks as shown in city plans;

AG-1.17 Agricultural Water Resources wherein the County shall seek to protect and enhance surface water and groundwater resources critical to agriculture;

HS-4.4 Contamination Prevention wherein the County shall review new development proposals to protect soils, air quality, surface water, and groundwater from hazardous materials contamination;

HS-5.1 Development Compliance with Federal, State, and Local Regulations wherein the County shall ensure that all development within the designated floodway or floodplain zones conforms to FEMA regulations and the Tulare County Flood Damage Prevention Ordinance. New development and divisions of land, especially residential subdivisions, shall be developed to minimize flood risk to structures, infrastructure, and ensure safe access and evacuation during flood conditions*;*

HS-5.2 Development in Floodplain Zones wherein the County shall regulate development in the 100-year floodplain zones as designated on maps prepared by FEMA in accordance with the following:

1. Critical facilities (those facilities which should be open and accessible during emergencies) shall not be permitted.

2. Passive recreational activities (those requiring non-intensive development, such as hiking, horseback riding, picnicking) are permissible.
3. New development and divisions of land, especially residential subdivisions, shall be developed to minimize flood risk to structures, infrastructure, and ensure safe access and evacuation during flood conditions;

HS-5.4 Multi-Purpose Flood Control Measures wherein the County shall encourage multipurpose flood control projects that incorporate recreation, resource conservation, preservation of natural riparian habitat, and scenic values of the County's streams, creeks, and lakes. Where appropriate, the County shall also encourage the use of flood and/or stormwater retention facilities for use as groundwater recharge facilities;

HS-5.6 Impacts to Downstream Properties wherein the County shall ensure that new County flood control projects will not adversely impact downstream properties or contribute to flooding hazards;

HS-5.9 Floodplain Development Restrictions wherein the County shall ensure that riparian areas and drainage areas within 100-year floodplains are free from development that may adversely impact floodway capacity or characteristics of natural/riparian areas or natural groundwater recharge areas;

HS-5.10 Flood Control Design wherein the County shall evaluate flood control project involving further channeling, straightening, or lining of waterways until alternative multipurpose modes of treatment, such as wider berm and landscaped levees, in combination with recreation amenities, are studied;

HS-5.11 Natural Design wherein the County shall encourage flood control designs that respect natural curves and vegetation of natural waterways while retaining dynamic flow and functional integrity;

WR-1.1 Groundwater Withdrawal wherein the County shall cooperate with water agencies and management agencies during land development processes to help promote an adequate, safe, and economically viable groundwater supply for existing and future development within the County. These actions shall be intended to help the County mitigate the potential impact on ground water resources identified during planning and approval processes*;*

WR-1.5 Expand Use of Reclaimed Wastewater to augment groundwater supplies and to conserve potable water for domestic purposes, the County shall seek opportunities to expand groundwater recharge efforts;

WR-2.1 Protect Water Quality wherein all major land use and development plans shall be evaluated as to their potential to create surface and groundwater contamination hazards from point and non-point sources. The County shall confer with other appropriate agencies, as necessary, to assure adequate water quality review to prevent soil erosion; direct discharge of potentially harmful substances; ground leaching from storage of raw materials, petroleum products, or wastes; floating debris; and runoff from the site*;*

WR-2.2 National Pollutant Discharge Elimination System (NPDES) Enforcement wherein the County shall continue to support the State in monitoring and enforcing provisions to control non-point source water pollution contained in the U.S. EPA NPDES program as implemented by the Water Quality Control Board*;*

WR-2.3 Best Management Practices (BMPs); wherein the County shall continue to require the use of feasible BMPs and other mitigation measures designed to protect surface water and groundwater from the adverse effects of construction activities, agricultural operations requiring a County Permit and urban runoff in coordination with the Water Quality Control Board*;*

WR-2.4 Construction Site Sediment Control; wherein the County shall continue to enforce provisions to control erosion and sediment from construction sites;

WR-2.5 Major Drainage Management wherein the County shall continue to promote protection of each individual drainage basin within the County based on the basins unique hydrologic and use characteristics*;*

WR-2.6 Degraded Water Resources wherein the County shall encourage and support the identification of degraded surface water and groundwater resources and promote restoration where appropriate*;*

WR-2.8 Point Source Control wherein the County shall work with the Regional Water Quality Control Board to ensure that all point source pollutants are adequately mitigated (as part of the California Environmental Quality Act review and project approval process) and monitored to ensure long-term compliance*;*

WR-3.3 Adequate Water Availability wherein the County shall review new development proposals to ensure the intensity and timing of growth will be consistent with the availability of adequate water supplies. Projects must submit a Will-Serve letter as part of the application process, and provide evidence of adequate and sustainable water availability prior to approval of the tentative map or other urban development entitlement;

WR-3.5 Use of Native and Drought Tolerant Landscaping wherein the County shall encourage the use of low water consuming, drought-tolerant and native landscaping and emphasize the importance of utilizing water conserving techniques, such as night watering, mulching, and drip irrigation;

WR-3.6 Water Use Efficiency wherein the County shall support educational programs targeted at reducing water consumption and enhancing groundwater recharge; and

WR-3.10 Diversion of Surface Water wherein the diversions of surface water or runoff from precipitation should be prevented where such diversions may cause a reduction in water available for groundwater recharge.

Project Impact Analysis

a) Less Than Significant Impact: The State Water Resources Control Board requires any new construction project over an acre to complete a Stormwater Pollution Prevention Plan (SWPPP). A SWPPP involves site planning and scheduling, limiting disturbed soil areas, and determining best management practices to minimize the risk of pollution and sediments being discharged from construction sites. Implementation of the SWPPP will minimize the potential for impacts associated with erosion or siltation onsite or offsite. The proposed Project includes construction of bioswales off roadways. An appropriate buffer will also be maintained within areas along the St Johns River.

The proposed Project includes installation of septic systems for each residential unit to address the sewage needs. The installation of a septic tank is regulated and monitored by the Tulare County

Environmental Health Services Division (EHS). Upon submission of an application to install a septic system, TCEHD requires that percolation tests are performed, in accordance with U.S. Environmental Protection Agency's "Manual of Septic Tank Practice".[115] The final design will be based off the percolation testing results, ensuring that the soils at the proposed Project site will support the use of the septic system. By complying with existing EHS regulations/permit requirements through project design features, the proposed Project will not violate any water quality standards and will not impact waste discharge requirements. The wastewater from residential units will not be discharged into the County's existing wastewater treatment system. The impacts will be less than significant.

b) Less Than Significant Impact: Tulare County, and the proposed Project site, is located primarily within the Tulare Lake Basin, the closed drainage basin at the south end of the San Joaquin Valley, south of the San Joaquin River watershed, encompassing basins draining to Kern, Tulare, and Buena Vista Lakes. The proposed Project site is located within the Kaweah Delta Water Conservation District (KDWCD). The proposed Project includes construction and operation of groundwater wells for each individual residential unit.

The proposed Project site consists of fallowed row crop fields and active orchards. Approximately 42 acres of the site is currently planted with almond trees while the remaining 26 acres are fallow. Proposed Project development includes developing 35 single family residential units at approximately 1 unit every 1.95 acres. The information below provides a comparison of existing (baseline) conditions versus potential water use based on full buildout of the proposed Project. Existing water use, both agricultural and residential is based on information contained in Tulare County's *Phase I Water Supply Evaluation.*[116]

Assumptions

- Residential: The Project is proposing 35 residential units on 68 acres (1.95 acres/unit).

- Per Capita Water Use: The County's Phase I Water Supply Evaluation identified that residential land uses would require 1.7 af/ac/year[117]. However, this was assuming a density of five (5) dwelling units per acre. Using this ratio, the Project would require 115.6 af/ac/year. However, since the Project is only proposing one (1) residential unit per 1.95 acres (rather than 5), the total amount would be divided by five (5). Therefore, the proposed Project's water demand is expected to be 23.12 af/ac/year (115.6 / 5 = 23.12).

Project Impacts

Based on these assumptions, the proposed Project would require approximately 23.12 af/ac/year of water to serve the 35 single family residential units. As previously stated, the Project site is currently planted in almond trees (42 acres) and the remaining 26 acres are fallow. The County's Phase I Water Supply Evaluation identified that almonds require approximately 0.7 af/ac/yr[118]. This equates to approximately 29.4 af/ac/yr that is currently being used on the Project site (42 X 0.7 = 29.4).

[115] U.S. Environmental Protection Agency, Public Health Service Publication No. 526.

[116] Phase I Water Supply Evaluation for Tulare County. Prepared by Tully & Young. June 2009. Accessed February 2023 at: http://generalplan.co.tulare.ca.us/documents/GeneralPlan2010/Appendix%20G%20-%20Phase%20I%20Water%20Supply%20Evaluation.pdf.

[117] Ibid., page 11, Table 2.6. Accessed February 2023.

[118] Ibid, page 9, Table 2.4. Accessed February 2023.

Based on this information, the proposed Project would use approximately 6.28 af/ac/yr less than the existing almond orchard on the site (29.4 – 23.12 = 6.28).

Project demands for groundwater resources in connection with the proposed Project would not substantially deplete groundwater supplies and/or otherwise interfere with groundwater recharge efforts being implemented by the Tulare County. The proposed land use change is compatible with surrounding areas and all potential development will be required to comply with all County and State mandated water conservation measures and regulations. Therefore, the proposed Project would not substantially deplete ground water supplies or interfere substantially with groundwater recharge. As such, there is a less than significant impact to this Checklist Item.

c) ***i-iv)*** **Less Than Significant Impact:** The proposed Project would result in the alteration of the existing agricultural use to single-family residential uses. As such, the proposed Project would add impervious areas to the site. A Stormwater Pollution Prevention Plan (SWPPP) will be prepared and implemented as part of the required National Pollutant Discharge Elimination System (NPDES) permit. This SWPPP will ensure that potential construction-related activity erosion and siltation will not affect offsite drainages. This will inhibit any erosion or siltation from occurring onsite or offsite. As such, proposed Project-specific impacts related to this Checklist item will be less than significant.

i) Erosion and Siltation; **Less Than Significant Impact:** The extent of potential erosion will vary depending on slope steepness/stability, vegetation/cover, concentration of runoff, and weather conditions. The relatively flat nature of the site reduces the need for substantial grading. Any soils removed from these areas would be redistributed around and retained elsewhere on the proposed Project site. The site is and will continue to have a relatively flat topography after site construction. Also, as noted earlier, a SWPPP will be in place during construction, as described in Impact 10-a. Therefore, construction-related activities will minimally disturb the ground surface resulting in a less than significant impact from erosion and siltation.

ii) Runoff resulting in Flooding On- or Off-site; **Less Than Significant Impact:** The site will not result in waters capable of flooding either on- or off-site. While the site is adjacent to the St. Johns River, the parcels that will be developed with residences will lie within Flood Zone X (area of minimal flooding) per the Federal Emergency Management Agency FIRM map.[119] Also, the site will not generate substantial amounts of runoff that would result in on- or off-site flooding as each parcel will include bioswales to retain storm runoff. As such, the proposed Project would result in a less than significant impact to or from this resource Item.

iii) Runoff affecting Drainage Systems and Polluted Runoff; **No Impact:** See Items 10 c) i) and ii). Also, the proposed Project will not connect to any existing or planned stormwater drainage system, as such it will not provide any additional sources of polluted runoff. proposed 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, and as such, would result in no impact.

d) and e) Less Than Significant Impact: The proposed Project site is primarily within Zone X, which experiences minimal flood hazards, as indicated by FEMA flood hazard map 06107C0935E, (effective 6/15/2009). A portion of the site is within the Zone AE which experiences a 1% Annual Chance Flood

[119] Federal Emergency Management Agency FIRM Panel 06107C0935E June 16, 2009. Accessed September 2022 at: https://hazards-fema.maps.arcgis.com/apps/webappviewer/index.html?id=8b0adb51996444d4879338b5529aa9cd&extent=-119.24027126756349,36.137670866489145,-119.15718716111826,36.17232174266695

Hazard. The site is not within a 100-year flood zone. The site will be designed for adequate storm drainage. No development is planned in Flood Zone AE.

There are no inland water bodies that could be potentially susceptible to a seiche in the Project vicinity. This precludes the possibility of a seiche inundating the Project site. The Project site is more than 100 miles from the Pacific Ocean, a condition that precludes the possibility of inundation by tsunami. There are no steep slopes that would be susceptible to a mudflow in the Project vicinity, nor are there any volcanically active features that could produce a mudflow in or near the City of Visalia. This precludes the possibility of a mudflow inundating the Project site.

As such, impacts related to exposure of people or structures to a risk of loss, injury, or death involving flooding as a result of the failure of a levee or dam would be less than significant.

Cumulative Impact Analysis

Less Than Significant Impact: The geographic area of this cumulative analysis is Tulare County. As there are no Project-specific impacts resulting from proposed Project development, no cumulative impacts are anticipated. Additionally, the County has available surface water storage facilities to allow for future recharge areas should they be required. Therefore, development of the proposed Project will not significantly impact groundwater recharge in the cumulative, and impacts will be less than significant.

XI. LAND USE AND PLANNING

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

Environmental Setting

The proposed Project site is located in the western-central part of Tulare County. Tulare County is located in the San Joaquin Valley portion of the Great Central Valley of California that lies south of the Sacramento-San Joaquin Delta, and is comprised of 4,863 square miles. Tulare County is bordered by Fresno County to the north, Kings County to the west; Kern County to the south; and Inyo County to the east. The site is immediately north of the City of Visalia (the County seat), and is within the Visalia Urban Area Boundary (UAB).

Existing land uses in Tulare County have been organized into generalized categories that are summarized on **Table 11-1**. These lands total 3,930 square miles or approximately 81 percent of Tulare County. Open space, which includes wilderness, national forests, monuments and parks, and county parks, encompass 1,230 square miles, or approximately 25 percent of the County. Agricultural uses total over 2,150 square miles or about 44 percent of the entire county. Incorporated cities in Tulare County capture less than three percent of the entire County.

Table 11-1: County of Tulare Summary of Assessed Land by Generalized Use Categories[120]

Generalized Land Use Category	Square Miles[1]	Percentage[2]
Residential	110	2
Commercial	10	Less than 1%
Industrial	10	Less than 1%
Agriculture	2,150	44
Public (including airports, charitable organizations, churches, fraternal organizations, government owned land, hospitals and rest homes, institutional facilities, rehab facilities and schools)	420	9
Open Space (including national forests and parks, timber preserves)	1,230	25
Classified Subtotal	**3,930**	**81**
Unclassified (includes streets and highways, rivers, canals, etc.)	780	16
Unincorporated County Subtotal	**4,710**	**97**
Incorporated Cities	130	3
Total County	**4,840**	**100**

1 One square mile = 640 acres.
2 Percent reflect those estimated for the total land area of the County and may not equal 100 due to rounding.

[120] Tulare County General Plan 2030 Update Background Report. Page 3-53.

The proposed Project site is generally west of Road 132, with Karolina Drive located approximately 275 feet to the north. Residential subdivisions lie to the north, east, and south of the Project site, with vacant land to the west. The St Johns River runs west-southwest on the southern edge of the site. The nearest airport to the proposed Project site, Visalia Municipal Airport, is approximately 6.5 miles northeast. The existing land use, General Plan Designation and current zoning for the surrounding areas is provided in **Table 11-2**.

Table 11-2: Existing Land Use, General Plan Designation and Zoning

Location	Existing Land Use	Current Zoning Classification	General Plan Designation
North	Rural Residential	R-A-100	Rural Residential
South	Rural Residential, Vacant, St Johns River	R-A-100	Residential Low Density (City of Visalia)
West	Vacant, St Johns River	R-1-5 (City of Visalia)	Residential Low Density (City of Visalia)
East	Rural Residential	R-A-100, AE-20	Rural Residential

Regulatory Setting

Federal

Federal regulations for land use are not relevant to the proposed Project because it is not a federal undertaking (the proposed Project site is not located on lands administered by a federal agency, and the project applicant is not requesting federal funding or a federal permit).

State

SB 330 Housing Crisis Act of 2019

On October 9, 2019, Gov. Gavin Newsom signed the Housing Crisis Act of 2019 into law, commonly known as Senate Bill 330 (Chapter 654, Statutes of 2019) to respond to the California housing crisis. Effective January 1, 2020, SB330 aims to increase residential unit development, protect existing housing inventory, and expedite permit processing. This new law makes a number of modifications to existing legislation, such as the Permit Streamlining Act and the Housing Accountability Act and institutes the Housing Crisis Act of 2019. Many of the changes proposed last for a 5-year period and sunset on January 1, 2025. Under this legislation, municipal and county agencies are restricted in ordinances and polices that can be applied to residential development. The revised definition of "Housing Development" now contains residential projects of two or more units, mixed-use projects (with two-thirds of the floor area designated for residential use), transitional, supportive, and emergency housing projects.

Local

Tulare County Association of Governments (TCAG)

"The Tulare County Association of Governments (TCAG) is responsible for overseeing and planning projects with the county and each of its cities, helping to bring tax money back home to fund bus service, road improvements, projects that will improve our air quality, and more. TCAG's 2009 Regional Blueprint includes a goal for a 25% increase in land use densities, facilitated urban growth, and expansion of transportation facilities."[121]

Regional Housing Needs Assessment (RHNA) – "State housing element law assigns the responsibility for preparing the Regional Housing Needs Assessment (RHNA) for the Tulare County region to the Tulare County Association of Governments (TCAG). The RHNA is updated prior to each housing element cycle. The current RHNA, adopted on June 30, 2014, is for the fifth housing element cycle and covers a 9.75-year projection period (January 1, 2014 – September 30, 2023).

The growth projections applied in the Tulare County Housing Element Update are based upon growth projections developed by the State of California. A "Regional Housing Needs Assessment Plan" provides a general measure of each local jurisdiction's responsibility in the provision of housing to meet those needs. The TCAG was responsible for allocating the State's projections to each local jurisdiction within Tulare County including the County unincorporated area, which is reflected in the Housing Element."[122]

"The Tulare County RHNA Plan recommends that the County provide land use and zoning for approximately 7,081 units in the unincorporated portions of the County. The County administratively agreed to a housing share of 7,081 units (726 units per year over the 9.75-year RHNA planning period). The RTP allocates 30% of population to the County. The RHNA bases the housing needs assessment on this percentage."[123]

Existing County Land Uses

"Tulare County's first zoning ordinance was adopted in 1947 as Ordinance 352. The current Tulare County Zoning Ordinance and related State and Local Land Use Regulations was revised in September 2005 and covers the entire unincorporated county. The Zoning Ordinance has been amended many times since 2005, but has not undergone a comprehensive update. The zoning regulations regulate the extent and type of development that can occur in the unincorporated areas, therefore the outdated ordinance is limiting the County's holding capacity and build out potential. A major difference between the general plan and zoning is that the General Plan provides guidance on the location, type, density, and timing of new growth and development over the long-term, while zoning determines what development can occur on a site specific basis. The land general plan use designations, and the zoning classifications and development standards of the zoning ordinance, determine the County's holding capacity and buildout potential.

The Zoning Ordinance establishes three residential zones, four commercial zones, three industrial zones, and seven other zones related to agriculture, timber, and resource-related uses. The purpose of the zones is to translate the broad land use categories established by the Tulare County General Plan into detailed land use classifications that are applied to properties with much greater precision than the General Plan. The

[121] Goshen Community Plan Update. Draft Environmental Impact Report. Chapter 3.10 Land Use and Planning. Pages 3.10-11 and -12.

[122] TCAG, Final Regional Housing Needs Plan for Tulare County 2014-2023, Page 5. Accessed at: http://www.tularecog.org/wp-content/uploads/2015/07/Final-Regional-HousingNeeds-Plan-for-Tulare-County-2014-2023.pdf. in September 2022.

[123] Ibid.

zoning classifications follow specific property lines and road alignments and correspond to the applicable General Plan categories. Working with the zoning classifications, the text of the Zoning Ordinance provides detailed regulations for the development and use of land."[124]

Tulare County General Plan 2030 Update

The Tulare County General Plan 2030 Update (Chapter 4 – Land Use, Chapter 8 – Environmental Resources Management and Part II Chapter 1 - Rural Valley Lands Plan) contains the following goals and policies that relate to land use and which have potential relevance to the Project's California Environmental Quality Act (CEQA) review for this Project:

PF-1.2 Location of Urban Development wherein the County shall ensure that urban development only takes place in the following areas:

1. Within incorporated cities and CACUDBs;
2. Within the UDBs of adjacent cities in other counties, unincorporated communities, planned community areas, and HDBs of hamlets;
3. Within foothill development corridors as determined by procedures set forth in Foothill Growth Management Plan;
4. Within areas set aside for urban use in the Mountain Framework Plan and the mountain sub-area plans; and
5. Within other areas suited for non-agricultural development, as determined by the procedures set forth in the Rural Valley Lands Plan;

Project Impact Analysis

a) and b) Less Than Significant Impact: The proposed Project consists of subdividing approximately 67.60 acres into 35 residential parcels ranging in size from 1 - 2.5 acres. Specifically, the Project includes 24 1-acre parcels and 11 2.5-acre parcels. The site covers three land parcels, APN 079-073-001, 079-071-014 and 079-072-005. APN 079-073-001 is located in the R-A-100 (Rural Residential with a 100,000 square foot minimum) Zone and APNs 079-071-014 and 079-072-005 are in the AE-20 (Exclusive Agricultural – 20 Acre Minimum) Zone. All three parcels are designated as Rural Residential land uses by the Tulare County General Plan.

The proposed Project site is contiguous with the City of Visalia and is located within the Urban Area Boundary (UAB) and the Sphere of Influence (SOI); however, the proposed Project site is not within the Urban Development Boundary for the City of Visalia. The site is within a County Adopted City Urban Area Boundary (CACUAB). APNs 079-071-014 and 079-072-005 are restricted by California Land Conservation Act (Williamson Act) Contracts.

To accommodate the proposed Project, a Zone Change, Tentative Subdivision Map, and Williamson Act Cancellation would need to be approved by the County of Tulare. Upon approval of these entitlements, changing the zone from the AE-20 (Exclusive Agriculture, 20-Acre Minimum) Zone and R-A-100 (Rural Residential with a 100,000 square foot minimum) Zone to R-A-110 (Rural Residential with a 43,000 square foot minimum) Zone for the 24 proposed 1-acre parcels would bring them into consistency with zoning requirements. The proposed Project is consistent with Attachment #1 of the City of Visalia and Tulare County MOU, dated November 19, 2010. Specifically, UAB Provision No. 2 states that any future development project is subject to the Rural Valley Lands Plan (RVLP) and

[124] Goshen Community Plan Update. Draft Environmental Impact Report. Chapter 3.10 Land Use and Planning. Pages 3.10-11 and -12.

subject to PF 4.19 and 4.21 with exceptions listed in PF 4.18 of the Tulare County General Plan. The proposed Project is consistent with PF-4.19 because the RVLP is only advisory within CACUABs and the exceptions listed in PF-4.18 would not be applicable to the proposed Project.

As noted earlier, the proposed Project site is located in unincorporated areas of Tulare County, north of the City of Visalia, in an area surrounded by rural and suburban residential and agricultural land uses. The proposed Project site consists of fallowed row crop fields and active orchards. As the site is substantially surrounded by residential uses with similar lot sizes, the proposed Project will become a de facto extension of the surrounding existing land use and will not physically divide an existing community. Additionally, the proposed Project will be constructed in an area planned for residential development where existing infrastructure is available, including an elementary school, neighborhood commercial shopping centers and a recreational park within a one-mile radius.

It is determined that the proposed Project is consistent with respective general plan objectives and policies and will not significantly conflict with applicable land use plans, policies or regulations of Tulare County and will not divide an established community. Impacts to this Resource would be less than significant.

Cumulative Impact Analysis

Less Than Significant Impact: The geographic area of this cumulative analysis is Tulare County. This cumulative analysis is based on the information provided in the Tulare County 2030 General Plan, General Plan background Report, and/or Tulare County 2030 General Plan EIR. As this proposed Project is consistent with and represents implementation of the aforementioned planning documents, less than significant Project-specific or Cumulative Impacts would occur to this resource.

XII. MINERAL RESOURCES

Would the project:		Significant Impact	Less Than Significant Impact With Mitigation	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?	☐	☐	☐	☒

Environmental Setting

Tulare County is divided into two major physiographic and geologic provinces: the Sierra Nevada Mountains and the Central Valley. The western half of Tulare County is comprised of flat valley lands of the southern San Joaquin Valley, while rolling foothills associated with the Sierra Nevada Mountains characterize its eastern half. The central and western parts of the county are part of the Central Valley Province, underlain by marine and non-marine sedimentary rocks. It is basically a flat, alluvial plain, with soil consisting of material deposited by the uplifting of the mountains. About half of the county is currently used for agricultural production and grazing.[125]

Currently, the most economically significant mineral resources in Tulare County are sand, gravel, and crushed stone, used as sources for aggregate (road materials and other construction). The two major sources of aggregate are alluvial deposits (riverbeds, and floodplains), and hard rock quarries. Consequently, most Tulare County mines are located along rivers at the base of the Sierra foothills. According to the Tulare County General Plan, there are no known mineral resource production sites within or near the City of Visalia.

Regulatory Setting

Federal

There are no federal or local regulations pertaining to mineral resources relevant to the proposed project.

State

California Surface Mining and Reclamation Act of 1975

Enacted by the State Legislature in 1975, the Surface Mining and Reclamation Act (SMARA), Public Resources Code Section 2710 et seq., insures a continuing supply of mineral resources for the State. The act also creates surface mining and reclamation policy to assure that:

[125] Tulare County General Plan Background Report. http://generalplan.co.tulare.ca.us/documents/GP/002Board%20of%20Supervisors%20Materials/001BOS%20Agenda%20Items%20-%20Public%20Hearing%20August,%2028%202012/002Attachment%20A.%20FEIR/001Exhibit%201.%20FEIR%20Exec%20Summary%20&%20Chap%201-6/Appendix%20B%20-%20Background%20Report.pdf. Accessed September 2022

- Production and conservation of minerals is encouraged;
- Environmental effects are prevented or minimized;
- Consideration is given to recreational activities, watersheds, wildlife, range and forage, and aesthetic enjoyment;
- Mined lands are reclaimed to a useable condition once mining is completed; and
- Hazards to public safety both now and in the future are eliminated.

Areas in the State (city or county) that do not have their own regulations for mining and reclamation activities rely on the Department of Conservation, Division of Mines and Geology, Office of Mine Reclamation to enforce this law. SMARA contains provisions for the inventory of mineral lands in the State of California. The State Geologist, in accordance with the State Board's Guidelines for Classification and Designation of Mineral Lands, must classify Mineral Resource Zones (MRZ) as designated below:

- MRZ-1. Areas where available geologic information indicates that there is minimal likelihood of significant resources.
- MRZ-2. Areas underlain by mineral deposits where geologic data indicate that significant mineral deposits are located or likely to be located.
- MRZ-3. Areas where mineral deposits are found but the significance of the deposits cannot be evaluated without further exploration.
- MRZ-4. Areas where there is not enough information to assess the zone. These are areas that have unknown mineral resource significance.

SMARA only covers mining activities that impact or disturb the surface of the land. Deep mining (tunnel) or petroleum and gas production is not covered by SMARA.

As the proposed Project does not involve any mineral extraction or mining-related activities, State laws do not apply.

Local

Tulare County General Plan 2030 Update

The Tulare County General Plan 2030 Update (Section 8.2 Surface Mining of Chapter 8 – Environmental Resources Management) contains the following goals and policies that relate to mineral resources and which have potential relevance to the proposed Project's California Environmental Quality Act (CEQA) review:

ERM-2.1 Conserve Mineral Deposits wherein the County will encourage the conservation of identified and/or potential mineral deposits, recognizing the need for identifying, permitting, and maintaining a 50 year supply of locally available PCC grade aggregate.

ERM-2.5 Resources Development wherein the County will promote the responsible development of identified and/or potential mineral deposits.

Project Impact Analysis

a) and b) No Impact: As shown in Figure 10-1 of the Tulare County General Plan, the proposed Project area is not included in a classified mineral resource zone. Soil disturbance for the proposed Project would be limited to site groundwork such as grading, foundations, septic systems, and installation of infrastructure. Therefore, there would be no impact.

Cumulative Impact Analysis

No Impact: The geographic area of this cumulative analysis is Tulare County. This cumulative analysis is based on the information provided in the Tulare County 2030 General Plan, General Plan background Report, and/or Tulare County 2030 General Plan EIR. As this proposed Project would not occur on lands containing mineral resources, no Project-specific or Cumulative Impacts would occur to the Mineral resource.

XIII. NOISE

Would the project result in:		Significant Impact	Less Than Significant Impact With Mitigation	Less Than Significant Impact	No Impact
a)	Generation of a substantial temporary or permanent increase in ambient noise levels in the vicinity of the project in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?	☐	☐	☒	☐
b)	Generation of excessive ground-borne vibration or ground-borne 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?	☐	☐	☐	☒

Environmental Setting

The proposed development is located on APNs 079-071-014, 079-072-005, and 079-073-001, north of City of Visalia in Tulare County on a site that has historically been agriculturally active. The proposed Project site is bounded to the east by Road 132, with Karolina Drive located approximately 275 feet to the north. Residential subdivisions lie to the north, east, and south of the proposed Project site, with vacant land to the west. The St Johns Rivers runs west-southwest on the southern edge of the site. The nearest airport to the proposed Project site (Visalia Municipal Airport) is approximately 6.5 miles northeast.

Noise levels around the proposed Project site are associated with farm equipment and associated agricultural activities, typical noise that emanates from residential uses, and pass-by vehicular noise. Maximum noise levels generated by farm-related tractors typically range from 77 to 85 dB at a distance of 50 feet from the tractor, depending on the horsepower of the tractor and the operating conditions. Due to the seasonal nature of the agricultural industry, there are often extended periods of time when no noise is generated at or near the proposed Project site, followed by short-term periods of intensive mechanical equipment usage and corresponding noise generation. During periods without noise generated by agricultural production, noise levels would be typical of other noise-sensitive areas in unincorporated Tulare County, as discussed earlier.

The Tulare County General Plan Background Report Safety section and the Tulare County General Plan 2030 Update serve as the primary policy statement by the County for implementing policies to maintain and improve the noise environment in Tulare County. The General Plan presents Goals and Objectives relative to planning for the noise environment within the County. Future noise/land use incompatibilities can be avoided or reduced with implementation of the Tulare County noise criteria and standards. Tulare County realizes that it may not always be possible to avoid constructing noise sensitive developments in

existing noisy areas and therefore provides noise reduction strategies to be implemented in situations with potential noise/land use conflicts.[126]

Regulatory Setting

Federal

Federal Vibration Policies

The Federal Railway Administration (FRA) and the Federal Transit Administration (FTA) have published guidance relative to vibration impacts. According to the FRA, fragile buildings can be exposed to ground-borne vibration levels of 0.5 PPV without experiencing structural damage. The FTA has identified the human annoyance response to vibration levels as 80 RMS (Root Mean Square = The square root of the arithmetic average of the squared amplitude of the signal).[127]

State

The California Noise Control Act was enacted in 1973 (Health and Safety Code § 46010 et seq.), and states that the Office of Noise Control (ONC) should provide assistance to local communities in developing local noise control programs. It also indicates that ONC staff will work with the OPR to provide guidance for the preparation of the required noise elements in city and county General Plans, pursuant to Government Code § 65302(f). California Government Code § 65302(f) requires city and county general plans to include a noise element. The purpose of a noise element is to guide future development to enhance future land use compatibility.

Local

Analytical noise modeling techniques, in conjunction with actual field noise level measurements, were used to develop generalized Ldn or Community Noise Equivalent Level (CNEL) contours for traffic noise sources within Tulare County for existing conditions. Traffic data representing annual average daily traffic volumes, truck mix, and the day/night distribution of traffic for existing conditions (1986) and future were obtained from the Tulare County Public Works Department and used in the Tulare County Noise Element. The Tulare County General Plan 2030 Update Health & Safety Element (2012) includes noise and land use compatibility standards for various land uses. These are shown in **Table 13-1** Land Use Compatibility for Community Noise Environments[128]:

Tulare County General Plan 2030 Update

The Tulare County General Plan 2030 Update: Chapter 10 – Health and Safety contains the following goals and policies that relate to noise and which have potential relevance to the Project's California Environmental Quality Act (CEQA) review:

[126] Ibid.

[127] U.S. Department of Transportation, "The Noise and Vibration Impact Assessment Manual". September 2018. FTA Report No. 0123 Federal Transit Administration Page 113. Accessed September 2022 at: https://www.transit.dot.gov/sites/fta.dot.gov/files/docs/research-innovation/118131/transit-noise-and-vibration-impact-assessment-manual-fta-report-no-0123_0.pdf

[128] Tulare County General Plan 2030 Update. Goals and Policies Report. Page 10-25.

HS-8.6 Noise Level Criteria wherein the County shall ensure noise level criteria applied to land uses other than residential or other noise-sensitive uses are consistent with the recommendations of the California Office of Noise Control (CONC);

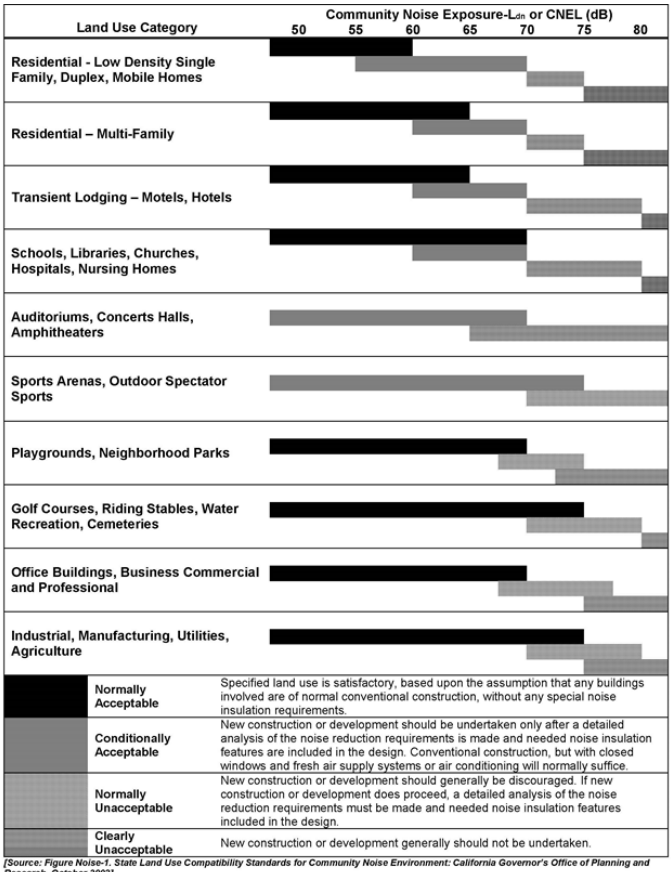
HS-8.8 Adjacent Uses wherein the County shall not permit development of new industrial, commercial, or other noise-generating land uses if resulting noise levels will exceed 60 dB Ldn (or CNEL) at the boundary of areas designated and zoned for residential or other noise-sensitive uses, unless it is determined to be necessary to promote the public health, safety and welfare of the County;

HS-8.11 Peak Noise Generators wherein the County shall limit noise generating activities, such as construction, to hours of normal business operation (7 a.m. to 7 p.m.). No peak noise generating activities shall be allowed to occur outside of normal business hours without County approval;

HS-8.18 Construction Noise wherein the County shall seek to limit the potential noise impacts of construction activities by limiting construction activities to the hours of 7 a.m. to 7 p.m., Monday through Saturday when construction activities are located near sensitive receptors. No construction shall occur on Sundays or national holidays without a permit from the County to minimize noise impacts associated with development near sensitive receptors;

HS-8.19 Construction Noise Control wherein the County shall ensure that construction contractors implement best practices guidelines (i.e.; berms, screens, etc.) as appropriate and feasible to reduce construction-related noise-impacts on surrounding land uses.

Table 13-1 Land Use Compatibility for Community Noise Environments



[Source: Figure Noise-1. State Land Use Compatibility Standards for Community Noise Environment: California Governor's Office of Planning and Research, October 2003]

Project Impact Analysis

a) Less Than Significant Impact:

Project Operational Noise Impacts: The proposed Project will largely result in typical residential use-related noise. Typical noise will likely result from vehicles accessing and egressing the subdivision, lawn equipment usage, children at play, etc. The County of Tulare's General Plan 2030 Update Health and Safety Element (2012) sets the standard noise threshold of 60 dB Ldn at the exterior of nearby residences. Exterior noise levels in the range of 45-60 dB Ldn or Community Noise Equivalent Level (CNEL) or below are generally considered acceptable for residential land uses and 45-75 dB Ldn (or CNEL) or below are considered acceptable for industrial, manufacturing utilities, and agriculture land uses. There are predominantly residential and agricultural uses surrounding the proposed Project site. The distance to the existing sensitive receptors from the edge of the proposed Project is approximately 50 feet north and east of the site. As discussed earlier, operational noise is anticipated to be below Tulare County General Plan noise standards of 60 dB Ldn (or CNEL) or less at the exterior of nearby residences and 45 dB Ldn (or CNEL) or less within interior living spaces. Impacts resulting from proposed Project operations would be less than significant.

Project Construction Noise Impacts: Proposed Project construction will include site preparation, grading, trenching, and other earthmoving/earth-shaping activities, and typical construction-related noise (such as sawing, drilling, hammering, etc.). Construction-related short-term, temporary, and intermittent noise levels will be higher than existing/current ambient noise levels in the proposed Project area today but will no longer occur after construction-related activities are completed.

These various sequential phases will change the character of the noise generated on the Project site. Therefore, the noise levels vary as construction-related activities are undertaken. Despite the variety in the type and size of construction equipment, there are similarities in the dominant noise sources and their anticipated noise levels. **Table 13-2** indicates the anticipated noise levels of the typical construction-related equipment (i.e., graders, trenchers, tractors) based on a distance of 50-feet between the equipment and the sensitive noise receptor.

The General Plan 2030 Update Health and Safety Element (2012) does not identify short-term, construction-noise-level thresholds. It limits noise generating activities (such as construction) to normal business hours of operation unless specific County approval is given. General Plan Policy HS-8.18 Construction Noise states that "The County shall seek to limit the potential noise impacts of construction activities by limiting construction activities to the hours of 7 a.m. to 7 p.m., Monday through Saturday when construction activities are located near sensitive receptors. No construction shall occur on Sundays or national holidays without a permit from the County to minimize noise impacts associated with development near sensitive receptors."

Construction noise will be similar in character to existing/current noise in the area resulting from agricultural-related operations. Construction-related activities will occur throughout the proposed Project site, will not be concentrated or confined in the area directly adjacent to sensitive receptors and will result in intermittent, temporary, and short-term periodic increases in noise. Normally, construction-related activities occur in small construction zones with noise emanating from the various points in the area. In several instances, the sensitive receptors located in the proposed Project area are shielded from the construction-related areas by existing, adjacent residential structures, distance, existing roadways, adjacent agricultural vegetation, and agricultural-related structures.

Table 13-2: Construction Equipment Noise Levels[129]	
Equipment	**Typical Noise Level (dBA) 50 ft from Source**
Air Compressor	80
Backhoe	80
Ballast Equalizer	82
Ballast Tamper	83
Compactor	82
Concrete Mixer	85
Concrete Pump	82
Concrete Vibrator	76
Crane, Derrick	88
Crane, Mobile	83
Dozer	85
Generator	82
Grader	85
Impact Wrench	85
Jack Hammer	88
Loader	85
Paver	85
Pile-driver (Impact)	101
Pile-driver (Sonic)	95
Pneumatic Tool	85
Pump	77
Rail Saw	90
Rock Drill	95
Roller	85
Saw	76
Scarifier	83
Scraper	85
Shovel	82
Spike Driver	77
Tie Cutter	84
Tie Handler	80
Tie Inserter	85
Truck	84

Construction-related activities will adhere to the Tulare County General Plan goals and policies, the Tulare County Zoning Ordinance which would reduce potential impacts to less than significant. Due to the nature of the proposed Project (i.e., development of a residential subdivision) there will be no long-term, on-going, operational noise. Any impacts to this Checklist Item are less than significant.

b) Less Than Significant Impact: "Vibration is an oscillatory motion that can be described in terms of the displacement, velocity, or acceleration. Because the motion is oscillatory, there is no net movement of the vibration element and the average of any of the motion metrics is zero. Displacement is the most intuitive metric. For a vibrating floor, the displacement is simply the distance that a point on the floor moves away from its static position. The velocity represents the instantaneous speed of the floor movement and acceleration is the rate of change of the speed. Although displacement is easier to understand than velocity or acceleration, it is rarely used for describing ground-borne vibration. Most

[129] U.S. Department of Transportation. "The Noise and Vibration Impact Assessment Manual". September 2018. FTA Report No. 0123 Federal Transit Administration Page 175. Accessed September 2022 at: https://www.transit.dot.gov/sites/fta.dot.gov/files/docs/research-innovation/118131/transit-noise-and-vibration-impact-assessment-manual-fta-report-no-0123_0.pdf

transducers used for measuring ground-borne vibration use either velocity or acceleration. Furthermore, the response of humans, buildings, and equipment to vibration is more accurately described using velocity or acceleration."[130]

"The effects of ground-borne vibration can include perceptible movement of floors in buildings, rattling of windows, shaking of items on shelves or hanging on walls, and low-frequency noise (ground-borne noise). Building damage is not a factor for typical transportation projects, but in extreme cases, such as during blasting or pile-driving during construction, vibration could cause damage to buildings. Although the perceptibility threshold is approximately 65 VdB, human response to vibration is not usually substantial unless the vibration exceeds 70 VdB. A vibration level that causes annoyance is well below the damage risk threshold for typical buildings (100 VdB)."[131] "Ground-borne vibration is almost never a problem outdoors. Although the motion of the ground may be perceived, without the effects associated with the shaking of a building, the motion does not provoke the same adverse human reaction."[132] **Table 13-3** presents the human response to different levels of ground-borne vibration and noise. "The vibration level (VdB) is presented with the corresponding frequency assuming that the vibration spectrum peaks at 30 Hz or 60 Hz. (xi) The groundborne noise levels (dBA) are estimated for the specified vibration velocity with a peak vibration spectrum of 30 Hz (Low Freq) and 60 Hz (Mid Freq). Note that the human response differs for vibration velocity level based on frequency. For example, the noise caused by vibrating structural components may cause annoyance even though the vibration cannot be felt. Alternatively, a low frequency vibration can cause annoyance while the ground-borne noise level it generates does not."[133]

Table 13-3: Human Response to Different levels of Ground-Bourne Vibration and Noise[134]

Vibration Velocity Level	Noise Level		Human Response
	Low Freq*	Mid Freq**	
65 VdB	25 dBA	40dBA	Approximate threshold of perception for many humans. Low frequency sound: usually inaudible. Mid-frequency sound: excessive for quiet sleeping areas.
75 VdB	35 dBA	50dBA	Approximate dividing line between barely perceptible and distinctly perceptible. Many people find transit vibration at this level annoying. Low-frequency noise: tolerable for sleeping areas. Mid-frequency noise: excessive in most quiet occupied
85 VdB	45 dBA	60dBA	Vibration tolerable only if there are an infrequent number of events per day. Low-frequency noise: excessive for sleeping areas. Mid-frequency noise: excessive even for infrequent events for some activities.

**Approximate noise level when vibration spectrum peak is near 30 Hz.*
***Approximate noise level when vibration spectrum peak is near 60 Hz.*

Table 13-4 presents average source levels in terms of velocity for various types of construction equipment measured under a wide variety of construction activities.

[130] U.S. Department of Transportation. Federal Transit Administration. Transit Noise & Vibration Impact Assessment. September 2018. Page 108.
[131] Ibid.
[132] Op. Cit.
[133] Op. Cit. 119.
[134] Op. Cit. 120.

Table 13-4: Vibration Source Levels for Construction Equipment[135]			
Equipment		**PPV at 25 ft. in/sec**	**Approximate Lv * at 25 ft**
Pile Driver (impact)	upper range	1.518	112
	Typical	0.544	104
Pile Driver (sonic)	upper range	0.734	105
	typical	0.17	93
Clam shovel drop (slurry wall)		0.202	94
Hydromilll (slurry wall)	in soil	0.008	66
	in rock	0.017	75
Vibratory Roller		0.21	94
Hoe Ram		0.089	87
Large bulldozer		0.089	87
Caisson drilling		0.089	87
Loaded trucks		0.076	86
Jackhammer		0.035	79
Small bulldozer		0.003	58
**RMS velocity in decibels, VDB re 1 micro-in/sec*			

Typical outdoor sources of perceptible ground borne vibration are construction equipment, steel-wheeled trains, and traffic on rough roads. Construction vibrations can be transient, random, or continuous. The approximate threshold of vibration perception is 65 VdB, while 85 VdB is the vibration acceptable only if there are an infrequent number of events per day.

Vibration levels from various types of construction equipment are shown in **Table 13-4**. The primary concern with construction vibration is building damage. Therefore, construction vibration is generally assessed in terms of peak particle velocity (PPV). Using the highest vibration level shown in **Table 13-4** (Lv 87), the anticipated vibration level at 100 feet, 150 feet, and 200 feet is 75, 71, and 69 VdB, respectively. Construction activities associated with the build-out of the proposed Project would likely require the use of various tractors and trucks. Based on the vibration levels provided in **Table 13-4**, ground vibration generated by common construction equipment would be 75 VdB or less at a distance of 100 feet or more. Given that much of the construction activities would occur on vacant parcels in sparsely to moderately developed areas, the nearest offsite structures to a particular project site would likely be located in excess of 100 feet from construction activities. As a result, predicted vibration levels at the nearest offsite structures would not exceed vibration levels greater than 75 VdB.

Construction Related Vibration Impacts: While construction-related activities will result in minor amounts of groundbourne vibration, such groundbourne noise or vibration will attenuate rapidly from the source and will not be generally perceptible outside of the construction areas. As such, impacts to the neighboring sensitive receptors will be less than significant.

Project Operational Vibration Impacts: As described in Impact 13 a), the proposed Project will largely result in typical residential use-related noise. Typical noise will likely result from vehicles accessing and egressing the subdivision, lawn equipment usage, children at play, etc. Other than these sources there will be no vibrational impacts from proposed Project operation. As such, there will be no exposure of persons to or generation of excessive groundborne vibration.

[135] Op. Cit. 184.

Therefore, the proposed Project would result in a less than significant impact and would not generate excessive groundbourne vibration or groundbourne noise.

c) No Impact: The proposed Project is located approximately 6.5 miles from the Visalia Municipal Airport and as such, is not located within an airport land use plan area. Therefore, there will be no impact to this Checklist Item.

Cumulative Impact Analysis

Less Than Significant: The geographic area of this cumulative analysis is Tulare County. This cumulative analysis is based on the information provided in the Tulare County 2030 General Plan, General Plan background Report, and/or Tulare County 2030 General Plan Recirculated Draft EIR. The normal operations of the proposed Project will have a minimal impact on the overall ambient noise levels of the area. The proposed Project will contribute to the cumulative impacts on the noise resource; however, the proposed Project in and of itself will result in a minimal impact. Vibration impacts, both construction- and proposed Project operational-related would not generate excessive groundbourne vibration or noise resulting in a less than significant impact. Lastly, as the proposed Project is located outside of the Visalia Municipal Airport noise contours, the proposed Project would not expose people residing or working in the proposed Project area to excessive noise levels. Therefore, proposed Project-specific and Cumulative Impacts will be less than significant.

XIV. POPULATION AND HOUSING

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

Environmental Setting

The California Department of Finance (DOF) estimated that Tulare County had a population of 475,014 at the beginning of 2022, while in 2007, at the time of the General Plan Update, the population was 429,010 which represents a 10.7% increase.[136] According to the Tulare County Regional Housing Needs Assessment (RHNA), "The RHNA Determination projects a need for 26,910 housing units, or 5,249 units (539 per year) more than the 2040 Regional Forecast for the same time period."[137]

Regulatory Setting

Federal

The U.S. Department of Housing and Urban Development's (HUD) mission is to create strong, sustainable, inclusive communities and quality affordable homes for all. HUD is working to strengthen the housing market to bolster the economy and protect consumers; meet the need for quality affordable rental homes: utilize housing as a platform for improving quality of life; build inclusive and sustainable communities free from discrimination; and transform the way HUD does business.[138]

State

The California Department of Housing and Community Development (HCD's) mission is to "promote safe, affordable homes and vibrant, inclusive, sustainable communities for all Californians."[139] In 1977, the State Department of Housing and Community Development (HCD) adopted regulations under the California Administrative Code, known as the Housing Element Guidelines, which are to be followed by local governments in the preparation of local housing elements. AB 2853, enacted in 1980, further codified

[136] State of California Department of Finance. E-5 Population and Housing Estimates for Cities, Counties, and the State. https://dof.ca.gov/Forecasting/Demographics/Estimates/e-5-population-and-housing-estimates-for-cities-counties-and-the-state-2020-2022/. Accessed August 2022.

[137] Tulare County Associated of Governments. Final Regional Housing Needs Plan for Tulare County 2014-2023. June 2014. Page 7. https://tularecog.org/tcag/studies/regional-housing-needs-assessment-rhna/. Accessed September 022.

[138] U.S. Department of Housing and Urban Development, Mission, https://www.hud.gov/about/mission. Accessed September 2022.

[139] California Department of Housing and Community Development, Mission, https://www.hcd.ca.gov/about-hcd. Accessed September 2022.

housing element requirements. Since that time, new amendments to State Housing Law have been enacted. State Housing Law also mandates that local governments identify existing and future housing needs in a Regional Housing Needs Assessment (RHNA).

Local

Tulare County Regional Housing Needs Assessment Plan 2014-2023

"State Housing Element law assigns the responsibility for preparing the Regional Housing Needs Assessment (RHNA) for the Tulare County region to the Tulare County Association of Governments (TCAG). The RHNA is updated prior to each Housing Element cycle. The current RHNA, adopted on June 30, 2014, covers a 9.75-year projection period (January 1, 2014 to September 30, 2023). The growth projections applied in the Housing Element Update are based upon growth projections developed by the State of California."[140] "The RHNA housing results are summarized in Table 1-1, below [of the Housing Element]. The Tulare County RHNA Plan recommends that the County provide land use and zoning for approximately 7,081 units in the unincorporated portions of the County (726 units per year over the 9.75-year RHNA planning period). The RTP allocates 30% of population [in unincorporated areas] to the County. The RHNA bases the housing needs assessment on this percentage, but it is important to indicate that the RHNA allocation to the County [for unincorporated areas] is higher than the historical and anticipated levels of building permit activities through the planning period to 2023."[141] For the total County area (that is, incorporated and unincorporated areas), the total housing need is projected to be 26,910.[142]

"In 2014 the Regional Housing Needs Assessment Plan (RHNA) allocated a disproportionate amount of low and very low housing to the unincorporated area of Tulare County. In 2014, the RHNA plan provides a more equitable distribution of the regional housing needs allocation, as required by Section 65584 of the government Code, thereby providing greater affordable housing opportunities through the entire County including unincorporated areas as well as within the cities'."[143]

"As such, as noted earlier, the Tulare County RHNA Plan recommends that the County provide land use and zoning for approximately 7,081 units per year in the unincorporated portions of the County. The County administratively agreed to a housing share of 7,081 units (726 units per year over the 9.75-year RHNA planning period). The RTP allocates 30% of population to the County. The RHNA bases the housing needs assessment on this percentage."[144]

Tulare County Regional Blueprint 2009

This Blueprint includes the following preferred growth scenario principals:[145]

- Increase densities county-wide by 25% over the status quo densities;
- Establish light rail between cities;
- Extend Highway 65 north to Fresno County;

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[140] Tulare County Housing Element 2015 Update. Page 1-17. Accessed September 2022 at: http://generalplan.co.tulare.ca.us/, then locate "Part I Voluntary Elements Chapter 6, 12 and 15, then click on "CHP 6 TULARE COUNTY HOUSING ELEMENT UPDATE 2015.pdf."

[141] Ibid. 1-18.

[142] Op. Cit. Table 1-1.

[143] Op. Cit. 3-74.

[144] Op. Cit. 1-18.

[145] TCAG 2014 Regional Transportation Plan. Appendix O 2009 Regional Blueprint. Tulare County Regional Blueprint. May 2009. Page O-17. Accessed September 2022 at: https://tularecog.org/tcag/planning/regional-transportation-plan-rtp/rtp-2014/2014-rtp-scs/

- Expand transit throughout the county;
- Maintain urban separators around cities; and
- Growth will be directed toward incorporated cities and communities where urban development exists and where comprehensive services and infrastructure are or will be provided.

Tulare County General Plan/Housing Element Policies

There are several policies from the Tulare County General Plan/Housing Element that would apply to this Project. General Plan policies that relate to the proposed Project are listed as follows:

Housing Guiding Principle 1.1 wherein the County will endeavor to improve opportunities for affordable housing in a wide range of housing types in the communities throughout the unincorporated area of the County;

Housing Policy 1.11 wherein the County will encourage the development of a broad range of housing types to provide an opportunity of choice in the local housing market;

Housing Policy 1.13 wherein the County will encourage the utilization of modular units, prefabricated units, and manufactured homes;

Housing Policy 1.14 wherein the County will pursue an equitable distribution of future regional housing needs allocations, thereby providing a greater likelihood of assuring a balance between housing development and the location of employment opportunities;

Housing Policy 1.15 wherein the County will encourage housing counseling programs for low-income homebuyers and homeowners;

Housing Policy 1.16 wherein the County will review community plans and zoning to ensure they provide for adequate affordable residential development;

Housing Guiding Principle 1.2 wherein the County will promote equal housing opportunities for all persons regardless of race, religion, sex, marital status, ancestry, national origin, color, family status, disability, or any other arbitrary basis;

Housing Guiding Principle 1.3 wherein the County will strive to meet the housing needs of migrant and non-migrant farmworkers and their families with a suitable, affordable and satisfactory living environment;

Housing Policy 1.33 wherein the County will encourage and support a balance between housing and agricultural needs;

Housing Policy 1.51 wherein the County will encourage the construction of new housing units for "special needs" groups, including senior citizens, large families, single heads of households, households of persons with physical and/or mental disabilities, minorities, farmworkers, and the homeless in close proximity to transit, services, and jobs;

Housing Policy 1.52 wherein the County will support and encourage the development and improvement of senior citizen group housing, convalescent homes and other continuous care facilities;

Housing Policy 1.55 wherein the County will encourage development of rental housing for large families, as well as providing for other housing needs and types;

Housing Guiding Principle 1.6 wherein the County will assess and amend County ordinances, standards, practices and procedures considered necessary to carry out the County's essential housing goal of the attainment of a suitable, affordable and satisfactory living environment for every present and future resident in unincorporated areas;

Housing Guiding Principle 2.2 wherein the county will Require proposed new housing developments located within the development boundaries of unincorporated communities to have the necessary infrastructure and capacity to support the development;

Housing Policy 2.21 wherein the County will require all proposed housing within the development boundaries of unincorporated communities is either (1) served by community water and sewer, or (2) that physical conditions permit safe treatment of liquid waste by septic tank systems and the use of private wells;

Housing Guiding Principle 3.1 wherein the County will encourage "smart growth" designed development that serves the unincorporated communities, the environment, and the economy of Tulare County;

Housing Policy 3.11 wherein the County will support and coordinate with local economic development programs to encourage a "jobs to housing balance" throughout the unincorporated area;

Housing Policy 3.12 wherein the County will support locally initiated programs to provide neighborhood parks and recreational facilities for residential areas within unincorporated communities;

Housing Policy 3.13 wherein the County will encourage subdivision and housing unit design, which provides for a reasonable level of safety and security;

Housing Policy 3.16 wherein the County will actively seek federal, state, and private foundation grant funds for park and recreation facilities in unincorporated areas, including dual-use storm drainage ponding basins/recreation parks;

Housing Policy 3.23 wherein the County will prepare new and/or updated community plans that provide adequate sites for a variety of types of housing within the development boundaries of community;

Guiding Principle 4.1 wherein the County will support and encourage County ordinances, standards, practices and procedures that promote residential energy conservation;

Housing Policy 4.11 wherein the County will review residential projects for environmental impacts and impose conditions to reduce those impacts;

Housing Policy 4.12 wherein the County will facilitate land use policies and programs that meet housing and conservation objectives;

Housing Policy 4.13 wherein the County will promote energy efficiency and water conservation;

Housing Policy 4.14 wherein the County will enforce the requirements of County Ordinances regarding the disposal of construction and demolition debris;

Housing Policy 4.15 wherein the County will enforce energy Efficiency Standards for Residential and Non-Residential properties (Title 24);

Housing Policy 4.21 wherein the County will promote energy conservation opportunities in new residential development;

Housing Policy 4.22 wherein the County will enforce provisions of the Subdivision Map Act regulating energy-efficient subdivision design;

Housing Policy 5.21 wherein the County will administer and enforce the relevant portions of the Health and Safety Code;

Housing Policy 5.26 wherein the County will prohibit concentrations of dwelling units near potentially incompatible agricultural uses as defined in the Animal Confinement Facilities Plan;

Action Program, Program 14.1 To ensure adequate sites are available throughout the planning period to meet the County RHNA, the County will annually update the sites inventory that details the amount, type, and size of vacant and underutilized parcels to assist developers in identifying land suitable for residential development and that also details the number of extremely low-, very low-, low-, and moderate-income units constructed annually"; and

Program 14.2 To ensure sufficient residential capacity is maintained to accommodate the RHNA, the County will develop and implement a formal ongoing, project-by-project evaluation procedure

As such, as noted earlier, the Tulare County RHNA Plan recommends that the County provide land use and zoning for approximately 7,081 units per year in the unincorporated portions of the County. The County administratively agreed to a housing share of 7,081 units (726 units per year over the 9.75-year RHNA planning period). The RTP allocates approximately 30% of the housing share to the County. The RHNA bases the housing needs assessment on this percentage. Also as noted earlier, the RHNA housing results are summarized in Table 3 Total RHNA Allocation by Jurisdiction found in the 2014 RHNA[146].

Project Impact Analysis

a) Less Than Significant Impact: The proposed Project would include the construction of up to 35 single-family residential units, internal access roads, and associated improvements. At full buildout, the Project which would result in approximately 114 additional residents based on the 3.25 persons per household rate for the County[147], resulting in an increase of the County's population by approximately 0.03%. The site has been designated by the Tulare County General Plan as low density residential and as such, the estimated population increase has been planned and accounted for in the County's planning documents. To accommodate the proposed Project, a Zone Change, Tentative Subdivision Map, and Williamson Act Cancellation would need to be approved by the County of Tulare. The proposed Project would also assist the County in reaching its RHNA goal. Impacts to this Checklist Item would be less than significant.

[146] Op. Cit.

[147] State of California Department of Finance. E-5 Population and Housing Estimates for Cities, Counties, and the State. https://dof.ca.gov/Forecasting/Demographics/Estimates/e-5-population-and-housing-estimates-for-cities-counties-and-the-state-2020-2022/. Accessed September 2022.

b) No Impact: The proposed Project would result in a supply of new residential development to accommodate anticipated population growth in Tulare County. There are no residential structures currently on-site. As mentioned earlier, the proposed Project will add single-family residential housing for the community. No houses will be displaced and as such, there will be no impact to this Checklist Item.

Cumulative Impact Analysis

Less Than Significant Impact: The geographic area of this cumulative analysis is Tulare County. This cumulative analysis is based on the information provided in the Tulare County 2030 General Plan, General Plan background Report, and/or Tulare County 2030 General Plan Recirculated Draft EIR. As there will be less than significant Project-specific and cumulative impacts.

XV. PUBLIC SERVICES

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:	SIGNIFICANT IMPACT	LESS THAN SIGNIFICANT IMPACT WITH MITIGATION	LESS THAN SIGNIFICANT IMPACT	NO IMPACT
a) Fire protection?	☐	☐	☒	☐
b) Police protection?	☐	☐	☒	☐
c) Schools?	☐	☐	☒	☐
d) Parks?	☐	☐	☒	☐
e) Other public facilities?	☐	☐	☒	☐

Environmental Setting

The Main Tulare County Sheriff's Office is the nearest law enforcement agency resource to the proposed Project site and is located approximately 4.45 linear miles southwest of the proposed site. In the event of a mutual aid request for police services from the County of Tulare, City of Visalia Police Department Substation District 1 is located approximately 2.45 linear miles southwest. It is noted that both Sheriff and Visalia Police patrols are constantly circulating/patrolling, thus it would be speculative to estimate actual police response times.

Tulare County Fire Department has 28 stations that are situated throughout the County within its most densely populated areas. Tulare County Fire Department Station 8 is the nearest station (located at 32868 Hawthorne Rd, Ivanhoe), approximately 5.25 linear miles northeast of the proposed Project site. In the event of the need for mutual response assistance, City of Visalia Station #54 is the nearest fire station to the proposed Project site and is located approximately 2.40 to 2.90 linear miles southwest of the site (depending upon the shortest route used to arrive at the proposed Project location).[148]

The proposed Project is located within the Visalia Unified School District. The nearest elementary school to the proposed Project site is Four Creeks Elementary School (in Visalia), located approximately 1.5 linear miles south of the proposed Project site. The nearest high school (Golden West High School) is approximately 2.93 linear miles southeast of the proposed Project site in the City of Visalia.

See discussion at Item 15 Recreation regarding parks.

Also see discussion at Item 15 Recreation regarding parks.

Regulatory Setting

Federal

[148] City of Visalia. Accessed August 2022 at: http://www.visalia.city/depts/fire/facilities/default.asp.

None that are applicable to this proposed Project.

State

California Fire Code and Building Code

The purpose of the California Fire Code (Title 24, Part 9 of the California Code of Regulations) is to establish the minimum requirements consistent with nationally recognized good practices to safeguard the public health, safety and general welfare from the hazards of fire, explosion or dangerous conditions in new and existing buildings, structures and premises, and to provide safety and assistance to fire fighters and emergency responders during emergency operations.[149]

Local

Tulare County General Plan 2030 Update

The following Tulare County General Plan 2030 Update, Chapter 14 – Public Facilities and Services, contains the following policies that relate to public services and may apply to this proposed Project:

PFS-7.2 Fire Protection Standards wherein the County shall require all new development to be adequately served by water supplies, storage, and conveyance facilities supplying adequate volume, pressure, and capacity for fire protection*;*

PFS-7.5 Fire Staffing and Response Time Standards wherein the County shall strive to maintain fire department staffing and response time goals consistent with National Fire Protection Association (NFPA) standards;

PFS-7.6 Provision of Station Facilities and Equipment wherein the County shall strive to provide sheriff and fire station facilities, equipment (engines and other apparatus), and staffing necessary to maintain the County's service goals. The County shall continue to cooperate with mutual aid providers to provide coverage throughout the County*;*

PFS-7.12 Design Features for Crime Prevention and Reduction wherein the County shall promote the use of building and site design features as means for crime prevention and reduction; and

PFS-7.9 Sheriff Response Time wherein the County shall work with the Sheriff's Department to achieve and maintain a response time of:

1. Less than 10 minutes for 90 percent of the calls in the valley region; and
2. 15 minutes for 75 percent of the calls in the foothill and mountain regions.

Project Impact Analysis

a) Fire Protection – Less Than Significant Impact: The proposed Project site will continue to be served by the Tulare County Fire Department, with the nearest fire station located approximately 5.25 linear miles northeast of the site at 32868 Hawthorne Road, Ivanhoe. As noted earlier, Visalia Fire Station No.

[149] 2016 California Fire Code (Title 24, Part 9 of the California Code of Regulations). Page 3. Accessed December 2020. https://www.citymb.info/Home/ShowDocument?id=28089.

54 is approximately 2.40 to 2.90 linear miles (depending upon the shortest route used to arrive at the proposed Project location). In the event of the need for mutual response assistance, City of Visalia Station #54 is the nearest fire station to the Project site and is located approximately 2.40 to 2.90 linear miles southwest of the site (depending upon the shortest route used to arrive at the proposed Project location). The proposed Project developer would be required to submit plans to the County Fire Department for review and approval prior to the issuance of building permits to ensure the proposed Project would conform to applicable building codes and would provide an on-site fire hydrant system in the event of an on-site fire. The proposed Project will also include new internal access roads that would provide access to emergency vehicles in the event of a fire and would connect to the larger circulation system to ensure adequate provision of emergency access to the proposed Project site. Any calls for service will result in temporary impacts to fire service capabilities and impacts will not result in a noticeable increase in fire risk and service demand for the area. Therefore, impacts to fire protection services will be less than significant.

b) Police Protection – Less than Significant: The proposed Project includes the construction of 35 single-family residential units, which will accommodate approximately 114 persons. Protection services would be provided to the Project site from the existing Tulare County Sheriff's Department, with the nearest station located approximately 4.5 linear miles southwest of the site at 2404 W Burrell Avenue, Visalia. In the event of a mutual aid request for police services from the County of Tulare, City of Visalia Police Department Substation District 1 is located approximately 2.45 linear miles southwest. It is noted that both Sheriff and Visalia Police patrols are constantly circulating/patrolling, thus it would be speculative to estimate actual police response times. As the proposed Project site is located in an area currently served by the Sheriff Department, the Department would not need to expand its existing service area or construct a new facility to serve the Project site. The impact would be less than significant.

c) Schools – Less Than Significant Impact: The proposed Project site is located within the Visalia Unified School District. Four Creeks Elementary School is located approximately 1.5 linear miles southwest of the proposed Project site. Other schools in the district located within 1-mile radius include Riverview Elementary School, Crowley Elementary, Golden Oak Elementary, and Valley Oak Middle School. High school ages students from the proposed Project site would likely attend Golden West High School or Sequoia High School. Pursuant to California Education Code Section 17620(a)(1), the governing board of any school district is authorized to levy a fee, charge, dedication, or other requirement against any construction within the boundaries of the district for the purpose of funding the construction or reconstruction of school facilities. The proposed Project applicant would be required to pay such fees to reduce any impacts of new residential development of school services. Payment of the developer fees will offset the addition of school-age children within the district. As such impacts to school facilities would be less than significant.

d) Parks – Less Than Significant Impact: The nearest County park to the proposed Project site is Cutler Park, located approximately 4.25_ miles east[150] Developer impact fees are collected by the County to ensure compliance with the Quimby Act. St. Johns Riverwalk park and Ruiz Park (City of Visalia) are located approximately 0.65 and 1.35 miles south and southwest; respectively. As such, any impacts would remain less than significant.

e) Other Public Facilities – Less Than Significant Impact: The proposed Project involves development of a 35-lot residential subdivision which would result in the need for new/extension of gas, electricity,

[150] Ch 4. Agriculture, Recreation and Open Space. Tulare County General Plan Background Report. Figure 4-1.

and telephone services. Also, see discussion at Item 6 Energy. All future residential development within the proposed Project area would be subject to the latest adopted edition of the Title 24 energy efficiency standards, which are among the most stringent in the U.S. As such, proposed Project would not result in the unnecessary, wasteful, or inefficient use of energy. Therefore, a less than significant impact related to this Checklist Item will occur.

Cumulative Impact Analysis

Less Than Significant: The geographic area of this cumulative analysis is Tulare County. This cumulative analysis is based on the information provided in the Tulare County 2030 General Plan, General Plan background Report, and/or Tulare County 2030 General Plan Recirculated Draft EIR.

The proposed Project will not significantly impact the fire or police response times, schools, parks, or other facilities. Therefore, less than significant Project-specific or Cumulative Impacts related to this Checklist Item will occur.

XVI. RECREATION

Would the project:		Significant Impact	Less Than Significant Impact With Mitigation	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?	☐	☐	☒	☐

Environmental Setting

Tulare County contains several County, state, and federal parks. Aside from parks in the county, there are many open space areas as well. There are a total of 13 park and recreation facilities that are owned and operated by Tulare County. The only State Park in Tulare County is Colonel Allensworth State Historic Park. The two federal recreational areas in Tulare County are Lake Kaweah and Lake Success, which are operated by the U.S. Army Corps of Engineers.[151]

Other Recreational Facilities

Other recreational resources available in Tulare County include portions of the Pacific Crest Trail, South Sierra Wilderness Area, Dome Land Wilderness Area, Golden Trout Wilderness Area, International Agri-Center, and the Tulare County Fairgrounds.[152]

In addition, there are several nature preserves open to the public which are owned and operated by non-profit organizations, including the Kaweah Oaks Preserve and Dry Creek- Homer Ranch preserves, both owned and operated by Sequoia Riverlands Trust

Regulatory Setting

The proposed Project is being evaluated pursuant to CEQA; however, there are no additional federal, state or local regulations, plans, programs, and guidelines associated with recreation that are applicable to the proposed Project.

Local

Tulare County General Plan Policies

[151] Ch 4. Agriculture, Recreation and Open Space. Tulare County General Plan Background Report.

[152] Op. Cit. 4-10 to 4-11.

The Tulare County General Plan has a number of policies that apply to projects within County of Tulare. General Plan policies that relate to the proposed Project include:

ERM-5.2 Park Amenities wherein the County shall provide a broad range of active and passive recreational opportunities within community parks. When possible, this should include active sports fields and facilities, community center/recreation buildings, children's play areas, multi-use areas and trails, sitting areas, and other specialized uses as appropriate;

ERM-5.3 Park Dedication Requirements wherein the County shall require the dedication of land and/or payment of fees, in accordance with local authority and State law (for example the Quimby Act), to ensure funding for the acquisition and development of public recreation facilities;

ERM-5.5 Collocated Facilities wherein the County shall encourage the development of parks near public facilities such as schools, community halls, libraries, museums, prehistoric sites, and open space areas and shall encourage joint-use agreements whenever possible; and

ERM-5.6 Location and Size Criteria for Parks regarding Park types used in Tulare County and the County's overall policy of a minimum of five acres per 1,000 population for locating County parks.

Project Impact Analysis

a) Less Than Significant Impact: The Project includes the construction of 35 residential units which will house 114 new residents. The nearest County parks to the Project site include Cutler Park and West Main Street Park.[153] As noted earlier, nearby City of Visalia parks include St. Johns Riverwalk park and Ruiz Park which are located approximately 0.65 and 1.35 miles south and southwest; respectively. The applicant will contribute an amount determined by RMA to assist in costs associated with park maintenance as it is anticipated that the proximity to the park would likely result in residents from the proposed Project using the park for recreation-related activities. The park maintenance contribution will be enforced as a condition of approval. Although the proposed Project would result in some increase in the use of existing neighborhood (and regional parks or other recreational facilities), the Applicant will provide his/her share of the maintenance costs contribution which would mitigate substantial physical deterioration of the facility. Therefore, there will be a less than significant impact to this Checklist Item.

b) Less Than Significant Impact: The proposed Project does not include recreational facilities, As noted in Item a), above, there will be no need to construct or expand any recreational facilities, and, as a condition of approval, the Applicant will provide his/her share of the maintenance costs contribution. As such, there would be no adverse physical effect on the environment. Therefore, there would be a less than significant impact to this resource.

Cumulative Impact Analysis

Less Than Significant Impact: The geographic area of this cumulative analysis is Tulare County. This cumulative analysis is based on the information provided in the Tulare County 2030 General Plan, General Plan background Report, and/or the Tulare County 2030 General Plan Recirculated Draft EIR. As less than significant impacts would occur at a Project-level, cumulative impacts are also considered to be less than significant.

[153] Ch 4. Agriculture, Recreation and Open Space. Tulare County General Plan Background Report. Figure 4-1.

XVII. TRANSPORTATION

Would the project:		Significant Impact	Less Than Significant Impact With Mitigation	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?	☐	☐	☒	☐

Environmental Setting

"Tulare County has two major regional highways, State Highway [Route] 99 and 198. State Highway [Route] 99 connects Tulare County to Fresno and Sacramento to the north and Bakersfield to the south. State Highway 198 connects from U.S. Highway 101 on the west and continues eastward to Tulare County, passing through the City of Visalia and into Sequoia National Park. The highway system in the County also includes State highways, County-maintained roads, and local streets within each of the eight cities."[154]

"Tulare County's transportation system is composed of several State Routes, including three freeways, multiple highways, as well as numerous county and city routes. The county's public transit system also includes two common carriers (Greyhound and Orange Belt Stages), the AMTRAK Service Link, other local agency transit and paratransit services, general aviation, limited passenger air service and freight rail service.

Travel within Tulare County is a function of the size and spatial distribution of its population, economic activity, and the relationship to other major activity centers within the Central Valley (such as Fresno and Bakersfield) as well as more distant urban centers such as Los Angeles, Sacramento, and the Bay Area. In addition, there is considerable travel between the northwest portions of Tulare County and southern Fresno County and travel to/from Kings County to the west. Due to the interrelationship between urban and rural activities (employment, housing, services, etc.) and the low average density/ intensity of land uses, the private automobile is the dominant mode of travel for residents in Tulare County."[155]

<u>Airports</u>

"There are nine public use airports in Tulare County (see Figure 3.16-2 [in the EIR]). These include six publicly owned and operated facilities (Porterville Municipal, Sequoia Field, Tulare Municipal [Mefford Field], Visalia Municipal, Woodlake, and Harmon Field [currently closed])…Badger Field is under

[154] Tulare County General Plan 2030 Update. Page 13-2. Accessed September 2022 at: http://generalplan.co.tulare.ca.us/index.asp.

[155] Tulare County General Plan 2030 Update Background Report, page 5-4.

consideration for Federal Aviation Administration (FAA) recertification as a restricted private airfield (as of August 2006). Fresno Yosemite International Airport (FAT), 37 miles northwest of Visalia, is the principal passenger airfreight airport in the central San Joaquin Valley. Visalia Municipal Airport, [approximately] six miles southwest, offers passenger service to Los Angeles."[156]

Transit

"TCAT has been providing rural route service between various cities and towns in Tulare County since 1981. TCAT retains MV Transportation to provide all of its transit services, which includes fixed route and demand responsive services for inter-city and intra-city service in many small communities throughout the County. TCAT is the most extensive transit system in Tulare County and connects with Dinuba Area Regional Transit (DART), Visalia City Coach (VCC), Tulare InterModal Express (TIME), Porterville City Operated Local Transit (COLT), Kings Area Rural Transit (KART), Kern Regional Transit, Orange Belt and Greyhound bus."[157] Visalia transit vehicles are wheelchair accessible and all full size buses include bike racks. Paratransit services are transportation services such as carpooling, vanpooling, taxi service, and dial-a-ride programs. The County supports reliable and efficient paratransit service by encouraging development of service systems that satisfy the transit needs of the elderly and physically handicapped. Visalia Transit's Dial-A-Ride service designed to provide paratransit service for ADA (Americans with Disabilities Act) certified individuals with disabilities that prevent them from riding the VT fixed route buses. In addition, the Dial-A-Ride provides same day service to the general public (i.e., non-ADA-certified) passengers based on space availability. Services are operated on weekdays from 6:00 am - 9:30 pm and on weekends from 8:00 a.m. – 6:30 p.m. Orange Belt Stages also serves Visalia with one daily service eastbound to Las Vegas, and one westbound service to Hanford where connections can be made to San Luis Obispo."[158]

Bicycle and Pedestrian Facilities

"Investment in bikeways provides an inexpensive environment-friendly transportation opportunity. Bicycling is considered an effective alternative mode of transportation that can help to improve air quality and reduce the number of vehicles traveling along existing highways, especially within the cities and [159]unincorporated communities. Pedestrian facilities include sidewalks, walkways, crosswalks, signals, lighting, and benches, among other items. Where such facilities exist, people will be much more likely to make shorter trips by walking rather than by vehicle. Pedestrian facilities serving the school and recreational facilities enhance the safety of those who choose to walk to and from these destinations."

Designated Truck Routes

Designated truck routes are intended to be used for long-distance truck movement. Truck movements for local deliveries within a community may use the most direct route to the particular delivery location, including local streets. Designate truck routes for use by heavy commercial and industrial traffic.

AMTRAK

[156] Op. Cit. 3.16-8 and -9.
[157] Op. Cit. 3.16-9.
[158] Op. Cit. 3.16-12.
[159] Op. Cit.

The Hanford AMTRAK station, located 15 miles west in Kings County, is the nearest station to Visalia providing passenger rail service; the Fresno Amtrak station is 37 miles to the northwest. The San Joaquin Joint Powers Authority (SJJPA) is comprised of ten agencies including TCAG. They currently oversee the operation of six trains daily serving each of these stations. Service is provided to points north including San Francisco and Sacramento and to points south including Bakersfield and Los Angeles.

High Speed Rail

"The California High-Speed Rail Authority (HSRA) has determined that high-speed rail is technically, environmentally and economically feasible once constructed, and would be operationally self-sufficient. The Authority's purpose is to fund and construct the high-speed rail system throughout California. The proposed service would serve new stations in Kings County near the Tulare line and in Fresno."[160]

Regulatory Setting

Federal

Federal Transit Administration.

The Federal Transit Administration (FTA) is an authority that provides financial and technical assistance to local public transit systems, including buses, subways, light rail, commuter rail, trolleys, and ferries. The FTA is funded by Title 49 of the United States Code, which states the FTA's interest in fostering the development and revitalization of public transportation.

Americans with Disabilities Act of 1990.

Titles I, II, III, IV, and V of the ADA have been codified in Title 42 of the United States Code, beginning at Section 12101. Title III prohibits discrimination on the basis of disability in "places of public accommodation" (businesses and nonprofit agencies that serve the public) and "commercial facilities" (other businesses). The regulation includes Standards for Accessible Design, which establish minimum standards for ensuring accessibility when designing and constructing a new facility or altering an existing facility.

State

Senate Bill (SB) 743

On September 27, 2013, Governor Jerry Brown signed SB 743 into law and codified a process that changed transportation impact analysis as part of CEQA compliance. SB 743 directs the California Office of Planning and Research (OPR) to administer new CEQA guidance for jurisdictions that removes automobile vehicle delay and LOS or other similar measures of vehicular capacity or traffic congestions from CEQA transportation analysis. Rather, it requires the analysis of VMT or other measures that "promote the reduction of greenhouse gas emissions, the development of multi-modal transportation networks, and a diversity of land uses," to be used as a basis for determining significant impacts to circulation in California. The goal of SB 743 is to appropriately balance the needs of congestion management with statewide goals related to reducing GHG emissions, encourage infill development, and promote public health through active transportation.

[160] Ibid.

Local

Tulare County General Plan 2030 Update

The following Tulare County General Plan 2030 Update policies for this resource apply to this Project:

TC-1.16 County Level Of Service (LOS) Standards wherein the County shall strive to develop and manage its roadway system (both segments and intersections) to meet a LOS of "D" or better in accordance with the LOS definitions established by the Highway Capacity Manual; and

HS-1.9 Emergency Access wherein the County shall require, where feasible, road networks (public and private) to provide for safe and ready access for emergency equipment and provide alternate routes for evacuation.

Tulare County Transportation Control Measures (TCM)

"Transportation Control Measures (TCM) are designed to reduce vehicle miles traveled, vehicle idling, and/or traffic congestion in order to reduce vehicle emissions. Currently, Tulare County is a nonattainment region under the Federal Clean Air Act (CAA) and the California Clean Air Act (CCAA). Both of these acts require implementation of TCMs. These TCMs for Tulare County are as follows:

- Rideshare Programs;
- Park and Ride Lots;
- Alternate Work Schedules;
- Bicycle Facilities;
- Public Transit;
- Traffic Flow Improvement; and
- Passenger Rail and Support Facilities.

Tulare County Association of Governments (TCAG)

… [W]ith the passage of Assembly Bill (AB) 69 State law has required the preparation of Regional Transportation Plans (RTPs) to address transportation issues and assist local and state decision makers in shaping California's transportation infrastructure. The Tulare County Association of Government has prepared the 2011 Regional Transportation Plan.

Tulare County Comprehensive Airport Land Use Plan

The Tulare County Comprehensive Airport Land Use Plan (CALUP) has a number of policies that apply to projects within the County. The Visalia Municipal Airport is located approximately 6.5 miles southwest of the proposed Project site. The applicable CALUP policies specific to safety, noise, and airspace protection surfaces would not apply to the proposed Project.

Project Impact Analysis

a) Less Than Significant Impact: The proposed Project includes the development of 35 single-family residential units in Tulare County, which could generate up to 322 average daily vehicle trips (ADT).

The ADT was modeled using CalEEMod ver. 2020.4.0, and the report is available in its entirety in Attachment "B". The proposed Project development would be in accordance with alternative transportation policies included in the Tulare County Regional Transportation Plan, and any other adopted policies, plans or programs supporting alternative transportation. As such, any impacts are considered less than significant.

b) Less Than Significant Impact: In 2020 the County of Tulare prepared the County of Tulare Draft SB 743 Guidelines for the implementation of Senate Bill 743 in the unincorporated area of Tulare County. SB 743 was passed by the legislature and signed into law in the fall of 2013. This legislation led to a change in the way that transportation impacts will be measured under the California Environmental Quality Act (CEQA). Starting on July 1, 2020, automobile delay and level of service (LOS) may no longer be used as the performance measure to determine the transportation impacts of land development projects under CEQA and the new performance measure will be vehicle miles traveled (VMT).

The proposed Project consists of development of 35 single-family residential units on approximately 67.6 acres of land. The proposed Project developer intends to construct up to 11 residences on approximately 1-acre lots and up to 24 residences on approximately 2.5-acre lots. Proposed Project components will include interior access roads, street lighting and landscaping, as detailed on **Figure 3**.

The results of the trip generation calculations obtained from the CalEEMod report (Attachment "B") estimates that the proposed Project would generate approximately 322 average daily trips. County of Tulare SB 743 Guidelines (SB 743 Guidelines) contain recommendations regarding VMT assessment, significance thresholds and mitigation measures. The SB 743 guidelines specify that projects which generate less than 500 trips per day would not meet the VMT threshold and can be presumed to have a less than significant VMT.[161] Thus, the proposed Project will have a less than significant impact.

c) and d) Less Than Significant Impact: The proposed Project will not conflict with any congestion management programs, as none are applicable to the proposed Project. No roadway design features associated with this proposed Project would result in an increase in hazards due to a design feature or be an incompatible use. Any impacts would be considered less than significant.

Cumulative Impact Analysis

Less Than Significant Impact: The geographic area of this cumulative analysis is Tulare County. This cumulative analysis is based on the information provided in the Tulare County 2030 General Plan, Tulare County General Plan Background Report, Tulare County 2030 General Plan Recirculated Draft EIR.

The proposed Project is consistent the Tulare County 2030 General Plan. As such, the proposed Project will not conflict with an applicable plan, ordinance or policy establishing measures of effectiveness for the performance of the circulation system, taking into account all modes of transportation including mass transit and non-motorized travel and relevant components of the circulation system, including but not limited to intersections, streets, highways and freeways, pedestrian and bicycle paths, and mass transit. Further, it will not conflict with an applicable congestion management program, including, but not limited to level of service standards and travel demand measures, or other standards established by the county congestion management agency for designated roads or highways. The proposed Project will not result in a change in air traffic patterns, including either increase in traffic levels or a change in location that results in substantial

[161] County of Tulare. Tulare County SB 743 Guidelines. 3.21. Small Projects. June 2020. Page 6. Prepared by VRPA Technologies; Inc. Accessed December 2022 at: https://tularecounty.ca.gov/rma/rma-documents/planning-documents/tulare-county-sb-743-guidelines-final/.

safety risks. The tentative design of the subdivision is a typical rectangular-patterned grid system containing an access/egress point along Road 132; as such, it will not substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses, (e.g., farm equipment) and it will include adequate emergency access. Lastly, the proposed Project will not conflict with adopted policies, plans, or programs regarding public transit, bicycle, or pedestrian facilities, or otherwise decrease the performance or safety of such facilities. The proposed Project's cumulative impact would be less than significant.

XVIII. TRIBAL CULTURAL RESOURCES

	SIGNIFICANT IMPACT	LESS THAN SIGNIFICANT IMPACT WITH MITIGATION	LESS THAN SIGNIFICANT IMPACT	NO IMPACT
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:				
a) 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)?	☐	☒	☐	☐
b) 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, the lead agency shall consider the significance of the resource to a California Native American tribe?	☐	☒	☐	☐

Environmental Setting

"Tulare County lies within a culturally rich province of the San Joaquin Valley. Studies of the prehistory of the area show inhabitants of the San Joaquin Valley maintained fairly dense populations situated along the banks of major waterways, wetlands, and streams. Tulare County was inhabited by aboriginal California Native American groups consisting of the Southern Valley Yokuts, Foothill Yokuts, Monache, and Tubatulabal. Of the main groups inhabiting the Tulare County area, the Southern Valley Yokuts occupied the largest territory."[162]

Also, please see discussion at Item 5 Cultural Resources.

Records Search Results

A search by the Southern San Joaquin Valley Information Center (SSJVIC) of the California Historical Resources Information System (CHRIS) to identify areas previously surveyed and identify known cultural resources present within or in close proximity to the Project Study Area was conducted on August 1, 2022 (see Attachment "D"). One recorded cultural resource study was conducted within the Project area (TU-00624) and two additional studies conducted within the one-half mile radius, TU-00535 and -01499.There are no recorded cultural resources within the project area, and it is not known if any exist in most of the area. There is one recorded resource within the one-half mile radius, P-54-004632, the historic Santa Fe Railroad.[163]

Native American Consultation

[162] Tulare County General Plan 2030 Update. August 2012. Page 8-5. Accessed January 2022 at: http://generalplan.co.tulare.ca.us/documents.html, then scroll to Recirculated Draft EIR, the click on *"Appendix B-Background Report"*

[163] California Historical Resources Information System. California State University, Bakersfield. August 1, 2022. See Attachment "D" of this MND.

The Native American Heritage Commission (NAHC) maintains a contact list of Native American Tribes as having traditional lands located within the County's jurisdiction. A search of the Sacred Lands Inventory on file with the Native American Heritage Commission (NAHC) was also requested and was returned on January 15, 2023, with "negative" results (see Attachment "E"). Pursuant to AB 52 Tulare County RMA staff contacted thirteen Native American Tribes (see Attachment "E") on December 23, 2022 regarding the Project. As of the date of release of this document, the County has received a response from the Santa Rosa Rancheria. No other responses from the tribes has been received.

Regulatory Setting

Federal

The National Historic Preservation Act

The National Historic Preservation Act of 1966 (NHPA) established federal regulations for the purpose of protecting significant cultural resources. The legislation established the National Register of Historic Places and the National Historic Landmarks Program. It mandated the establishment of the Office of Historic Preservation, responsible for implementing statewide historic preservation programs in each state.

State

California State Office of Historic Preservation (OHP)

The California State Office of Historic Preservation (OHP) is responsible for administering federally and state mandated historic preservation programs to further the identification, evaluation, registration and protection of California's irreplaceable archaeological and historical resources under the direction of the State Historic Preservation Officer (SHPO), appointed by the governor, and the State Historical Resources Commission, a nine-member state review board appointed by the governor.[164]

Among OHP's responsibilities are identifying, evaluating, and registering historic properties; and ensuring compliance with federal and state regulations. The OHP administers the State Register of Historical Resources and maintains the California Historical Resources Information System (CHRIS) database. The CHRIS database includes statewide Historical Resources Inventory (HRI) database. The records are maintained and managed under contract by eleven independent regional Information Centers. Tulare, Fresno, Kern, Kings and Madera counties are served by the Southern San Joaquin Valley Information Center (Center), located in Bakersfield, CA. The Center provides information on known historic and cultural resources to governments, institutions and individuals.[165]

A historical resource may be eligible for inclusion in the California Register of Historical Resources (CRHR) if it:

- Is associated with events that have made a significant contribution to the broad patterns of California's history and cultural heritage;
- Is associated with the lives of persons important to our past;
- Embodies the distinctive characteristics of a type, period, region, or method of construction, or represents the work of an important creative individual, or possesses high artistic values; or

[164] Office of Historic Preservation. Mission and Responsibilities. Accessed September 2022 at: http://ohp.parks.ca.gov/?page_id=1066.

[165] California Office of Historic Preservation, Mission and Responsibilities, https://ohp.parks.ca.gov/?page_id=1066, Accessed September 2022.

- Has yielded, or may be likely to yield, information important in prehistory or history.[166]

Native American Heritage Commission

"The Native American Heritage Commission (NAHC), created in statute in 1976, is a nine-member body, appointed by the Governor, to identify and catalog cultural resources -- ancient places of special religious or social significance to Native Americans and known ancient graves and cemeteries of Native Americans on private and public lands in California. The NAHC is also charged with ensuring California Native American tribes' accessibility to ancient Native American cultural resources on public lands, overseeing the treatment and disposition of inadvertently discovered Native American human remains and burial items, and administering the California Native American Graves Protection and Repatriation Act (CalNAGPRA), among many other powers and duties."[167]

Tribal Consultation Requirements: SB 18 (Burton, 2004) [168]

On September 29, 2004, Governor Schwarzenegger signed Senate Bill 18, Tribal Consultation Guidelines, into law. This bill amended Section 815.3 of the Civil Code, to amend Sections 65040.2, 65092, 65351, 65352, and 65560 of, and to add Sections 65352.3, 65352.4, and 65562.2 to, the Government Code, relating to traditional tribal cultural Places. SB 18, enacted March 1, 2005, creates a mechanism for California Native American Tribes to identify culturally significant sites that are located within public or private lands within the city or county's jurisdiction. SB 18 requires cities and counties to contact, and offer to consult with, California Native American Tribes before adopting or amending a General Plan, a Specific Plan, or when designating land as Open Space, for the purpose of protecting Native American Cultural Places (PRC 5097.9 and 5097.993). The Native American Heritage Commission (NAHC) provides local governments with a consultation list of tribal governments with traditional lands or cultural places located within the Project Area of Potential Effect. Tribes have 90 days from the date on which they receive notification to request consultation, unless a shorter timeframe has been agreed to by the tribe.

Tribal Consultation Requirements: AB 52 (Gatto, 2014)

The Public Resources Code has established that "[a] project with an effect that may cause a substantial adverse change in the significance of a tribal cultural resource is a project that may have a significant effect on the environment." (Pub. Resources Code, § 21084.2.) To help determine whether a project may have such an effect, the Public Resources Code requires a lead agency to consult with any California Native American tribe that requests consultation and is traditionally and culturally affiliated with the geographic area of a proposed project. That consultation must take place prior to the release of a negative declaration, mitigated negative declaration, or environmental impact report for a project. (Pub. Resources Code, § 21080.3.1.) If a lead agency determines that a project may cause a substantial adverse change to tribal cultural resources, the lead agency must consider measures to mitigate that impact.[169]

CEQA Guidelines: Archaeological Resources

[166] Office of Historic Preservation. California Register of Historic Places. Accessed September 2022 at: http://www.ohp.parks.ca.gov/?page_id=21238.

[167] Native American Heritage Commission. Welcome. Accessed September 2022 at: http://nahc.ca.gov/.

[168] Senate Bill No. 18, Chapter 905. https://leginfo.legislature.ca.gov/faces/billNavClient.xhtml?bill_id=200320040SB18. Accessed September.

[169] Office of Planning and Research. Technical Advisory: AB 52 and Tribal Cultural Resources in CEQA (June 2017). Page 3. Accessed September 2022 at: https://www.opr.ca.gov/docs/20200224-AB_52_Technical_Advisory_Feb_2020.pdf.

Section 15064.5(c) of CEQA Guidelines provides specific guidance on the treatment of archaeological resources as noted below.[170][171]

(1) When a Project will impact an archaeological site, a lead agency shall first determine whether the site is an historical resource, as defined in subdivision (a).

(2) If a lead agency determines that the archaeological site is an historical resource, it shall refer to the provisions of Section 21084.1 of the Public Resources Code, and this section, Section 15126.4 of the Guidelines, and the limits contained in Section 21083.2 of the Public Resources Code do not apply.

(3) If an archaeological site does not meet the criteria defined in subdivision (a) but does meet the definition of a unique archeological resource in Section 21083.2 of the Public Resources Code, the site shall be treated in accordance with the provisions of section 21083.2. The time and cost limitations described in Public Resources Code Section 21083.2 (c–f) do not apply to surveys and site evaluation activities intended to determine whether the Project location contains unique archaeological resources.

(4) If an archaeological resource is neither a unique archaeological nor an historical resource, the effects of the Project on those resources shall not be considered a significant effect on the environment. It shall be sufficient that both the resource and the effect on it are noted in the Initial Study or EIR, if one is prepared to address impacts on other resources, but they need not be considered further in the CEQA process.

CEQA Guidelines: Human Remains

Public Resources Code Sections 5097.94 and 5097.98 provide guidance on the disposition of Native American burials (human remains), and fall within the jurisdiction of the Native American Heritage Commission:[172]

(d) When an initial study identifies the existence of, or the probable likelihood, of Native American human remains within the Project, a lead agency shall work with the appropriate Native Americans as identified by the Native American Heritage Commission as provided in Public Resources Code Section 5097.98. The applicant may develop an agreement for treating or disposing of, with appropriate dignity, the human remains and any Items associated with Native American burials with the appropriate Native Americans as identified by the Native American Heritage Commission. Action implementing such an agreement is exempt from:

(1) The general prohibition on disinterring, disturbing, or removing human remains from any location other than a dedicated cemetery (Health and Safety Code Section 7050.5).

(2) The requirements of CEQA and the Coastal Act.

(e) In the event of the accidental discovery or recognition of any human remains in any location other than a dedicated cemetery, the following steps should be taken:

(1) There shall be no further excavation or disturbance of the site or any nearby area reasonably suspected to overlie adjacent human remains until:

[170] Office of Historic Preservation. CEQA Basics. Accessed September 2022 at: https://ohp.parks.ca.gov/?page_id=21721.

[171] CEQA Guidelines, Section 15064.5 - Determining the Significance of Impacts to Archaeological and Historical Resources. Accessed September 2022 at: https://casetext.com/regulation/california-code-of-regulations/title-14-natural-resources/division-6-resources-agency/chapter-3-guidelines-for-implementation-of-the-california-environmental-quality-act/article-5-preliminary-review-of-projects-and-conduct-of-initial-study/section-150645-determining-the-significance-of-impacts-to-archaeological-and-historical-resources

[172] Op. Cit.

(A) The coroner of the county in which the remains are discovered must be contacted to determine that no investigation of the cause of death is required, and

(B) If the coroner determines the remains to be Native American:

1. The coroner shall contact the Native American Heritage Commission within 24 hours.
2. The Native American Heritage Commission shall identify the person or persons it believes to be the most likely descended from the deceased Native American.
3. The most likely descendent may make recommendations to the landowner or the person responsible for the excavation work, for means of treating or disposing of, with appropriate dignity, the human remains and any associated grave goods as provided in Public Resources Code Section 5097.98, or

(2) Where the following conditions occur, the landowner or his authorized representative shall rebury the Native American human remains and associated grave goods with appropriate dignity on the property in a location not subject to further subsurface disturbance.

(A) The Native American Heritage Commission is unable to identify a most likely descendent or the most likely descendent failed to make a recommendation within 24 hours after being notified by the commission.

(B) The descendant identified fails to make a recommendation; or

(C) The landowner or his authorized representative rejects the recommendation of the descendant, and the mediation by the Native American Heritage Commission fails to provide measures acceptable to the landowner.

(f) As part of the objectives, criteria, and procedures required by Section 21082 of the Public Resources Code, a lead agency should make provisions for historical or unique archaeological resources accidentally discovered during construction. These provisions should include an immediate evaluation of the find by a qualified archaeologist. If the find is determined to be an historical or unique archaeological resource, contingency funding and a time allotment sufficient to allow for implementation of avoidance measures or appropriate mitigation should be available. Work could continue on other parts of the building site while historical or unique archaeological resource mitigation takes place

Local

Tulare County General Plan 2030 Update

The General Plan has a number of policies that apply to Projects within Tulare County. General Plan policies that relate to the proposed Project are listed as follows:

ERM-6.1 Evaluation of Cultural and Archaeological Resources wherein the County shall participate in and support efforts to identify its significant cultural and archaeological resources using appropriate State and Federal standards;

ERM-6.2 Protection of Resources with Potential State or Federal Designations wherein the County shall protect cultural and archaeological sites with demonstrated potential for placement on the National Register of Historic Places and/or inclusion in the California State Office of Historic Preservation's California Points of Interest and California Inventory of Historic Resources;

ERM-6.3 Alteration of Sites with Identified Cultural Resources which states that when planning any development or alteration of a site with identified cultural or archaeological resources, consideration should be given to ways of protecting the resources. Development can be permitted in these areas only after a site specific investigation has been conducted pursuant to CEQA to define the extent and value of resource, and Mitigation measures proposed for any impacts the development may have on the resource;

ERM-6.4 Mitigation which states that if preservation of cultural resources is not feasible, every effort shall be made to mitigate impacts, including relocation of structures, adaptive reuse, preservation of facades, and thorough documentation and archival of records;

ERM-6.9 Confidentiality of Archaeological Sites wherein the County shall, within its power, maintain confidentiality regarding the locations of archaeological sites in order to preserve and protect these resources from vandalism and the unauthorized removal of artifacts; and

ERM-6.10 Grading Cultural Resources Sites wherein the County shall ensure all grading activities conform to the County's Grading Ordinance and California Code of Regulations, Title 20, § 2501 et. seq.

Project Impact Analysis

a) and b) Less Than Significant Impact With Mitigation: As noted earlier, a search of records by the Southern San Joaquin Valley Information Center of the California Historical Resources Information System identified one recorded resource (P-54-004632, the historic Santa Fe Railroad), within a half-mile of the proposed Project site. A search of the Sacred Lands Inventory on file with the Native American Heritage Commission (NAHC) was also requested and was returned on January 15, 2023, with "negative" results (see Attachment "E"). Pursuant to AB 52 Tulare County RMA staff contacted thirteen Native American Tribes (see Attachment "E") on December 23, 2022 regarding the Project. As of the date of release of this document, the County has received a response from the Santa Rosa Rancheria. No other responses from the tribes have been received. The Santa Rosa Rancheria requested that a field survey be conducted, and results provided to the Tribe.

As an abundance of caution, in the unlikely event that subsurface resources are located, **Mitigation Measures 5-1** through **5-3** as specified at Item 5 Cultural Resources would be implemented thereby reducing the potential level of impact to this resource as less than significant for resources 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 to a resource consider significant to a California Native American tribe.

Summary of Mitigation Measures:

5-1. Discovery of resources during excavation, suspension of work, retention of qualified archaeologist/paleontologist, implementation of measures to protect resources.

5-2. Cessation of work activities, County notification, determination of significance, actions to be taken as determined by a qualified archaeologist/paleontologist, treatment plan, collaboration with affected Native American Tribe.

5-3. Inadvertent discovery of human remains during excavation, cessation of excavation or disturbance, contact of Coroner/Sheriff, contact NAHC, and dignified reburial.

Therefore, implementation of **Mitigation Measure 5-1**, **5-2, and 5-3** would result in a less than significant impact to this item.

Cumulative Impact Analysis

Less Than Significant Impact With Mitigation: The geographic area of this cumulative analysis is Tulare County. This cumulative analysis is based on the information provided in the Tulare County 2030 General Plan, General Plan background Report, and/or the Tulare County 2030 General Plan Recirculated Draft EIR.

It is not anticipated that Native American remains or other cultural will be found at the proposed Project site. However, consistent with CEQA requirements, **Mitigation Measures 5-1, 5-2, and 5-3** are included in the unlikely event that if Native American remains are unearthed during any ground disturbance activities, or if any cultural resources are discovered, such finds will be mitigated to less than significant Project-specific and Cumulative Impacts.

Summary of Mitigation Measures:

See **Mitigation Measures 5-1, 5-2 and 5-3** in Attachment "F" (in their entirety).

XIX. UTILITIES AND SERVICE SYSTEMS

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

Environmental Setting

"Tulare County and special districts provide many important services to County residents and businesses in unincorporated communities and hamlets such as water, wastewater, storm drainage, solid waste removal, utilities, communications, fire protection, law enforcement, and a number of other community facilities and services (schools, community centers, etc.)."[173]

As noted earlier, the proposed Project includes the construction of 35 single-family dwellings and associated access roads, lighting, landscaping, and other site improvements. Utilities required to serve the proposed Project would include electricity, natural gas, solid waste removal, storm drainage, telecommunications infrastructure, and water. The Project includes installation of a septic system and a well for each individual residence.

According to the Tulare County General Plan Background Report, demands for water resources within Tulare County are met from 4 major sources. These sources include groundwater, local streams and rivers, imported surface water and imported surface water by exchange. The predominant water supply for

[173] Tulare County General Plan 2030 Update. Page 14-3.

domestic use within the unincorporated communities of Tulare County is the individual system. Principal among these systems are those that utilize groundwater that is, in most cases, untreated.[174]

"Water districts supply water to communities and hamlets throughout the County. Most communities and some hamlets have wastewater treatment systems; however, several communities including Three Rivers, Plainview, Alpaugh, and Ducor rely on individual septic systems. Storm drainage facilities are generally constructed and maintained in conjunction with transportation improvements or new subdivisions in communities. Solid waste collection in the County is divided into service areas, as determined by the Board of Supervisors, with one license for each area. Southern California Edison provides electric service to the south and central areas of Tulare County while PG&E provides electric service in the north. The [Southern California] Gas Company is the primary provider of natural gas throughout the County."[175]

"Solid waste disposal is provided privately by the Mid Valley Disposal for weekly solid waste collection. Solid waste collected is deposited at the Visalia Land Fill. The Tulare County Solid Waste Department (communication with Mr. Scott Pfanstiel), states aerial usage rate shows 140 years remaining landfill capacity. No constraints to growth have been identified.

Tulare County Environmental Health Agency holds two biannual hazardous material drop off events in which residents of Tulare County can drop off their household recyclable and disposable hazardous materials."[176]

Regulatory Setting

Federal

U.S. Environmental Protection Agency (U.S. EPA) - Federal Regulation Tile 40, Part 503

In 1993, the U.S. Environmental Protection Agency (U.S. EPA) promulgated Standards for the Use or Disposal of Sewage Sludge (Code of Federal Regulations Title 40, Part 503), which establish pollutant limitations, operational standards for pathogen and vector attraction reduction, management practices, and other provisions intended to protect public health and the environment from any reasonably anticipated adverse conditions from potential waste constituents and pathogenic organisms.

This part establishes standards, which consist of general requirements, pollutant limits, management practices, and operational standards, for the final use or disposal of sewage sludge generated during the treatment of domestic sewage in a treatment works. Standards are included in this part for sewage sludge applied to the land, placed on a surface disposal site, or fired in a sewage sludge incinerator. Also included in this part are pathogen and alternative vector attraction reduction requirements for sewage sludge applied to the land or placed on a surface disposal site.

In addition, the standards in this part include the frequency of monitoring and recordkeeping requirements when sewage sludge is applied to the land, placed on a surface disposal site, or fired in a sewage sludge incinerator. Also included in this part are reporting requirements for Class I sludge management facilities,

[174] Ch 7. Public Service and Utilities, Tulare County General Plan Background Report. Pg 7-9.
[175] Ibid.
[176] Op. Cit.

publicly owned treatment works (POTWs) with a design flow rate equal to or greater than one million gallons per day, and POTWs that serve 10,000 people or more.[177]

Resource Conservation and Recovery Act (RCRA)[178]

Congress passed RCRA on October 21, 1976 to address the increasing problems the nation faced from our growing volume of municipal and industrial waste. RCRA, which amended the Solid Waste Disposal Act of 1965, set national goals for:

- Protecting human health and the environment from the potential hazards of waste disposal.
- Conserving energy and natural resources.
- Reducing the amount of waste generated.
- Ensuring that wastes are managed in an environmentally-sound manner
- To achieve these goals, RCRA established three distinct, yet interrelated, programs:
  - ✓ The solid waste program, under RCRA Subtitle D, encourages states to develop comprehensive plans to manage nonhazardous industrial solid waste and municipal solid waste, sets criteria for municipal solid waste landfills and other solid waste disposal facilities, and prohibits the open dumping of solid waste.
  - ✓ The hazardous waste program, under RCRA Subtitle C, establishes a system for controlling hazardous waste from the time it is generated until its ultimate disposal — in effect, from "cradle to grave."
  - ✓ The underground storage tank (UST) program, under RCRA Subtitle I, regulates underground storage tanks containing hazardous substances and petroleum products. RCRA banned all open dumping of waste, encouraged source reduction and recycling, and promoted the safe disposal of municipal waste. RCRA also mandated strict controls over the treatment, storage, and disposal of hazardous waste.

State

State Water Resources Control Board

Waste Discharge Requirements Program. State regulations pertaining to the treatment, storage, processing, or disposal of solid waste are found in Title 27, CCR, Section 20005 et seq. (hereafter Title 27). In general, the Waste Discharge Requirements (WDRs) Program (sometimes also referred to as the "Non Chapter 15 (Non 15) Program") regulates point discharges that are exempt pursuant to Subsection 20090 of Title 27 and not subject to the Federal Water Pollution Control Act. Exemptions from Title 27 may be granted for nine categories of discharges (e.g., sewage, wastewater, etc.) that meet, and continue to meet, the preconditions listed for each specific exemption. The scope of the WDRs Program also includes the discharge of wastes classified as inert, pursuant to section 20230 of Title 2744. Several SWRCB programs are administered under the WDR Program, including the Sanitary Sewer Order and recycled water programs.

"The State Water Resources Control Board (State Water Board) was created by the Legislature in 1967. The joint authority of water allocation and water quality protection enables the State Water Board to provide comprehensive protection for California's waters. The State Water Board consists of five full-time salaried

[177] Title 40: Protection of Environment Part 503: Standards for the Use of Disposal of Sewage Sludge. Accessed September 2022 at: https://www.ecfr.gov/current/title-40/chapter-I/subchapter-O/part-503/subpart-A/section-503.1.

[178] United States Environmental Protection Agency. Accessed September 2022 at: https://www.epa.gov/laws-regulations/summary-resource-conservation-and-recovery-act ; then click on "EPA History: RCRA".

members, each filling a different specialty position. Board members are appointed to four-year terms by the Governor and confirmed by the Senate. There are nine Regional Water Quality Control Boards (Regional Boards). The mission of the Regional Boards is to develop and enforce water quality objectives and implementation plans that will best protect the State's waters, recognizing local differences in climate, topography, geology and hydrology. Each Regional Board has seven part-time members appointed by the Governor and confirmed by the Senate. Regional Boards develop "basin plans" for their hydrologic areas, issue waste discharge requirements, take enforcement action against violators, and monitor water quality. The task of protecting and enforcing the many uses of water, including the needs of industry, agriculture, municipal districts, and the environment is an ongoing challenge for the State and Regional Water Quality Control Boards."[179]

State Water Resources Control Board, Divisions of Drinking Water and Clean Water

Recycled water regulations are administered by both Central RWQCB and the California State Water Resources Control Board (SWRCB). The regulations governing recycled water are found in a combination of sources, including the Health and Safety Code, Water Code, and Titles 22 and 17 of the California Code of Regulations (CCR). Issues related to the treatment and distribution of recycled water are generally under the permitting authority of RWQCB and the Clean Water Division of the SWRCB. Tulare County is within the Central Valley RWQCB's jurisdiction.

State NPDES General Construction Permit

The State NPDES General Construction Permit requires development and implementation of a Storm Water Pollution Prevention Plan (SWPPP) that uses storm water "Best Management Practices" to control runoff, erosion and sedimentation from the site both during and after construction. The SWPPP has two major objectives: (1) to help identify the sources of sediments and other pollutants that affect the quality of storm water discharges; and (2) to describe and ensure the implementation of practices to reduce sediment and other pollutants in storm water discharges.

CalRecycle

CalRecycle (formerly the California Integrated Waste Management Board) governs solid waste regulations on the state level, delegating local permitting, enforcement, and inspection responsibilities to Local Enforcement Agencies (LEA). Regulations authored by CalRecycle (Title 14) were integrated with related regulations adopted by the State Water Resources Control Board (SWRCB) pertaining to landfills (Title 23, Chapter 15) to form CCR Title 27.

California Public Utilities Commission

The California Public Utilities Commission (CPUC) regulates privately owned electric, natural gas, telecommunications, water, railroad, rail transit, and passenger transportation companies, in addition to authorizing video franchises. In 1911, the CPUC was established by Constitutional Amendment as the Railroad Commission. In 1912, the Legislature passed the Public Utilities Act, expanding the Commission's regulatory authority to include natural gas, electric, telephone, and water companies as well as railroads and marine transportation companies. In 1946, the Commission was renamed the California Public Utilities Commission. It is tasked with ensuring safe, reliable utility service is available to consumers, setting retail energy rates, and protecting against fraud.

[179] State Water Board Website. Accessed September 2022 at: http://www.waterboards.ca.gov/about_us/water_boards_structure/mission.html.

Local

County of Tulare Solid Waste Services

Solid waste collection in the area north of the City of Visalia is provided by Mid-Valley Disposal (a private vendor), which has a license with County of Tulare. Tulare County operates two active landfills: Visalia and Teapot Dome. The Visalia landfill has enough capacity to provide at least 140 years (2014- 2154) of disposal capacity (Scott Pfanstiel (retired), Solid Waste Department).

Assembly Bill 939 requires cities and counties to reduce their solid waste volumes by 25 percent by 1995 and 50 percent by the year 2000. To achieve this reduction in volume, AB 939 requires local entities to devise a materials recovery facility by composting organic materials; recycling paper, metal, glass, and plastic; and by diverting household hazardous waste to the Kettlemen Hills waste facility.

Tulare County General Plan 2030 Update

As the Project will not utilize any new or expanded water, wastewater treatment or storm water drainage, natural gas, or telecommunications facilities, the applicable Tulare County General Plan 2030 Update policies for this resource are limited to the following for this resource item:

PFS-2.1 Water Supply where in the County shall work with agencies providing water service to ensure that there is an adequate quantity and quality of water for all uses, including water for fire protection, by, at a minimum, requiring a demonstration by the agency providing water service of sufficient and reliable water supplies and water management measures for proposed urban development;

PFS-2.3 Well Testing where in the County shall require new development that includes the use of water wells to be accompanied by evidence that the site can produce the required volume of water without impacting the ability of existing wells to meet their needs;

PFS-2.4 Water Connections where in the County shall require all new development in UDBs, UABs, Community Plans, Hamlet Plans, Planned Communities, Corridor Areas, Area Plans, existing water district service areas, or zones of benefit, to connect to the community water system, where such system exists. The County may grant exceptions in extraordinary circumstances, but in these cases, the new development shall be required to connect to the water system when service becomes readily available;

PFS-2.5 New Systems or Individual Wells where connection to a community water system is not feasible per PFS-2.4: Water Connections, service by individual wells or new community systems may be allowed if the water source meets standards for quality and quantity;

PFS-3.1 Private Sewage Disposal Standards where in the County shall maintain adequate standards for private sewage disposal systems (e.g., septic tanks) to protect water quality and public health;

PFS-3.2 Adequate Capacity where in the County shall require development proposals to ensure the intensity and timing of growth is consistent with the availability of adequate wastewater treatment and disposal capacity;

PFS-3.4 Alternative Rural Wastewater Systems where in the County shall consider alternative rural wastewater systems for areas outside of community UDBs and HDBs that do not have current systems or system capacity. For individual users, such systems include elevated leach fields, sand filtration systems, evapotranspiration beds, osmosis units, and holding tanks. For larger generators or groups of users, alternative systems, including communal septic tank/leach field systems, package treatment plants, lagoon systems, and land treatment, can be considered;

PFS-4.1 Stormwater Management Plans where in the County shall oversee, as per Community Plan Content Table PF-2.1 and Specific Plan Content, Hamlet Plans Policy PF-3.3, and Table LU-4.3, the preparation and adoption of stormwater management plans for communities and hamlets to reduce flood risk, protect soils from erosion, control stormwater, and minimize impacts on existing drainage facilities, and develop funding mechanisms as a part of the Community Plan and Hamlet Plan process;

PFS-4.2 Site Improvements where in the County shall ensure that new development in UDBs, UABs, Community Plans, Hamlet Plans, Planned Communities, Corridor Areas, and Area Plans includes adequate stormwater drainage systems. This includes adequate capture, transport, and detention/retention of stormwater;

PFS-4.3 Development Requirements where in the County shall encourage project designs that minimize drainage concentrations and impervious coverage, avoid floodplain areas, and where feasible, provide a natural watercourse appearance;

PFS-4.4 Stormwater Retention Facilities where in the County shall require on-site detention/retention facilities and velocity reducers when necessary to maintain existing (pre-development) storm flows and velocities in natural drainage systems. The County shall encourage the multi-purpose design of these facilities to aid in active groundwater recharge;

PFS-4.5 Detention/Retention Basins Design where in the County shall require that stormwater detention/retention basins be visually unobtrusive and provide a secondary use, such as recreation, when feasible;

PFS-4.6 Agency Coordination where in the County shall work with the Army Corps of Engineers and other appropriate agencies to develop stormwater detention/retention facilities and recharge facilities that enhance flood protection and improve groundwater recharge;

PFS-4.7 NPDES Enforcement where in the County shall continue to monitor and enforce provisions to control non-point source water pollution contained in the U.S. Environmental Protection Agency National Pollution Discharge Elimination System (NPDES) program;

PFS-5.1 Land Use Compatibility with Solid Waste Facilities where in the County shall ensure that solid waste facility sites (for example, landfills) are protected from the encroachment by sensitive and/or incompatible land uses;

PFS-5.3 Solid Waste Reduction wherein the County shall promote the maximum feasible use of solid waste reduction, recycling, and composting of waste, strive to reduce commercial and industrial waste on an annual basis, and pursue financing mechanisms for solid waste reduction programs;

PFS-5.4 County Usage of Recycled Materials and Products wherein the County shall encourage all industries and government agencies in the County to use recycled materials and products where economically feasible*;* and

PFS-5.8 Hazardous Waste Disposal Capabilities wherein the County shall require the proper disposal and recycling of hazardous materials in accordance with the County's Hazardous Waste Management Plan.

Project Impact Analysis

a) Less Than Significant Impact: Implementation of the proposed Project would include up to 35 single-family residential units. The Project includes installation of septic systems for each residence. As discusses in Section VII Geology and Soils, the installation of septic systems is regulated and monitored by the Tulare County Environmental Health Department (TCEHD). TCEHD requires that percolation tests be performed, and the final design will be based off the percolation testing results. No additional wastewater facilities are anticipated for the proposed Project.

As discussed in Section X, Hydrology and Water Quality, with an increase in the area of impervious surfaces on the proposed Project site, an increase in the amount of storm water runoff is anticipated. The site will be designed so that storm water is collected and deposited in the County's existing storm drain system. The storm water collection system design will be subject to review and approval by the County Public Works Department. Storm water during construction will be managed as part of the Storm Water Pollution Prevention Plan (SWPPP). A copy of the SWPPP is retained on-site during construction. For electricity, natural gas, solid waste removal, and telecommunications infrastructure, the site is located within the service territory of Tulare County. Therefore, the proposed Project would have a less than significant impact.

b) Less Than Significant Impact: The proposed Project includes construction of individual water wells for each lot, which will ensure adequate supply to the residences. As such, the proposed Project will have a less than significant impact.

c) No Impact: As discussed in Section XVIII(a), implementation of the proposed Project includes installation of individual septic systems and would not result in wastewater being discharged to the County's existing wastewater treatment plant. The proposed Project applicant would be required to comply with any applicable County and Health Department regulations pertaining to septic system installation. Property owners are generally responsible for maintenance and improvements to individual septic systems. There will be no need for additional wastewater treatment service. Therefore, with compliance to applicable standards and payment of required inspection and permit fees, the Project would result in no impact related to wastewater services. Therefore, there would be no impact to this Checklist Item.

d) and e) Less Than Significant Impact: Implementation of the proposed Project would result in an increase in solid waste disposal needs; however, this increase has been anticipated by the County's General Plan, and would be minimal. Private companies offer solid waste collection services in the unincorporated areas of the County, and the County follows all CalRecycle Mandates. Solid waste is anticipated to be delivered to one of three County landfill sites: Visalia, Woodville, and Teapot Dome. Furthermore, the proposed Project would be required to comply with all standards related to solid waste diversion, reduction, and recycling during proposed Project construction and operation. The proposed

Project will comply with all federal, state and local statutes and regulations related to solid waste and landfill facilities. As such, any impacts would be less than significant.

Cumulative Impact Analysis:

Less Than Significant Impact: The geographic area of this cumulative analysis is Tulare County. This cumulative analysis is based on the information provided in the Tulare County 2030 General Plan, General Plan Background Report, and/or Tulare County 2030 General Plan EIR.

The proposed Project would not require or result in the relocation or construction of new or expanded water facilities as there are sufficient water supplies available to serve the project and reasonably foreseeable future development during normal, dry and multiple dry years. A septic and leach line system will be installed as there are no wastewater treatment providers in the proposed Project area that could provide wastewater services/connection to the proposed Project. Lastly, the proposed Project would not 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 and it will comply with federal, state, and local management and reduction statutes and regulations related to solid waste. The proposed Project would result in a less than significant impact.

XX. WILDFIRES

If located in or near state responsibility areas or lands classified as very high fire hazard severity zones, would the project:	Significant Impact	Less Than Significant Impact With Mitigation	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?	☐	☐	☐	☒

Environmental Setting

"A wildfire is an uncontrolled fire spreading through vegetative fuels. Wildfires can be caused by human activities (such as arson or campfires) or by natural events (such as lightning). Wildfires often occur in forests or other areas with ample vegetation. Wildfires differ from other fires due to their large size, the speed at which the fires can spread, and the ability of the fire to change direction unexpectedly and to jump gaps, such as roads, rivers, and fire breaks. In areas where structures and other human development meet or intermingle with wildland or vegetative fuels (referred to as the wildland urban interface or WUI), wildfires can cause significant property damage and present extreme threats to public health and safety. The following three factors contribute significantly to wildfire behavior and can be used to identify wildfire hazard areas.

- Topography: As slope increases, the rate of wildfire spread increases. South-facing slopes are also subject to more solar radiation, making them drier and thereby intensifying wildfire behavior. However, ridgetops may mark the end of wildfire spread because fire spreads more slowly or may even be unable to spread downhill.

- Fuel: The type and condition of vegetation plays a significant role in the occurrence and spread of wildfires. Certain types of plants are more susceptible to burning or will burn with greater intensity, and non-native plants may be more susceptible to burning than native species. Dense or overgrown vegetation increases the amount of fuel load. The ratio of living to dead plant matter is also important. The risk of fire increases significantly during periods of prolonged drought, as the moisture content of both living and dead plant matter decreases; or when a disease or infestation has

caused widespread damage. The fuel's continuity, both horizontally and vertically, is also an important factor.

- Weather: The most variable factor affecting the behavior of wildfires is weather. Temperature, humidity, wind, and lightning can affect chances for ignition and spread of fire. Extreme weather, such as high temperatures and low humidity, can lead to extreme wildfire activity. By contrast, cooling and higher humidity often signal reduced wildfire occurrence and easier containment. Years of precipitation followed by warmer years tend to encourage more widespread fires and longer burn periods. Also, since the mid-1980s, earlier snowmelt and associated warming due to global climate change has been associated with longer and more severe wildfire seasons in the western U.S.

Wildfires can have serious effects on the local environment, beyond the removal of vegetation. Soil exposed to intense heat may lose its capability to absorb moisture and support life. Exposed soils erode quickly and enhance siltation of rivers and streams, thereby enhancing flood potential, harming aquatic life, and degrading water quality. Lands stripped of vegetation are also subject to increased debris flow hazards, as described earlier. Wildfires can also greatly affect the air quality of the surrounding area.

History

Historical information between 1910 and 2014 indicates that 610 wildfires occurred in the County which burned approximately 1,328,000 acres during this 104-year time period. The following causes represent approximately 95% of the 610 recorded wildfires (approximately 1.3 million acres), and are included as follows: miscellaneous 36% (532,800 acres); lightning 27% (309,000 acres); unknown or unidentified 14% (97,000 acres); arson 8% (63,300 acres); equipment use 5% (43,500 acres); smoking 3% (53,400 acres); and campfires 2% (184,600 acres). The remaining causes which include escaped prescribed burns, debris, vehicles, structures, power-lines, railroads and playing with fire account for the remaining 5% (44,400 acres) of the recorded wildfires. Appendix C [of the Tulare County 2017 Multi-Jurisdictional Local Hazard Mitigation Plan (MJLHMP)] lists documented fires over 1000 acres that have burned in the County since 1985.

Location

Public Resources Code 4201-4204 and Government Code 51175-89 directed CAL FIRE to map areas of significant fire hazards based on fuels, terrain, weather, and other relevant factors. These zones are referred to as fire hazard severity zones and represented as very high, high and moderate. Specifically, the maps were created using data and models describing development patterns, potential fuels over a 30- to 50-year time horizon, expected fire behavior and expected burn probabilities. The maps are divided into local responsibility areas and State responsibility areas.

Local responsibility areas generally include incorporated cities, cultivated agriculture lands and portions of the desert. Local responsibility area fire protection is typically provided by city fire departments, fire protection districts, counties, and by CAL FIRE under contract to the local government. The fire hazard severity zones for the area of local responsibility in the County are shown on Figure B-4 (Appendix B, Hazard Figures [in the MJLHMP]. Fire severity zones are depicted for the Cities of Porterville and Woodlake in Figures B-13 and B-20 (Appendix B, Hazard Figures MJLHMP).

State responsibility area is a legal term defining the area where the State has financial responsibility for wildfire protection. Incorporated cities and Federal ownership are not included. The prevention and

suppression of fires in all areas that are not State responsibility areas are primarily the responsibility of local or Federal agencies.

The portion of the County that transitions from the valley floor into the foothills and mountains is characterized by high to very high threat of wildfire; this includes the cities of Porterville and Woodlake, the jurisdiction of Tulare County Office of Education (TCOE), the Tule River Tribe Reservation and areas of the County unincorporated. Steeper terrain in these areas increases the threat of wildfire. The western portion of the County has little or no threat of wildfire. The risk of wildfire increases where human access exists in high fire hazard severity zones, such as the Sierra Nevada Mountains and foothills, because of a greater chance for human carelessness and because of historic and current fire management practices.

Impact of Climate Change

Climate and weather have long been acknowledged as playing key roles in wildfire activity, and global warming is expected to exacerbate fire impacts on natural and urban ecosystems. Predicting future fire regimes requires an understanding of how temperature and precipitation interact to control fire activity.[7] Since 2012, record drought and record temperatures, have weakened trees throughout California, resulting in millions of acres of failing forestland that then become vulnerable to disease and infestation. Infestations, such as those caused by native bark beetles, have caused tree mortality of epidemic proportions. The scale of tree mortality in California contributes to significantly increased wildfire risks, and presents life safety risks due to falling trees that can injure or kill people. The immediate consequence of tree mortality on California forestlands increases the potential for wildfires, further spread of forest insect tree damage, threats to critical public safety infrastructure from falling trees, reduced forest carbon stocks, loss of commercial timber values to landowners, and diminished wildlife habitat. Due to these increased risks, the County proclaimed states of emergency for tree mortality.

In addition, and in response to the millions of dead trees, a State of Emergency Proclamation was issued by the Governor. A Tree Mortality Task Force, comprised of State and Federal agencies led by CAL FIRE, Cal OES and the Governor's office has identified six counties as high hazard zones due to dead and dying trees and the hazards, this tree mortality presents. The 10 counties include: Amadore, Calaveras, El Dorado, Fresno, Kern, Madera, Mariposa, Placer, Tulare, and Tuolumne. Both the State's and the County's Tree Mortality Task Forces are structured as a Multi-Agency Coordination Group and meet monthly to exchange information and updates among stakeholders. Participants are encouraged to discuss needs and concerns, and leverage each other's subject matter expertise and resources to further response efforts.

Extent

CAL FIRE has classified 22% of the County as high wildfire hazard areas and an additional 27% as very high wildfire hazard areas. These areas are primarily in the foothills and mountain regions in the eastern portion of the County and to a large extent on National Forest or National Park land. Figure B-4 [in the MJLHMP] depicts the fire severity rating for areas of the County.

Probability of Future Events: Based on historical events, on average, slightly more than on wildfire of over 1000 acres burns within the County each year. Therefore, it is highly likely that a wildfire event will occur within the calendar year impacting the County. Wildfire events have a greater than 1 in 1-year (100%) chance of occurring."[180]

[180] Tulare County 2017 Multi-Jurisdictional Local Hazard Mitigation Plan (MJLHMP). March 2018. Pages 70-72. Accessed September 2022 at: https://tularecounty.ca.gov/rma/planning-building/tulare-county-adaptation-and-resiliency-plan/multi-jurisdictional-local-hazard-mitigation-plans/.

The Project's location does not lend itself to wildfire risk as it is not within a fire hazard severity zone (as identified by CalFire), lacks slope/terrain conducive to wildfire spread, lacks vegetation which would fuel wildfire (i.e., dense vegetation consisting of shrubs and bushes, dead or dying trees caused by drought or pest infestation (i.e., bark beetle), is surrounded by predominantly agriculturally productive lands, and, as noted earlier, is in the western portion of the County which has little or no threat of wildfire.

Regulatory Setting

Federal

None that apply to the Project.

State

CAL FIRE - Tulare Unit Strategic Fire Plan

As summarized in the 2017 Tulare Multi-Jurisdictional Local Hazard Mitigation Plan (MJLHMP), "The Plan is a local road map to create and maintain defensible landscapes in order to protect vital assets. It seeks to reduce firefighting cost and property loss, increase public and firefighter safety, minimize wildfire risk to communities and contribute to ecosystem health. The Plan identifies pre-suppression projects including opportunities for reducing structural ignitability, and the identification of potential fuel reduction projects and techniques for minimizing those risks. The central goals that are critical to reducing and preventing the impacts of fire revolve around both suppression efforts and fire prevention efforts. The MJLHMP fire hazard analysis and fire related mitigation measures will be provided to Cal Fire to support the Tulare Unit Strategic Fire Plan."

Cal Fire publishes Fire Hazard Severity Zone Maps for all regions in California, which can be viewed here. The fire hazard measurement used as the basis for these maps includes the speed at which a wildfire moves, the amount of heat the fire produces, and most importantly, the burning fire brands that the fire sends ahead of the flaming front. Lead agencies and project proponents can review the Cal Fire maps to determine whether a given project site will be subject to the new CEQA wildfire impacts analysis.

Local

Tulare County General Plan

The Project is not located in or near state responsibility areas or lands classified as very high fire hazard severity zones, would the project: The following Tulare County General Plan 2030 Update policies could apply to this Project if it were located on sloped areas, fire hazards areas, lands susceptible to landslides, subsidence/settlement, contamination, and/or flooding; potential for wildland fires; etc.:

HS-6.1 New Building Fire Hazards wherein the County shall ensure that all building permits in urban areas, as well as areas with potential for wildland fires, are reviewed by the County Fire Chief;

HS-6.5 Fire Risk Recommendations wherein the County shall encourage the County Fire Chief to make recommendations to property owners regarding hazards associated with the use of materials, types of structures, location of structures and subdivisions, road widths, location of fire hydrants, water supply, and

other important considerations regarding fire hazard that may be technically feasible but not included in present ordinances or policies;

HS-6.7 Water Supply System wherein the County 8hall require that water supply systems be adequate to serve the size and configuration of land developments, including satisfying fire flow requirements. Standards as set forth in the subdivision ordinance shall be maintained and improved as necessary;

HS-7.1 Coordinate Emergency Response – Service with Government Agencies wherein the County shall coordinate emergency response with local, State, and Federal governmental agencies, community organizations, volunteer agencies, and other response partners during emergencies or disasters utilizing SEMS and NIMS; and

HS-7.2 Mutual Aid Agreement wherein the County shall participate in established local, State, and Federal mutual aid systems. Where necessary and appropriate, the County shall enter into agreements to ensure the effective provision of emergency services, such as mass care, heavy rescue, hazardous materials, or other specialized function.

Project Impact Analysis

a) – d) Less Than Significant Impact*:* The proposed Project site is not in a State Responsibility Area.[181] The proposed Project does not impair the implementation of any adopted emergency response plan or evacuation plan. The proposed Project will not exacerbate wildfire risks or expose Project occupants to pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire, due to slope, prevailing winds, and other factors. The proposed Project will not require the installation or maintenance of associated infrastructure (such as roads, fuel breaks, or other utilities) that may exacerbate fire risk or that may result in temporary or ongoing impacts to the environment. The proposed Project will not 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. Therefore, the proposed Project will result in no impact related to this resource.

As it is not located in or near state responsibility areas or lands classified as very high fire hazard severity zones high fire, the proposed Project will not exacerbate wildfire risks or expose project occupants to pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire, due to slope, prevailing winds, and other factors. The residences shall comply with all applicable current California Building Code and CFC standards (such as lighting, fire extinguishers, access/egress, etc.). All new construction would require the submittal of plans for fire department review and would be required to meet construction methods in accordance with Chapter 7A of the 2016 California Building Code. Therefore, there will be no impact to the Wildfires resource.

Cumulative Impact Analysis

No Impact: The geographic area of this cumulative analysis is Tulare County. This cumulative analysis is based on the information provided in the Tulare County 2030 General Plan, Tulare County General Plan Background Report, and the Tulare County 2030 General Plan Recirculated Draft EIR. For the reasons stated above, Items 20 a) through d) do not apply to the proposed Project as it is not located in or near state responsibility areas or lands classified as very high fire hazard severity zones. As such, no Project-specific Impact or Cumulative Impacts will occur.

[181] CalFire. Accessed September 2022 at: http://www.fire.ca.gov/fireprevention fee/sraviewer.

XXI. MANDATORY FINDINGS OF SIGNIFICANCE

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 species, or eliminate important examples of the major periods of California history or prehistory?	☐	☒	☐	☐
b)	Does the project have impacts that are individually limited, but cumulatively considerable? ("Cumulatively considerable" means that the incremental effects of a project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects)?	☐	☐	☒	☐
c)	Does the project have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly?	☐	☐	☒	☐

Project Impact Analysis

As noted in the previous Checklist Items, there are a minimum of 158 Tulare County General Plan 2030 Update policies that apply to this Project:

a) Less Than Significant Impact With Mitigation: As the proposed Project does not result in significant loss of habitat or direct impact to these special status species, implementation of **Mitigation Measure 4-1** (which can be found in their entirety in the Mitigation and Monitoring Reporting Program (MMRP) in Attachment "F" of this IS/MND), as applicable, would result in a less than significant impact to this resource. The proposed Project does not result in significant loss of habitat or direct impact to these special status species, a less than significant cumulative impact will occur. Also as noted earlier, the proposed Project site consists of and is surrounded by developed and/or highly disturbed lands that do not support important movement corridors for native wildlife. Birds using the Pacific flyway will continue to do so following project development. The potential for impacts to biological resources from the construction and operation of the proposed Project will be less than significant with the incorporation of the **Mitigation Measure 4-1** (see MMRP) as contained in Item 4, Biological Resources, of this document. It is not anticipated that Native American remains or other cultural resources will be found at the proposed Project site. However, consistent with CEQA requirements, as described in Item 5, Cultural Resources and Item 18, Tribal Resources, **Mitigation Measures 5-1** through **5-4** (see MMRP) are included in the unlikely event that if Native American remains are unearthed during any ground disturbance activities, or if any cultural resources are discovered, such finds will be mitigated to less than significant. Accordingly, the proposed Project will not result in significant impacts resulting in degradation of the quality of the environment, it will not result in substantial reductions in the habitat of a fish or wildlife species, it will not cause a fish or wildlife population to drop below self-sustaining

levels, it will not threaten the elimination of a plant or animal community, it will not reduce the number or restriction of the range of a rare or endangered plant or animal, or it will not eliminate important examples of the major periods of California history or prehistory. As such, the proposed Project's impact will be less than significant for biological resources and less than significant with mitigation for cultural and tribal cultural resources.

b) Less Than Significant Impact: Projects considered in a cumulative analysis include those that would be constructed concurrently with the proposed Project and those that would be in operation at the same time as the proposed Project. The cumulative projects considered in this analysis are limited to projects that would result in similar impacts to the proposed Project due to their potential to collectively contribute to significant cumulative impacts, as well as other development projects that would be located in the vicinity of the proposed Project. There are similar residential developments occurring to the south, within the City of Visalia; however, these developments are consistent with the City of Visalia General Plan and have been accounted for as necessary to accommodate planned growth. As such, they do not contribute to an unanticipated cumulative impact.

Tulare County staff have determined that there are no projects that could have the potential to contribute to cumulative impacts. The proposed Project was determined to have less than to no impacts to all resources with the exception of the biological resources, cultural resources (including Tribal Cultural Resources), and geology and soils resource (specifically, the paleontological resource) with incorporation/implementation of mitigation measures, conditions of approval, and project design features identified earlier.

The majority of the potential impacts resulting from the Project will be short-term, temporary, and intermittent typically occurring during proposed Project construction-related activities; and with no-to-less than significant impacts resulting from Project operation as discussed in the earlier environmental analysis. Because construction-related impacts are of a short duration, temporary, intermittent, and localized, they would have to occur concurrently and in proximity of other projects in order to have a cumulative impact. Construction-related impacts (which are primarily associated with air quality, biological resources, noise, and traffic) are not likely to act cumulatively with any other projects in a manner that would result in significant impacts.

This proposed Project (as described in Items 3 and 8) will have short-term impacts with regard to air quality and greenhouse gases during construction-related activities. However, the emissions associated with this proposed Project are minor as compared to baseline emissions levels as quantified in Items 3 and 8, and are not considered cumulatively considerable pursuant to guidelines from the Air District. (See Impact 3(c) for a complete discussion of the Project's cumulative air quality impacts). The proposed Project would implement the applicable SJVAPCD Best Performance Standards; therefore, reducing the Project specific and cumulative impacts to a less than significant level. In addition, the proposed Project would lead to cumulatively beneficial reductions in GHG emissions.

As discussed in Item 4, the proposed Project site consists of vacant and active agricultural land. As the proposed Project site is not suitable habitat or known to host any special status species, when combined cumulatively with other projects, the proposed Project would not result in impacts to biological resources that are cumulatively considerable. As indicated at Item 5, the proposed Project site does not contain any known cultural or tribal cultural resources. However, as an abundance of caution, **Mitigation Measures 4-1**, **5-1** through **5-4** have been incorporated into this IS/MND.

Impacts to aesthetics from the proposed Project would be minimal as the project would be developed adjacent to existing single-family land use and it is consistent with well-planned urban design for an area planned for urban uses. Although the proposed Project may contribute to visual impacts on the area due to the addition of urban-type uses adjacent to an agricultural area, the contribution of the proposed Project would not be cumulatively considerable because the visual quality of the overall area as the area is transitioning from a rural setting to an urban setting consistent with the City of Visalia's Urban Area Boundary. Thus, the proposed Project would result in less than significant cumulative impact to Aesthetics.

No archaeological or historic resources are known to be located on the proposed Project site. With implementation of the cultural resource mitigation measures specified in Item 5 Cultural Resources, the proposed Project would not cause cumulatively considerable cultural resource impacts because impacts to unknown cultural resources would be minimized.

The proposed Project also will not cause cumulatively considerable geology and soils impacts, as Project-specific impacts will be less than significant and will not be anticipated to combine with impacts caused by the cumulative projects identified by the County.

The proposed Project will not cause cumulatively considerable impacts related to hazards and hazardous materials. While small amounts of hazardous materials may be used or transported as a result of construction-related activities as the proposed Project develops, these activities will occur in compliance with applicable laws and regulations, and any impacts resulting from use, transport, disposal, or accident or upset conditions will be localized in nature. As a result, any Project-level impacts will not have the potential to contribute to hazards associated with other projects because these impacts would only occur intermittently, if at all. When fully built out, it is likely that individual residences will store small amounts of typical hazardous materials, such as fuel (e.g., gasoline for lawn care equipment) and lubricants. The storage, transport, and use of these materials will comply with Local, State, and Federal regulatory requirements.

The proposed Project will not cause cumulatively considerable hydrology and water quality-related impacts. The proposed Project applicant will be required to implement a SWPPP to reduce impacts and will not cause discharge to any surface or groundwater sources or alter the course of any stream or river. Nor will the proposed Project change runoff patterns in the area.

The proposed Project will not cause cumulatively considerable land use and planning impacts. The proposed Project is consistent with all applicable land use planning policies (that is Tulare County 2030 General Plan). As a result, the proposed Project's impacts will not be cumulatively significant.

The proposed Project also will not combine noise-related impacts with that of other projects to cause cumulatively considerable impacts. Construction-related activities will cause short-term, temporary, and intermittent increases in noise in the area, and could occur at the same time as other noise-causing events in the area. However, no other concurrent construction project are anticipated to occur adjacent to or near the proposed Project site, and operational noise will be minimal. As a result, the proposed Project is not anticipated to considerably contribute to cumulative noise impacts during construction or operation.

As noted in the discussion at Item 14 a) the proposed Project would result in a beneficial impact as it will result in new housing opportunities in Tulare County. As such, the proposed Project is not growth

inducing, rather, it is growth accommodating to not only meeting the growing demand for housing in general, thereby allowing the County to meet the RHNA housing allocation for Tulare County. Therefore, a less than significant Project-specific impact related to this Checklist Item will occur.

As indicated in the discussion of Item 15 Public Services a) through f), earlier, the proposed Project will not significantly impact the fire or police response times, schools, parks, or other facilities. Therefore, less than significant Project-specific or Cumulative Impacts related to this Checklist Item will occur. As discussed in Item 16 Recreation a) and b) there will be no need to construct or expand any recreational facilities, as such, there would be no adverse physical effect on the environment. Therefore, there would be a less than significant impact to this resource.

As indicated at the discussion of Item 17 Transportation, the proposed Project is consistent the Tulare County 2030 General Plan. As such, the proposed Project will not conflict with an applicable plan, ordinance or policy establishing measures of effectiveness for the performance of the circulation system, taking into account all modes of transportation including mass transit and non-motorized travel and relevant components of the circulation system, including but not limited to intersections, streets, highways and freeways, pedestrian and bicycle paths, and mass transit. Further, it will not conflict with an applicable congestion management program, including, but not limited to level of service standards and travel demand measures, or other standards established by the county congestion management agency for designated roads or highways. Also, the proposed Project will not result in a change in air traffic patterns, including either increase in traffic levels or a change in location that results in substantial safety risks; it will not substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses, (e.g., farm equipment) and it will include adequate emergency access; and it will not conflict with adopted policies, plans, or programs regarding public transit, bicycle, or pedestrian facilities, or otherwise decrease the performance or safety of such facilities.

The proposed Project would not require or result in the relocation or construction of new or expanded water facilities as each residential parcel will be required to install a water well. Also included on each residential parcel is a septic system with leach lines and a bio-swale designed to hold all stormwater runoff on-site. Electric power will be provided by Southern California Edison, natural gas by the Gas Company (Southern California Gas), and telecommunications facilities are available from both wire and wireless providers in the area (e.g., AT&T, T-Mobile, Sprint, etc.) as needed. Lastly, the proposed Project would not 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 and it will comply with federal, state, and local management and reduction statutes and regulations related to solid waste. As such, the proposed Project would result in a less than significant impact

Finally, regarding the Wildfires resource, as noted earlier (at Items 20 a) through d)) does not apply to the proposed Project as it is not located in or near state responsibility areas or lands classified as very high fire hazard severity zones. As such, no Project-specific Impact or Cumulative Impacts will occur.

Each of the cumulative projects considered in this section would be required to comply with project-specific mitigation measures, project design features, and/or conditions of approval, as well as applicable General Plans, zoning ordinances, laws and policies. The implementation of the identified Project-specific mitigation measures, conditions of approval, project design features, and compliance with applicable codes, compliance with the Tulare County General Plan, identified Best Management Practices, ordinances, laws and other required regulations will reduce the magnitude of any contribution

to cumulative impacts to a less than significant level. Lastly, projects are also required to comply with other entities'/agencies' (e.g., San Valley Air Pollution Control District, Regional Water Quality Control Board, etc.) applicable rules, regulations, standards, orders, permits, thresholds, etc., which would then also contribute to minimizing or entirely avoiding adverse impacts.

c) Less Than Significant Impact: The proposed Project will not result in substantial adverse effect on human beings, either directly or indirectly. Mitigation measures (see **Mitigation Measures 4-1**, **5-1** through **5-4**) are provided to reduce the Project's potential effects on Biological Resources, Cultural/Tribal Cultural Resources, and Geology and Soils Resources (specifically, paleontological resources) to less than significant. No additional mitigation measures will be required. Therefore, implementation of the proposed Project would result in a less than significant impact.

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ATTACHMENT "A"

California Agricultural LESA Worksheets

NOTES

Calculation of the Land Evaluation (LE) Score

Part 1. Land Capability Classification (LCC) Score:

(1) Determine the total acreage of the project.
(2) Determine the soil types within the project area and enter them in **Column A** of the **Land Evaluation Worksheet** provided on page 2-A.
(3) Calculate the total acres of each soil type and enter the amounts in **Column B**.
(4) Divide the acres of each soil type (**Column B**) by the total acreage to determine the proportion of each soil type present. Enter the proportion of each soil type in **Column C**.
(5) Determine the LCC for each soil type from the applicable Soil Survey and enter it in **Column D**.
(6) From the LCC Scoring Table below, determine the point rating corresponding to the LCC for each soil type and enter it in **Column E**.

LCC Scoring Table

LCC Class	I	IIe	IIs,w	IIIe	IIIs,w	IVe	IVs,w	V	VI	VII	VIII
Points	100	90	80	70	60	50	40	30	20	10	0

(7) Multiply the proportion of each soil type (**Column C**) by the point score (**Column E**) and enter the resulting scores in **Column F**.
(8) Sum the LCC scores in **Column F**.
(9) Enter the LCC score in box <1> of the **Final LESA Score Sheet** on page 10-A.

Part 2. Storie Index Score:

(1) Determine the Storie Index rating for each soil type and enter it in **Column G**.
(2) Multiply the proportion of each soil type (**Column C**) by the Storie Index rating (**Column G**) and enter the scores in **Column H**.
(3) Sum the Storie Index scores in **Column H** to gain the Storie Index Score.
(4) Enter the Storie Index Score in box <2> of the **Final LESA Score Sheet** on page 10-A.

Land Evaluation Worksheet

Land Capability Classification (LCC) and Storie Index Scores

A	B	C	D	E	F	G	H
Soil Map Unit	Project Acres	Proportion of Project Area	LCC	LCC Rating	LCC Score	Storie Index	Storie Index Score
122	54.2	0.792	1	100	79.2	70	55.44
134	14.3	0.208	8	0	0	0	NA
Totals	68.5	(Must Sum to 1.0)		***LCC Total Score***	79.2	***Storie Index Total Score***	55.44

Site Assessment Worksheet 1.

Project Size Score

	I	J	K
	LCC Class I - II	LCC Class III	LCC Class IV - VIII
	54.2		14.3
Total Acres	54.2		14.3
Project Size Scores	80		0

Highest Project Size Score 80

NOTES

Calculation of the Site Assessment (SA) Score

Part 1. Project Size Score:.

(1) Using **Site Assessment Worksheet 1** provided on page 2-A, enter the acreage of each soil type from **Column B** in the **Column - I, J or K** - that corresponds to the LCC for that soil. (Note: While the Project Size Score is a component of the Site Assessment calculations, the score sheet is an extension of data collected in the Land Evaluation Worksheet, and is therefore displayed beside it).
(2) Sum **Column I** to determine the total amount of class I and II soils on the project site.
(3) Sum **Column J** to determine the total amount of class III soils on the project site.
(4) Sum **Column K** to determine the total amount of class IV and lower soils on the project site.
(5) Compare the total score for each LCC group in the Project Size Scoring Table below and determine which group receives the highest score.

Project Size Scoring Table

Class I or II		**Class III**		**Class IV or Lower**	
Acreage	Points	Acreage	Points	Acreage	Points
>80	100	>160	100	>320	100
60-79	90	120-159	90	240-319	80
40-59	80	80-119	80	160-239	60
20-39	50	60-79	70	100-159	40
10-19	30	40-59	60	40-99	20
10<	0	20-39	30	40<	0
		10-19	10		
		10<	0		

(6) Enter the **Project Size Score** (the highest score from the three LCC categories) in box <3> of the **Final LESA Score Sheet** on page 10-A.

NOTES

Part 2. Water Resource Availability Score:

(1) Determine the type(s) of irrigation present on the project site, including a determination of whether there is dryland agricultural activity as well.

(2) Divide the site into portions according to the type or types of irrigation or dryland cropping that is available in each portion. Enter this information in **Column B** of **Site Assessment Worksheet 2. - Water Resources Availability**.

(3) Determine the proportion of the total site represented for each portion identified, and enter this information in **Column C**.

(4) Using the Water Resources Availability Scoring Table, identify the option that is most applicable for each portion, based upon the feasibility of irrigation in drought and non-drought years, and whether physical or economic restrictions are likely to exist. Enter the applicable Water Resource Availability Score into **Column D**.

(5) Multiply the Water Resource Availability Score for each portion by the proportion of the project area it represents to determine the weighted score for each portion in **Column E**.

(6) Sum the scores for all portions to determine the project's total Water Resources Availability Score

(7) Enter the Water Resource Availability Score in box <4> of the **Final LESA Score Sheet** on page 10-A.

Site Assessment Worksheet 2. - Water Resources Availability

A	B	C	D	E
Project Portion	Water Source	Proportion of Project Area	Water Availability Score	Weighted Availability Score (C x D)
1	Groundwater	1	35	35
2				
3				
4				
5				
6				
		(Must Sum to 1.0)	***Total Water Resource Score***	35

Water Resource Availability Scoring Table

Option	Non-Drought Years			Drought Years			WATER RESOURCE SCORE
	RESTRICTIONS			RESTRICTIONS			
	Irrigated Production Feasible?	Physical Restrictions ?	Economic Restrictions ?	Irrigated Production Feasible?	Physical Restrictions ?	Economic Restrictions ?	
1	YES	NO	NO	YES	NO	NO	100
2	YES	NO	NO	YES	NO	YES	95
3	YES	NO	YES	YES	NO	YES	90
4	YES	NO	NO	YES	YES	NO	85
5	YES	NO	NO	YES	YES	YES	80
6	YES	YES	NO	YES	YES	NO	75
7	YES	YES	YES	YES	YES	YES	65
8	YES	NO	NO	NO	-- --	-- --	50
9	YES	NO	YES	NO	-- --	-- --	45
10	YES	YES	NO	NO	-- --	-- --	35
11	YES	YES	YES	NO	-- --	-- --	30
12	Irrigated production not feasible, but rainfall adequate for dryland production in both drought and non-drought years						25
13	Irrigated production not feasible, but rainfall adequate for dryland production in non-drought years (but not in drought years)						20
14	Neither irrigated nor dryland production feasible						0

NOTES

Part 3. Surrounding Agricultural Land Use Score:

(1) Calculate the project's Zone of Influence (ZOI) as follows:

(a) a rectangle is drawn around the project such that the rectangle is the smallest that can completely encompass the project area.

(b) a second rectangle is then drawn which extends one quarter mile on all sides beyond the first rectangle.

(c) The ZOI includes all parcels that are contained within or are intersected by the second rectangle, less the area of the project itself.

(2) Sum the area of all parcels to determine the total acreage of the ZOI.

(3) Determine which parcels are in agricultural use and sum the areas of these parcels

(4) Divide the area in agriculture found in step (3) by the total area of the ZOI found in step (2) to determine the percent of the ZOI that is in agricultural use.

(5) Determine the Surrounding Agricultural Land Score utilizing the Surrounding Agricultural Land Scoring Table below.

Surrounding Agricultural Land Scoring Table

Percent of ZOI in Agriculture	Surrounding Agricultural Land Score
90-100	100
80-89	90
75-79	80
70-74	70
65-69	60
60-64	50
55-59	40
50-54	30
45-49	20
40-44	10
<40	0

(5) Enter the Surrounding Agricultural Land Score in box <5> of the **Final LESA Score Sheet** on page 10-A.

Site Assessment Worksheet 3.
Surrounding Agricultural Land and Surrounding Protected Resource Land

A	B	C	D	E	F	G
Zone of Influence						
Total Acres	Acres in Agriculture	Acres of Protected Resource Land	Percent in Agriculture (A/B)	Percent Protected Resource Land (A/C)	Surrounding Agricultural Land Score (From Table)	Surrounding Protected Resource Land Score (From Table)
444.7	115.4	75.9	25.95	17.07	0	0

NOTES

Part 4. Protected Resource Lands Score:

The Protected Resource Lands scoring relies upon the same Zone of Influence information gathered in Part 3, and figures are entered in Site Assessment Worksheet 3, which combines the surrounding agricultural and protected lands calculations.

(1) Use the total area of the ZOI calculated in Part 3. for the Surrounding Agricultural Land Use score.

(2) Sum the area of those parcels within the ZOI that are protected resource lands, as defined in the California Agricultural LESA Guidelines.

(3) Divide the area that is determined to be protected in Step (2) by the total acreage of the ZOI to determine the percentage of the surrounding area that is under resource protection.

(4) Determine the Surrounding Protected Resource Land Score utilizing the Surrounding Protected Resource Land Scoring Table below.

Surrounding Protected Resource Land Scoring Table

Percent of ZOI Protected	Protected Resource Land Score
90-100	100
80-89	90
75-79	80
70-74	70
65-69	60
60-64	50
55-59	40
50-54	30
45-49	20
40-44	10
<40	0

(5) Enter the Protected Resource Land score in box <6> of the **Final LESA Score Sheet** on page 10-A.

NOTES

Final LESA Score Sheet

Calculation of the Final LESA Score:

(1) Multiply each factor score by the factor weight to determine the weighted score and enter in Weighted Factor Scores column.
(2) Sum the weighted factor scores for the LE factors to determine the total LE score for the project.
(3) Sum the weighted factor scores for the SA factors to determine the total SA score for the project.
(4) Sum the total LE and SA scores to determine the Final LESA Score for the project.

	Factor Scores	Factor Weight	Weighted Factor Scores
LE Factors			
Land Capability Classification	<1> 79.2	0.25	19.8
Storie Index	<2> 55.44	0.25	13.86
LE Subtotal		***0.50***	33.66
SA Factors			
Project Size	<3> 80	0.15	12
Water Resource Availability	<4> 35	0.15	5.25
Surrounding Agricultural Land	<5> 0	0.15	0
Protected Resource Land	<6> 0	0.05	0
SA Subtotal		***0.50***	17.25
		Final LESA Score	50.91

For further information on the scoring thresholds under the California Agricultural LESA Model, consult Section 4 of the Instruction Manual.

United States Department of Agriculture

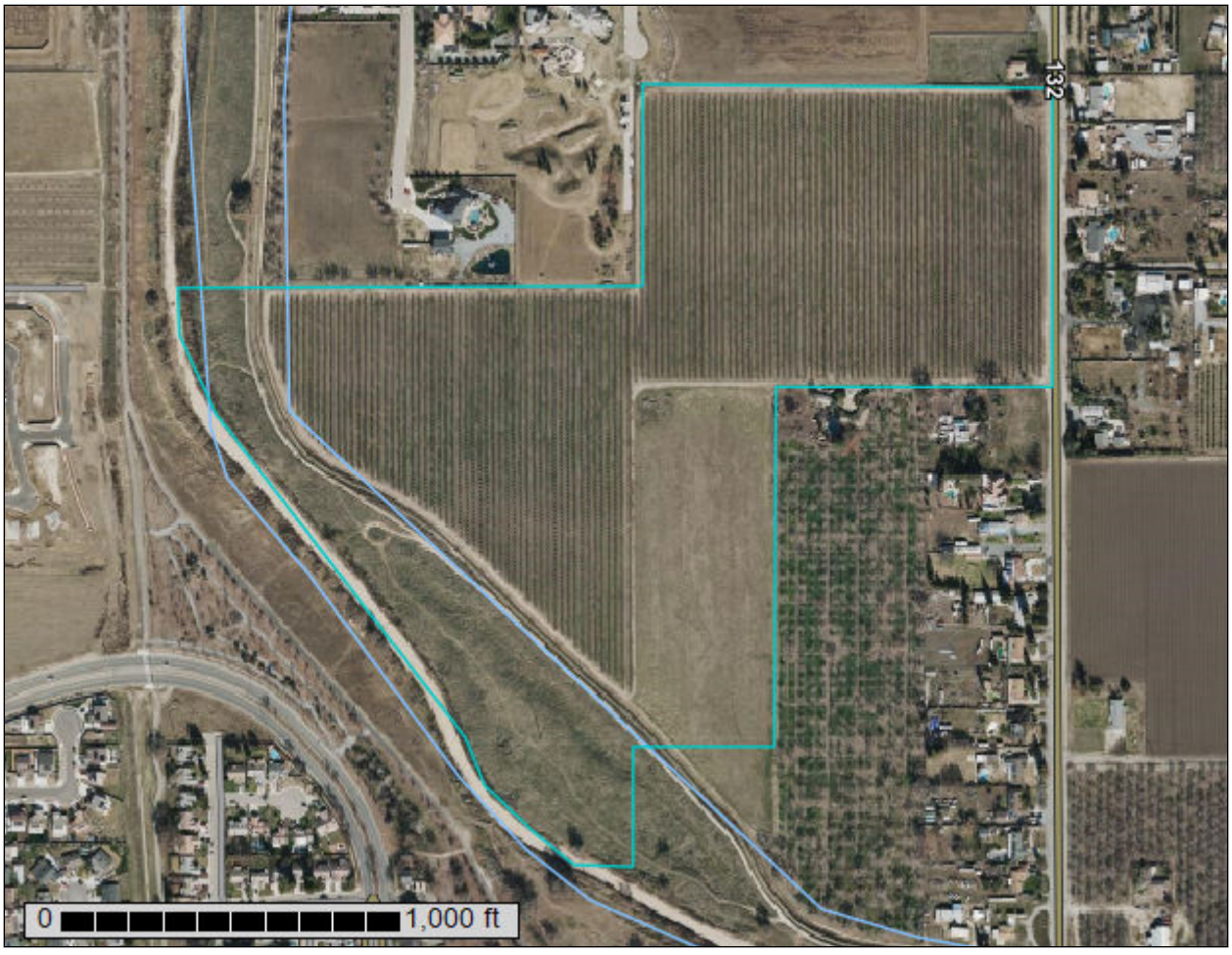
NRCS

Natural Resources Conservation Service

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

Custom Soil Resource Report for Tulare County, Western Part, California

St Johns TSM Project



July 20, 2022

Preface

Soil surveys contain information that affects land use planning in survey areas. They highlight soil limitations that affect various land uses and provide information about the properties of the soils in the survey areas. Soil surveys are designed for many different users, including farmers, ranchers, foresters, agronomists, urban planners, community officials, engineers, developers, builders, and home buyers. Also, conservationists, teachers, students, and specialists in recreation, waste disposal, and pollution control can use the surveys to help them understand, protect, or enhance the environment.

Various land use regulations of Federal, State, and local governments may impose special restrictions on land use or land treatment. Soil surveys identify soil properties that are used in making various land use or land treatment decisions. The information is intended to help the land users identify and reduce the effects of soil limitations on various land uses. The landowner or user is responsible for identifying and complying with existing laws and regulations.

Although soil survey information can be used for general farm, local, and wider area planning, onsite investigation is needed to supplement this information in some cases. Examples include soil quality assessments (http://www.nrcs.usda.gov/wps/portal/nrcs/main/soils/health/) and certain conservation and engineering applications. For more detailed information, contact your local USDA Service Center (https://offices.sc.egov.usda.gov/locator/app?agency=nrcs) or your NRCS State Soil Scientist (http://www.nrcs.usda.gov/wps/portal/nrcs/detail/soils/contactus/?cid=nrcs142p2_053951).

Great differences in soil properties can occur within short distances. Some soils are seasonally wet or subject to flooding. Some are too unstable to be used as a foundation for buildings or roads. Clayey or wet soils are poorly suited to use as septic tank absorption fields. A high water table makes a soil poorly suited to basements or underground installations.

The National Cooperative Soil Survey is a joint effort of the United States Department of Agriculture and other Federal agencies, State agencies including the Agricultural Experiment Stations, and local agencies. The Natural Resources Conservation Service (NRCS) has leadership for the Federal part of the National Cooperative Soil Survey.

Information about soils is updated periodically. Updated information is available through the NRCS Web Soil Survey, the site for official soil survey information.

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Contents

How Soil Surveys Are Made

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

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

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

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

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

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

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

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

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

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

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

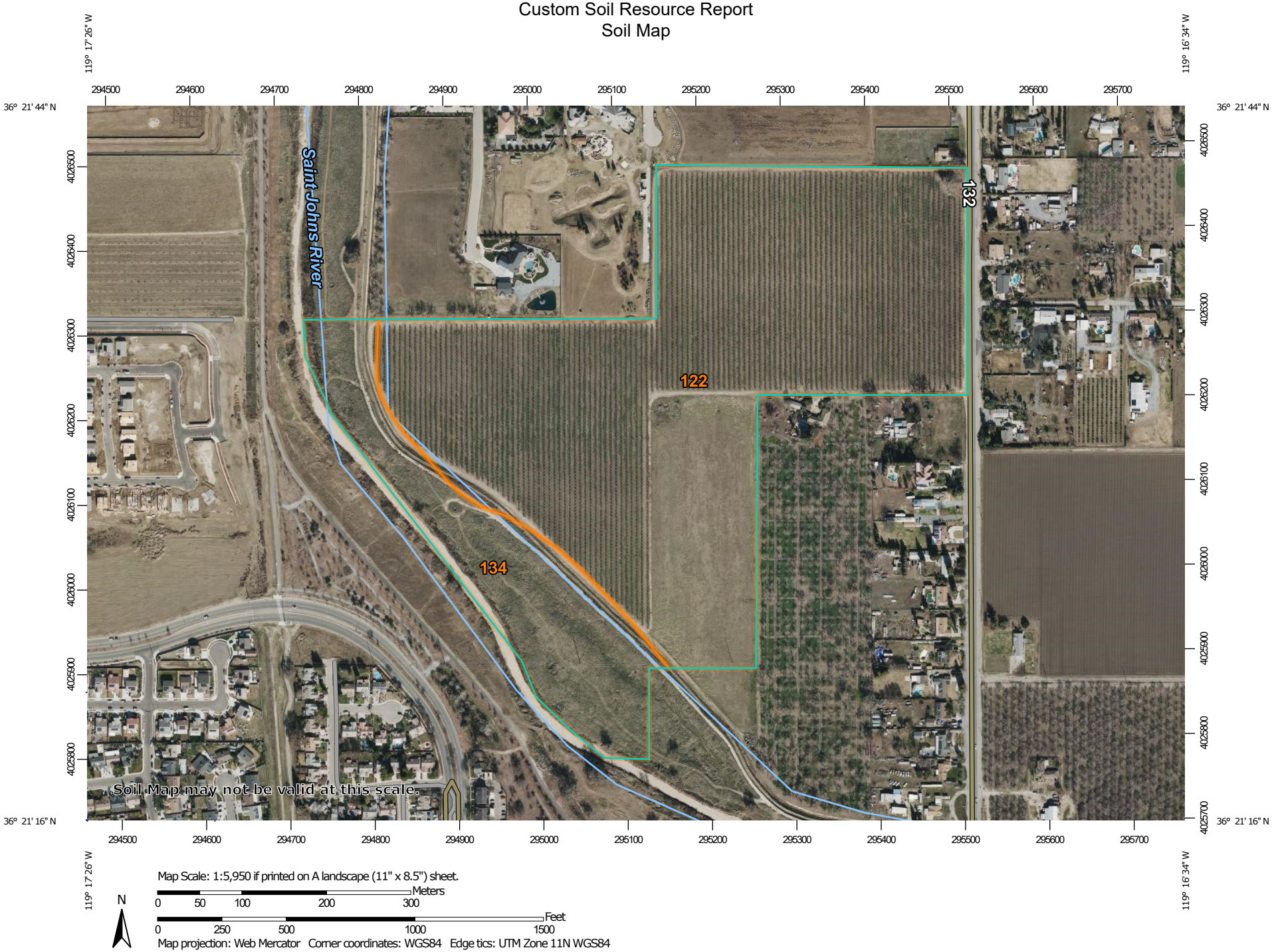
After soil scientists located and identified the significant natural bodies of soil in the survey area, they drew the boundaries of these bodies on aerial photographs and

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

Soil Map

The soil map section includes the soil map for the defined area of interest, a list of soil map units on the map and extent of each map unit, and cartographic symbols displayed on the map. Also presented are various metadata about data used to produce the map, and a description of each soil map unit.

Custom Soil Resource Report
Soil Map



MAP LEGEND

Area of Interest (AOI)
- Area of Interest (AOI)

Soils
- Soil Map Unit Polygons
- Soil Map Unit Lines
- Soil Map Unit Points

Special Point Features
- Blowout
- Borrow Pit
- Clay Spot
- Closed Depression
- Gravel Pit
- Gravelly Spot
- Landfill
- Lava Flow
- Marsh or swamp
- Mine or Quarry
- Miscellaneous Water
- Perennial Water
- Rock Outcrop
- Saline Spot
- Sandy Spot
- Severely Eroded Spot
- Sinkhole
- Slide or Slip
- Sodic Spot
- Spoil Area
- Stony Spot
- Very Stony Spot
- Wet Spot
- Other
- Special Line Features

Water Features
- Streams and Canals

Transportation
- Rails
- Interstate Highways
- US Routes
- Major Roads
- Local Roads

Background
- Aerial Photography

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:24,000.

Warning: Soil Map may not be valid at this scale.

Enlargement of maps beyond the scale of mapping can cause misunderstanding of the detail of mapping and accuracy of soil line placement. The maps do not show the small areas of contrasting soils that could have been shown at a more detailed scale.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service
Web Soil Survey URL:
Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: Tulare County, Western Part, California
Survey Area Data: Version 15, Sep 3, 2021

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

Date(s) aerial images were photographed: Jan 30, 2021—Feb 6, 2021

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

Map Unit Legend

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
122	Grangeville sandy loam, drained, 0 to 2 percent slopes	54.2	79.2%
134	Riverwash	14.3	20.8%
Totals for Area of Interest		**68.5**	**100.0%**

Map Unit Descriptions

The map units delineated on the detailed soil maps in a soil survey represent the soils or miscellaneous areas in the survey area. The map unit descriptions, along with the maps, can be used to determine the composition and properties of a unit.

A map unit delineation on a soil map represents an area dominated by one or more major kinds of soil or miscellaneous areas. A map unit is identified and named according to the taxonomic classification of the dominant soils. Within a taxonomic class there are precisely defined limits for the properties of the soils. On the landscape, however, the soils are natural phenomena, and they have the characteristic variability of all natural phenomena. Thus, the range of some observed properties may extend beyond the limits defined for a taxonomic class. Areas of soils of a single taxonomic class rarely, if ever, can be mapped without including areas of other taxonomic classes. Consequently, every map unit is made up of the soils or miscellaneous areas for which it is named and some minor components that belong to taxonomic classes other than those of the major soils.

Most minor soils have properties similar to those of the dominant soil or soils in the map unit, and thus they do not affect use and management. These are called noncontrasting, or similar, components. They may or may not be mentioned in a particular map unit description. Other minor components, however, have properties and behavioral characteristics divergent enough to affect use or to require different management. These are called contrasting, or dissimilar, components. They generally are in small areas and could not be mapped separately because of the scale used. Some small areas of strongly contrasting soils or miscellaneous areas are identified by a special symbol on the maps. If included in the database for a given area, the contrasting minor components are identified in the map unit descriptions along with some characteristics of each. A few areas of minor components may not have been observed, and consequently they are not mentioned in the descriptions, especially where the pattern was so complex that it was impractical to make enough observations to identify all the soils and miscellaneous areas on the landscape.

The presence of minor components in a map unit in no way diminishes the usefulness or accuracy of the data. The objective of mapping is not to delineate pure taxonomic classes but rather to separate the landscape into landforms or landform segments that have similar use and management requirements. The delineation of such segments on the map provides sufficient information for the development of resource plans. If intensive use of small areas is planned, however,

onsite investigation is needed to define and locate the soils and miscellaneous areas.

An identifying symbol precedes the map unit name in the map unit descriptions. Each description includes general facts about the unit and gives important soil properties and qualities.

Soils that have profiles that are almost alike make up a *soil series*. Except for differences in texture of the surface layer, all the soils of a series have major horizons that are similar in composition, thickness, and arrangement.

Soils of one series can differ in texture of the surface layer, slope, stoniness, salinity, degree of erosion, and other characteristics that affect their use. On the basis of such differences, a soil series is divided into *soil phases*. Most of the areas shown on the detailed soil maps are phases of soil series. The name of a soil phase commonly indicates a feature that affects use or management. For example, Alpha silt loam, 0 to 2 percent slopes, is a phase of the Alpha series.

Some map units are made up of two or more major soils or miscellaneous areas. These map units are complexes, associations, or undifferentiated groups.

A *complex* consists of two or more soils or miscellaneous areas in such an intricate pattern or in such small areas that they cannot be shown separately on the maps. The pattern and proportion of the soils or miscellaneous areas are somewhat similar in all areas. Alpha-Beta complex, 0 to 6 percent slopes, is an example.

An *association* is made up of two or more geographically associated soils or miscellaneous areas that are shown as one unit on the maps. Because of present or anticipated uses of the map units in the survey area, it was not considered practical or necessary to map the soils or miscellaneous areas separately. The pattern and relative proportion of the soils or miscellaneous areas are somewhat similar. Alpha-Beta association, 0 to 2 percent slopes, is an example.

An *undifferentiated group* is made up of two or more soils or miscellaneous areas that could be mapped individually but are mapped as one unit because similar interpretations can be made for use and management. The pattern and proportion of the soils or miscellaneous areas in a mapped area are not uniform. An area can be made up of only one of the major soils or miscellaneous areas, or it can be made up of all of them. Alpha and Beta soils, 0 to 2 percent slopes, is an example.

Some surveys include *miscellaneous areas*. Such areas have little or no soil material and support little or no vegetation. Rock outcrop is an example.

Tulare County, Western Part, California

122—Grangeville sandy loam, drained, 0 to 2 percent slopes

Map Unit Setting

National map unit symbol: hp4s
Elevation: 190 to 400 feet
Mean annual precipitation: 8 to 12 inches
Mean annual air temperature: 63 to 64 degrees F
Frost-free period: 250 to 275 days
Farmland classification: Prime farmland if irrigated and either protected from flooding or not frequently flooded during the growing season

Map Unit Composition

Grangeville and similar soils: 90 percent
Minor components: 10 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Grangeville

Setting

Landform: Alluvial fans, flood plains
Landform position (two-dimensional): Footslope, toeslope
Landform position (three-dimensional): Base slope
Down-slope shape: Linear
Across-slope shape: Convex, linear
Parent material: Alluvium derived from granitic rock sources

Typical profile

Ap - 0 to 16 inches: sandy loam
Bg - 16 to 27 inches: sandy loam
2C - 27 to 67 inches: stratified loamy sand to silt loam

Properties and qualities

Slope: 0 to 2 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Somewhat poorly drained
Runoff class: Negligible
Capacity of the most limiting layer to transmit water (Ksat): High (2.00 to 6.00 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: Rare
Frequency of ponding: None
Calcium carbonate, maximum content: 5 percent
Gypsum, maximum content: 1 percent
Maximum salinity: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)
Sodium adsorption ratio, maximum: 4.0
Available water supply, 0 to 60 inches: Moderate (about 6.6 inches)

Interpretive groups

Land capability classification (irrigated): 1
Land capability classification (nonirrigated): 4c
Hydrologic Soil Group: A
Ecological site: R017XY906CA - Non-Alkali San Joaquin Valley Desert
Hydric soil rating: Yes

Minor Components

Yettem
Percent of map unit: 3 percent
Landform: Flood plains, alluvial fans
Ecological site: R017XY904CA - Subirrigated Deep Alluvial Fans
Hydric soil rating: No

Tujunga
Percent of map unit: 3 percent
Landform: Flood plains
Ecological site: R017XY904CA - Subirrigated Deep Alluvial Fans
Hydric soil rating: No

Grangeville, saline-sodic
Percent of map unit: 2 percent
Landform: Alluvial fans, flood plains
Ecological site: R017XY904CA - Subirrigated Deep Alluvial Fans
Hydric soil rating: Yes

Nord
Percent of map unit: 1 percent
Landform: Alluvial fans, flood plains
Ecological site: R017XY904CA - Subirrigated Deep Alluvial Fans
Hydric soil rating: No

Hanford
Percent of map unit: 1 percent
Landform: Alluvial fans, flood plains
Ecological site: R017XY904CA - Subirrigated Deep Alluvial Fans
Hydric soil rating: No

134—Riverwash

Map Unit Composition
Riverwash: 100 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Riverwash

Setting
Landform: Flood plains
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Alluvium derived from granite

Properties and qualities
Slope: 0 to 2 percent
Frequency of flooding: Frequent

Interpretive groups
Land capability classification (irrigated): 8

Land capability classification (nonirrigated): 8
Ecological site: R017XY903CA - Stream Channels and Floodplains
Hydric soil rating: Yes

Soil Information for All Uses

Suitabilities and Limitations for Use

The Suitabilities and Limitations for Use section includes various soil interpretations displayed as thematic maps with a summary table for the soil map units in the selected area of interest. A single value or rating for each map unit is generated by aggregating the interpretive ratings of individual map unit components. This aggregation process is defined for each interpretation.

Land Classifications

Land Classifications are specified land use and management groupings that are assigned to soil areas because combinations of soil have similar behavior for specified practices. Most are based on soil properties and other factors that directly influence the specific use of the soil. Example classifications include ecological site classification, farmland classification, irrigated and nonirrigated land capability classification, and hydric rating.

California Revised Storie Index (CA) (St Johns TSM Project)

The Revised Storie Index is a rating system based on soil properties that govern the potential for soil map unit components to be used for irrigated agriculture in California.

The Revised Storie Index assesses the productivity of a soil from the following four characteristics:

- Factor A: degree of soil profile development

- Factor B: texture of the surface layer

- Factor C: steepness of slope

- Factor X: drainage class, landform, erosion class, flooding and ponding frequency and duration, soil pH, soluble salt content as measured by electrical conductivity, and sodium adsorption ratio

Revised Storie Index numerical ratings have been combined into six classes as follows:

- Grade 1: Excellent (81 to 100)

- Grade 2: Good (61 to 80)

- Grade 3: Fair (41 to 60)

- Grade 4: Poor (21 to 40)

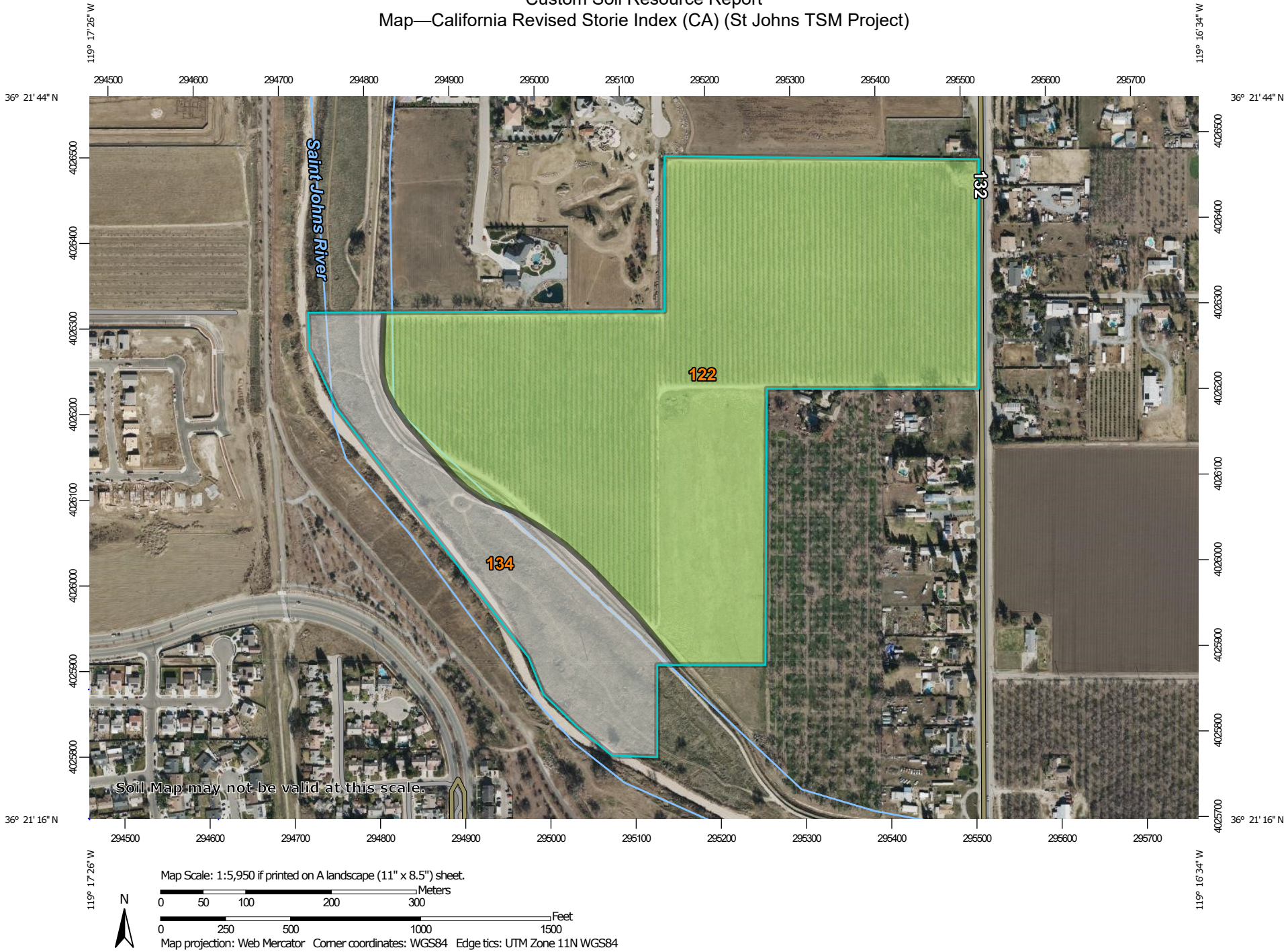
- Grade 5: Very poor (11 to 20)

- Grade 6: Nonagricultural (10 or less)

The components listed for each map unit in the accompanying Summary by Map Unit table in Web Soil Survey or the Aggregation Report in Soil Data Viewer are determined by the aggregation method chosen. An aggregated rating class is shown for each map unit. The components listed for each map unit are only those that have the same rating class as the one shown for the map unit. The percent composition of each component in a particular map unit is given to help the user better understand the extent to which the rating applies to the map unit.

Other components with different ratings may occur in each map unit. The ratings for all components, regardless the aggregated rating of the map unit, can be viewed by generating the equivalent report from the Soil Reports tab in Web Soil Survey or from the Soil Data Mart site. Onsite investigation may be needed to validate these interpretations and to confirm the identity of the soil on a given site.

Map—California Revised Storie Index (CA) (St Johns TSM Project)



MAP LEGEND

Area of Interest (AOI)

- Area of Interest (AOI)

Soils

Soil Rating Polygons

- Grade 1 - Excellent
- Grade 2 - Good
- Grade 3 - Fair
- Grade 4 - Poor
- Grade 5 - Very Poor
- Grade 6 - Nonagricultural
- Not rated
- Not rated or not available

Soil Rating Lines

- Grade 1 - Excellent
- Grade 2 - Good
- Grade 3 - Fair
- Grade 4 - Poor
- Grade 5 - Very Poor
- Grade 6 - Nonagricultural
- Not rated
- Not rated or not available

Soil Rating Points

- Grade 1 - Excellent
- Grade 2 - Good
- Grade 3 - Fair
- Grade 4 - Poor
- Grade 5 - Very Poor
- Grade 6 - Nonagricultural
- Not rated
- Not rated or not available

Water Features

- Streams and Canals

Transportation

- Rails
- Interstate Highways
- US Routes
- Major Roads
- Local Roads

Background

- Aerial Photography

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:24,000.

Warning: Soil Map may not be valid at this scale.

Enlargement of maps beyond the scale of mapping can cause misunderstanding of the detail of mapping and accuracy of soil line placement. The maps do not show the small areas of contrasting soils that could have been shown at a more detailed scale.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service
Web Soil Survey URL:
Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: Tulare County, Western Part, California
Survey Area Data: Version 15, Sep 3, 2021

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

Date(s) aerial images were photographed: Jan 30, 2021—Feb 6, 2021

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

Table—California Revised Storie Index (CA) (St Johns TSM Project)

Map unit symbol	Map unit name	Rating	Component name (percent)	Acres in AOI	Percent of AOI
122	Grangeville sandy loam, drained, 0 to 2 percent slopes	Grade 2 - Good	Grangeville (90%)	54.2	79.2%
134	Riverwash	Not Applicable for Storie Index	Riverwash (100%)	14.3	20.8%
Totals for Area of Interest				**68.5**	**100.0%**

Rating Options—California Revised Storie Index (CA) (St Johns TSM Project)

Aggregation Method: Dominant Condition

Aggregation is the process by which a set of component attribute values is reduced to a single value that represents the map unit as a whole.

A map unit is typically composed of one or more "components". A component is either some type of soil or some nonsoil entity, e.g., rock outcrop. For the attribute being aggregated, the first step of the aggregation process is to derive one attribute value for each of a map unit's components. From this set of component attributes, the next step of the aggregation process derives a single value that represents the map unit as a whole. Once a single value for each map unit is derived, a thematic map for soil map units can be rendered. Aggregation must be done because, on any soil map, map units are delineated but components are not.

For each of a map unit's components, a corresponding percent composition is recorded. A percent composition of 60 indicates that the corresponding component typically makes up approximately 60% of the map unit. Percent composition is a critical factor in some, but not all, aggregation methods.

The aggregation method "Dominant Condition" first groups like attribute values for the components in a map unit. For each group, percent composition is set to the sum of the percent composition of all components participating in that group. These groups now represent "conditions" rather than components. The attribute value associated with the group with the highest cumulative percent composition is returned. If more than one group shares the highest cumulative percent composition, the corresponding "tie-break" rule determines which value should be returned. The "tie-break" rule indicates whether the lower or higher group value should be returned in the case of a percent composition tie. The result returned by this aggregation method represents the dominant condition throughout the map unit only when no tie has occurred.

Component Percent Cutoff: None Specified

Components whose percent composition is below the cutoff value will not be considered. If no cutoff value is specified, all components in the database will be

considered. The data for some contrasting soils of minor extent may not be in the database, and therefore are not considered.

Tie-break Rule: Lower

The tie-break rule indicates which value should be selected from a set of multiple candidate values, or which value should be selected in the event of a percent composition tie.

Irrigated Capability Class (St Johns TSM Project)

Land capability classification shows, in a general way, the suitability of soils for most kinds of field crops. Crops that require special management are excluded. The soils are grouped according to their limitations for field crops, the risk of damage if they are used for crops, and the way they respond to management. The criteria used in grouping the soils do not include major and generally expensive landforming that would change slope, depth, or other characteristics of the soils, nor do they include possible but unlikely major reclamation projects. Capability classification is not a substitute for interpretations that show suitability and limitations of groups of soils for rangeland, for woodland, or for engineering purposes.

In the capability system, soils are generally grouped at three levels-capability class, subclass, and unit. Only class and subclass are included in this data set.

Capability classes, the broadest groups, are designated by the numbers 1 through 8. The numbers indicate progressively greater limitations and narrower choices for practical use. The classes are defined as follows:

Class 1 soils have few limitations that restrict their use.

Class 2 soils have moderate limitations that reduce the choice of plants or that require moderate conservation practices.

Class 3 soils have severe limitations that reduce the choice of plants or that require special conservation practices, or both.

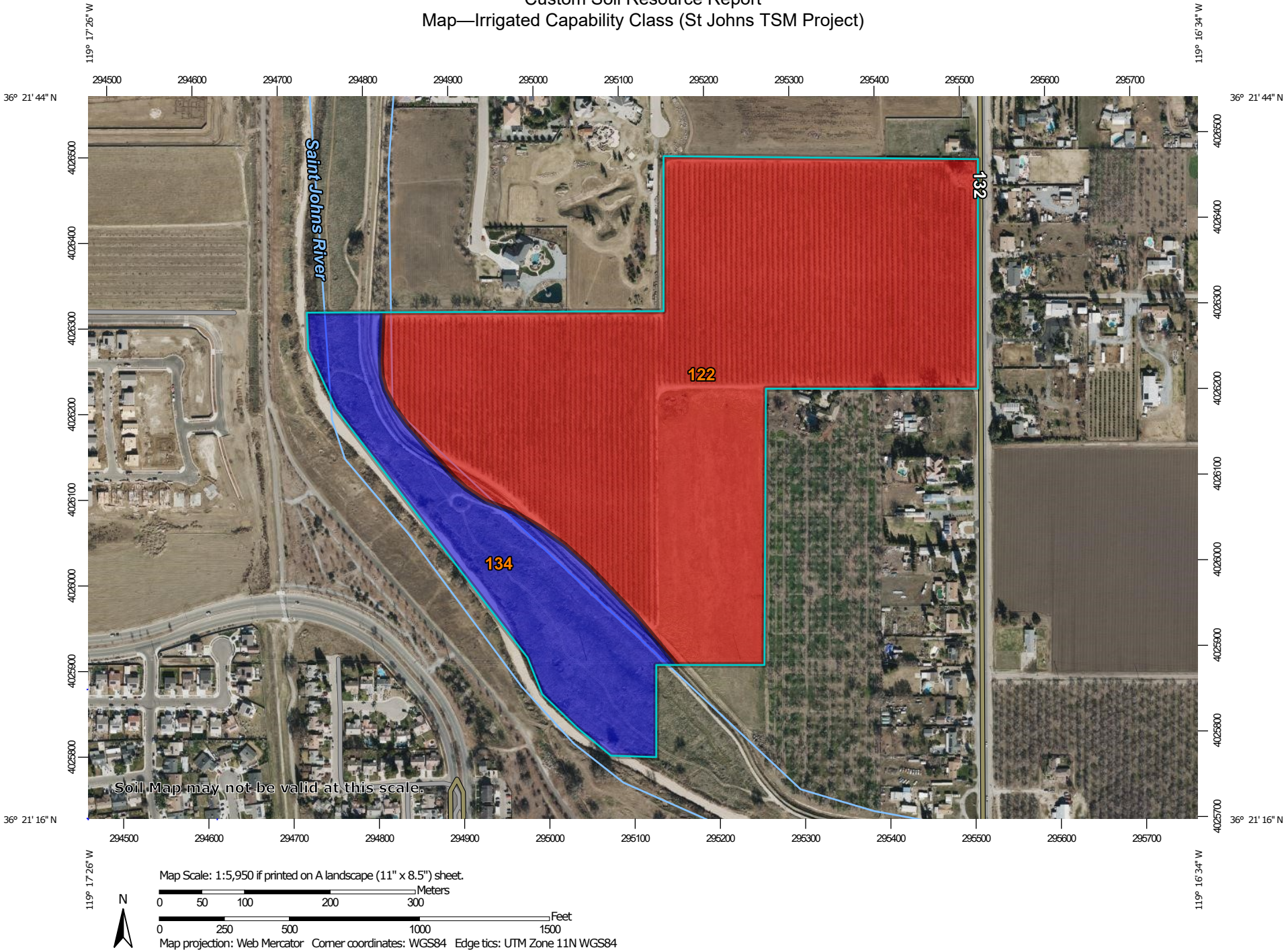
Class 4 soils have very severe limitations that reduce the choice of plants or that require very careful management, or both.

Class 5 soils are subject to little or no erosion but have other limitations, impractical to remove, that restrict their use mainly to pasture, rangeland, forestland, or wildlife habitat.

Class 6 soils have severe limitations that make them generally unsuitable for cultivation and that restrict their use mainly to pasture, rangeland, forestland, or wildlife habitat.

Class 7 soils have very severe limitations that make them unsuitable for cultivation and that restrict their use mainly to grazing, forestland, or wildlife habitat.

Class 8 soils and miscellaneous areas have limitations that preclude commercial plant production and that restrict their use to recreational purposes, wildlife habitat, watershed, or esthetic purposes.


119° 17' 26" W
119° 16' 34" W
36° 21' 44" N
36° 21' 16" N
294500
294600
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294800
294900
295000
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Saint Johns River
132
122
134
Soil Map may not be valid at this scale.
N
Map Scale: 1:5,950 if printed on A landscape (11" x 8.5") sheet.
Meters
0 50 100 200 300
Feet
0 250 500 1000 1500
Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 11N WGS84

MAP LEGEND

Area of Interest (AOI)

- Area of Interest (AOI)

Soils

Soil Rating Polygons

- Capability Class - I
- Capability Class - II
- Capability Class - III
- Capability Class - IV
- Capability Class - V
- Capability Class - VI
- Capability Class - VII
- Capability Class - VIII
- Not rated or not available

Soil Rating Lines

- Capability Class - I
- Capability Class - II
- Capability Class - III
- Capability Class - IV
- Capability Class - V
- Capability Class - VI
- Capability Class - VII
- Capability Class - VIII
- Not rated or not available

Soil Rating Points

- Capability Class - I
- Capability Class - II
- Capability Class - III
- Capability Class - IV
- Capability Class - V
- Capability Class - VI
- Capability Class - VII
- Capability Class - VIII
- Not rated or not available

Water Features

- Streams and Canals

Transportation

- Rails
- Interstate Highways
- US Routes
- Major Roads
- Local Roads

Background

- Aerial Photography

MAP INFORMATION

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Web Soil Survey URL:
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Date(s) aerial images were photographed: Jan 30, 2021—Feb 6, 2021

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Table—Irrigated Capability Class (St Johns TSM Project)

Map unit symbol	Map unit name	Rating	Acres in AOI	Percent of AOI
122	Grangeville sandy loam, drained, 0 to 2 percent slopes	1	54.2	79.2%
134	Riverwash	8	14.3	20.8%
Totals for Area of Interest			**68.5**	**100.0%**

Rating Options—Irrigated Capability Class (St Johns TSM Project)

Aggregation Method: Dominant Condition

Aggregation is the process by which a set of component attribute values is reduced to a single value that represents the map unit as a whole.

A map unit is typically composed of one or more "components". A component is either some type of soil or some nonsoil entity, e.g., rock outcrop. For the attribute being aggregated, the first step of the aggregation process is to derive one attribute value for each of a map unit's components. From this set of component attributes, the next step of the aggregation process derives a single value that represents the map unit as a whole. Once a single value for each map unit is derived, a thematic map for soil map units can be rendered. Aggregation must be done because, on any soil map, map units are delineated but components are not.

For each of a map unit's components, a corresponding percent composition is recorded. A percent composition of 60 indicates that the corresponding component typically makes up approximately 60% of the map unit. Percent composition is a critical factor in some, but not all, aggregation methods.

The aggregation method "Dominant Condition" first groups like attribute values for the components in a map unit. For each group, percent composition is set to the sum of the percent composition of all components participating in that group. These groups now represent "conditions" rather than components. The attribute value associated with the group with the highest cumulative percent composition is returned. If more than one group shares the highest cumulative percent composition, the corresponding "tie-break" rule determines which value should be returned. The "tie-break" rule indicates whether the lower or higher group value should be returned in the case of a percent composition tie. The result returned by this aggregation method represents the dominant condition throughout the map unit only when no tie has occurred.

Component Percent Cutoff: None Specified

Components whose percent composition is below the cutoff value will not be considered. If no cutoff value is specified, all components in the database will be considered. The data for some contrasting soils of minor extent may not be in the database, and therefore are not considered.

Tie-break Rule: Higher

The tie-break rule indicates which value should be selected from a set of multiple candidate values, or which value should be selected in the event of a percent composition tie.

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Glossary

Many of the terms relating to landforms, geology, and geomorphology are defined in more detail in the following National Soil Survey Handbook link: “National Soil Survey Handbook.”

ABC soil

A soil having an A, a B, and a C horizon.

Ablation till

Loose, relatively permeable earthy material deposited during the downwasting of nearly static glacial ice, either contained within or accumulated on the surface of the glacier.

AC soil

A soil having only an A and a C horizon. Commonly, such soil formed in recent alluvium or on steep, rocky slopes.

Aeration, soil

The exchange of air in soil with air from the atmosphere. The air in a well aerated soil is similar to that in the atmosphere; the air in a poorly aerated soil is considerably higher in carbon dioxide and lower in oxygen.

Aggregate, soil

Many fine particles held in a single mass or cluster. Natural soil aggregates, such as granules, blocks, or prisms, are called peds. Clods are aggregates produced by tillage or logging.

Alkali (sodic) soil

A soil having so high a degree of alkalinity (pH 8.5 or higher) or so high a percentage of exchangeable sodium (15 percent or more of the total exchangeable bases), or both, that plant growth is restricted.

Alluvial cone

A semiconical type of alluvial fan having very steep slopes. It is higher, narrower, and steeper than a fan and is composed of coarser and thicker layers of material deposited by a combination of alluvial episodes and (to a much lesser degree) landslides (debris flow). The coarsest materials tend to be concentrated at the apex of the cone.

Alluvial fan

A low, outspread mass of loose materials and/or rock material, commonly with gentle slopes. It is shaped like an open fan or a segment of a cone. The material was deposited by a stream at the place where it issues from a narrow mountain valley or upland valley or where a tributary stream is near or at its junction with the main stream. The fan is steepest near its apex, which points upstream, and slopes gently and convexly outward (downstream) with a gradual decrease in gradient.

Alluvium

Unconsolidated material, such as gravel, sand, silt, clay, and various mixtures of these, deposited on land by running water.

Alpha,alpha-dipyridyl

A compound that when dissolved in ammonium acetate is used to detect the presence of reduced iron (Fe II) in the soil. A positive reaction implies reducing conditions and the likely presence of redoximorphic features.

Animal unit month (AUM)

The amount of forage required by one mature cow of approximately 1,000 pounds weight, with or without a calf, for 1 month.

Aquic conditions

Current soil wetness characterized by saturation, reduction, and redoximorphic features.

Argillic horizon

A subsoil horizon characterized by an accumulation of illuvial clay.

Arroyo

The flat-floored channel of an ephemeral stream, commonly with very steep to vertical banks cut in unconsolidated material. It is usually dry but can be transformed into a temporary watercourse or short-lived torrent after heavy rain within the watershed.

Aspect

The direction toward which a slope faces. Also called slope aspect.

Association, soil

A group of soils or miscellaneous areas geographically associated in a characteristic repeating pattern and defined and delineated as a single map unit.

Available water capacity (available moisture capacity)

The capacity of soils to hold water available for use by most plants. It is commonly defined as the difference between the amount of soil water at field moisture capacity and the amount at wilting point. It is commonly expressed as inches of water per inch of soil. The capacity, in inches, in a 60-inch profile or to a limiting layer is expressed as:

Very low: 0 to 3
Low: 3 to 6
Moderate: 6 to 9
High: 9 to 12
Very high: More than 12

Backslope

The position that forms the steepest and generally linear, middle portion of a hillslope. In profile, backslopes are commonly bounded by a convex shoulder above and a concave footslope below.

Backswamp

A flood-plain landform. Extensive, marshy or swampy, depressed areas of flood plains between natural levees and valley sides or terraces.

Badland

A landscape that is intricately dissected and characterized by a very fine drainage network with high drainage densities and short, steep slopes and narrow interfluves. Badlands develop on surfaces that have little or no vegetative cover overlying unconsolidated or poorly cemented materials (clays, silts, or sandstones) with, in some cases, soluble minerals, such as gypsum or halite.

Bajada

A broad, gently inclined alluvial piedmont slope extending from the base of a mountain range out into a basin and formed by the lateral coalescence of a series of alluvial fans. Typically, it has a broadly undulating transverse profile, parallel to the mountain front, resulting from the convexities of component fans. The term is generally restricted to constructional slopes of intermontane basins.

Basal area

The area of a cross section of a tree, generally referring to the section at breast height and measured outside the bark. It is a measure of stand density, commonly expressed in square feet.

Base saturation

The degree to which material having cation-exchange properties is saturated with exchangeable bases (sum of Ca, Mg, Na, and K), expressed as a percentage of the total cation-exchange capacity.

Base slope (geomorphology)

A geomorphic component of hills consisting of the concave to linear (perpendicular to the contour) slope that, regardless of the lateral shape, forms an apron or wedge at the bottom of a hillside dominated by colluvium and slope-wash sediments (for example, slope alluvium).

Bedding plane

A planar or nearly planar bedding surface that visibly separates each successive layer of stratified sediment or rock (of the same or different lithology)

from the preceding or following layer; a plane of deposition. It commonly marks a change in the circumstances of deposition and may show a parting, a color difference, a change in particle size, or various combinations of these. The term is commonly applied to any bedding surface, even one that is conspicuously bent or deformed by folding.

Bedding system

A drainage system made by plowing, grading, or otherwise shaping the surface of a flat field. It consists of a series of low ridges separated by shallow, parallel dead furrows.

Bedrock

The solid rock that underlies the soil and other unconsolidated material or that is exposed at the surface.

Bedrock-controlled topography

A landscape where the configuration and relief of the landforms are determined or strongly influenced by the underlying bedrock.

Bench terrace

A raised, level or nearly level strip of earth constructed on or nearly on a contour, supported by a barrier of rocks or similar material, and designed to make the soil suitable for tillage and to prevent accelerated erosion.

Bisequum

Two sequences of soil horizons, each of which consists of an illuvial horizon and the overlying eluvial horizons.

Blowout (map symbol)

A saucer-, cup-, or trough-shaped depression formed by wind erosion on a preexisting dune or other sand deposit, especially in an area of shifting sand or loose soil or where protective vegetation is disturbed or destroyed. The adjoining accumulation of sand derived from the depression, where recognizable, is commonly included. Blowouts are commonly small.

Borrow pit (map symbol)

An open excavation from which soil and underlying material have been removed, usually for construction purposes.

Bottom land

An informal term loosely applied to various portions of a flood plain.

Boulders

Rock fragments larger than 2 feet (60 centimeters) in diameter.

Breaks

A landscape or tract of steep, rough or broken land dissected by ravines and gullies and marking a sudden change in topography.

Breast height

An average height of 4.5 feet above the ground surface; the point on a tree where diameter measurements are ordinarily taken.

Brush management

Use of mechanical, chemical, or biological methods to make conditions favorable for reseeding or to reduce or eliminate competition from woody vegetation and thus allow understory grasses and forbs to recover. Brush management increases forage production and thus reduces the hazard of erosion. It can improve the habitat for some species of wildlife.

Butte

An isolated, generally flat-topped hill or mountain with relatively steep slopes and talus or precipitous cliffs and characterized by summit width that is less than the height of bounding escarpments; commonly topped by a caprock of resistant material and representing an erosion remnant carved from flat-lying rocks.

Cable yarding

A method of moving felled trees to a nearby central area for transport to a processing facility. Most cable yarding systems involve use of a drum, a pole, and wire cables in an arrangement similar to that of a rod and reel used for fishing. To reduce friction and soil disturbance, felled trees generally are reeled in while one end is lifted or the entire log is suspended.

Calcareous soil

A soil containing enough calcium carbonate (commonly combined with magnesium carbonate) to effervesce visibly when treated with cold, dilute hydrochloric acid.

Caliche

A general term for a prominent zone of secondary carbonate accumulation in surficial materials in warm, subhumid to arid areas. Caliche is formed by both geologic and pedologic processes. Finely crystalline calcium carbonate forms a nearly continuous surface-coating and void-filling medium in geologic (parent) materials. Cementation ranges from weak in nonindurated forms to very strong in indurated forms. Other minerals (e.g., carbonates, silicate, and sulfate) may occur as accessory cements. Most petrocalcic horizons and some calcic horizons are caliche.

California bearing ratio (CBR)

The load-supporting capacity of a soil as compared to that of standard crushed limestone, expressed as a ratio. First standardized in California. A soil having a CBR of 16 supports 16 percent of the load that would be supported by standard crushed limestone, per unit area, with the same degree of distortion.

Canopy

The leafy crown of trees or shrubs. (See Crown.)

Canyon

A long, deep, narrow valley with high, precipitous walls in an area of high local relief.

Capillary water

Water held as a film around soil particles and in tiny spaces between particles. Surface tension is the adhesive force that holds capillary water in the soil.

Catena

A sequence, or “chain,” of soils on a landscape that formed in similar kinds of parent material and under similar climatic conditions but that have different characteristics as a result of differences in relief and drainage.

Cation

An ion carrying a positive charge of electricity. The common soil cations are calcium, potassium, magnesium, sodium, and hydrogen.

Cation-exchange capacity

The total amount of exchangeable cations that can be held by the soil, expressed in terms of milliequivalents per 100 grams of soil at neutrality (pH 7.0) or at some other stated pH value. The term, as applied to soils, is synonymous with base-exchange capacity but is more precise in meaning.

Catsteps

See Terracettes.

Cement rock

Shaly limestone used in the manufacture of cement.

Channery soil material

Soil material that has, by volume, 15 to 35 percent thin, flat fragments of sandstone, shale, slate, limestone, or schist as much as 6 inches (15 centimeters) along the longest axis. A single piece is called a channer.

Chemical treatment

Control of unwanted vegetation through the use of chemicals.

Chiseling

Tillage with an implement having one or more soil-penetrating points that shatter or loosen hard, compacted layers to a depth below normal plow depth.

Cirque

A steep-walled, semicircular or crescent-shaped, half-bowl-like recess or hollow, commonly situated at the head of a glaciated mountain valley or high on the side of a mountain. It was produced by the erosive activity of a mountain glacier. It commonly contains a small round lake (tarn).

Clay

As a soil separate, the mineral soil particles less than 0.002 millimeter in diameter. As a soil textural class, soil material that is 40 percent or more clay, less than 45 percent sand, and less than 40 percent silt.

Clay depletions

See Redoximorphic features.

Clay film

A thin coating of oriented clay on the surface of a soil aggregate or lining pores or root channels. Synonyms: clay coating, clay skin.

Clay spot (map symbol)

A spot where the surface texture is silty clay or clay in areas where the surface layer of the soils in the surrounding map unit is sandy loam, loam, silt loam, or coarser.

Claypan

A dense, compact subsoil layer that contains much more clay than the overlying materials, from which it is separated by a sharply defined boundary. The layer restricts the downward movement of water through the soil. A claypan is commonly hard when dry and plastic and sticky when wet.

Climax plant community

The stabilized plant community on a particular site. The plant cover reproduces itself and does not change so long as the environment remains the same.

Coarse textured soil

Sand or loamy sand.

Cobble (or cobblestone)

A rounded or partly rounded fragment of rock 3 to 10 inches (7.6 to 25 centimeters) in diameter.

Cobbly soil material

Material that has 15 to 35 percent, by volume, rounded or partially rounded rock fragments 3 to 10 inches (7.6 to 25 centimeters) in diameter. Very cobbly soil material has 35 to 60 percent of these rock fragments, and extremely cobbly soil material has more than 60 percent.

COLE (coefficient of linear extensibility)

See Linear extensibility.

Colluvium

Unconsolidated, unsorted earth material being transported or deposited on side slopes and/or at the base of slopes by mass movement (e.g., direct gravitational action) and by local, unconcentrated runoff.

Complex slope

Irregular or variable slope. Planning or establishing terraces, diversions, and other water-control structures on a complex slope is difficult.

Complex, soil

A map unit of two or more kinds of soil or miscellaneous areas in such an intricate pattern or so small in area that it is not practical to map them separately at the selected scale of mapping. The pattern and proportion of the soils or miscellaneous areas are somewhat similar in all areas.

Concretions

See Redoximorphic features.

Conglomerate

A coarse grained, clastic sedimentary rock composed of rounded or subangular rock fragments more than 2 millimeters in diameter. It commonly has a matrix of sand and finer textured material. Conglomerate is the consolidated equivalent of gravel.

Conservation cropping system

Growing crops in combination with needed cultural and management practices. In a good conservation cropping system, the soil-improving crops and practices more than offset the effects of the soil-depleting crops and practices. Cropping systems are needed on all tilled soils. Soil-improving practices in a conservation cropping system include the use of rotations that contain grasses and legumes and the return of crop residue to the soil. Other practices include the use of green manure crops of grasses and legumes, proper tillage, adequate fertilization, and weed and pest control.

Conservation tillage

A tillage system that does not invert the soil and that leaves a protective amount of crop residue on the surface throughout the year.

Consistence, soil

Refers to the degree of cohesion and adhesion of soil material and its resistance to deformation when ruptured. Consistence includes resistance of soil material to rupture and to penetration; plasticity, toughness, and stickiness of puddled soil material; and the manner in which the soil material behaves when subject to compression. Terms describing consistence are defined in the “Soil Survey Manual.”

Contour stripcropping

Growing crops in strips that follow the contour. Strips of grass or close-growing crops are alternated with strips of clean-tilled crops or summer fallow.

Control section

The part of the soil on which classification is based. The thickness varies among different kinds of soil, but for many it is that part of the soil profile between depths of 10 inches and 40 or 80 inches.

Coprogenous earth (sedimentary peat)

A type of limnic layer composed predominantly of fecal material derived from aquatic animals.

Corrosion (geomorphology)

A process of erosion whereby rocks and soil are removed or worn away by natural chemical processes, especially by the solvent action of running water, but also by other reactions, such as hydrolysis, hydration, carbonation, and oxidation.

Corrosion (soil survey interpretations)

Soil-induced electrochemical or chemical action that dissolves or weakens concrete or uncoated steel.

Cover crop

A close-growing crop grown primarily to improve and protect the soil between periods of regular crop production, or a crop grown between trees and vines in orchards and vineyards.

Crop residue management

Returning crop residue to the soil, which helps to maintain soil structure, organic matter content, and fertility and helps to control erosion.

Cropping system

Growing crops according to a planned system of rotation and management practices.

Cross-slope farming

Deliberately conducting farming operations on sloping farmland in such a way that tillage is across the general slope.

Crown

The upper part of a tree or shrub, including the living branches and their foliage.

Cryoturbate

A mass of soil or other unconsolidated earthy material moved or disturbed by frost action. It is typically coarser than the underlying material.

Cuesta

An asymmetric ridge capped by resistant rock layers of slight or moderate dip (commonly less than 15 percent slopes); a type of homocline produced by differential erosion of interbedded resistant and weak rocks. A cuesta has a long, gentle slope on one side (dip slope) that roughly parallels the inclined beds; on the other side, it has a relatively short and steep or clifflike slope (scarp) that cuts through the tilted rocks.

Culmination of the mean annual increment (CMAI)

The average annual increase per acre in the volume of a stand. Computed by dividing the total volume of the stand by its age. As the stand increases in age, the mean annual increment continues to increase until mortality begins to reduce the rate of increase. The point where the stand reaches its maximum annual rate of growth is called the culmination of the mean annual increment.

Cutbanks cave

The walls of excavations tend to cave in or slough.

Decreasers

The most heavily grazed climax range plants. Because they are the most palatable, they are the first to be destroyed by overgrazing.

Deferred grazing

Postponing grazing or resting grazing land for a prescribed period.

Delta

A body of alluvium having a surface that is fan shaped and nearly flat; deposited at or near the mouth of a river or stream where it enters a body of relatively quiet water, generally a sea or lake.

Dense layer

A very firm, massive layer that has a bulk density of more than 1.8 grams per cubic centimeter. Such a layer affects the ease of digging and can affect filling and compacting.

Depression, closed (map symbol)

A shallow, saucer-shaped area that is slightly lower on the landscape than the surrounding area and that does not have a natural outlet for surface drainage.

Depth, soil

Generally, the thickness of the soil over bedrock. Very deep soils are more than 60 inches deep over bedrock; deep soils, 40 to 60 inches; moderately deep, 20 to 40 inches; shallow, 10 to 20 inches; and very shallow, less than 10 inches.

Desert pavement

A natural, residual concentration or layer of wind-polished, closely packed gravel, boulders, and other rock fragments mantling a desert surface. It forms where wind action and sheetwash have removed all smaller particles or where rock fragments have migrated upward through sediments to the surface. It typically protects the finer grained underlying material from further erosion.

Diatomaceous earth

A geologic deposit of fine, grayish siliceous material composed chiefly or entirely of the remains of diatoms.

Dip slope

A slope of the land surface, roughly determined by and approximately conforming to the dip of the underlying bedrock.

Diversion (or diversion terrace)

A ridge of earth, generally a terrace, built to protect downslope areas by diverting runoff from its natural course.

Divided-slope farming

A form of field stripcropping in which crops are grown in a systematic arrangement of two strips, or bands, across the slope to reduce the hazard of water erosion. One strip is in a close-growing crop that provides protection from erosion, and the other strip is in a crop that provides less protection from erosion. This practice is used where slopes are not long enough to permit a full stripcropping pattern to be used.

Drainage class (natural)

Refers to the frequency and duration of wet periods under conditions similar to those under which the soil formed. Alterations of the water regime by human activities, either through drainage or irrigation, are not a consideration unless they have significantly changed the morphology of the soil. Seven classes of natural soil drainage are recognized—*excessively drained, somewhat excessively drained, well drained, moderately well drained, somewhat poorly drained, poorly drained,* and *very poorly drained*. These classes are defined in the “Soil Survey Manual.”

Drainage, surface

Runoff, or surface flow of water, from an area.

Drainageway

A general term for a course or channel along which water moves in draining an area. A term restricted to relatively small, linear depressions that at some time move concentrated water and either do not have a defined channel or have only a small defined channel.

Draw

A small stream valley that generally is shallower and more open than a ravine or gulch and that has a broader bottom. The present stream channel may appear inadequate to have cut the drainageway that it occupies.

Drift

A general term applied to all mineral material (clay, silt, sand, gravel, and boulders) transported by a glacier and deposited directly by or from the ice or transported by running water emanating from a glacier. Drift includes unstratified material (till) that forms moraines and stratified deposits that form outwash plains, eskers, kames, varves, and glaciofluvial sediments. The term is generally applied to Pleistocene glacial deposits in areas that no longer contain glaciers.

Drumlin

A low, smooth, elongated oval hill, mound, or ridge of compact till that has a core of bedrock or drift. It commonly has a blunt nose facing the direction from which the ice approached and a gentler slope tapering in the other direction. The longer axis is parallel to the general direction of glacier flow. Drumlins are products of streamline (laminar) flow of glaciers, which molded the subglacial floor through a combination of erosion and deposition.

Duff

A generally firm organic layer on the surface of mineral soils. It consists of fallen plant material that is in the process of decomposition and includes everything from the litter on the surface to underlying pure humus.

Dune

A low mound, ridge, bank, or hill of loose, windblown granular material (generally sand), either barren and capable of movement from place to place or covered and stabilized with vegetation but retaining its characteristic shape.

Earthy fill

See Mine spoil.

Ecological site

An area where climate, soil, and relief are sufficiently uniform to produce a distinct natural plant community. An ecological site is the product of all the environmental factors responsible for its development. It is typified by an association of species that differ from those on other ecological sites in kind and/or proportion of species or in total production.

Eluviation

The movement of material in true solution or colloidal suspension from one place to another within the soil. Soil horizons that have lost material through eluviation are eluvial; those that have received material are illuvial.

Endosaturation

A type of saturation of the soil in which all horizons between the upper boundary of saturation and a depth of 2 meters are saturated.

Eolian deposit

Sand-, silt-, or clay-sized clastic material transported and deposited primarily by wind, commonly in the form of a dune or a sheet of sand or loess.

Ephemeral stream

A stream, or reach of a stream, that flows only in direct response to precipitation. It receives no long-continued supply from melting snow or other source, and its channel is above the water table at all times.

Episaturation

A type of saturation indicating a perched water table in a soil in which saturated layers are underlain by one or more unsaturated layers within 2 meters of the surface.

Erosion

The wearing away of the land surface by water, wind, ice, or other geologic agents and by such processes as gravitational creep.

Erosion (accelerated)

Erosion much more rapid than geologic erosion, mainly as a result of human or animal activities or of a catastrophe in nature, such as a fire, that exposes the surface.

Erosion (geologic)

Erosion caused by geologic processes acting over long geologic periods and resulting in the wearing away of mountains and the building up of such landscape features as flood plains and coastal plains. Synonym: natural erosion.

Erosion pavement

A surficial lag concentration or layer of gravel and other rock fragments that remains on the soil surface after sheet or rill erosion or wind has removed the finer soil particles and that tends to protect the underlying soil from further erosion.

Erosion surface

A land surface shaped by the action of erosion, especially by running water.

Escarpment

A relatively continuous and steep slope or cliff breaking the general continuity of more gently sloping land surfaces and resulting from erosion or faulting. Most commonly applied to cliffs produced by differential erosion. Synonym: scarp.

Escarpment, bedrock (map symbol)

A relatively continuous and steep slope or cliff, produced by erosion or faulting, that breaks the general continuity of more gently sloping land surfaces. Exposed material is hard or soft bedrock.

Escarpment, nonbedrock (map symbol)

A relatively continuous and steep slope or cliff, generally produced by erosion but in some places produced by faulting, that breaks the continuity of more gently sloping land surfaces. Exposed earthy material is nonsoil or very shallow soil.

Esker

A long, narrow, sinuous, steep-sided ridge of stratified sand and gravel deposited as the bed of a stream flowing in an ice tunnel within or below the ice (subglacial) or between ice walls on top of the ice of a wasting glacier and left

behind as high ground when the ice melted. Eskers range in length from less than a kilometer to more than 160 kilometers and in height from 3 to 30 meters.

Extrusive rock

Igneous rock derived from deep-seated molten matter (magma) deposited and cooled on the earth's surface.

Fallow

Cropland left idle in order to restore productivity through accumulation of moisture. Summer fallow is common in regions of limited rainfall where cereal grain is grown. The soil is tilled for at least one growing season for weed control and decomposition of plant residue.

Fan remnant

A general term for landforms that are the remaining parts of older fan landforms, such as alluvial fans, that have been either dissected or partially buried.

Fertility, soil

The quality that enables a soil to provide plant nutrients, in adequate amounts and in proper balance, for the growth of specified plants when light, moisture, temperature, tilth, and other growth factors are favorable.

Fibric soil material (peat)

The least decomposed of all organic soil material. Peat contains a large amount of well preserved fiber that is readily identifiable according to botanical origin. Peat has the lowest bulk density and the highest water content at saturation of all organic soil material.

Field moisture capacity

The moisture content of a soil, expressed as a percentage of the ovendry weight, after the gravitational, or free, water has drained away; the field moisture content 2 or 3 days after a soaking rain; also called *normal field capacity, normal moisture capacity,* or *capillary capacity*.

Fill slope

A sloping surface consisting of excavated soil material from a road cut. It commonly is on the downhill side of the road.

Fine textured soil

Sandy clay, silty clay, or clay.

Firebreak

An area cleared of flammable material to stop or help control creeping or running fires. It also serves as a line from which to work and to facilitate the movement of firefighters and equipment. Designated roads also serve as firebreaks.

First bottom

An obsolete, informal term loosely applied to the lowest flood-plain steps that are subject to regular flooding.

Flaggy soil material

Material that has, by volume, 15 to 35 percent flagstones. Very flaggy soil material has 35 to 60 percent flagstones, and extremely flaggy soil material has more than 60 percent flagstones.

Flagstone

A thin fragment of sandstone, limestone, slate, shale, or (rarely) schist 6 to 15 inches (15 to 38 centimeters) long.

Flood plain

The nearly level plain that borders a stream and is subject to flooding unless protected artificially.

Flood-plain landforms

A variety of constructional and erosional features produced by stream channel migration and flooding. Examples include backswamps, flood-plain splays, meanders, meander belts, meander scrolls, oxbow lakes, and natural levees.

Flood-plain splay

A fan-shaped deposit or other outspread deposit formed where an overloaded stream breaks through a levee (natural or artificial) and deposits its material (commonly coarse grained) on the flood plain.

Flood-plain step

An essentially flat, terrace-like alluvial surface within a valley that is frequently covered by floodwater from the present stream; any approximately horizontal surface still actively modified by fluvial scour and/or deposition. May occur individually or as a series of steps.

Fluvial

Of or pertaining to rivers or streams; produced by stream or river action.

Foothills

A region of steeply sloping hills that fringes a mountain range or high-plateau escarpment. The hills have relief of as much as 1,000 feet (300 meters).

Footslope

The concave surface at the base of a hillslope. A footslope is a transition zone between upslope sites of erosion and transport (shoulders and backslopes) and downslope sites of deposition (toeslopes).

Forb

Any herbaceous plant not a grass or a sedge.

Forest cover

All trees and other woody plants (underbrush) covering the ground in a forest.

Forest type

A stand of trees similar in composition and development because of given physical and biological factors by which it may be differentiated from other stands.

Fragipan

A loamy, brittle subsurface horizon low in porosity and content of organic matter and low or moderate in clay but high in silt or very fine sand. A fragipan appears cemented and restricts roots. When dry, it is hard or very hard and has a higher bulk density than the horizon or horizons above. When moist, it tends to rupture suddenly under pressure rather than to deform slowly.

Genesis, soil

The mode of origin of the soil. Refers especially to the processes or soil-forming factors responsible for the formation of the solum, or true soil, from the unconsolidated parent material.

Gilgai

Commonly, a succession of microbasins and microknolls in nearly level areas or of microvalleys and microridges parallel with the slope. Typically, the microrelief of clayey soils that shrink and swell considerably with changes in moisture content.

Glaciofluvial deposits

Material moved by glaciers and subsequently sorted and deposited by streams flowing from the melting ice. The deposits are stratified and occur in the form of outwash plains, valley trains, deltas, kames, eskers, and kame terraces.

Glaciolacustrine deposits

Material ranging from fine clay to sand derived from glaciers and deposited in glacial lakes mainly by glacial meltwater. Many deposits are bedded or laminated.

Gleyed soil

Soil that formed under poor drainage, resulting in the reduction of iron and other elements in the profile and in gray colors.

Graded stripcropping

Growing crops in strips that grade toward a protected waterway.

Grassed waterway

A natural or constructed waterway, typically broad and shallow, seeded to grass as protection against erosion. Conducts surface water away from cropland.

Gravel

Rounded or angular fragments of rock as much as 3 inches (2 millimeters to 7.6 centimeters) in diameter. An individual piece is a pebble.

Gravel pit (map symbol)

An open excavation from which soil and underlying material have been removed and used, without crushing, as a source of sand or gravel.

Gravelly soil material

Material that has 15 to 35 percent, by volume, rounded or angular rock fragments, not prominently flattened, as much as 3 inches (7.6 centimeters) in diameter.

Gravelly spot (map symbol)

A spot where the surface layer has more than 35 percent, by volume, rock fragments that are mostly less than 3 inches in diameter in an area that has less than 15 percent rock fragments.

Green manure crop (agronomy)

A soil-improving crop grown to be plowed under in an early stage of maturity or soon after maturity.

Ground water

Water filling all the unblocked pores of the material below the water table.

Gully (map symbol)

A small, steep-sided channel caused by erosion and cut in unconsolidated materials by concentrated but intermittent flow of water. The distinction between a gully and a rill is one of depth. A gully generally is an obstacle to farm machinery and is too deep to be obliterated by ordinary tillage whereas a rill is of lesser depth and can be smoothed over by ordinary tillage.

Hard bedrock

Bedrock that cannot be excavated except by blasting or by the use of special equipment that is not commonly used in construction.

Hard to reclaim

Reclamation is difficult after the removal of soil for construction and other uses. Revegetation and erosion control are extremely difficult.

Hardpan

A hardened or cemented soil horizon, or layer. The soil material is sandy, loamy, or clayey and is cemented by iron oxide, silica, calcium carbonate, or other substance.

Head slope (geomorphology)

A geomorphic component of hills consisting of a laterally concave area of a hillside, especially at the head of a drainageway. The overland waterflow is converging.

Hemic soil material (mucky peat)

Organic soil material intermediate in degree of decomposition between the less decomposed fibric material and the more decomposed sapric material.

High-residue crops

Such crops as small grain and corn used for grain. If properly managed, residue from these crops can be used to control erosion until the next crop in the rotation is established. These crops return large amounts of organic matter to the soil.

Hill

A generic term for an elevated area of the land surface, rising as much as 1,000 feet above surrounding lowlands, commonly of limited summit area and having a well defined outline. Slopes are generally more than 15 percent. The distinction between a hill and a mountain is arbitrary and may depend on local usage.

Hillslope

A generic term for the steeper part of a hill between its summit and the drainage line, valley flat, or depression floor at the base of a hill.

Horizon, soil

A layer of soil, approximately parallel to the surface, having distinct characteristics produced by soil-forming processes. In the identification of soil horizons, an uppercase letter represents the major horizons. Numbers or lowercase letters that follow represent subdivisions of the major horizons. An explanation of the subdivisions is given in the “Soil Survey Manual.” The major horizons of mineral soil are as follows:

O horizon: An organic layer of fresh and decaying plant residue.

L horizon: A layer of organic and mineral limnic materials, including coprogenous earth (sedimentary peat), diatomaceous earth, and marl.

A horizon: The mineral horizon at or near the surface in which an accumulation of humified organic matter is mixed with the mineral material. Also, a plowed surface horizon, most of which was originally part of a B horizon.

E horizon: The mineral horizon in which the main feature is loss of silicate clay, iron, aluminum, or some combination of these.

B horizon: The mineral horizon below an A horizon. The B horizon is in part a layer of transition from the overlying A to the underlying C horizon. The B horizon also has distinctive characteristics, such as (1) accumulation of clay, sesquioxides, humus, or a combination of these; (2) prismatic or blocky structure; (3) redder or browner colors than those in the A horizon; or (4) a combination of these.

C horizon: The mineral horizon or layer, excluding indurated bedrock, that is little affected by soil-forming processes and does not have the properties typical of the overlying soil material. The material of a C horizon may be either like or unlike that in which the solum formed. If the material is known to differ from that in the solum, an Arabic numeral, commonly a 2, precedes the letter C.

Cr horizon: Soft, consolidated bedrock beneath the soil.

R layer: Consolidated bedrock beneath the soil. The bedrock commonly underlies a C horizon, but it can be directly below an A or a B horizon.

M layer: A root-limiting subsoil layer consisting of nearly continuous, horizontally oriented, human-manufactured materials.

W layer: A layer of water within or beneath the soil.

Humus

The well decomposed, more or less stable part of the organic matter in mineral soils.

Hydrologic soil groups

Refers to soils grouped according to their runoff potential. The soil properties that influence this potential are those that affect the minimum rate of water infiltration on a bare soil during periods after prolonged wetting when the soil is not frozen. These properties include depth to a seasonal high water table, the infiltration rate, and depth to a layer that significantly restricts the downward movement of water. The slope and the kind of plant cover are not considered but are separate factors in predicting runoff.

Igneous rock

Rock that was formed by cooling and solidification of magma and that has not been changed appreciably by weathering since its formation. Major varieties include plutonic and volcanic rock (e.g., andesite, basalt, and granite).

Illuviation

The movement of soil material from one horizon to another in the soil profile. Generally, material is removed from an upper horizon and deposited in a lower horizon.

Impervious soil

A soil through which water, air, or roots penetrate slowly or not at all. No soil is absolutely impervious to air and water all the time.

Increasers

Species in the climax vegetation that increase in amount as the more desirable plants are reduced by close grazing. Increasers commonly are the shorter plants and the less palatable to livestock.

Infiltration

The downward entry of water into the immediate surface of soil or other material, as contrasted with percolation, which is movement of water through soil layers or material.

Infiltration capacity

The maximum rate at which water can infiltrate into a soil under a given set of conditions.

Infiltration rate

The rate at which water penetrates the surface of the soil at any given instant, usually expressed in inches per hour. The rate can be limited by the infiltration capacity of the soil or the rate at which water is applied at the surface.

Intake rate

The average rate of water entering the soil under irrigation. Most soils have a fast initial rate; the rate decreases with application time. Therefore, intake rate for design purposes is not a constant but is a variable depending on the net irrigation application. The rate of water intake, in inches per hour, is expressed as follows:

Very low: Less than 0.2
Low: 0.2 to 0.4
Moderately low: 0.4 to 0.75
Moderate: 0.75 to 1.25
Moderately high: 1.25 to 1.75
High: 1.75 to 2.5
Very high: More than 2.5

Interfluve

A landform composed of the relatively undissected upland or ridge between two adjacent valleys containing streams flowing in the same general direction. An elevated area between two drainageways that sheds water to those drainageways.

Interfluve (geomorphology)

A geomorphic component of hills consisting of the uppermost, comparatively level or gently sloping area of a hill; shoulders of backwearing hillslopes can narrow the upland or can merge, resulting in a strongly convex shape.

Intermittent stream

A stream, or reach of a stream, that does not flow year-round but that is commonly dry for 3 or more months out of 12 and whose channel is generally below the local water table. It flows only during wet periods or when it receives ground-water discharge or long, continued contributions from melting snow or other surface and shallow subsurface sources.

Invaders

On range, plants that encroach into an area and grow after the climax vegetation has been reduced by grazing. Generally, plants invade following disturbance of the surface.

Iron depletions

See Redoximorphic features.

Irrigation

Application of water to soils to assist in production of crops. Methods of irrigation are:

Basin: Water is applied rapidly to nearly level plains surrounded by levees or dikes.

Border: Water is applied at the upper end of a strip in which the lateral flow of water is controlled by small earth ridges called border dikes, or borders.

Controlled flooding: Water is released at intervals from closely spaced field ditches and distributed uniformly over the field.

Corrugation: Water is applied to small, closely spaced furrows or ditches in fields of close-growing crops or in orchards so that it flows in only one direction.

Drip (or trickle): Water is applied slowly and under low pressure to the surface of the soil or into the soil through such applicators as emitters, porous tubing, or perforated pipe.

Furrow: Water is applied in small ditches made by cultivation implements. Furrows are used for tree and row crops.

Sprinkler: Water is sprayed over the soil surface through pipes or nozzles from a pressure system.

Subirrigation: Water is applied in open ditches or tile lines until the water table is raised enough to wet the soil.

Wild flooding: Water, released at high points, is allowed to flow onto an area without controlled distribution.

Kame

A low mound, knob, hummock, or short irregular ridge composed of stratified sand and gravel deposited by a subglacial stream as a fan or delta at the margin of a melting glacier; by a supraglacial stream in a low place or hole on the surface of the glacier; or as a ponded deposit on the surface or at the margin of stagnant ice.

Karst (topography)

A kind of topography that formed in limestone, gypsum, or other soluble rocks by dissolution and that is characterized by closed depressions, sinkholes, caves, and underground drainage.

Knoll

A small, low, rounded hill rising above adjacent landforms.

Ksat

See Saturated hydraulic conductivity.

Lacustrine deposit

Material deposited in lake water and exposed when the water level is lowered or the elevation of the land is raised.

Lake plain

A nearly level surface marking the floor of an extinct lake filled by well sorted, generally fine textured, stratified deposits, commonly containing varves.

Lake terrace

A narrow shelf, partly cut and partly built, produced along a lakeshore in front of a scarp line of low cliffs and later exposed when the water level falls.

Landfill (map symbol)

An area of accumulated waste products of human habitation, either above or below natural ground level.

Landslide

A general, encompassing term for most types of mass movement landforms and processes involving the downslope transport and outward deposition of soil and rock materials caused by gravitational forces; the movement may or may not involve saturated materials. The speed and distance of movement, as well as the amount of soil and rock material, vary greatly.

Large stones

Rock fragments 3 inches (7.6 centimeters) or more across. Large stones adversely affect the specified use of the soil.

Lava flow (map symbol)

A solidified, commonly lobate body of rock formed through lateral, surface outpouring of molten lava from a vent or fissure.

Leaching

The removal of soluble material from soil or other material by percolating water.

Levee (map symbol)

An embankment that confines or controls water, especially one built along the banks of a river to prevent overflow onto lowlands.

Linear extensibility

Refers to the change in length of an unconfined clod as moisture content is decreased from a moist to a dry state. Linear extensibility is used to determine the shrink-swell potential of soils. It is an expression of the volume change between the water content of the clod at $^{1}/_{3}$- or $^{1}/_{10}$-bar tension (33kPa or 10kPa tension) and oven dryness. Volume change is influenced by the amount and type of clay minerals in the soil. The volume change is the percent change for the whole soil. If it is expressed as a fraction, the resulting value is COLE, coefficient of linear extensibility.

Liquid limit

The moisture content at which the soil passes from a plastic to a liquid state.

Loam

Soil material that is 7 to 27 percent clay particles, 28 to 50 percent silt particles, and less than 52 percent sand particles.

Loess

Material transported and deposited by wind and consisting dominantly of silt-sized particles.

Low strength

The soil is not strong enough to support loads.

Low-residue crops

Such crops as corn used for silage, peas, beans, and potatoes. Residue from these crops is not adequate to control erosion until the next crop in the rotation is established. These crops return little organic matter to the soil.

Marl

An earthy, unconsolidated deposit consisting chiefly of calcium carbonate mixed with clay in approximately equal proportions; formed primarily under freshwater lacustrine conditions but also formed in more saline environments.

Marsh or swamp (map symbol)

A water-saturated, very poorly drained area that is intermittently or permanently covered by water. Sedges, cattails, and rushes are the dominant vegetation in marshes, and trees or shrubs are the dominant vegetation in swamps. Not used in map units where the named soils are poorly drained or very poorly drained.

Mass movement

A generic term for the dislodgment and downslope transport of soil and rock material as a unit under direct gravitational stress.

Masses

See Redoximorphic features.

Meander belt

The zone within which migration of a meandering channel occurs; the flood-plain area included between two imaginary lines drawn tangential to the outer bends of active channel loops.

Meander scar

A crescent-shaped, concave or linear mark on the face of a bluff or valley wall, produced by the lateral erosion of a meandering stream that impinged upon and undercut the bluff.

Meander scroll

One of a series of long, parallel, close-fitting, crescent-shaped ridges and troughs formed along the inner bank of a stream meander as the channel migrated laterally down-valley and toward the outer bank.

Mechanical treatment

Use of mechanical equipment for seeding, brush management, and other management practices.

Medium textured soil

Very fine sandy loam, loam, silt loam, or silt.

Mesa

A broad, nearly flat topped and commonly isolated landmass bounded by steep slopes or precipitous cliffs and capped by layers of resistant, nearly horizontal rocky material. The summit width is characteristically greater than the height of the bounding escarpments.

Metamorphic rock

Rock of any origin altered in mineralogical composition, chemical composition, or structure by heat, pressure, and movement at depth in the earth’s crust. Nearly all such rocks are crystalline.

Mine or quarry (map symbol)

An open excavation from which soil and underlying material have been removed and in which bedrock is exposed. Also denotes surface openings to underground mines.

Mine spoil

An accumulation of displaced earthy material, rock, or other waste material removed during mining or excavation. Also called earthy fill.

Mineral soil

Soil that is mainly mineral material and low in organic material. Its bulk density is more than that of organic soil.

Minimum tillage

Only the tillage essential to crop production and prevention of soil damage.

Miscellaneous area

A kind of map unit that has little or no natural soil and supports little or no vegetation.

Miscellaneous water (map symbol)

Small, constructed bodies of water that are used for industrial, sanitary, or mining applications and that contain water most of the year.

Moderately coarse textured soil

Coarse sandy loam, sandy loam, or fine sandy loam.

Moderately fine textured soil

Clay loam, sandy clay loam, or silty clay loam.

Mollic epipedon

A thick, dark, humus-rich surface horizon (or horizons) that has high base saturation and pedogenic soil structure. It may include the upper part of the subsoil.

Moraine

In terms of glacial geology, a mound, ridge, or other topographically distinct accumulation of unsorted, unstratified drift, predominantly till, deposited primarily by the direct action of glacial ice in a variety of landforms. Also, a general term for a landform composed mainly of till (except for kame moraines, which are composed mainly of stratified outwash) that has been deposited by a glacier. Some types of moraines are disintegration, end, ground, kame, lateral, recessional, and terminal.

Morphology, soil

The physical makeup of the soil, including the texture, structure, porosity, consistence, color, and other physical, mineral, and biological properties of the various horizons, and the thickness and arrangement of those horizons in the soil profile.

Mottling, soil

Irregular spots of different colors that vary in number and size. Descriptive terms are as follows: abundance—*few, common,* and *many;* size—*fine, medium,* and *coarse;* and contrast—*faint, distinct,* and *prominent*. The size measurements are of the diameter along the greatest dimension. *Fine* indicates less than 5 millimeters (about 0.2 inch); *medium,* from 5 to 15 millimeters (about 0.2 to 0.6 inch); and *coarse,* more than 15 millimeters (about 0.6 inch).

Mountain

A generic term for an elevated area of the land surface, rising more than 1,000 feet (300 meters) above surrounding lowlands, commonly of restricted summit area (relative to a plateau) and generally having steep sides. A mountain can

occur as a single, isolated mass or in a group forming a chain or range. Mountains are formed primarily by tectonic activity and/or volcanic action but can also be formed by differential erosion.

Muck

Dark, finely divided, well decomposed organic soil material. (See Sapric soil material.)

Mucky peat

See Hemic soil material.

Mudstone

A blocky or massive, fine grained sedimentary rock in which the proportions of clay and silt are approximately equal. Also, a general term for such material as clay, silt, claystone, siltstone, shale, and argillite and that should be used only when the amounts of clay and silt are not known or cannot be precisely identified.

Munsell notation

A designation of color by degrees of three simple variables—hue, value, and chroma. For example, a notation of 10YR 6/4 is a color with hue of 10YR, value of 6, and chroma of 4.

Natric horizon

A special kind of argillic horizon that contains enough exchangeable sodium to have an adverse effect on the physical condition of the subsoil.

Neutral soil

A soil having a pH value of 6.6 to 7.3. (See Reaction, soil.)

Nodules

See Redoximorphic features.

Nose slope (geomorphology)

A geomorphic component of hills consisting of the projecting end (laterally convex area) of a hillside. The overland waterflow is predominantly divergent. Nose slopes consist dominantly of colluvium and slope-wash sediments (for example, slope alluvium).

Nutrient, plant

Any element taken in by a plant essential to its growth. Plant nutrients are mainly nitrogen, phosphorus, potassium, calcium, magnesium, sulfur, iron, manganese, copper, boron, and zinc obtained from the soil and carbon, hydrogen, and oxygen obtained from the air and water.

Organic matter

Plant and animal residue in the soil in various stages of decomposition. The content of organic matter in the surface layer is described as follows:

Very low: Less than 0.5 percent
Low: 0.5 to 1.0 percent
Moderately low: 1.0 to 2.0 percent
Moderate: 2.0 to 4.0 percent
High: 4.0 to 8.0 percent
Very high: More than 8.0 percent

Outwash

Stratified and sorted sediments (chiefly sand and gravel) removed or “washed out” from a glacier by meltwater streams and deposited in front of or beyond the end moraine or the margin of a glacier. The coarser material is deposited nearer to the ice.

Outwash plain

An extensive lowland area of coarse textured glaciofluvial material. An outwash plain is commonly smooth; where pitted, it generally is low in relief.

Paleoterrace

An erosional remnant of a terrace that retains the surface form and alluvial deposits of its origin but was not emplaced by, and commonly does not grade to, a present-day stream or drainage network.

Pan

A compact, dense layer in a soil that impedes the movement of water and the growth of roots. For example, *hardpan, fragipan, claypan, plowpan,* and *traffic pan*.

Parent material

The unconsolidated organic and mineral material in which soil forms.

Peat

Unconsolidated material, largely undecomposed organic matter, that has accumulated under excess moisture. (See Fibric soil material.)

Ped

An individual natural soil aggregate, such as a granule, a prism, or a block.

Pedisediment

A layer of sediment, eroded from the shoulder and backslope of an erosional slope, that lies on and is being (or was) transported across a gently sloping erosional surface at the foot of a receding hill or mountain slope.

Pedon

The smallest volume that can be called “a soil.” A pedon is three dimensional and large enough to permit study of all horizons. Its area ranges from about 10 to 100 square feet (1 square meter to 10 square meters), depending on the variability of the soil.

Percolation

The movement of water through the soil.

Perennial water (map symbol)

Small, natural or constructed lakes, ponds, or pits that contain water most of the year.

Permafrost

Ground, soil, or rock that remains at or below 0 degrees C for at least 2 years. It is defined on the basis of temperature and is not necessarily frozen.

pH value

A numerical designation of acidity and alkalinity in soil. (See Reaction, soil.)

Phase, soil

A subdivision of a soil series based on features that affect its use and management, such as slope, stoniness, and flooding.

Piping

Formation of subsurface tunnels or pipelike cavities by water moving through the soil.

Pitting

Pits caused by melting around ice. They form on the soil after plant cover is removed.

Plastic limit

The moisture content at which a soil changes from semisolid to plastic.

Plasticity index

The numerical difference between the liquid limit and the plastic limit; the range of moisture content within which the soil remains plastic.

Plateau (geomorphology)

A comparatively flat area of great extent and elevation; specifically, an extensive land region that is considerably elevated (more than 100 meters) above the adjacent lower lying terrain, is commonly limited on at least one side by an abrupt descent, and has a flat or nearly level surface. A comparatively large part of a plateau surface is near summit level.

Playa

The generally dry and nearly level lake plain that occupies the lowest parts of closed depressions, such as those on intermontane basin floors. Temporary flooding occurs primarily in response to precipitation and runoff. Playa deposits are fine grained and may or may not have a high water table and saline conditions.

Plinthite

The sesquioxide-rich, humus-poor, highly weathered mixture of clay with quartz and other diluents. It commonly appears as red mottles, usually in platy, polygonal, or reticulate patterns. Plinthite changes irreversibly to an ironstone hardpan or to irregular aggregates on repeated wetting and drying, especially if it is exposed also to heat from the sun. In a moist soil, plinthite can be cut with a spade. It is a form of laterite.

Plowpan

A compacted layer formed in the soil directly below the plowed layer.

Ponding

Standing water on soils in closed depressions. Unless the soils are artificially drained, the water can be removed only by percolation or evapotranspiration.

Poorly graded

Refers to a coarse grained soil or soil material consisting mainly of particles of nearly the same size. Because there is little difference in size of the particles, density can be increased only slightly by compaction.

Pore linings

See Redoximorphic features.

Potential native plant community

See Climax plant community.

Potential rooting depth (effective rooting depth)

Depth to which roots could penetrate if the content of moisture in the soil were adequate. The soil has no properties restricting the penetration of roots to this depth.

Prescribed burning

Deliberately burning an area for specific management purposes, under the appropriate conditions of weather and soil moisture and at the proper time of day.

Productivity, soil

The capability of a soil for producing a specified plant or sequence of plants under specific management.

Profile, soil

A vertical section of the soil extending through all its horizons and into the parent material.

Proper grazing use

Grazing at an intensity that maintains enough cover to protect the soil and maintain or improve the quantity and quality of the desirable vegetation. This practice increases the vigor and reproduction capacity of the key plants and

promotes the accumulation of litter and mulch necessary to conserve soil and water.

Rangeland

Land on which the potential natural vegetation is predominantly grasses, grasslike plants, forbs, or shrubs suitable for grazing or browsing. It includes natural grasslands, savannas, many wetlands, some deserts, tundras, and areas that support certain forb and shrub communities.

Reaction, soil

A measure of acidity or alkalinity of a soil, expressed as pH values. A soil that tests to pH 7.0 is described as precisely neutral in reaction because it is neither acid nor alkaline. The degrees of acidity or alkalinity, expressed as pH values, are:

Ultra acid: Less than 3.5
Extremely acid: 3.5 to 4.4
Very strongly acid: 4.5 to 5.0
Strongly acid: 5.1 to 5.5
Moderately acid: 5.6 to 6.0
Slightly acid: 6.1 to 6.5
Neutral: 6.6 to 7.3
Slightly alkaline: 7.4 to 7.8
Moderately alkaline: 7.9 to 8.4
Strongly alkaline: 8.5 to 9.0
Very strongly alkaline: 9.1 and higher

Red beds

Sedimentary strata that are mainly red and are made up largely of sandstone and shale.

Redoximorphic concentrations

See Redoximorphic features.

Redoximorphic depletions

See Redoximorphic features.

Redoximorphic features

Redoximorphic features are associated with wetness and result from alternating periods of reduction and oxidation of iron and manganese compounds in the soil. Reduction occurs during saturation with water, and oxidation occurs when the soil is not saturated. Characteristic color patterns are created by these processes. The reduced iron and manganese ions may be removed from a soil if vertical or lateral fluxes of water occur, in which case there is no iron or manganese precipitation in that soil. Wherever the iron and manganese are oxidized and precipitated, they form either soft masses or hard concretions or nodules. Movement of iron and manganese as a result of redoximorphic processes in a soil may result in redoximorphic features that are defined as follows:

1. Redoximorphic concentrations.—These are zones of apparent accumulation of iron-manganese oxides, including:
   A. Nodules and concretions, which are cemented bodies that can be removed from the soil intact. Concretions are distinguished from nodules on the basis of internal organization. A concretion typically has concentric layers that are visible to the naked eye. Nodules do not have visible organized internal structure; *and*
   B. Masses, which are noncemented concentrations of substances within the soil matrix; *and*
   C. Pore linings, i.e., zones of accumulation along pores that may be either coatings on pore surfaces or impregnations from the matrix adjacent to the pores.
2. Redoximorphic depletions.—These are zones of low chroma (chromas less than those in the matrix) where either iron-manganese oxides alone or both iron-manganese oxides and clay have been stripped out, including:
   A. Iron depletions, i.e., zones that contain low amounts of iron and manganese oxides but have a clay content similar to that of the adjacent matrix; *and*
   B. Clay depletions, i.e., zones that contain low amounts of iron, manganese, and clay (often referred to as silt coatings or skeletans).
3. Reduced matrix.—This is a soil matrix that has low chroma *in situ* but undergoes a change in hue or chroma within 30 minutes after the soil material has been exposed to air.

Reduced matrix

See Redoximorphic features.

Regolith

All unconsolidated earth materials above the solid bedrock. It includes material weathered in place from all kinds of bedrock and alluvial, glacial, eolian, lacustrine, and pyroclastic deposits.

Relief

The relative difference in elevation between the upland summits and the lowlands or valleys of a given region.

Residuum (residual soil material)

Unconsolidated, weathered or partly weathered mineral material that accumulated as bedrock disintegrated in place.

Rill

A very small, steep-sided channel resulting from erosion and cut in unconsolidated materials by concentrated but intermittent flow of water. A rill generally is not an obstacle to wheeled vehicles and is shallow enough to be smoothed over by ordinary tillage.

Riser

The vertical or steep side slope (e.g., escarpment) of terraces, flood-plain steps, or other stepped landforms; commonly a recurring part of a series of natural, steplike landforms, such as successive stream terraces.

Road cut

A sloping surface produced by mechanical means during road construction. It is commonly on the uphill side of the road.

Rock fragments

Rock or mineral fragments having a diameter of 2 millimeters or more; for example, pebbles, cobbles, stones, and boulders.

Rock outcrop (map symbol)

An exposure of bedrock at the surface of the earth. Not used where the named soils of the surrounding map unit are shallow over bedrock or where “Rock outcrop” is a named component of the map unit.

Root zone

The part of the soil that can be penetrated by plant roots.

Runoff

The precipitation discharged into stream channels from an area. The water that flows off the surface of the land without sinking into the soil is called surface runoff. Water that enters the soil before reaching surface streams is called ground-water runoff or seepage flow from ground water.

Saline soil

A soil containing soluble salts in an amount that impairs growth of plants. A saline soil does not contain excess exchangeable sodium.

Saline spot (map symbol)

An area where the surface layer has an electrical conductivity of 8 mmhos/cm more than the surface layer of the named soils in the surrounding map unit. The surface layer of the surrounding soils has an electrical conductivity of 2 mmhos/cm or less.

Sand

As a soil separate, individual rock or mineral fragments from 0.05 millimeter to 2.0 millimeters in diameter. Most sand grains consist of quartz. As a soil textural class, a soil that is 85 percent or more sand and not more than 10 percent clay.

Sandstone

Sedimentary rock containing dominantly sand-sized particles.

Sandy spot (map symbol)

A spot where the surface layer is loamy fine sand or coarser in areas where the surface layer of the named soils in the surrounding map unit is very fine sandy loam or finer.

Sapric soil material (muck)

The most highly decomposed of all organic soil material. Muck has the least amount of plant fiber, the highest bulk density, and the lowest water content at saturation of all organic soil material.

Saturated hydraulic conductivity (Ksat)

The ease with which pores of a saturated soil transmit water. Formally, the proportionality coefficient that expresses the relationship of the rate of water movement to hydraulic gradient in Darcy's Law, a law that describes the rate of water movement through porous media. Commonly abbreviated as "Ksat." Terms describing saturated hydraulic conductivity are:

Very high: 100 or more micrometers per second (14.17 or more inches per hour)

High: 10 to 100 micrometers per second (1.417 to 14.17 inches per hour)

Moderately high: 1 to 10 micrometers per second (0.1417 inch to 1.417 inches per hour)

Moderately low: 0.1 to 1 micrometer per second (0.01417 to 0.1417 inch per hour)

Low: 0.01 to 0.1 micrometer per second (0.001417 to 0.01417 inch per hour)

Very low: Less than 0.01 micrometer per second (less than 0.001417 inch per hour).

To convert inches per hour to micrometers per second, multiply inches per hour by 7.0572. To convert micrometers per second to inches per hour, multiply micrometers per second by 0.1417.

Saturation

Wetness characterized by zero or positive pressure of the soil water. Under conditions of saturation, the water will flow from the soil matrix into an unlined auger hole.

Scarification

The act of abrading, scratching, loosening, crushing, or modifying the surface to increase water absorption or to provide a more tillable soil.

Sedimentary rock

A consolidated deposit of clastic particles, chemical precipitates, or organic remains accumulated at or near the surface of the earth under normal low temperature and pressure conditions. Sedimentary rocks include consolidated equivalents of alluvium, colluvium, drift, and eolian, lacustrine, and marine deposits. Examples are sandstone, siltstone, mudstone, claystone, shale, conglomerate, limestone, dolomite, and coal.

Sequum

A sequence consisting of an illuvial horizon and the overlying eluvial horizon. (See Eluviation.)

Series, soil

A group of soils that have profiles that are almost alike, except for differences in texture of the surface layer. All the soils of a series have horizons that are similar in composition, thickness, and arrangement.

Severely eroded spot (map symbol)

An area where, on the average, 75 percent or more of the original surface layer has been lost because of accelerated erosion. Not used in map units in which “severely eroded,” “very severely eroded,” or “gullied” is part of the map unit name.

Shale

Sedimentary rock that formed by the hardening of a deposit of clay, silty clay, or silty clay loam and that has a tendency to split into thin layers.

Sheet erosion

The removal of a fairly uniform layer of soil material from the land surface by the action of rainfall and surface runoff.

Short, steep slope (map symbol)

A narrow area of soil having slopes that are at least two slope classes steeper than the slope class of the surrounding map unit.

Shoulder

The convex, erosional surface near the top of a hillslope. A shoulder is a transition from summit to backslope.

Shrink-swell

The shrinking of soil when dry and the swelling when wet. Shrinking and swelling can damage roads, dams, building foundations, and other structures. It can also damage plant roots.

Shrub-coppice dune

A small, streamlined dune that forms around brush and clump vegetation.

Side slope (geomorphology)

A geomorphic component of hills consisting of a laterally planar area of a hillside. The overland waterflow is predominantly parallel. Side slopes are dominantly colluvium and slope-wash sediments.

Silica

A combination of silicon and oxygen. The mineral form is called quartz.

Silica-sesquioxide ratio

The ratio of the number of molecules of silica to the number of molecules of alumina and iron oxide. The more highly weathered soils or their clay fractions in warm-temperate, humid regions, and especially those in the tropics, generally have a low ratio.

Silt

As a soil separate, individual mineral particles that range in diameter from the upper limit of clay (0.002 millimeter) to the lower limit of very fine sand (0.05 millimeter). As a soil textural class, soil that is 80 percent or more silt and less than 12 percent clay.

Siltstone

An indurated silt having the texture and composition of shale but lacking its fine lamination or fissility; a massive mudstone in which silt predominates over clay.

Similar soils

Soils that share limits of diagnostic criteria, behave and perform in a similar manner, and have similar conservation needs or management requirements for the major land uses in the survey area.

Sinkhole (map symbol)

A closed, circular or elliptical depression, commonly funnel shaped, characterized by subsurface drainage and formed either by dissolution of the surface of underlying bedrock (e.g., limestone, gypsum, or salt) or by collapse of underlying caves within bedrock. Complexes of sinkholes in carbonate-rock terrain are the main components of karst topography.

Site index

A designation of the quality of a forest site based on the height of the dominant stand at an arbitrarily chosen age. For example, if the average height attained by dominant and codominant trees in a fully stocked stand at the age of 50 years is 75 feet, the site index is 75.

Slickensides (pedogenic)

Grooved, striated, and/or glossy (shiny) slip faces on structural peds, such as wedges; produced by shrink-swell processes, most commonly in soils that have a high content of expansive clays.

Slide or slip (map symbol)

A prominent landform scar or ridge caused by fairly recent mass movement or descent of earthy material resulting from failure of earth or rock under shear stress along one or several surfaces.

Slope

The inclination of the land surface from the horizontal. Percentage of slope is the vertical distance divided by horizontal distance, then multiplied by 100. Thus, a slope of 20 percent is a drop of 20 feet in 100 feet of horizontal distance.

Slope alluvium

Sediment gradually transported down the slopes of mountains or hills primarily by nonchannel alluvial processes (i.e., slope-wash processes) and characterized by particle sorting. Lateral particle sorting is evident on long slopes. In a profile sequence, sediments may be distinguished by differences in size and/or specific gravity of rock fragments and may be separated by stone lines. Burnished peds and sorting of rounded or subrounded pebbles or cobbles distinguish these materials from unsorted colluvial deposits.

Slow refill

The slow filling of ponds, resulting from restricted water transmission in the soil.

Slow water movement

Restricted downward movement of water through the soil. See Saturated hydraulic conductivity.

Sodic (alkali) soil

A soil having so high a degree of alkalinity (pH 8.5 or higher) or so high a percentage of exchangeable sodium (15 percent or more of the total exchangeable bases), or both, that plant growth is restricted.

Sodic spot (map symbol)

An area where the surface layer has a sodium adsorption ratio that is at least 10 more than that of the surface layer of the named soils in the surrounding map unit. The surface layer of the surrounding soils has a sodium adsorption ratio of 5 or less.

Sodicity

The degree to which a soil is affected by exchangeable sodium. Sodicity is expressed as a sodium adsorption ratio (SAR) of a saturation extract, or the ratio of Na^{+} to $Ca^{++} + Mg^{++}$. The degrees of sodicity and their respective ratios are:

Slight: Less than 13:1
Moderate: 13-30:1
Strong: More than 30:1

Sodium adsorption ratio (SAR)

A measure of the amount of sodium (Na) relative to calcium (Ca) and magnesium (Mg) in the water extract from saturated soil paste. It is the ratio of the Na concentration divided by the square root of one-half of the Ca + Mg concentration.

Soft bedrock

Bedrock that can be excavated with trenching machines, backhoes, small rippers, and other equipment commonly used in construction.

Soil

A natural, three-dimensional body at the earth's surface. It is capable of supporting plants and has properties resulting from the integrated effect of climate and living matter acting on earthy parent material, as conditioned by relief and by the passage of time.

Soil separates

Mineral particles less than 2 millimeters in equivalent diameter and ranging between specified size limits. The names and sizes, in millimeters, of separates recognized in the United States are as follows:

Very coarse sand: 2.0 to 1.0
Coarse sand: 1.0 to 0.5
Medium sand: 0.5 to 0.25
Fine sand: 0.25 to 0.10
Very fine sand: 0.10 to 0.05
Silt: 0.05 to 0.002
Clay: Less than 0.002

Solum

The upper part of a soil profile, above the C horizon, in which the processes of soil formation are active. The solum in soil consists of the A, E, and B horizons. Generally, the characteristics of the material in these horizons are unlike those of the material below the solum. The living roots and plant and animal activities are largely confined to the solum.

Spoil area (map symbol)

A pile of earthy materials, either smoothed or uneven, resulting from human activity.

Stone line

In a vertical cross section, a line formed by scattered fragments or a discrete layer of angular and subangular rock fragments (commonly a gravel- or cobble-sized lag concentration) that formerly was draped across a topographic surface and was later buried by additional sediments. A stone line generally caps material that was subject to weathering, soil formation, and erosion before burial. Many stone lines seem to be buried erosion pavements, originally formed by sheet and rill erosion across the land surface.

Stones

Rock fragments 10 to 24 inches (25 to 60 centimeters) in diameter if rounded or 15 to 24 inches (38 to 60 centimeters) in length if flat.

Stony

Refers to a soil containing stones in numbers that interfere with or prevent tillage.

Stony spot (map symbol)

A spot where 0.01 to 0.1 percent of the soil surface is covered by rock fragments that are more than 10 inches in diameter in areas where the surrounding soil has no surface stones.

Strath terrace

A type of stream terrace; formed as an erosional surface cut on bedrock and thinly mantled with stream deposits (alluvium).

Stream terrace

One of a series of platforms in a stream valley, flanking and more or less parallel to the stream channel, originally formed near the level of the stream; represents the remnants of an abandoned flood plain, stream bed, or valley floor produced during a former state of fluvial erosion or deposition.

Stripcropping

Growing crops in a systematic arrangement of strips or bands that provide vegetative barriers to wind erosion and water erosion.

Structure, soil

The arrangement of primary soil particles into compound particles or aggregates. The principal forms of soil structure are:

Platy: Flat and laminated

Prismatic: Vertically elongated and having flat tops

Columnar: Vertically elongated and having rounded tops

Angular blocky: Having faces that intersect at sharp angles (planes)

Subangular blocky: Having subrounded and planar faces (no sharp angles)

Granular: Small structural units with curved or very irregular faces

Structureless soil horizons are defined as follows:

Single grained: Entirely noncoherent (each grain by itself), as in loose sand

Massive: Occurring as a coherent mass

Stubble mulch

Stubble or other crop residue left on the soil or partly worked into the soil. It protects the soil from wind erosion and water erosion after harvest, during preparation of a seedbed for the next crop, and during the early growing period of the new crop.

Subsoil

Technically, the B horizon; roughly, the part of the solum below plow depth.

Subsoiling

Tilling a soil below normal plow depth, ordinarily to shatter a hardpan or claypan.

Substratum

The part of the soil below the solum.

Subsurface layer

Any surface soil horizon (A, E, AB, or EB) below the surface layer.

Summer fallow

The tillage of uncropped land during the summer to control weeds and allow storage of moisture in the soil for the growth of a later crop. A practice common in semiarid regions, where annual precipitation is not enough to produce a crop every year. Summer fallow is frequently practiced before planting winter grain.

Summit

The topographically highest position of a hillslope. It has a nearly level (planar or only slightly convex) surface.

Surface layer

The soil ordinarily moved in tillage, or its equivalent in uncultivated soil, ranging in depth from 4 to 10 inches (10 to 25 centimeters). Frequently designated as the “plow layer,” or the “Ap horizon.”

Surface soil

The A, E, AB, and EB horizons, considered collectively. It includes all subdivisions of these horizons.

Talus

Rock fragments of any size or shape (commonly coarse and angular) derived from and lying at the base of a cliff or very steep rock slope. The accumulated mass of such loose broken rock formed chiefly by falling, rolling, or sliding.

Taxadjuncts

Soils that cannot be classified in a series recognized in the classification system. Such soils are named for a series they strongly resemble and are designated as taxadjuncts to that series because they differ in ways too small to be of consequence in interpreting their use and behavior. Soils are recognized as taxadjuncts only when one or more of their characteristics are slightly outside the range defined for the family of the series for which the soils are named.

Terminal moraine

An end moraine that marks the farthest advance of a glacier. It typically has the form of a massive arcuate or concentric ridge, or complex of ridges, and is underlain by till and other types of drift.

Terrace (conservation)

An embankment, or ridge, constructed across sloping soils on the contour or at a slight angle to the contour. The terrace intercepts surface runoff so that water soaks into the soil or flows slowly to a prepared outlet. A terrace in a field

generally is built so that the field can be farmed. A terrace intended mainly for drainage has a deep channel that is maintained in permanent sod.

Terrace (geomorphology)

A steplike surface, bordering a valley floor or shoreline, that represents the former position of a flood plain, lake, or seashore. The term is usually applied both to the relatively flat summit surface (tread) that was cut or built by stream or wave action and to the steeper descending slope (scarp or riser) that has graded to a lower base level of erosion.

Terracettes

Small, irregular steplike forms on steep hillslopes, especially in pasture, formed by creep or erosion of surficial materials that may be induced or enhanced by trampling of livestock, such as sheep or cattle.

Texture, soil

The relative proportions of sand, silt, and clay particles in a mass of soil. The basic textural classes, in order of increasing proportion of fine particles, are *sand, loamy sand, sandy loam, loam, silt loam, silt, sandy clay loam, clay loam, silty clay loam, sandy clay, silty clay,* and *clay*. The sand, loamy sand, and sandy loam classes may be further divided by specifying “coarse,” “fine,” or “very fine.”

Thin layer

Otherwise suitable soil material that is too thin for the specified use.

Till

Dominantly unsorted and nonstratified drift, generally unconsolidated and deposited directly by a glacier without subsequent reworking by meltwater, and consisting of a heterogeneous mixture of clay, silt, sand, gravel, stones, and boulders; rock fragments of various lithologies are embedded within a finer matrix that can range from clay to sandy loam.

Till plain

An extensive area of level to gently undulating soils underlain predominantly by till and bounded at the distal end by subordinate recessional or end moraines.

Tilth, soil

The physical condition of the soil as related to tillage, seedbed preparation, seedling emergence, and root penetration.

Toeslope

The gently inclined surface at the base of a hillslope. Toeslopes in profile are commonly gentle and linear and are constructional surfaces forming the lower part of a hillslope continuum that grades to valley or closed-depression floors.

Topsoil

The upper part of the soil, which is the most favorable material for plant growth. It is ordinarily rich in organic matter and is used to topdress roadbanks, lawns, and land affected by mining.

Trace elements

Chemical elements, for example, zinc, cobalt, manganese, copper, and iron, in soils in extremely small amounts. They are essential to plant growth.

Tread

The flat to gently sloping, topmost, laterally extensive slope of terraces, flood-plain steps, or other stepped landforms; commonly a recurring part of a series of natural steplike landforms, such as successive stream terraces.

Tuff

A generic term for any consolidated or cemented deposit that is 50 percent or more volcanic ash.

Upland

An informal, general term for the higher ground of a region, in contrast with a low-lying adjacent area, such as a valley or plain, or for land at a higher elevation than the flood plain or low stream terrace; land above the footslope zone of the hillslope continuum.

Valley fill

The unconsolidated sediment deposited by any agent (water, wind, ice, or mass wasting) so as to fill or partly fill a valley.

Variegation

Refers to patterns of contrasting colors assumed to be inherited from the parent material rather than to be the result of poor drainage.

Varve

A sedimentary layer or a lamina or sequence of laminae deposited in a body of still water within a year. Specifically, a thin pair of graded glaciolacustrine layers seasonally deposited, usually by meltwater streams, in a glacial lake or other body of still water in front of a glacier.

Very stony spot (map symbol)

A spot where 0.1 to 3.0 percent of the soil surface is covered by rock fragments that are more than 10 inches in diameter in areas where the surface of the surrounding soil is covered by less than 0.01 percent stones.

Water bars

Smooth, shallow ditches or depressional areas that are excavated at an angle across a sloping road. They are used to reduce the downward velocity of water and divert it off and away from the road surface. Water bars can easily be driven over if constructed properly.

Weathering

All physical disintegration, chemical decomposition, and biologically induced changes in rocks or other deposits at or near the earth's surface by atmospheric or biologic agents or by circulating surface waters but involving essentially no transport of the altered material.

Well graded

Refers to soil material consisting of coarse grained particles that are well distributed over a wide range in size or diameter. Such soil normally can be easily increased in density and bearing properties by compaction. Contrasts with poorly graded soil.

Wet spot (map symbol)

A somewhat poorly drained to very poorly drained area that is at least two drainage classes wetter than the named soils in the surrounding map unit.

Wilting point (or permanent wilting point)

The moisture content of soil, on an ovendry basis, at which a plant (specifically a sunflower) wilts so much that it does not recover when placed in a humid, dark chamber.

Windthrow

The uprooting and tipping over of trees by the wind.

ATTACHMENT "B"

CalEEMod Version 2020.4.0 Output Files

St Johns Malli TSM Residential Project - San Joaquin Valley Unified APCD Air District, Annual

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

St Johns Malli TSM Residential Project

San Joaquin Valley Unified APCD Air District, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Single Family Housing	24.00	Dwelling Unit	24.00	43,200.00	76
Single Family Housing	11.00	Dwelling Unit	27.50	19,800.00	35

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.7	**Precipitation Freq (Days)**	45
Climate Zone	7			**Operational Year**	2024
Utility Company					
CO2 Intensity (lb/MWhr)	0	**CH4 Intensity (lb/MWhr)**	0	**N2O Intensity (lb/MWhr)**	0

1.3 User Entered Comments & Non-Default Data

Project Characteristics - Residential project with tentative subdivision map in unincorporated Tulare County.

Land Use - 35 single family residential units. 24 are 1-acre parcels and 11 are 2.5-acre parcels.

Table Name	Column Name	Default Value	New Value
tblLandUse	LotAcreage	7.79	24.00
tblLandUse	LotAcreage	3.57	27.50

2.0 Emissions Summary

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	0.1507	1.4812	1.0884	2.0800e-003	0.3547	0.0718	0.4264	0.1790	0.0664	0.2454	0.0000	183.0696	183.0696	0.0525	1.7000e-004	184.4343
2023	0.3102	3.0273	2.8220	5.6700e-003	0.6018	0.1324	0.7342	0.2342	0.1229	0.3571	0.0000	495.4855	495.4855	0.1401	1.2300e-003	499.3561
2024	0.1983	1.7875	2.1640	3.7500e-003	0.0171	0.0806	0.0977	4.6200e-003	0.0758	0.0804	0.0000	324.4392	324.4392	0.0722	1.7900e-003	326.7759
2025	0.1835	1.6531	2.1420	3.7300e-003	0.0170	0.0691	0.0861	4.6000e-003	0.0650	0.0696	0.0000	322.8523	322.8523	0.0715	1.7300e-003	325.1546
2026	0.1832	1.6527	2.1397	3.7300e-003	0.0170	0.0691	0.0861	4.6100e-003	0.0650	0.0696	0.0000	322.4319	322.4319	0.0714	1.6800e-003	324.7199
2027	0.2024	1.4713	2.0444	3.4800e-003	0.0164	0.0637	0.0801	4.4000e-003	0.0596	0.0640	0.0000	302.3761	302.3761	0.0739	1.2200e-003	304.5872
2028	0.5581	0.0402	0.0652	1.1000e-004	8.4000e-004	1.8100e-003	2.6500e-003	2.2000e-004	1.8100e-003	2.0300e-003	0.0000	9.5421	9.5421	5.0000e-004	1.0000e-005	9.5589
Maximum	**0.5581**	**3.0273**	**2.8220**	**5.6700e-003**	**0.6018**	**0.1324**	**0.7342**	**0.2342**	**0.1229**	**0.3571**	**0.0000**	**495.4855**	**495.4855**	**0.1401**	**1.7900e-003**	**499.3561**

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

2.1 Overall Construction

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	0.1507	1.4812	1.0884	2.0800e-003	0.3547	0.0718	0.4264	0.1790	0.0664	0.2454	0.0000	183.0694	183.0694	0.0525	1.7000e-004	184.4341
2023	0.3102	3.0273	2.8220	5.6700e-003	0.6018	0.1324	0.7342	0.2342	0.1229	0.3571	0.0000	495.4850	495.4850	0.1401	1.2300e-003	499.3555
2024	0.1983	1.7875	2.1640	3.7500e-003	0.0171	0.0806	0.0977	4.6200e-003	0.0758	0.0804	0.0000	324.4388	324.4388	0.0722	1.7900e-003	326.7755
2025	0.1835	1.6531	2.1420	3.7300e-003	0.0170	0.0691	0.0861	4.6000e-003	0.0650	0.0696	0.0000	322.8519	322.8519	0.0715	1.7300e-003	325.1542
2026	0.1832	1.6527	2.1397	3.7300e-003	0.0170	0.0691	0.0861	4.6100e-003	0.0650	0.0696	0.0000	322.4315	322.4315	0.0714	1.6800e-003	324.7195
2027	0.2024	1.4713	2.0444	3.4800e-003	0.0164	0.0637	0.0801	4.4000e-003	0.0596	0.0640	0.0000	302.3758	302.3758	0.0739	1.2200e-003	304.5869
2028	0.5581	0.0402	0.0652	1.1000e-004	8.4000e-004	1.8100e-003	2.6500e-003	2.2000e-004	1.8100e-003	2.0300e-003	0.0000	9.5421	9.5421	5.0000e-004	1.0000e-005	9.5589
Maximum	**0.5581**	**3.0273**	**2.8220**	**5.6700e-003**	**0.6018**	**0.1324**	**0.7342**	**0.2342**	**0.1229**	**0.3571**	**0.0000**	**495.4850**	**495.4850**	**0.1401**	**1.7900e-003**	**499.3555**

	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**

Quarter	Start Date	End Date	Maximum Unmitigated ROG + NOX (tons/quarter)	Maximum Mitigated ROG + NOX (tons/quarter)
1	**8-8-2022**	**11-7-2022**	0.9348	0.9348
2	**11-8-2022**	**2-7-2023**	1.1886	1.1886
3	**2-8-2023**	**5-7-2023**	1.2062	1.2062
4	**5-8-2023**	**8-7-2023**	0.7887	0.7887

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5	**8-8-2023**	**11-7-2023**	0.5326	0.5326
6	**11-8-2023**	**2-7-2024**	0.5185	0.5185
7	**2-8-2024**	**5-7-2024**	0.4873	0.4873
8	**5-8-2024**	**8-7-2024**	0.4979	0.4979
9	**8-8-2024**	**11-7-2024**	0.4981	0.4981
10	**11-8-2024**	**2-7-2025**	0.4836	0.4836
11	**2-8-2025**	**5-7-2025**	0.4474	0.4474
12	**5-8-2025**	**8-7-2025**	0.4623	0.4623
13	**8-8-2025**	**11-7-2025**	0.4625	0.4625
14	**11-8-2025**	**2-7-2026**	0.4626	0.4626
15	**2-8-2026**	**5-7-2026**	0.4473	0.4473
16	**5-8-2026**	**8-7-2026**	0.4621	0.4621
17	**8-8-2026**	**11-7-2026**	0.4623	0.4623
18	**11-8-2026**	**2-7-2027**	0.4624	0.4624
19	**2-8-2027**	**5-7-2027**	0.4471	0.4471
20	**5-8-2027**	**8-7-2027**	0.4619	0.4619
21	**8-8-2027**	**11-7-2027**	0.3686	0.3686
22	**11-8-2027**	**2-7-2028**	0.4351	0.4351
23	**2-8-2028**	**5-7-2028**	0.3663	0.3663
		Highest	1.2062	1.2062

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

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	4.6339	0.0782	5.0337	7.7200e-003		0.6560	0.6560		0.6560	0.6560	58.1575	30.7490	88.9065	9.9000e-004	5.6900e-003	90.6261
Energy	4.4800e-003	0.0383	0.0163	2.4000e-004		3.1000e-003	3.1000e-003		3.1000e-003	3.1000e-003	0.0000	44.3830	44.3830	8.5000e-004	8.1000e-004	44.6467
Mobile	0.1651	0.2951	1.5557	3.7100e-003	0.3550	3.3200e-003	0.3583	0.0950	3.1200e-003	0.0981	0.0000	348.1513	348.1513	0.0182	0.0194	354.3968
Waste						0.0000	0.0000		0.0000	0.0000	8.4769	0.0000	8.4769	0.5010	0.0000	21.0012
Water						0.0000	0.0000		0.0000	0.0000	0.7235	0.0000	0.7235	0.0743	1.7500e-003	3.1040
Total	**4.8034**	**0.4116**	**6.6057**	**0.0117**	**0.3550**	**0.6624**	**1.0174**	**0.0950**	**0.6622**	**0.7572**	**67.3579**	**423.2833**	**490.6411**	**0.5954**	**0.0277**	**513.7748**

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	4.6339	0.0782	5.0337	7.7200e-003		0.6560	0.6560		0.6560	0.6560	58.1575	30.7490	88.9065	9.9000e-004	5.6900e-003	90.6261
Energy	4.4800e-003	0.0383	0.0163	2.4000e-004		3.1000e-003	3.1000e-003		3.1000e-003	3.1000e-003	0.0000	44.3830	44.3830	8.5000e-004	8.1000e-004	44.6467
Mobile	0.1651	0.2951	1.5557	3.7100e-003	0.3550	3.3200e-003	0.3583	0.0950	3.1200e-003	0.0981	0.0000	348.1513	348.1513	0.0182	0.0194	354.3968
Waste						0.0000	0.0000		0.0000	0.0000	8.4769	0.0000	8.4769	0.5010	0.0000	21.0012
Water						0.0000	0.0000		0.0000	0.0000	0.7235	0.0000	0.7235	0.0743	1.7500e-003	3.1040
Total	**4.8034**	**0.4116**	**6.6057**	**0.0117**	**0.3550**	**0.6624**	**1.0174**	**0.0950**	**0.6622**	**0.7572**	**67.3579**	**423.2833**	**490.6411**	**0.5954**	**0.0277**	**513.7748**

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

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Demolition	Demolition	8/8/2022	11/11/2022	5	70	
2	Site Preparation	Site Preparation	11/12/2022	1/6/2023	5	40	
3	Grading	Grading	1/7/2023	6/9/2023	5	110	

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

4	Building Construction	Building Construction	6/10/2023	9/10/2027	5	1110	
5	Paving	Paving	9/11/2027	12/24/2027	5	75	
6	Architectural Coating	Architectural Coating	12/25/2027	4/7/2028	5	75	

Acres of Grading (Site Preparation Phase): 60

Acres of Grading (Grading Phase): 330

Acres of Paving: 0

Residential Indoor: 127,575; Residential Outdoor: 42,525; 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
Architectural Coating	Air Compressors	1	6.00	78	0.48
Demolition	Concrete/Industrial Saws	1	8.00	81	0.73
Building Construction	Cranes	1	7.00	231	0.29
Demolition	Excavators	3	8.00	158	0.38
Grading	Excavators	2	8.00	158	0.38
Building Construction	Forklifts	3	8.00	89	0.20
Building Construction	Generator Sets	1	8.00	84	0.74
Grading	Graders	1	8.00	187	0.41
Paving	Pavers	2	8.00	130	0.42
Paving	Paving Equipment	2	8.00	132	0.36
Paving	Rollers	2	8.00	80	0.38
Demolition	Rubber Tired Dozers	2	8.00	247	0.40
Grading	Rubber Tired Dozers	1	8.00	247	0.40
Site Preparation	Rubber Tired Dozers	3	8.00	247	0.40
Grading	Scrapers	2	8.00	367	0.48
Building Construction	Tractors/Loaders/Backhoes	3	7.00	97	0.37
Grading	Tractors/Loaders/Backhoes	2	8.00	97	0.37

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

Site Preparation	Tractors/Loaders/Backhoes	4	8.00	97	0.37
Building Construction	Welders	1	8.00	46	0.45

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Demolition	6	15.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Site Preparation	7	18.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Grading	8	20.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	9	13.00	4.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Paving	6	15.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	3.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

3.2 Demolition - 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	0.0924	0.9002	0.7208	1.3600e-003		0.0435	0.0435		0.0404	0.0404	0.0000	118.9658	118.9658	0.0334	0.0000	119.8012
Total	**0.0924**	**0.9002**	**0.7208**	**1.3600e-003**		**0.0435**	**0.0435**		**0.0404**	**0.0404**	**0.0000**	**118.9658**	**118.9658**	**0.0334**	**0.0000**	**119.8012**

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

3.2 Demolition - 2022

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.8000e-003	1.2700e-003	0.0143	4.0000e-005	4.2000e-003	2.0000e-005	4.2200e-003	1.1200e-003	2.0000e-005	1.1400e-003	0.0000	3.4906	3.4906	1.2000e-004	1.1000e-004	3.5257
Total	**1.8000e-003**	**1.2700e-003**	**0.0143**	**4.0000e-005**	**4.2000e-003**	**2.0000e-005**	**4.2200e-003**	**1.1200e-003**	**2.0000e-005**	**1.1400e-003**	**0.0000**	**3.4906**	**3.4906**	**1.2000e-004**	**1.1000e-004**	**3.5257**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0924	0.9002	0.7208	1.3600e-003		0.0435	0.0435		0.0404	0.0404	0.0000	118.9657	118.9657	0.0334	0.0000	119.8011
Total	**0.0924**	**0.9002**	**0.7208**	**1.3600e-003**		**0.0435**	**0.0435**		**0.0404**	**0.0404**	**0.0000**	**118.9657**	**118.9657**	**0.0334**	**0.0000**	**119.8011**

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

3.2 Demolition - 2022

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.8000e-003	1.2700e-003	0.0143	4.0000e-005	4.2000e-003	2.0000e-005	4.2200e-003	1.1200e-003	2.0000e-005	1.1400e-003	0.0000	3.4906	3.4906	1.2000e-004	1.1000e-004	3.5257
Total	**1.8000e-003**	**1.2700e-003**	**0.0143**	**4.0000e-005**	**4.2000e-003**	**2.0000e-005**	**4.2200e-003**	**1.1200e-003**	**2.0000e-005**	**1.1400e-003**	**0.0000**	**3.4906**	**3.4906**	**1.2000e-004**	**1.1000e-004**	**3.5257**

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					0.3480	0.0000	0.3480	0.1772	0.0000	0.1772	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0555	0.5790	0.3447	6.7000e-004		0.0282	0.0282		0.0260	0.0260	0.0000	58.5189	58.5189	0.0189	0.0000	58.9921
Total	**0.0555**	**0.5790**	**0.3447**	**6.7000e-004**	**0.3480**	**0.0282**	**0.3762**	**0.1772**	**0.0260**	**0.2032**	**0.0000**	**58.5189**	**58.5189**	**0.0189**	**0.0000**	**58.9921**

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 Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.0800e-003	7.6000e-004	8.5900e-003	2.0000e-005	2.5200e-003	1.0000e-005	2.5300e-003	6.7000e-004	1.0000e-005	6.8000e-004	0.0000	2.0943	2.0943	7.0000e-005	6.0000e-005	2.1154
Total	**1.0800e-003**	**7.6000e-004**	**8.5900e-003**	**2.0000e-005**	**2.5200e-003**	**1.0000e-005**	**2.5300e-003**	**6.7000e-004**	**1.0000e-005**	**6.8000e-004**	**0.0000**	**2.0943**	**2.0943**	**7.0000e-005**	**6.0000e-005**	**2.1154**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.3480	0.0000	0.3480	0.1772	0.0000	0.1772	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0555	0.5790	0.3447	6.7000e-004		0.0282	0.0282		0.0260	0.0260	0.0000	58.5189	58.5189	0.0189	0.0000	58.9920
Total	**0.0555**	**0.5790**	**0.3447**	**6.7000e-004**	**0.3480**	**0.0282**	**0.3762**	**0.1772**	**0.0260**	**0.2032**	**0.0000**	**58.5189**	**58.5189**	**0.0189**	**0.0000**	**58.9920**

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 Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.0800e-003	7.6000e-004	8.5900e-003	2.0000e-005	2.5200e-003	1.0000e-005	2.5300e-003	6.7000e-004	1.0000e-005	6.8000e-004	0.0000	2.0943	2.0943	7.0000e-005	6.0000e-005	2.1154
Total	**1.0800e-003**	**7.6000e-004**	**8.5900e-003**	**2.0000e-005**	**2.5200e-003**	**1.0000e-005**	**2.5300e-003**	**6.7000e-004**	**1.0000e-005**	**6.8000e-004**	**0.0000**	**2.0943**	**2.0943**	**7.0000e-005**	**6.0000e-005**	**2.1154**

3.3 Site Preparation - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0770	0.0000	0.0770	0.0283	0.0000	0.0283	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	6.6500e-003	0.0688	0.0456	1.0000e-004		3.1700e-003	3.1700e-003		2.9100e-003	2.9100e-003	0.0000	8.3627	8.3627	2.7000e-003	0.0000	8.4303
Total	**6.6500e-003**	**0.0688**	**0.0456**	**1.0000e-004**	**0.0770**	**3.1700e-003**	**0.0802**	**0.0283**	**2.9100e-003**	**0.0312**	**0.0000**	**8.3627**	**8.3627**	**2.7000e-003**	**0.0000**	**8.4303**

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

3.3 Site Preparation - 2023

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.4000e-004	9.0000e-005	1.1200e-003	0.0000	3.6000e-004	0.0000	3.6000e-004	1.0000e-004	0.0000	1.0000e-004	0.0000	0.2913	0.2913	1.0000e-005	1.0000e-005	0.2941
Total	**1.4000e-004**	**9.0000e-005**	**1.1200e-003**	**0.0000**	**3.6000e-004**	**0.0000**	**3.6000e-004**	**1.0000e-004**	**0.0000**	**1.0000e-004**	**0.0000**	**0.2913**	**0.2913**	**1.0000e-005**	**1.0000e-005**	**0.2941**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0770	0.0000	0.0770	0.0283	0.0000	0.0283	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	6.6500e-003	0.0688	0.0456	1.0000e-004		3.1700e-003	3.1700e-003		2.9100e-003	2.9100e-003	0.0000	8.3627	8.3627	2.7000e-003	0.0000	8.4303
Total	**6.6500e-003**	**0.0688**	**0.0456**	**1.0000e-004**	**0.0770**	**3.1700e-003**	**0.0802**	**0.0283**	**2.9100e-003**	**0.0312**	**0.0000**	**8.3627**	**8.3627**	**2.7000e-003**	**0.0000**	**8.4303**

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

3.3 Site Preparation - 2023

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.4000e-004	9.0000e-005	1.1200e-003	0.0000	3.6000e-004	0.0000	3.6000e-004	1.0000e-004	0.0000	1.0000e-004	0.0000	0.2913	0.2913	1.0000e-005	1.0000e-005	0.2941
Total	**1.4000e-004**	**9.0000e-005**	**1.1200e-003**	**0.0000**	**3.6000e-004**	**0.0000**	**3.6000e-004**	**1.0000e-004**	**0.0000**	**1.0000e-004**	**0.0000**	**0.2913**	**0.2913**	**1.0000e-005**	**1.0000e-005**	**0.2941**

3.4 Grading - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.5062	0.0000	0.5062	0.2010	0.0000	0.2010	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.1827	1.8984	1.5428	3.4100e-003		0.0784	0.0784		0.0721	0.0721	0.0000	299.9437	299.9437	0.0970	0.0000	302.3688
Total	**0.1827**	**1.8984**	**1.5428**	**3.4100e-003**	**0.5062**	**0.0784**	**0.5846**	**0.2010**	**0.0721**	**0.2730**	**0.0000**	**299.9437**	**299.9437**	**0.0970**	**0.0000**	**302.3688**

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

3.4 Grading - 2023

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	3.4500e-003	2.3200e-003	0.0274	8.0000e-005	8.7900e-003	5.0000e-005	8.8400e-003	2.3400e-003	4.0000e-005	2.3800e-003	0.0000	7.1215	7.1215	2.2000e-004	2.1000e-004	7.1887
Total	**3.4500e-003**	**2.3200e-003**	**0.0274**	**8.0000e-005**	**8.7900e-003**	**5.0000e-005**	**8.8400e-003**	**2.3400e-003**	**4.0000e-005**	**2.3800e-003**	**0.0000**	**7.1215**	**7.1215**	**2.2000e-004**	**2.1000e-004**	**7.1887**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.5062	0.0000	0.5062	0.2010	0.0000	0.2010	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.1827	1.8984	1.5428	3.4100e-003		0.0784	0.0784		0.0721	0.0721	0.0000	299.9433	299.9433	0.0970	0.0000	302.3685
Total	**0.1827**	**1.8984**	**1.5428**	**3.4100e-003**	**0.5062**	**0.0784**	**0.5846**	**0.2010**	**0.0721**	**0.2730**	**0.0000**	**299.9433**	**299.9433**	**0.0970**	**0.0000**	**302.3685**

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

3.4 Grading - 2023

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	3.4500e-003	2.3200e-003	0.0274	8.0000e-005	8.7900e-003	5.0000e-005	8.8400e-003	2.3400e-003	4.0000e-005	2.3800e-003	0.0000	7.1215	7.1215	2.2000e-004	2.1000e-004	7.1887
Total	**3.4500e-003**	**2.3200e-003**	**0.0274**	**8.0000e-005**	**8.7900e-003**	**5.0000e-005**	**8.8400e-003**	**2.3400e-003**	**4.0000e-005**	**2.3800e-003**	**0.0000**	**7.1215**	**7.1215**	**2.2000e-004**	**2.1000e-004**	**7.1887**

3.5 Building Construction - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1140	1.0429	1.1777	1.9500e-003		0.0507	0.0507		0.0477	0.0477	0.0000	168.0584	168.0584	0.0400	0.0000	169.0579
Total	**0.1140**	**1.0429**	**1.1777**	**1.9500e-003**		**0.0507**	**0.0507**		**0.0477**	**0.0477**	**0.0000**	**168.0584**	**168.0584**	**0.0400**	**0.0000**	**169.0579**

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

3.5 Building Construction - 2023

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	3.2000e-004	0.0128	3.9300e-003	6.0000e-005	1.9200e-003	8.0000e-005	2.0100e-003	5.6000e-004	8.0000e-005	6.3000e-004	0.0000	5.6062	5.6062	2.0000e-005	8.4000e-004	5.8567
Worker	2.9600e-003	1.9900e-003	0.0235	7.0000e-005	7.5400e-003	4.0000e-005	7.5700e-003	2.0000e-003	4.0000e-005	2.0400e-003	0.0000	6.1018	6.1018	1.9000e-004	1.8000e-004	6.1595
Total	**3.2800e-003**	**0.0148**	**0.0274**	**1.3000e-004**	**9.4600e-003**	**1.2000e-004**	**9.5800e-003**	**2.5600e-003**	**1.2000e-004**	**2.6700e-003**	**0.0000**	**11.7080**	**11.7080**	**2.1000e-004**	**1.0200e-003**	**12.0162**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1140	1.0429	1.1777	1.9500e-003		0.0507	0.0507		0.0477	0.0477	0.0000	168.0582	168.0582	0.0400	0.0000	169.0577
Total	**0.1140**	**1.0429**	**1.1777**	**1.9500e-003**		**0.0507**	**0.0507**		**0.0477**	**0.0477**	**0.0000**	**168.0582**	**168.0582**	**0.0400**	**0.0000**	**169.0577**

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

3.5 Building Construction - 2023

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	3.2000e-004	0.0128	3.9300e-003	6.0000e-005	1.9200e-003	8.0000e-005	2.0100e-003	5.6000e-004	8.0000e-005	6.3000e-004	0.0000	5.6062	5.6062	2.0000e-005	8.4000e-004	5.8567
Worker	2.9600e-003	1.9900e-003	0.0235	7.0000e-005	7.5400e-003	4.0000e-005	7.5700e-003	2.0000e-003	4.0000e-005	2.0400e-003	0.0000	6.1018	6.1018	1.9000e-004	1.8000e-004	6.1595
Total	**3.2800e-003**	**0.0148**	**0.0274**	**1.3000e-004**	**9.4600e-003**	**1.2000e-004**	**9.5800e-003**	**2.5600e-003**	**1.2000e-004**	**2.6700e-003**	**0.0000**	**11.7080**	**11.7080**	**2.1000e-004**	**1.0200e-003**	**12.0162**

3.5 Building Construction - 2024

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1928	1.7611	2.1179	3.5300e-003		0.0803	0.0803		0.0756	0.0756	0.0000	303.7223	303.7223	0.0718	0.0000	305.5179
Total	**0.1928**	**1.7611**	**2.1179**	**3.5300e-003**		**0.0803**	**0.0803**		**0.0756**	**0.0756**	**0.0000**	**303.7223**	**303.7223**	**0.0718**	**0.0000**	**305.5179**

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

3.5 Building Construction - 2024

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	5.6000e-004	0.0232	6.9200e-003	1.0000e-004	3.4700e-003	1.5000e-004	3.6300e-003	1.0000e-003	1.4000e-004	1.1500e-003	0.0000	9.9679	9.9679	4.0000e-005	1.4900e-003	10.4132
Worker	4.9300e-003	3.1600e-003	0.0392	1.1000e-004	0.0136	7.0000e-005	0.0137	3.6200e-003	6.0000e-005	3.6800e-003	0.0000	10.7489	10.7489	3.1000e-004	3.0000e-004	10.8449
Total	**5.4900e-003**	**0.0263**	**0.0461**	**2.1000e-004**	**0.0171**	**2.2000e-004**	**0.0173**	**4.6200e-003**	**2.0000e-004**	**4.8300e-003**	**0.0000**	**20.7168**	**20.7168**	**3.5000e-004**	**1.7900e-003**	**21.2580**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1928	1.7611	2.1179	3.5300e-003		0.0803	0.0803		0.0756	0.0756	0.0000	303.7220	303.7220	0.0718	0.0000	305.5175
Total	**0.1928**	**1.7611**	**2.1179**	**3.5300e-003**		**0.0803**	**0.0803**		**0.0756**	**0.0756**	**0.0000**	**303.7220**	**303.7220**	**0.0718**	**0.0000**	**305.5175**

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

3.5 Building Construction - 2024

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	5.6000e-004	0.0232	6.9200e-003	1.0000e-004	3.4700e-003	1.5000e-004	3.6300e-003	1.0000e-003	1.4000e-004	1.1500e-003	0.0000	9.9679	9.9679	4.0000e-005	1.4900e-003	10.4132
Worker	4.9300e-003	3.1600e-003	0.0392	1.1000e-004	0.0136	7.0000e-005	0.0137	3.6200e-003	6.0000e-005	3.6800e-003	0.0000	10.7489	10.7489	3.1000e-004	3.0000e-004	10.8449
Total	**5.4900e-003**	**0.0263**	**0.0461**	**2.1000e-004**	**0.0171**	**2.2000e-004**	**0.0173**	**4.6200e-003**	**2.0000e-004**	**4.8300e-003**	**0.0000**	**20.7168**	**20.7168**	**3.5000e-004**	**1.7900e-003**	**21.2580**

3.5 Building Construction - 2025

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1785	1.6273	2.0991	3.5200e-003		0.0689	0.0689		0.0648	0.0648	0.0000	302.6549	302.6549	0.0711	0.0000	304.4335
Total	**0.1785**	**1.6273**	**2.0991**	**3.5200e-003**		**0.0689**	**0.0689**		**0.0648**	**0.0648**	**0.0000**	**302.6549**	**302.6549**	**0.0711**	**0.0000**	**304.4335**

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

3.5 Building Construction - 2025

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	5.5000e-004	0.0230	6.7500e-003	1.0000e-004	3.4600e-003	1.5000e-004	3.6100e-003	1.0000e-003	1.4000e-004	1.1400e-003	0.0000	9.7491	9.7491	4.0000e-005	1.4600e-003	10.1842
Worker	4.5500e-003	2.8000e-003	0.0362	1.1000e-004	0.0136	6.0000e-005	0.0136	3.6000e-003	6.0000e-005	3.6600e-003	0.0000	10.4483	10.4483	2.8000e-004	2.7000e-004	10.5369
Total	**5.1000e-003**	**0.0258**	**0.0430**	**2.1000e-004**	**0.0170**	**2.1000e-004**	**0.0172**	**4.6000e-003**	**2.0000e-004**	**4.8000e-003**	**0.0000**	**20.1974**	**20.1974**	**3.2000e-004**	**1.7300e-003**	**20.7211**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1784	1.6273	2.0991	3.5200e-003		0.0689	0.0689		0.0648	0.0648	0.0000	302.6545	302.6545	0.0711	0.0000	304.4331
Total	**0.1784**	**1.6273**	**2.0991**	**3.5200e-003**		**0.0689**	**0.0689**		**0.0648**	**0.0648**	**0.0000**	**302.6545**	**302.6545**	**0.0711**	**0.0000**	**304.4331**

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

3.5 Building Construction - 2025

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	5.5000e-004	0.0230	6.7500e-003	1.0000e-004	3.4600e-003	1.5000e-004	3.6100e-003	1.0000e-003	1.4000e-004	1.1400e-003	0.0000	9.7491	9.7491	4.0000e-005	1.4600e-003	10.1842
Worker	4.5500e-003	2.8000e-003	0.0362	1.1000e-004	0.0136	6.0000e-005	0.0136	3.6000e-003	6.0000e-005	3.6600e-003	0.0000	10.4483	10.4483	2.8000e-004	2.7000e-004	10.5369
Total	**5.1000e-003**	**0.0258**	**0.0430**	**2.1000e-004**	**0.0170**	**2.1000e-004**	**0.0172**	**4.6000e-003**	**2.0000e-004**	**4.8000e-003**	**0.0000**	**20.1974**	**20.1974**	**3.2000e-004**	**1.7300e-003**	**20.7211**

3.5 Building Construction - 2026

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1785	1.6273	2.0991	3.5200e-003		0.0689	0.0689		0.0648	0.0648	0.0000	302.6549	302.6549	0.0711	0.0000	304.4335
Total	**0.1785**	**1.6273**	**2.0991**	**3.5200e-003**		**0.0689**	**0.0689**		**0.0648**	**0.0648**	**0.0000**	**302.6549**	**302.6549**	**0.0711**	**0.0000**	**304.4335**

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

3.5 Building Construction - 2026

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	5.4000e-004	0.0229	6.6300e-003	1.0000e-004	3.4600e-003	1.5000e-004	3.6100e-003	1.0000e-003	1.4000e-004	1.1400e-003	0.0000	9.5659	9.5659	4.0000e-005	1.4300e-003	9.9923
Worker	4.2400e-003	2.5100e-003	0.0341	1.1000e-004	0.0136	6.0000e-005	0.0136	3.6000e-003	6.0000e-005	3.6600e-003	0.0000	10.2112	10.2112	2.5000e-004	2.6000e-004	10.2940
Total	**4.7800e-003**	**0.0254**	**0.0407**	**2.1000e-004**	**0.0170**	**2.1000e-004**	**0.0172**	**4.6000e-003**	**2.0000e-004**	**4.8000e-003**	**0.0000**	**19.7770**	**19.7770**	**2.9000e-004**	**1.6900e-003**	**20.2864**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1784	1.6273	2.0991	3.5200e-003		0.0689	0.0689		0.0648	0.0648	0.0000	302.6545	302.6545	0.0711	0.0000	304.4331
Total	**0.1784**	**1.6273**	**2.0991**	**3.5200e-003**		**0.0689**	**0.0689**		**0.0648**	**0.0648**	**0.0000**	**302.6545**	**302.6545**	**0.0711**	**0.0000**	**304.4331**

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

3.5 Building Construction - 2026

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	5.4000e-004	0.0229	6.6300e-003	1.0000e-004	3.4600e-003	1.5000e-004	3.6100e-003	1.0000e-003	1.4000e-004	1.1400e-003	0.0000	9.5659	9.5659	4.0000e-005	1.4300e-003	9.9923
Worker	4.2400e-003	2.5100e-003	0.0341	1.1000e-004	0.0136	6.0000e-005	0.0136	3.6000e-003	6.0000e-005	3.6600e-003	0.0000	10.2112	10.2112	2.5000e-004	2.6000e-004	10.2940
Total	**4.7800e-003**	**0.0254**	**0.0407**	**2.1000e-004**	**0.0170**	**2.1000e-004**	**0.0172**	**4.6000e-003**	**2.0000e-004**	**4.8000e-003**	**0.0000**	**19.7770**	**19.7770**	**2.9000e-004**	**1.6900e-003**	**20.2864**

3.5 Building Construction - 2027

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1238	1.1285	1.4557	2.4400e-003		0.0477	0.0477		0.0449	0.0449	0.0000	209.8871	209.8871	0.0493	0.0000	211.1206
Total	**0.1238**	**1.1285**	**1.4557**	**2.4400e-003**		**0.0477**	**0.0477**		**0.0449**	**0.0449**	**0.0000**	**209.8871**	**209.8871**	**0.0493**	**0.0000**	**211.1206**

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

3.5 Building Construction - 2027

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	3.6000e-004	0.0158	4.5300e-003	7.0000e-005	2.4000e-003	1.0000e-004	2.5000e-003	6.9000e-004	1.0000e-004	7.9000e-004	0.0000	6.4980	6.4980	3.0000e-005	9.7000e-004	6.7875
Worker	2.7500e-003	1.5700e-003	0.0222	7.0000e-005	9.4100e-003	4.0000e-005	9.4500e-003	2.5000e-003	4.0000e-005	2.5400e-003	0.0000	6.9253	6.9253	1.6000e-004	1.7000e-004	6.9794
Total	**3.1100e-003**	**0.0173**	**0.0268**	**1.4000e-004**	**0.0118**	**1.4000e-004**	**0.0120**	**3.1900e-003**	**1.4000e-004**	**3.3300e-003**	**0.0000**	**13.4233**	**13.4233**	**1.9000e-004**	**1.1400e-003**	**13.7669**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1238	1.1285	1.4557	2.4400e-003		0.0477	0.0477		0.0449	0.0449	0.0000	209.8869	209.8869	0.0493	0.0000	211.1203
Total	**0.1238**	**1.1285**	**1.4557**	**2.4400e-003**		**0.0477**	**0.0477**		**0.0449**	**0.0449**	**0.0000**	**209.8869**	**209.8869**	**0.0493**	**0.0000**	**211.1203**

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

3.5 Building Construction - 2027

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	3.6000e-004	0.0158	4.5300e-003	7.0000e-005	2.4000e-003	1.0000e-004	2.5000e-003	6.9000e-004	1.0000e-004	7.9000e-004	0.0000	6.4980	6.4980	3.0000e-005	9.7000e-004	6.7875
Worker	2.7500e-003	1.5700e-003	0.0222	7.0000e-005	9.4100e-003	4.0000e-005	9.4500e-003	2.5000e-003	4.0000e-005	2.5400e-003	0.0000	6.9253	6.9253	1.6000e-004	1.7000e-004	6.9794
Total	**3.1100e-003**	**0.0173**	**0.0268**	**1.4000e-004**	**0.0118**	**1.4000e-004**	**0.0120**	**3.1900e-003**	**1.4000e-004**	**3.3300e-003**	**0.0000**	**13.4233**	**13.4233**	**1.9000e-004**	**1.1400e-003**	**13.7669**

3.6 Paving - 2027

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0343	0.3218	0.5467	8.5000e-004		0.0157	0.0157		0.0144	0.0144	0.0000	75.0722	75.0722	0.0243	0.0000	75.6792
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0343**	**0.3218**	**0.5467**	**8.5000e-004**		**0.0157**	**0.0157**		**0.0144**	**0.0144**	**0.0000**	**75.0722**	**75.0722**	**0.0243**	**0.0000**	**75.6792**

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

3.6 Paving - 2027

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.3100e-003	7.5000e-004	0.0106	3.0000e-005	4.5000e-003	2.0000e-005	4.5200e-003	1.2000e-003	2.0000e-005	1.2100e-003	0.0000	3.3111	3.3111	8.0000e-005	8.0000e-005	3.3369
Total	**1.3100e-003**	**7.5000e-004**	**0.0106**	**3.0000e-005**	**4.5000e-003**	**2.0000e-005**	**4.5200e-003**	**1.2000e-003**	**2.0000e-005**	**1.2100e-003**	**0.0000**	**3.3111**	**3.3111**	**8.0000e-005**	**8.0000e-005**	**3.3369**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0343	0.3218	0.5467	8.5000e-004		0.0157	0.0157		0.0144	0.0144	0.0000	75.0721	75.0721	0.0243	0.0000	75.6791
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0343**	**0.3218**	**0.5467**	**8.5000e-004**		**0.0157**	**0.0157**		**0.0144**	**0.0144**	**0.0000**	**75.0721**	**75.0721**	**0.0243**	**0.0000**	**75.6791**

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

3.6 Paving - 2027

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.3100e-003	7.5000e-004	0.0106	3.0000e-005	4.5000e-003	2.0000e-005	4.5200e-003	1.2000e-003	2.0000e-005	1.2100e-003	0.0000	3.3111	3.3111	8.0000e-005	8.0000e-005	3.3369
Total	**1.3100e-003**	**7.5000e-004**	**0.0106**	**3.0000e-005**	**4.5000e-003**	**2.0000e-005**	**4.5200e-003**	**1.2000e-003**	**2.0000e-005**	**1.2100e-003**	**0.0000**	**3.3111**	**3.3111**	**8.0000e-005**	**8.0000e-005**	**3.3369**

3.7 Architectural Coating - 2027

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	0.0394					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	4.3000e-004	2.8600e-003	4.5200e-003	1.0000e-005		1.3000e-004	1.3000e-004		1.3000e-004	1.3000e-004	0.0000	0.6383	0.6383	3.0000e-005	0.0000	0.6392
Total	**0.0399**	**2.8600e-003**	**4.5200e-003**	**1.0000e-005**		**1.3000e-004**	**1.3000e-004**		**1.3000e-004**	**1.3000e-004**	**0.0000**	**0.6383**	**0.6383**	**3.0000e-005**	**0.0000**	**0.6392**

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

3.7 Architectural Coating - 2027

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	2.0000e-005	1.0000e-005	1.4000e-004	0.0000	6.0000e-005	0.0000	6.0000e-005	2.0000e-005	0.0000	2.0000e-005	0.0000	0.0442	0.0442	0.0000	0.0000	0.0445
Total	**2.0000e-005**	**1.0000e-005**	**1.4000e-004**	**0.0000**	**6.0000e-005**	**0.0000**	**6.0000e-005**	**2.0000e-005**	**0.0000**	**2.0000e-005**	**0.0000**	**0.0442**	**0.0442**	**0.0000**	**0.0000**	**0.0445**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	0.0394					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	4.3000e-004	2.8600e-003	4.5200e-003	1.0000e-005		1.3000e-004	1.3000e-004		1.3000e-004	1.3000e-004	0.0000	0.6383	0.6383	3.0000e-005	0.0000	0.6392
Total	**0.0399**	**2.8600e-003**	**4.5200e-003**	**1.0000e-005**		**1.3000e-004**	**1.3000e-004**		**1.3000e-004**	**1.3000e-004**	**0.0000**	**0.6383**	**0.6383**	**3.0000e-005**	**0.0000**	**0.6392**

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

3.7 Architectural Coating - 2027

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	2.0000e-005	1.0000e-005	1.4000e-004	0.0000	6.0000e-005	0.0000	6.0000e-005	2.0000e-005	0.0000	2.0000e-005	0.0000	0.0442	0.0442	0.0000	0.0000	0.0445
Total	**2.0000e-005**	**1.0000e-005**	**1.4000e-004**	**0.0000**	**6.0000e-005**	**0.0000**	**6.0000e-005**	**2.0000e-005**	**0.0000**	**2.0000e-005**	**0.0000**	**0.0442**	**0.0442**	**0.0000**	**0.0000**	**0.0445**

3.7 Architectural Coating - 2028

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	0.5519					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	5.9800e-003	0.0401	0.0633	1.0000e-004		1.8000e-003	1.8000e-003		1.8000e-003	1.8000e-003	0.0000	8.9364	8.9364	4.9000e-004	0.0000	8.9486
Total	**0.5579**	**0.0401**	**0.0633**	**1.0000e-004**		**1.8000e-003**	**1.8000e-003**		**1.8000e-003**	**1.8000e-003**	**0.0000**	**8.9364**	**8.9364**	**4.9000e-004**	**0.0000**	**8.9486**

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

3.7 Architectural Coating - 2028

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	2.3000e-004	1.3000e-004	1.8800e-003	1.0000e-005	8.4000e-004	0.0000	8.4000e-004	2.2000e-004	0.0000	2.3000e-004	0.0000	0.6057	0.6057	1.0000e-005	1.0000e-005	0.6103
Total	**2.3000e-004**	**1.3000e-004**	**1.8800e-003**	**1.0000e-005**	**8.4000e-004**	**0.0000**	**8.4000e-004**	**2.2000e-004**	**0.0000**	**2.3000e-004**	**0.0000**	**0.6057**	**0.6057**	**1.0000e-005**	**1.0000e-005**	**0.6103**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	0.5519					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	5.9800e-003	0.0401	0.0633	1.0000e-004		1.8000e-003	1.8000e-003		1.8000e-003	1.8000e-003	0.0000	8.9364	8.9364	4.9000e-004	0.0000	8.9486
Total	**0.5579**	**0.0401**	**0.0633**	**1.0000e-004**		**1.8000e-003**	**1.8000e-003**		**1.8000e-003**	**1.8000e-003**	**0.0000**	**8.9364**	**8.9364**	**4.9000e-004**	**0.0000**	**8.9486**

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

3.7 Architectural Coating - 2028

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	2.3000e-004	1.3000e-004	1.8800e-003	1.0000e-005	8.4000e-004	0.0000	8.4000e-004	2.2000e-004	0.0000	2.3000e-004	0.0000	0.6057	0.6057	1.0000e-005	1.0000e-005	0.6103
Total	**2.3000e-004**	**1.3000e-004**	**1.8800e-003**	**1.0000e-005**	**8.4000e-004**	**0.0000**	**8.4000e-004**	**2.2000e-004**	**0.0000**	**2.3000e-004**	**0.0000**	**0.6057**	**0.6057**	**1.0000e-005**	**1.0000e-005**	**0.6103**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

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

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	0.1651	0.2951	1.5557	3.7100e-003	0.3550	3.3200e-003	0.3583	0.0950	3.1200e-003	0.0981	0.0000	348.1513	348.1513	0.0182	0.0194	354.3968
Unmitigated	0.1651	0.2951	1.5557	3.7100e-003	0.3550	3.3200e-003	0.3583	0.0950	3.1200e-003	0.0981	0.0000	348.1513	348.1513	0.0182	0.0194	354.3968

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Single Family Housing	226.56	228.96	205.20	648,680	648,680
Single Family Housing	103.84	104.94	94.05	297,312	297,312
Total	330.40	333.90	299.25	945,992	945,992

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
Single Family Housing	10.80	7.30	7.50	45.60	19.00	35.40	86	11	3
Single Family Housing	10.80	7.30	7.50	45.60	19.00	35.40	86	11	3

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Single Family Housing	0.511221	0.052103	0.170611	0.160645	0.028932	0.007649	0.013284	0.025916	0.000654	0.000315	0.023645	0.001472	0.003552

5.0 Energy Detail

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

Historical Energy Use: N

5.1 Mitigation Measures Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Electricity Mitigated						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
NaturalGas Mitigated	4.4800e-003	0.0383	0.0163	2.4000e-004		3.1000e-003	3.1000e-003		3.1000e-003	3.1000e-003	0.0000	44.3830	44.3830	8.5000e-004	8.1000e-004	44.6467
NaturalGas Unmitigated	4.4800e-003	0.0383	0.0163	2.4000e-004		3.1000e-003	3.1000e-003		3.1000e-003	3.1000e-003	0.0000	44.3830	44.3830	8.5000e-004	8.1000e-004	44.6467

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					
Single Family Housing	261393	1.4100e-003	0.0120	5.1300e-003	8.0000e-005		9.7000e-004	9.7000e-004		9.7000e-004	9.7000e-004	0.0000	13.9489	13.9489	2.7000e-004	2.6000e-004	14.0318
Single Family Housing	570312	3.0800e-003	0.0263	0.0112	1.7000e-004		2.1200e-003	2.1200e-003		2.1200e-003	2.1200e-003	0.0000	30.4341	30.4341	5.8000e-004	5.6000e-004	30.6149
Total		**4.4900e-003**	**0.0383**	**0.0163**	**2.5000e-004**		**3.0900e-003**	**3.0900e-003**		**3.0900e-003**	**3.0900e-003**	**0.0000**	**44.3830**	**44.3830**	**8.5000e-004**	**8.2000e-004**	**44.6467**

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					
Single Family Housing	261393	1.4100e-003	0.0120	5.1300e-003	8.0000e-005		9.7000e-004	9.7000e-004		9.7000e-004	9.7000e-004	0.0000	13.9489	13.9489	2.7000e-004	2.6000e-004	14.0318
Single Family Housing	570312	3.0800e-003	0.0263	0.0112	1.7000e-004		2.1200e-003	2.1200e-003		2.1200e-003	2.1200e-003	0.0000	30.4341	30.4341	5.8000e-004	5.6000e-004	30.6149
Total		**4.4900e-003**	**0.0383**	**0.0163**	**2.5000e-004**		**3.0900e-003**	**3.0900e-003**		**3.0900e-003**	**3.0900e-003**	**0.0000**	**44.3830**	**44.3830**	**8.5000e-004**	**8.2000e-004**	**44.6467**

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			
Single Family Housing	190535	0.0000	0.0000	0.0000	0.0000
Single Family Housing	87328.5	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Single Family Housing	190535	0.0000	0.0000	0.0000	0.0000
Single Family Housing	87328.5	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

6.0 Area Detail

St Johns Malli TSM Residential Project - San Joaquin Valley Unified APCD Air District, Annual

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

6.1 Mitigation Measures Area

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	4.6339	0.0782	5.0337	7.7200e-003		0.6560	0.6560		0.6560	0.6560	58.1575	30.7490	88.9065	9.9000e-004	5.6900e-003	90.6261
Unmitigated	4.6339	0.0782	5.0337	7.7200e-003		0.6560	0.6560		0.6560	0.6560	58.1575	30.7490	88.9065	9.9000e-004	5.6900e-003	90.6261

St Johns Malli TSM Residential Project - San Joaquin Valley Unified APCD Air District, Annual

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

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.0591					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.2461					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Hearth	4.3209	0.0752	4.7740	7.7100e-003		0.6545	0.6545		0.6545	0.6545	58.1575	30.3245	88.4820	5.8000e-004	5.6900e-003	90.1914
Landscaping	7.8100e-003	2.9900e-003	0.2598	1.0000e-005		1.4400e-003	1.4400e-003		1.4400e-003	1.4400e-003	0.0000	0.4245	0.4245	4.1000e-004	0.0000	0.4347
Total	**4.6339**	**0.0782**	**5.0337**	**7.7200e-003**		**0.6560**	**0.6560**		**0.6560**	**0.6560**	**58.1575**	**30.7490**	**88.9065**	**9.9000e-004**	**5.6900e-003**	**90.6261**

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

6.2 Area by SubCategory

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.0591					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.2461					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Hearth	4.3209	0.0752	4.7740	7.7100e-003		0.6545	0.6545		0.6545	0.6545	58.1575	30.3245	88.4820	5.8000e-004	5.6900e-003	90.1914
Landscaping	7.8100e-003	2.9900e-003	0.2598	1.0000e-005		1.4400e-003	1.4400e-003		1.4400e-003	1.4400e-003	0.0000	0.4245	0.4245	4.1000e-004	0.0000	0.4347
Total	**4.6339**	**0.0782**	**5.0337**	**7.7200e-003**		**0.6560**	**0.6560**		**0.6560**	**0.6560**	**58.1575**	**30.7490**	**88.9065**	**9.9000e-004**	**5.6900e-003**	**90.6261**

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	0.7235	0.0743	1.7500e-003	3.1040
Unmitigated	0.7235	0.0743	1.7500e-003	3.1040

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Single Family Housing	2.28039 / 1.43764	0.7235	0.0743	1.7500e-003	3.1040
Total		**0.7235**	**0.0743**	**1.7500e-003**	**3.1040**

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			
Single Family Housing	2.28039 / 1.43764	0.7235	0.0743	1.7500e-003	3.1040
Total		**0.7235**	**0.0743**	**1.7500e-003**	**3.1040**

8.0 Waste Detail

8.1 Mitigation Measures Waste

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	8.4769	0.5010	0.0000	21.0012
Unmitigated	8.4769	0.5010	0.0000	21.0012

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			
Single Family Housing	41.76	8.4769	0.5010	0.0000	21.0012
Total		**8.4769**	**0.5010**	**0.0000**	**21.0012**

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Single Family Housing	41.76	8.4769	0.5010	0.0000	21.0012
Total		**8.4769**	**0.5010**	**0.0000**	**21.0012**

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 "C"

Biological Resource Evaluation

BIOLOGICAL RESOURCE EVALUATION

July 2022

VISALIA RANCH RESIDENTIAL DEVELOPMENT PROJECT
TULARE COUNTY, CALIFORNIA

PREPARED FOR:
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Executive Summary

The project applicant proposes to construct 35 residential units in Visalia, Tulare County, California. The proposed residential development project (Project) will involve construction on an approximately 70-acre parcel that currently supports an orchard and a fallowed row crop field.

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

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

We concluded that no special-status wildlife species could occur on or near the Project site. Nesting migratory birds could be impacted by the Project, but any impacts can be reduced to less-than-significant levels with mitigation.

Abbreviations

Abbreviation	Definition
CCR	California Code of Regulations
CDFW	California Department of Fish and Wildlife
CESA	California Endangered Species Act
CEQA	California Environmental Quality Act
CFGC	California Fish and Game Code
CFR	Code of Federal Regulations
CNDDB	California Natural Diversity Database
CNPS	California Native Plant Society
FCE	Federal Candidate Endangered
FE	Federally listed as Endangered
FESA	Federal Endangered Species Act
FP	State listed as Fully Protected
FT	Federally listed as Threatened
MBTA	Migratory Bird Treaty Act
NRCS	Natural Resources Conservation Science
SE	State listed as Endangered
SSSC	State Species of Special Concern
ST	State listed as Threatened
SWRCB	State Water Resources Control Board
USACE	United States Army Corps of Engineers
USC	United States Code
USFWS	United States Fish and Wildlife Service
USGS	United States Geological Survey

1.0 Introduction

1.1 Background

The project applicant proposes to construct a residential development project (the Project) on an approximately 70-acre parcel in Visalia, Tulare County, California. The property currently supports an orchard and a fallowed row crop field.

The purpose of this biological resource evaluation is to assess whether the Project will affect protected biological resources pursuant to California Environmental Quality Act (CEQA) guidelines. Such resources include species of plants or animals listed or proposed for listing under the Federal Endangered Species Act (FESA) or the California Endangered Species Act (CESA) as well as those covered under the Migratory Bird Treaty Act (MBTA), the California Native Plant Protection Act, and various other sections of California Fish and Game Code (CFGC). This biological resource evaluation also addresses Project-related impacts to regulated habitats, which are those under the jurisdiction of the United States Army Corps of Engineers (USACE), State Water Resources Control Board (SWRCB), or California Department of Fish and Wildlife (CDFW).

1.2 Project Description

The Project will involve constructing 35 residential units.

1.3 Project Location

The approximately 70-acre Project site borders the City of Visalia in Tulare County, California (Figure 1). The Project site is southwest of the intersection of Road 132 and Karolina Drive (Figure 2).

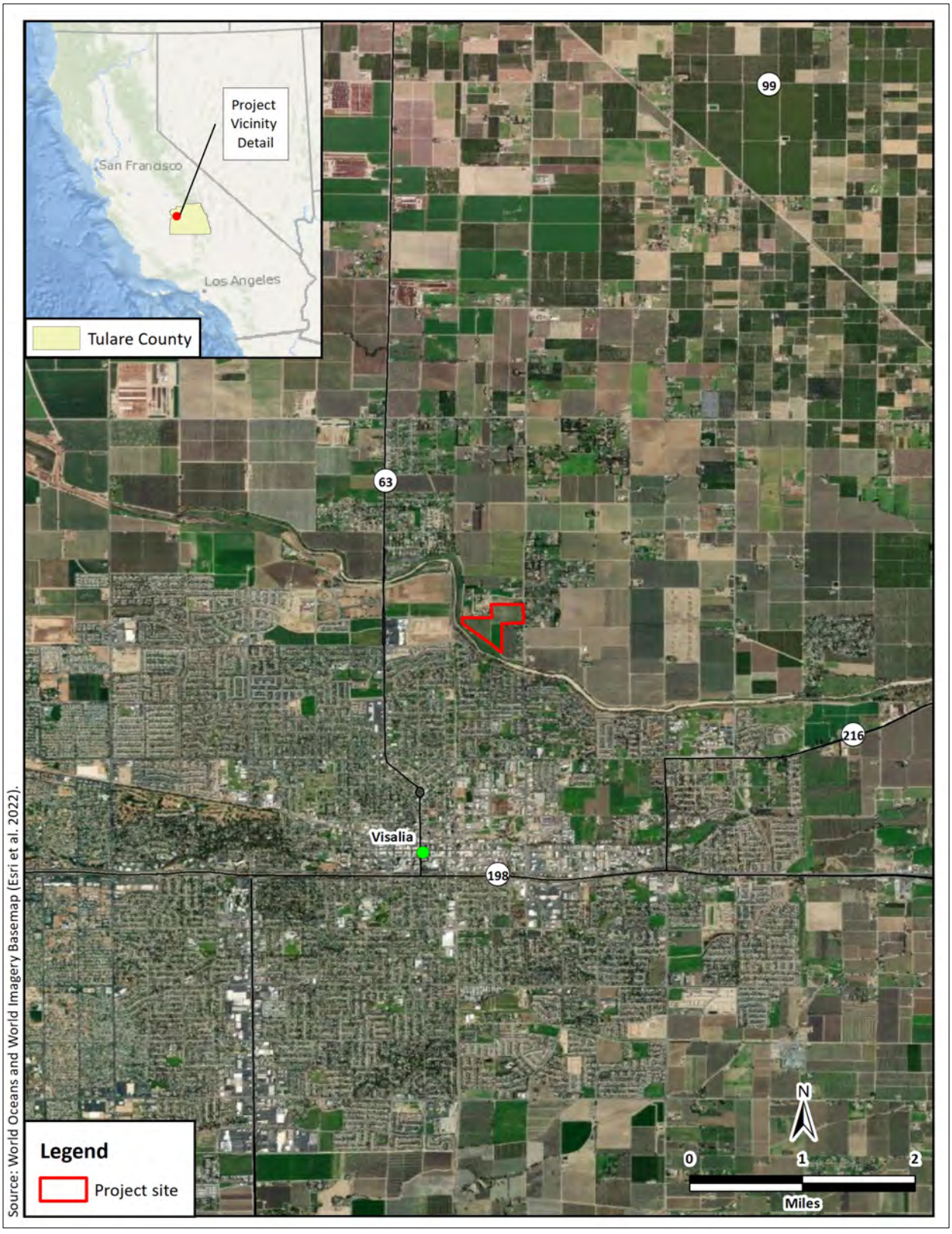

Figure 1. Project site vicinity map.

Figure 2. Project site map.

1.4 Purpose and Need of Proposed Project

The purpose of the Project is to develop residential units. The Project is needed to meet growing demands for housing in Visalia and Tulare County.

1.5 Regulatory Framework

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

1.5.1 State Requirements

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

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

California Environmental Quality Act. The California Environmental Quality Act (CEQA) of 1970 (Subsections 21000–21178) requires that CDFW be consulted during the CEQA review process regarding impacts of proposed projects on special-status species. Special-status species are

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

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

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

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

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

Waste Discharge Requirement permit for projects that will affect only federally non-jurisdictional waters of the State.

1.5.2 Federal Requirements

Federal Endangered Species Act. The United States Fish and Wildlife Service (USFWS) and the National Oceanographic and Atmospheric Association and National Marine Fisheries Service enforce the provisions stipulated in the FESA of 1973 (FESA, 16 United States Code [USC] § 1531 et seq.). Threatened and endangered species on the federal list (50 Code of Federal Regulations [CFR] 17.11 and 17.12) are protected from take unless a Section 10 permit is granted to an entity other than a federal agency or a Biological Opinion with incidental take provisions is rendered to a federal lead agency via a Section 7 consultation. Take is defined as harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect or attempt to engage in any such conduct. Pursuant to the requirements of the FESA, an agency reviewing a proposed action within its jurisdiction must determine whether any federally listed species may be present in the proposed action area and determine whether the proposed action may affect such species. Under the FESA, habitat loss is considered an effect to a species. In addition, the agency is required to determine whether the proposed action is likely to jeopardize the continued existence of any species that is listed or proposed for listing under the FESA (16 USC § 1536[3], [4]). Therefore, proposed action-related effects to these species or their habitats would be considered significant and would require mitigation.

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

United States Army Corps of Engineers Jurisdiction. Areas meeting the regulatory definition of "waters of the United States" (jurisdictional waters) are subject to the jurisdiction of the USACE under provisions of Section 404 of the Clean Water Act (1972) and Section 10 of the Rivers and Harbors Act (1899). These waters may include all waters used, or potentially used, for interstate commerce, including all waters subject to the ebb and flow of the tide, all interstate waters, all other waters (intrastate lakes, rivers, streams, mudflats, sandflats, playa lakes, natural ponds, etc.), all impoundments of waters otherwise defined as waters of the United States, tributaries of waters otherwise defined as waters of the United States, the territorial seas, and wetlands

adjacent to waters of the United States (33 CFR part 328.3). Wetlands on non-agricultural lands are identified using the *Corps of Engineers Wetlands Delineation Manual* and related Regional Supplement (USACE 1987 and 2008). Construction activities, including direct removal, filling, hydrologic disruption, or other means in jurisdictional waters are regulated by the USACE. The placement of dredged or fill material into such waters must comply with permit requirements of the USACE. No USACE permit will be effective in the absence of state water quality certification pursuant to Section 401 of the Clean Water Act. The SWRCB is the state agency (together with the Regional Water Quality Control Boards) charged with implementing water quality certification in California.

2.0 Methods

2.1 Desktop Review

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

2.2 Reconnaissance Survey

Colibri Senior Scientist Joshua Reece conducted a field reconnaissance survey of the Project site on 15 July 2022. The Project site and a 50-foot buffer surrounding the Project site (Figure 3) were walked and thoroughly inspected to evaluate and document the potential for the area to support state- or federally protected resources. All plants except those under cultivation or planted in residential areas and all vertebrate wildlife species observed within the survey area were identified and documented. The survey area was evaluated for the presence of regulated habitats, including lakes, streams, and other waters using methods described in the *Wetlands Delineation Manual* and regional supplement (USACE 1987, 2008) and as defined by the CDFW (https://www.wildlife.ca.gov/conservation/lsa) or under the Porter-Cologne Water Quality Control Act.

2.3 Significance Criteria

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

a) Substantially reduce the habitat of a fish or wildlife species,

b) Cause a fish or wildlife population to drop below self-sustaining levels,

c) Threaten to eliminate a plant or animal community, or

d) Substantially reduce the number or restrict the range of a rare or endangered plant or animal.

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

e) Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special-status species in local or regional plans, policies, or regulations, or by the CDFW or USFWS;

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

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

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

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

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

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

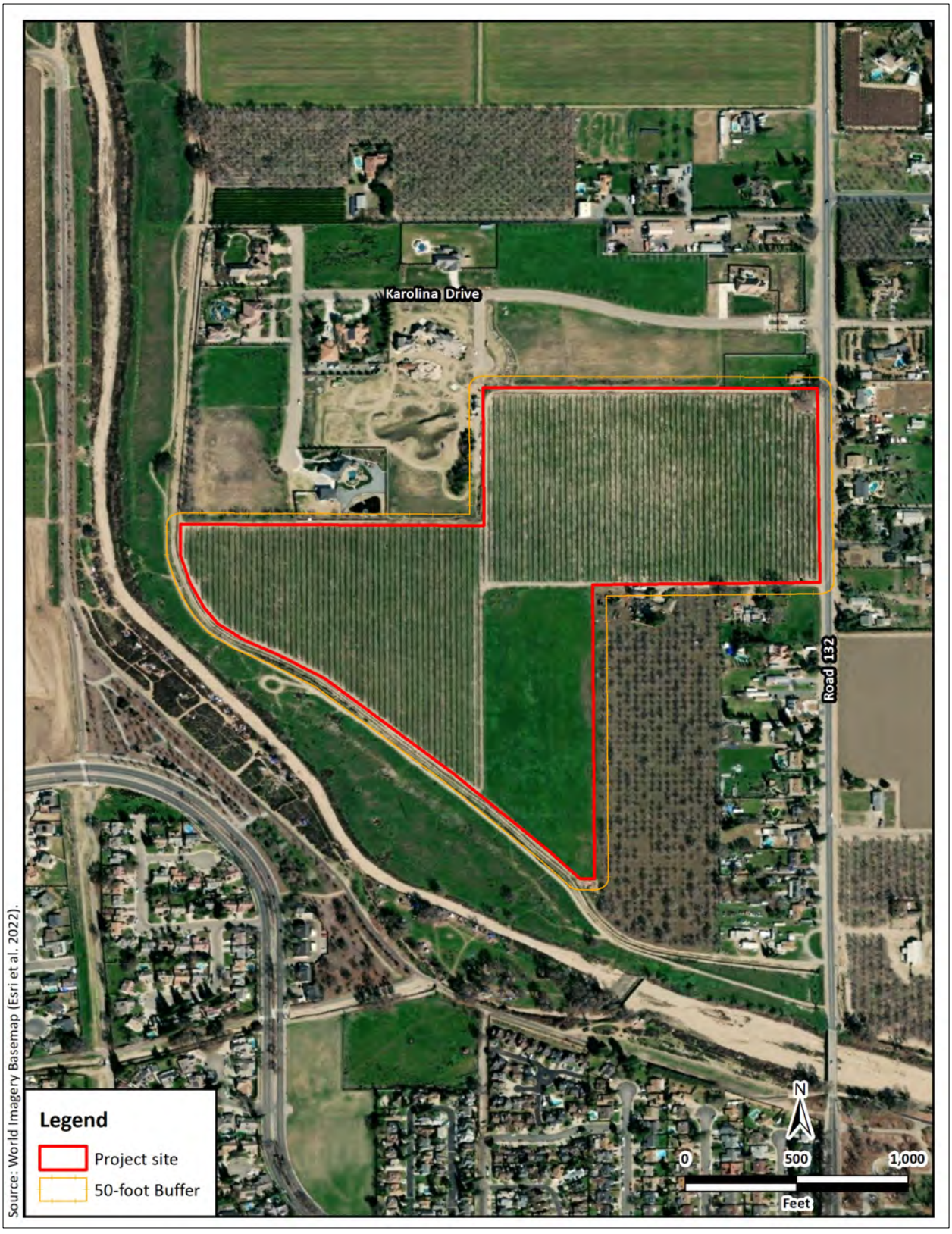

Figure 3. Reconnaissance survey area map.

3.0 Results

3.1 Desktop Review

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

Searching the CNDDB for records of special-status species from the Visalia 7.5-minute USGS topographic quadrangle and the eight surrounding quads produced 210 records of 41 species (Table 1, Appendix B). Of those 41 species, five are not given further consideration because they are not CEQA-recognized as special-status species or are considered extirpated in California (Appendix B). Of the remaining 36 species, 10 are known from within 5 miles of the Project site (Table 1, Figure 4). Of those species, none could occur on or near the Project site due to either (1) the lack of habitat, (2) the Project site being outside the current range of the species, or (3) the presence of development that would otherwise preclude occurrence (Table 1).

Searching the CNPS inventory of rare and endangered plants of California yielded 18 species (CNPS 2022, Appendix C), one of which has a rank of 2B, and 17 of which have a rank of 1B (Table 1). None of those species are expected to occur on or near the Project site due to either (1) the lack of habitat, (2) the Project site being outside the current range of the species, or (3) the presence of development that would otherwise preclude occurrence (Table 1).

The Project site is underlain by Grangeville sandy loam with 0 to 2% slopes (NCRS 2022). The Project site is at an elevation of 335–340 feet above mean sea level (Google 2022).

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

Species	Status[1]	Habitat	Potential to Occur[2]
Federally and State-Listed Endangered or Threatened Species			
California jewelflower (*Caulanthus californicus*)	FE, SE, 1B.1	Chenopod scrub, pinyon and juniper woodland, and valley and foothill grassland at 150–3300 feet elevation.	**None.** Habitat lacking; the Project site consisted of agricultural land cover.
Hoover's spurge[3] (*Euphorbia spurge*)	FT, 1B.2	Vernal pools and depressions.	**None.** Habitat lacking; the Project site lacked vernal pools.
San Joaquin adobe sunburst (*Pseudobahia peirsonii*)	FT, SE, 1B.1	Grassland with bare dark clay.	**None.** Habitat lacking; the Project site consisted of agricultural land cover and lacked clay soils.
San Joaquin Valley Orcutt grass (*Orcuttia inaequalis*)	FT, SE, 1B.1	Vernal pools at or below 2700 feet elevation.	**None.** Habitat lacking; the Project site lacked vernal pools.
Monarch California overwintering population (*Danaus plexippus*)	FCE	Groves of trees within 1.5 miles of the ocean that produce suitable micro-climates for overwintering such as high humidity, dappled sunlight, access to water and nectar, and protection from wind.	**None.** Habitat lacking; the Project site is not within 1.5 miles of the ocean.
Valley elderberry longhorn beetle (*Desmocerus californicus dimorphus*)	FT	Elderberry (*Sambucus* sp.) plants with stems > 1-inch diameter at ground level.	**None.** The Project site is outside of the currently recognized range of this species.
Vernal pool fairy shrimp (*Branchinecta lynchi*)	FT	Vernal pools and ponds.	**None.** Habitat lacking; the Project site lacked vernal pools or ponds.

Vernal pool tadpole shrimp (*Lepidurus packardi*)	FE	Vernal pools, clay flats, alkaline pools, and ephemeral stock tanks.	**None.** Habitat lacking; the Project site is outside the current known range of this species.
Delta smelt (*Hypomesus transpacificus*)	FT, SE	Shallow, fresh, or slightly brackish backwater sloughs and edgewaters.	**None.** Habitat lacking; the Project site lacked connectivity to the aquatic habitat this species requires.
Blunt-nosed leopard lizard (*Gambelia sila*)	FE, SE, FP	Upland scrub and sparsely vegetated grassland with small mammal burrows below 2400 feet elevation.	**None.** Habitat lacking; the Project site is outside the current known range of this species.
California tiger salamander (*Ambystoma californiense*)	FT, ST	Vernal pools or seasonal ponds for breeding; small mammal burrows for upland refugia in natural grasslands.	**None.** Habitat lacking; the Project site is outside the current known range of this species.
Giant garter snake (*Thamnophis gigas*)	FT, ST	Marshes, sloughs, drainage canals, irrigation ditches, and slow-moving creeks.	**None.** The Project site is outside the current known range of this species.
Swainson's hawk (*Buteo swainsoni*)	ST	Large trees for nesting with adjacent grasslands, alfalfa fields, or grain fields for foraging.	**None.** Habitat lacking; the Project site consisted primarily of orchards and was surrounded by development and additional orchards.
Tricolored blackbird (*Agelaius tricolor*)	ST, SSSC	Large freshwater marshes, in dense stands of cattails or bulrushes and silage fields near dairies.	**None.** Habitat lacking; the Project site lacked freshwater marshes or silage fields.
Western yellow-billed cuckoo[3] (*Coccyzus americanus occidentalis*)	FT, SE	Open woodlands with dense, low vegetation along waterways, orchards, and dense leafy groves and thickets.	**None.** The Project site is outside the current known range of this species.

San Joaquin kit fox[3] (*Vulpes macrotis mutica*)	FE, ST	Grassland and fallowed agricultural lands adjacent to natural grasslands or upland scrub.	**None.** Habitat lacking; the Project site contained a fallowed agricultural field, but all occurrences of this species from within 5 miles are from 1975-1988, and dense urban development surrounds the Project site with no adjacency to natural areas.
Tipton kangaroo rat (*Dipodomys nitratoides nitratoides*)	FE, SE	Grassland and upland scrub with sparse to moderate shrub cover and saline soils; also fallowed agricultural fields adjacent to natural grasslands or upland scrub.	**None.** Habitat lacking; the Project site is outside the current known range of this species.
State Species of Special Concern			
Northern leopard frog (*Lithobates pipiens*)	SSSC	Wet meadows, canals, bogs, marshes, and reservoirs in grassland, forest, and woodland.	**None.** Habitat lacking; the Project site is outside the current known local range of this species.
Northern California legless lizard[3] (*Anniella pulchra*)	SSSC	Moist, warm, loose soil with plant cover in beach dunes, chaparral, pine-oak woodlands, sandy areas, and stream terraces.	**None.** Habitat lacking; the Project site consisted of agricultural land cover.
Northwestern pond turtle[3] (*Actinemys marmorata*)	SSSC	Ponds, rivers, marshes, streams, and irrigation ditches, usually with aquatic vegetation and woody debris for basking and adjacent natural upland areas for egg laying.	**None.** Habitat lacking; the irrigation canal within the survey area lacked aquatic vegetation and woody debris or adjacent natural uplands.

Western spadefoot (*Spea hammondii*)	SSSC	Rain pools for breeding and small mammal burrows or other suitable refugia for nonbreeding upland cover.	**None.** Habitat lacking; vernal pools or other ephemeral pools were absent from the Project site; no records from within 5 miles of the Project site.
Burrowing owl (*Athene cunicularia*)	SSSC	Grassland and upland scrub with friable soil; agricultural or other developed and disturbed areas with ground squirrel burrows.	**None.** Habitat lacking; the Project site contained agricultural fields but lacked ground squirrel burrows; no records from within 5 miles of the Project site.
Loggerhead shrike (*Lanius ludovicianus*)	SSSC	Open areas with short vegetation and well-spaced shrubs or low trees for nesting.	**None.** Habitat lacking; the Project site consisted of agricultural land cover.
American badger (*Taxidea taxus*)	SSSC	Open areas including meadows, grasslands, and chaparral with less than 50% plant cover.	**None.** Habitat lacking; the Project site consisted of agricultural land cover.
Pallid bat[3] (*Antrozous pallidus*)	SSSC	Arid or semi-arid locations in rocky areas and sparsely vegetated grassland near water. Rock crevices, caves, mine shafts, bridges, building, and tree hollows for roosting.	**None.** Habitat lacking; the Project site consisted of agricultural land cover.
Western mastiff bat[3] (*Eumops perotis californicus*)	SSSC	Roosts in crevices in face cliffs, tall buildings, trees, and tunnels in open semi-arid habitats.	**None.** Habitat lacking; the Project site consisted of agricultural land cover.
California Rare Plants			

Alkali-sink goldfields (*Lasthenia chrysantha*)	1B.1	Vernal pools and wet saline flats below 320 feet elevation.	**None.** Habitat lacking; the Project site is above the known elevational range of this species.
Brittlescale[3] (*Atriplex depressa*)	1B.2	Alkaline or clay soils in chenopod scrub, meadows and seeps, playas, valley and foothill grassland, and vernal pools below 1000 feet elevation.	**None.** Habitat lacking; the Project site consisted of agricultural land cover and lacked alkaline or clay soils.
California alkali grass[3] (*Puccinellia simplex*)	1B.2	Scrub, meadows, seeps, grassland, vernal pools with saline soils, saline flats, and mineral springs below 3000 feet elevation.	**None.** Habitat lacking; the Project site consisted of agricultural land cover.
California satintail[3] (*Imperata brevifolia*)	2B.1	Mesic areas in chaparral or riparian scrub below 3985 feet elevation.	**None.** Habitat lacking; the Project site lacked chaparral or riparian scrub. Nearest record is of a vague 1895 CNDDB occurrence in what is currently the City of Visalia.
Coulter's goldfields (*Lasthenia glabrata* ssp. *coulteri*)	1B.1	Saltmarsh, playas, and vernal pools below 4000 feet elevation.	**None.** Habitat lacking; the Project site lacked saltmarsh, playas, and vernal pools.
Earlimart orache (*Atriplex cordulata* var. *erecticaulis*)	1B.2	Saline or alkaline soils in Central Valley and foothill grassland below 230 feet elevation.	**None.** Habitat lacking; the Project site is above the known elevational range of this species.
Heartscale (*Atriplex cordulata* var. *cordulata*)	1B.2	Saline or alkaline soils in Central Valley and foothill grasslands and wetlands below 230 feet elevation.	**None.** Habitat lacking; the Project site is above the known elevational range of this species.
Lesser saltscale (*Atriplex minuscula*)	1B.1	Sandy alkaline soils in chenopod scrub,	**None.** Habitat lacking; the Project site lacked

California Historical Resources Information System

Fresno
Kern
Kings
Madera
Tulare

Southern San Joaquin Valley Information Center
California State University, Bakersfield
Mail Stop: 72 DOB
9001 Stockdale Highway
Bakersfield, California 93311-1022
(661) 654-2289
E-mail: ssjvic@csub.edu
Website: www.csub.edu/ssjvic

To: Emily Bowen
Crawford & Bowen Planning, Inc.
113 N. Church Street, Suite 302
Visalia, CA 93291

Record Search 22-293

Date: August 1, 2022

Re: St. Johns Malli TSM Project

County: Tulare

Map(s): Visalia 7.5'

CULTURAL RESOURCES RECORDS SEARCH

The California Office of Historic Preservation (OHP) contracts with the California Historical Resources Information System's (CHRIS) regional Information Centers (ICs) to maintain information in the CHRIS inventory and make it available to local, state, and federal agencies, cultural resource professionals, Native American tribes, researchers, and the public. Recommendations made by IC coordinators or their staff regarding the interpretation and application of this information are advisory only. Such recommendations do not necessarily represent the evaluation or opinion of the State Historic Preservation Officer in carrying out the OHP's regulatory authority under federal and state law.

The following are the results of a search of the cultural resource files at the Southern San Joaquin Valley Information Center. These files include known and recorded cultural resources sites, inventory and excavation reports filed with this office, and resources listed on the National Register of Historic Places, the OHP Built Environment Resources Directory, California State Historical Landmarks, California Register of Historical Resources, California Inventory of Historic Resources, and California Points of Historical Interest. Due to processing delays and other factors, not all of the historical resource reports and resource records that have been submitted to the OHP are available via this records search. Additional information may be available through the federal, state, and local agencies that produced or paid for historical resource management work in the search area.

PRIOR CULTURAL RESOURCE STUDIES CONDUCTED WITHIN THE PROJECT AREA AND THE ONE-HALF MILE RADIUS

According to the information in our files, there has been one previous cultural resource study conducted within the project area: TU-00624. This report was completed approximately 50 years prior and should be considered out of date. There have been two additional cultural resource studies conducted within the one-half mile radius: TU-00535, 01499.

Record Search 22-293

KNOWN/RECORDED CULTURAL RESOURCES WITHIN THE PROJECT AREA AND THE ONE-HALF MILE RADIUS

According to the information in our files, there are no recorded resource within the project area. There is one known resource within the one-half mile radius: P-54-004632. This resource is known as the Santa Fe Railroad.

There are no recorded cultural resources within the project area or radius that are listed in the National Register of Historic Places, the California Register of Historical Resources, the California Points of Historical Interest, California Inventory of Historic Resources, for the California State Historic Landmarks.

COMMENTS AND RECOMMENDATIONS

We understand the proposed project consists of subdividing 67.59 acres into 35 residential parcels ranging in size from 1 - 2.5 acres. We also understand the project area is currently vacant with minimal vegetation. Because this parcel has gone un-developed, and due to changes in field methods and technology, the Information Center routinely recommends a new study when the previous one was conducted more than five years ago. As such, prior to ground disturbance activities, we recommend a qualified, professional consultant conduct a field survey to determine if cultural resources are present. Further, if any cultural resources are unearthed during any ground disturbance activities, all work must halt in the area of the find and a qualified, professional consultant should be called out to assess the findings and make the appropriate mitigation recommendations. A list of qualified consultants can be found at www.chrisinfo.org.

We also recommend that you contact the Native American Heritage Commission in Sacramento. They will provide you with a current list of Native American individuals/organizations that can assist you with information regarding cultural resources that may not be included in the CHRIS Inventory and that may be of concern to the Native groups in the area. The Commission can consult their "Sacred Lands Inventory" file to determine what sacred resources, if any, exist within this project area and the way in which these resources might be managed. Finally, please consult with the lead agency on this project to determine if any other cultural resource investigation is required. If you need any additional information or have any questions or concerns, please contact our office at (661) 654-2289.

By:

Jeremy E David, Assistant Coordinator **Date**: August 1, 2022

Please note that invoices for Information Center services will be sent under separate cover from the California State University, Bakersfield Accounting Office.

		playa, and grassland in the San Joaquin Valley below 328 feet elevation.	alkaline soils and is above the known elevational range of this species.
Recurved larkspur (*Delphinium recurvatum*)	1B.2	Poorly drained, fine, alkaline soils in chenopod scrub, cismontane woodland, and valley and foothill grassland at 10–2800 feet elevation.	**None.** Habitat lacking; the Project site consisted of agricultural land cover and lacks alkaline soils.
Sanford's arrowhead (*Sagittaria sanfordii*)	1B.2	Ponds, sloughs, and ditches at sea level to 650 feet elevation.	**None.** Potential habitat was present in the irrigation canal west of the Project site; however, this species was not detected during the survey, and there are no occurrence records from within 5 miles of the Project site.
Spiny-sepaled button-celery (*Eryngium spinosepalum*)	1B.2	Vernal pools and swales in valley and foothill grassland at 330–4200 feet elevation.	**None.** Habitat lacking; the Project site lacked vernal pools.
Subtle orache (*Atriplex subtilis*)	1B.2	Saline depressions below 230 feet elevation.	**None.** Habitat lacking; the Project site is above the known elevational range of this species.
Vernal pool smallscale (*Atriplex persistens*)	1B.2	Alkaline vernal pools in the Central Valley below 377 feet elevation.	**None.** Habitat lacking; the Project site lacked alkaline vernal pools.
Winter's sunflower (*Helianthus winteri*)	1B.2	Steep, south-facing grassy slopes, rock outcrops, and road cuts at 590–1509 feet elevation.	**None.** Habitat lacking; the Project site is below the known elevational range of this species.

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

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

CNPS California Rare Plant Rank[1]:	**Threat Ranks[1]:**
1B – plants rare, threatened, or endangered in California and elsewhere.	0.1 – seriously threatened in California (> 80% of occurrences).
2B – plants rare, threatened, or endangered in California but more common elsewhere.	0.2 – moderately threatened in California (20-80% of occurrences).

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

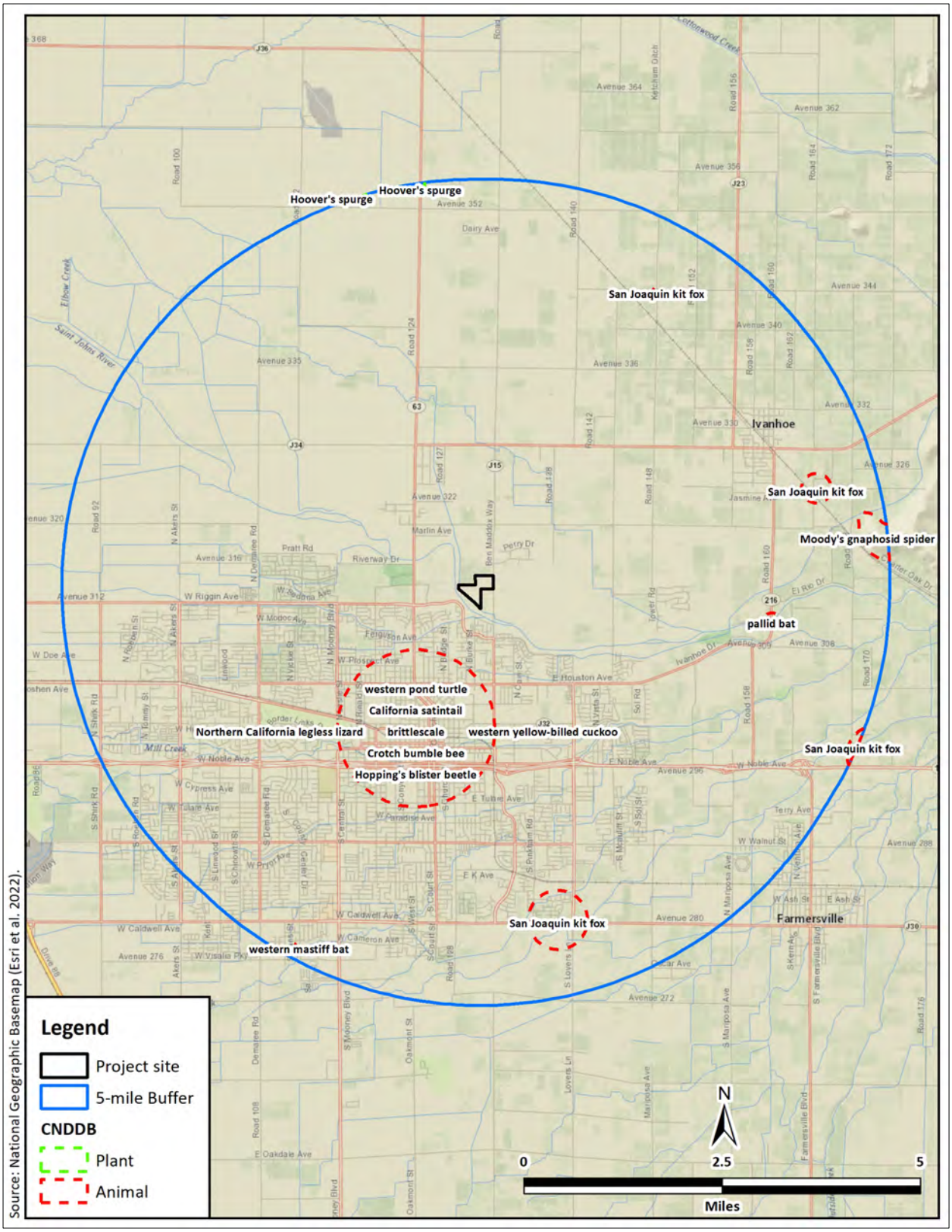

Figure 4. CNDDB occurrence map.

3.2 Reconnaissance Survey

3.2.1 Land Use and Habitats

The Project site consisted of agricultural land cover including approximately 10 acres of fallowed row crop fields (Figure 5) and approximately 60 acres of maintained almond orchard (Figure 6). The Project site supported row crops and orchards from at least 1994 to 2022 (Google 2022). The Project site is 250–350 feet north and east of the St. Johns River. Dense residential development was present to the south and west of the Project site, and low-density residential and agricultural fields were present to the north and east (Figures 2–3). An unnamed irrigation canal (Figure 7) bordered the Project site to the south and west. The irrigation canal is a distributary of the St. Johns River and contained water at the time of the survey.

Figure 5. Photograph of the Project site, looking north, showing the fallowed row crop field consisting of annual grasses bordered by almond orchards.

Figure 6. Photograph of the Project site, looking west, showing maintained almond orchards bordered by rural residential development.

Figure 7. Photograph of the Project site, looking northwest, showing the unnamed irrigation canal along the western and southern boundaries of the Project site.

3.2.2 Plant and Animal Species Observed

A total of 21 plant species (four native and 17 nonnative) and 10 bird species were observed during the survey (Table 2).

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

Common Name	Scientific Name	Status
Plants		
Family Adoxaceae		
Black elderberry	*Sambucus nigra*	Native
Family Amaranthaceae		
Prostrate pigweed	*Amaranthus blitoides*	Native
Family Asteraceae		
Canada horseweed	*Erigeron canadensis*	Native
Common sowthistle	*Sonchus oleraceus*	Nonnative
Milk thistle	*Silybum marianum*	Nonnative
Prickly lettuce	*Lactuca serriola*	Nonnative
Yellow star-thistle	*Centaurea solstitialis*	Nonnative
Family Arecaceae		
California fan palm	*Washintonia filifera*	Native
Common sow thistle	*Sonchus oleraceus*	Nonnative
Family Brassicaceae		
Black mustard	*Brassica nigra*	Nonnative
Family Chenopodiaceae		
Lamb's quarters	*Chenopodium album*	Nonnative
Prickly Russian thistle	*Salsola tragus*	Nonnative
Family Malvaceae		
Cheeseweed	*Malva parviflora*	Nonnative
Family Poaceae		
Johnsongrass	*Sorghum halepense*	Nonnative
Ripgut brome	*Bromus diandrus*	Nonnative
Wall barley	*Hordeum murinum*	Nonnative
Family Polygonaceae		
Curly dock	*Rumex crispus*	Nonnative
Family Portulacaceae		

Common purselane	*Portulaca oleracea*	Nonnative
Family Solanaceae		
Black nightshade	*Solanum nigrum*	Nonnative
Jimson weed	*Datura stramonium*	Nonnative
Family Zygophyllaceae		
Puncture vine	*Tribulus terrestris*	Nonnative
Birds		
Family Accipitridae		
Red-tailed hawk	*Buteo jamaicensis*	MBTA, CFGC
Family Charadriidae		
Killdeer	*Charadrius vociferus*	MBTA, CFGC
Family Columbidae		
Mourning dove	*Zenaida macroura*	MBTA, CFGC
Family Corvidae		
American crow	*Corvus brachyrhynchos*	MBTA, CFGC
California scrub-jay	*Aphelocoma californica*	MBTA, CFGC
Family Hirundinidae		
Barn swallow	*Hirundo rustica*	MBTA, CFGC
Family Mimidae		
Northern mockingbird	*Mimus polyglottos*	MBTA, CFGC
Family Sturnidae		
European starling	*Sturnus vulgaris*	--
Family Trochilidae		
Anna's hummingbird	*Calypte anna*	MBTA, CFGC
Family Tyrannidae		
Black phoebe	*Sayornis nigricans*	MBTA, CFGC

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

3.2.3 Nesting Birds

Migratory birds could nest on or near the Project site. Bird species that may nest on or near the property include, but are not limited to, mourning dove (*Zenaida macroura*) and California scrub-jay (*Aphelocoma californica*).

3.2.4 Regulated Habitats

An unnamed irrigation canal is within 50 feet of the western and southern boundaries of the Project site. As a stream in California, it is under the regulatory jurisdiction of the CDFW; as a

potential surface water in California, it may be under the regulatory jurisdiction of the SWRCB. No impacts to this feature are anticipated. If impacts to this feature are unavoidable, further delineation of its boundaries and consultation with the CDFW, SWRCB, and/or the USACE may be required.

4.0 Environmental Impacts

4.1 Significance Determinations

This Project, which will result in temporary and permanent impacts to agricultural land cover, will not: (1) substantially reduce the habitat of a fish or wildlife species (criterion a) as no such habitat is present on the Project site; (2) cause a fish or wildlife population to drop below self-sustaining levels (criterion b) as no such potentially vulnerable population is known from the area; (3) threaten to eliminate a plant or animal community (criterion c) as no such potentially vulnerable communities are known from the area; (4) substantially reduce the number or restrict the range of a rare or endangered plant or animal (criterion d) as no such potentially vulnerable species are known from the area; (5) have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special-status species in local or regional plans, policies, or regulations, or by the CDFW or USFWS (significance criterion e); (6) have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations, or by the CDFW or USFWS (criterion f) as no riparian habitat or other sensitive natural community was present in the survey area; (7) have a substantial adverse effect on state or federally protected wetlands (including, but not limited to marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means (criterion g) as no impacts to wetlands will occur; (8) conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance (criterion i) as no trees or biologically sensitive areas will be impacted; or (9) conflict with the provisions of an adopted Habitat Conservation Plan, Natural Communities Conservation Plan, or other approved local, regional, or state habitat conservation plan (criterion j) as no such plan has been adopted. Thus, these significance criteria are not analyzed further.

The remaining statutorily defined criterion provided the framework for Criterion BIO1 below. This criterion is used to assess the impacts to biological resources stemming from the Project and provide the basis for determinations of significance:

- Criterion BIO1: Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites (significance criterion h).

4.1.1 Direct and Indirect Impacts

4.1.1.1 Potential Impact: Interfere Substantially with Native Wildlife Movements, Corridors, or Nursery Sites (Criterion BIO1)

The Project could impede the use of nursery sites for native birds protected under the MBTA and CFGC. Migratory birds are expected to nest on and near the Project site. Construction disturbance during the breeding season could result in the incidental loss of

fertile eggs or nestlings or otherwise lead to nest abandonment. Disturbance that causes nest abandonment or loss of reproductive effort can be considered take under the MBTA and CFGC. Loss of fertile eggs or nesting birds, or any activities resulting in nest abandonment, could constitute a significant effect if the species is particularly rare in the region. Construction activities such as excavating, trenching, and grading that disturb a nesting bird on the Project site or immediately adjacent to the construction zone could constitute a significant impact. We recommend that Mitigation Measure BIO1 (below) be included in the conditions of approval to reduce the potential effect to a less-than-significant level.

Mitigation Measure BIO1. Protect nesting birds.

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

4.1.2 Cumulative Impacts

The Project will involve developing a 70-acre parcel that currently supports an orchard and a fallowed row crop field into a 35-unit residential development. Nesting habitat for migratory birds is present on the Project site. However, implementing Mitigation Measure BIO1 would reduce any contribution to cumulative impacts on biological resources to a less-than-significant level.

4.1.3 Unavoidable Significant Adverse Impacts

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

5.0 Literature Cited

California Department of Fish and Wildlife (CDFW). 2022. California Natural Diversity Database (CNDDB) RareFind 5. https://wildlife.ca.gov/Data/CNDDB/Maps-and-Data. Accessed 8 July 2022.

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_____. 2022b. National Wetlands Inventory website. U.S. Department of the Interior, Fish and Wildlife Service, Washington, D.C. http://www.fws.gov/wetlands/. Accessed 18 July 2022.

Appendix A. USFWS list of threatened and endangered species.

United States Department of the Interior

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

In Reply Refer To:
Project Code: 2022-0061759
Project Name: Visalia Ranch @ St Johns

July 08, 2022

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

To Whom It May Concern:

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

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

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

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

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

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

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

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

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

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

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

Attachment(s):

- Official Species List

Official Species List

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

This species list is provided by:

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

Project Summary

Project Code: 2022-0061759
Event Code: None
Project Name: Visalia Ranch @ St Johns
Project Type: New Constr - Above Ground
Project Description: The proposed project (Visalia Ranch @ St Johns) will involve constructing 35 single-family residential units on nearly 70 acres east of the St. Johns River and southwest of the intersection of Road 132 and Karolina Drive.

Project Location:

Approximate location of the project can be viewed in Google Maps: https://www.google.com/maps/@36.35858,-119.28406666448072,14z

Counties: Tulare County, California

Endangered Species Act Species

There is a total of 8 threatened, endangered, or candidate species on this species list.

Species on this list should be considered in an effects analysis for your project and could include species that exist in another geographic area. For example, certain fish may appear on the species list because a project could affect downstream species.

IPaC does not display listed species or critical habitats under the sole jurisdiction of NOAA Fisheries[1], as USFWS does not have the authority to speak on behalf of NOAA and the Department of Commerce.

See the "Critical habitats" section below for those critical habitats that lie wholly or partially within your project area under this office's jurisdiction. Please contact the designated FWS office if you have questions.

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1. NOAA Fisheries, also known as the National Marine Fisheries Service (NMFS), is an office of the National Oceanic and Atmospheric Administration within the Department of Commerce.

Mammals

NAME	STATUS
San Joaquin Kit Fox *Vulpes macrotis mutica* No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/2873	Endangered
Tipton Kangaroo Rat *Dipodomys nitratoides nitratoides* No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/7247	Endangered

Reptiles

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

Amphibians

NAME	STATUS
California Tiger Salamander *Ambystoma californiense* Population: U.S.A. (Central CA DPS) There is **final** critical habitat for this species. The location of the critical habitat is not available. Species profile: https://ecos.fws.gov/ecp/species/2076	Threatened

Fishes

NAME	STATUS
Delta Smelt *Hypomesus transpacificus* There is **final** critical habitat for this species. The location of the critical habitat is not available. Species profile: https://ecos.fws.gov/ecp/species/321	Threatened

Insects

NAME	STATUS
Monarch Butterfly *Danaus plexippus* No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/9743	Candidate

Crustaceans

NAME	STATUS
Vernal Pool Fairy Shrimp *Branchinecta lynchi* There is **final** critical habitat for this species. The location of the critical habitat is not available. Species profile: https://ecos.fws.gov/ecp/species/498	Threatened

Critical habitats

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

IPaC User Contact Information

Agency: Colibri Ecological
Name: Josh Reece
Address: 9493 N Ft Washington Rd Ste 108
City: Fresno
State: CA
Zip: 93730
Email jreece@colibri-ecology.com
Phone: 5595004458

Appendix B. CNDDB occurrence records.

Summary Table Report

California Department of Fish and Wildlife

California Natural Diversity Database

Query Criteria: Quad IS (Traver (3611944) OR Monson (3611943) OR Ivanhoe (3611942) OR Goshen (3611934) OR Visalia (3611933) OR Exeter (3611932) OR Paige (3611924) OR Tulare (3611923) OR Cairns Corner (3611922))
 AND Taxonomic Group IS (Fish OR Amphibians OR Reptiles OR Birds OR Mammals OR Mollusks OR Arachnids OR Crustaceans OR Insects OR Ferns OR Gymnosperms OR Monocots OR Dicots OR Lichens OR Bryophytes)

Name (Scientific/Common)	CNDDB Ranks	Listing Status (Fed/State)	Other Lists	Elev. Range (ft.)	Total EO's	Element Occ. Ranks						Population Status		Presence		
						A	B	C	D	X	U	Historic > 20 yr	Recent <= 20 yr	Extant	Poss. Extirp.	Extirp.
Agelaius tricolor tricolored blackbird	G1G2 S1S2	None Threatened	BLM_S-Sensitive CDFW_SSC-Species of Special Concern IUCN_EN-Endangered NABCI_RWL-Red Watch List USFWS_BCC-Birds of Conservation Concern	230 230	955 S:1	0	0	0	0	0	1	1	0	1	0	0
Ambystoma californiense pop. 1 California tiger salamander - central California DPS	G2G3T3 S3	Threatened Threatened	CDFW_WL-Watch List IUCN_VU-Vulnerable	314 501	1265 S:7	0	3	1	0	0	3	4	3	7	0	0
Andrena macswaini An andrenid bee	G2 S2	None None		270 270	7 S:1	0	0	0	0	0	1	1	0	1	0	0
Anniella pulchra Northern California legless lizard	G3 S3	None None	CDFW_SSC-Species of Special Concern USFS_S-Sensitive	325 377	383 S:2	1	0	0	0	0	1	1	1	2	0	0
Antrozous pallidus pallid bat	G4 S3	None None	BLM_S-Sensitive CDFW_SSC-Species of Special Concern IUCN_LC-Least Concern USFS_S-Sensitive WBWG_H-High Priority	368 368	420 S:1	1	0	0	0	0	0	0	1	1	0	0
Athene cunicularia burrowing owl	G4 S3	None None	BLM_S-Sensitive CDFW_SSC-Species of Special Concern IUCN_LC-Least Concern USFWS_BCC-Birds of Conservation Concern	268 343	2011 S:10	4	3	1	0	0	2	2	8	10	0	0
Atriplex cordulata var. cordulata heartscale	G3T2 S2	None None	Rare Plant Rank - 1B.2 BLM_S-Sensitive	285 285	66 S:1	0	0	0	0	0	1	1	0	1	0	0

Summary Table Report

California Department of Fish and Wildlife

California Natural Diversity Database

Name (Scientific/Common)	CNDDB Ranks	Listing Status (Fed/State)	Other Lists	Elev. Range (ft.)	Total EO's	Element Occ. Ranks						Population Status		Presence		
						A	B	C	D	X	U	Historic > 20 yr	Recent <= 20 yr	Extant	Poss. Extirp.	Extirp.
Atriplex cordulata var. erecticaulis Earlimart orache	G3T1 S1	None None	Rare Plant Rank - 1B.2	285 335	23 S:4	1	3	0	0	0	0	0	4	4	0	0
Atriplex depressa brittlescale	G2 S2	None None	Rare Plant Rank - 1B.2		60 S:2	0	0	0	0	0	2	2	0	2	0	0
Atriplex minuscula lesser saltscale	G2 S2	None None	Rare Plant Rank - 1B.1	275 335	52 S:8	3	3	2	0	0	0	1	7	8	0	0
Atriplex persistens vernal pool smallscale	G2 S2	None None	Rare Plant Rank - 1B.2	345 355	41 S:2	2	0	0	0	0	0	0	2	2	0	0
Atriplex subtilis subtle orache	G1 S1	None None	Rare Plant Rank - 1B.2	285 305	24 S:2	1	0	0	0	1	0	2	0	1	1	0
Bombus crotchii Crotch bumble bee	G2 S1S2	None None		350 350	437 S:1	0	0	0	0	0	1	1	0	1	0	0
Branchinecta lynchi vernal pool fairy shrimp	G3 S3	Threatened None	IUCN_VU-Vulnerable	264 500	795 S:14	3	2	2	0	0	7	6	8	14	0	0
Buteo swainsoni Swainson's hawk	G5 S3	None Threatened	BLM_S-Sensitive IUCN_LC-Least Concern	230 331	2548 S:34	2	11	8	0	0	13	7	27	34	0	0
Caulanthus californicus California jewelflower	G1 S1	Endangered Endangered	Rare Plant Rank - 1B.1 SB_CalBG/RSABG-California/Rancho Santa Ana Botanic Garden SB_SBBG-Santa Barbara Botanic Garden SB_UCBG-UC Botanical Garden at Berkeley	285 285	67 S:1	0	0	0	0	1	0	1	0	0	0	1
Coccyzus americanus occidentalis western yellow-billed cuckoo	G5T2T3 S1	Threatened Endangered	BLM_S-Sensitive NABCI_RWL-Red Watch List USFS_S-Sensitive	330 330	165 S:1	0	0	0	0	1	0	1	0	0	0	1
Delphinium recurvatum recurved larkspur	G2? S2?	None None	Rare Plant Rank - 1B.2 BLM_S-Sensitive SB_SBBG-Santa Barbara Botanic Garden	305 340	119 S:4	0	1	0	0	0	3	1	3	4	0	0

Summary Table Report

California Department of Fish and Wildlife

California Natural Diversity Database

Name (Scientific/Common)	CNDDB Ranks	Listing Status (Fed/State)	Other Lists	Elev. Range (ft.)	Total EO's	Element Occ. Ranks						Population Status		Presence		
						A	B	C	D	X	U	Historic > 20 yr	Recent <= 20 yr	Extant	Poss. Extirp.	Extirp.
Desmocerus californicus dimorphus valley elderberry longhorn beetle	G3T2T3 S3	Threatened None		405 405	271 S:1	0	0	1	0	0	0	1	0	1	0	0
Dipodomys nitratoides nitratoides Tipton kangaroo rat	G3T1T2 S1S2	Endangered Endangered	IUCN_VU-Vulnerable	320 320	81 S:1	0	0	0	0	0	1	1	0	1	0	0
Emys marmorata western pond turtle	G3G4 S3	None None	BLM_S-Sensitive CDFW_SSC-Species of Special Concern IUCN_VU-Vulnerable USFS_S-Sensitive	325 325	1404 S:1	0	0	0	0	0	1	1	0	1	0	0
Eryngium spinosepalum spiny-sepaled button-celery	G2 S2	None None	Rare Plant Rank - 1B.2 BLM_S-Sensitive	320 510	108 S:7	2	2	0	0	1	2	4	3	6	1	0
Eumops perotis californicus western mastiff bat	G4G5T4 S3S4	None None	BLM_S-Sensitive CDFW_SSC-Species of Special Concern WBWG_H-High Priority	300 300	296 S:2	0	1	0	0	0	1	1	1	2	0	0
Euphorbia hooveri Hoover's spurge	G1 S1	Threatened None	Rare Plant Rank - 1B.2	315 345	29 S:5	0	1	3	0	1	0	1	4	4	0	1
Helianthus winteri Winter's sunflower	G2? S2?	None None	Rare Plant Rank - 1B.2 BLM_S-Sensitive	460 950	55 S:7	0	3	4	0	0	0	0	7	7	0	0
Imperata brevifolia California satintail	G4 S3	None None	Rare Plant Rank - 2B.1 SB_CalBG/RSABG-California/Rancho Santa Ana Botanic Garden SB_SBBG-Santa Barbara Botanic Garden USFS_S-Sensitive	300 300	32 S:1	0	0	0	0	0	1	1	0	1	0	0
Lanius ludovicianus loggerhead shrike	G4 S4	None None	CDFW_SSC-Species of Special Concern IUCN_LC-Least Concern	285 285	110 S:1	0	1	0	0	0	0	1	0	1	0	0
Lasthenia chrysantha alkali-sink goldfields	G2 S2	None None	Rare Plant Rank - 1B.1	270 380	55 S:6	0	0	0	0	1	5	4	2	5	1	0

Summary Table Report

California Department of Fish and Wildlife

California Natural Diversity Database

Name (Scientific/Common)	CNDDB Ranks	Listing Status (Fed/State)	Other Lists	Elev. Range (ft.)	Total EO's	Element Occ. Ranks						Population Status		Presence		
						A	B	C	D	X	U	Historic > 20 yr	Recent <= 20 yr	Extant	Poss. Extirp.	Extirp.
Lasthenia glabrata ssp. coulteri Coulter's goldfields	G4T2 S2	None None	Rare Plant Rank - 1B.1 BLM_S-Sensitive SB_CalBG/RSABG-California/Rancho Santa Ana Botanic Garden SB_SBBG-Santa Barbara Botanic Garden	350 350	111 S:1	0	0	0	0	0	1	0	1	1	0	0
Lepidurus packardi vernal pool tadpole shrimp	G4 S3S4	Endangered None	IUCN_EN-Endangered	263 345	329 S:9	0	5	3	0	0	1	3	6	9	0	0
Linderiella occidentalis California linderiella	G2G3 S2S3	None None	IUCN_NT-Near Threatened	263 513	508 S:4	0	3	0	0	0	1	0	4	4	0	0
Lithobates pipiens northern leopard frog	G5 S2	None None	CDFW_SSC-Species of Special Concern IUCN_LC-Least Concern	330 345	19 S:2	0	0	0	0	0	2	2	0	2	0	0
Lytta hoppingi Hopping's blister beetle	G1G2 S1S2	None None		325 325	5 S:1	0	0	0	0	0	1	1	0	1	0	0
Orcuttia inaequalis San Joaquin Valley Orcutt grass	G1 S1	Threatened Endangered	Rare Plant Rank - 1B.1	315 515	47 S:2	0	0	1	0	1	0	1	1	1	0	1
Pseudobahia peirsonii San Joaquin adobe sunburst	G1 S1	Threatened Endangered	Rare Plant Rank - 1B.1 SB_CalBG/RSABG-California/Rancho Santa Ana Botanic Garden		51 S:1	0	0	0	0	1	0	1	0	0	0	1
Puccinellia simplex California alkali grass	G3 S2	None None	Rare Plant Rank - 1B.2 BLM_S-Sensitive	270 320	80 S:5	0	2	0	0	1	2	3	2	4	1	0
Sagittaria sanfordii Sanford's arrowhead	G3 S3	None None	Rare Plant Rank - 1B.2 BLM_S-Sensitive	330 400	143 S:2	0	0	1	0	0	1	0	2	2	0	0
Spea hammondii western spadefoot	G2G3 S3	None None	BLM_S-Sensitive CDFW_SSC-Species of Special Concern IUCN_NT-Near Threatened	0 585	1422 S:30	4	22	2	0	0	2	1	29	30	0	0
Talanites moodyae Moody's gnaphosid spider	G1G2 S1S2	None None		400 700	6 S:3	0	0	0	0	0	3	3	0	3	0	0

Summary Table Report

California Department of Fish and Wildlife

California Natural Diversity Database

Name (Scientific/Common)	CNDDB Ranks	Listing Status (Fed/State)	Other Lists	Elev. Range (ft.)	Total EO's	Element Occ. Ranks						Population Status		Presence		
						A	B	C	D	X	U	Historic > 20 yr	Recent <= 20 yr	Extant	Poss. Extirp.	Extirp.
Taxidea taxus	G5	None	CDFW_SSC-Species of Special Concern IUCN_LC-Least Concern	370	594	0	0	1	0	0	0	1	0	1	0	0
American badger	S3	None		370	S:1											
Vulpes macrotis mutica	G4T2	Endangered		250	1020	0	0	1	0	0	20	20	1	21	0	0
San Joaquin kit fox	S2	Threatened		720	S:21											

Appendix C. CNPS plant list.

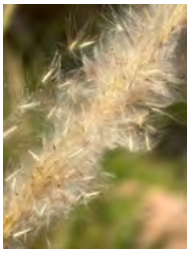
CNPS Rare Plant Inventory

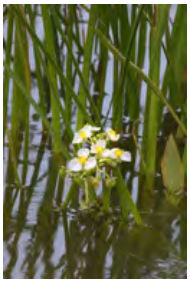
Search Results

18 matches found. Click on scientific name for details

Search Criteria: CRPR is one of [1B:2B] , 9-Quad include [3611922:3611933:3611923:3611932:3611943:3611942:3611924:3611934:3611944]

▲ SCIENTIFIC NAME	COMMON NAME	FAMILY	LIFEFORM	BLOOMING PERIOD	FED LIST	STATE LIST	GLOBAL RANK	STATE RANK	CA RARE PLANT RANK	PHOTO
Atriplex cordulata var. *cordulata*	heartscale	Chenopodiaceae	annual herb	Apr-Oct	None	None	G3T2	S2	1B.2	 © 1994 Robert E. Preston, Ph.D.
Atriplex cordulata var. *erecticaulis*	Earlimart orache	Chenopodiaceae	annual herb	Aug-Sep(Nov)	None	None	G3T1	S1	1B.2	 © 2009 Robert E. Preston, Ph.D.
Atriplex depressa	brittlescale	Chenopodiaceae	annual herb	Apr-Oct	None	None	G2	S2	1B.2	 © 2009 Zoya Akulova
Atriplex minuscula	lesser saltscale	Chenopodiaceae	annual herb	May-Oct	None	None	G2	S2	1B.1	 © 2000 Robert E. Preston, Ph.D.
Atriplex	vernal pool	Chenopodiaceae	annual herb	Jun-Oct	None	None	G2	S2	1B.2	

persistens	smallscale								No Photo Available
Atriplex subtilis	subtle orache	Chenopodiaceae	annual herb	(Apr)Jun-Sep(Oct)	None	None	G1	S1	1B.2	 © 2000 Robert E. Preston, Ph.D.
Caulanthus californicus	California jewelflower	Brassicaceae	annual herb	Feb-May	FE	CE	G1	S1	1B.1	No Photo Available
Delphinium recurvatum	recurved larkspur	Ranunculaceae	perennial herb	Mar-Jun	None	None	G2?	S2?	1B.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
Euphorbia hooveri	Hoover's spurge	Euphorbiaceae	annual herb	Jul-Sep(Oct)	FT	None	G1	S1	1B.2	No Photo Available
Helianthus winteri	Winter's sunflower	Asteraceae	perennial shrub	Jan-Dec	None	None	G2?	S2?	1B.2	 © 2014 Chris Winchell
Imperata brevifolia	California satintail	Poaceae	perennial rhizomatous herb	Sep-May	None	None	G4	S3	2B.1	 © 2020 Matt C. Berger
Lasthenia chrysantha	alkali-sink goldfields	Asteraceae	annual herb	Feb-Apr	None	None	G2	S2	1B.1	 © 2009 California State University, Stanislaus
Lasthenia glabrata ssp.	Coulter's goldfields	Asteraceae	annual herb	Feb-Jun	None	None	G4T2	S2	1B.1	

coulteri										 © 2013 Keir Morse
Orcuttia inaequalis	San Joaquin Valley Orcutt grass	Poaceae	annual herb	Apr-Sep	FT	CE	G1	S1	1B.1	No Photo Available
Pseudobahia peirsonii	San Joaquin adobe sunburst	Asteraceae	annual herb	Feb-Apr	FT	CE	G1	S1	1B.1	No Photo Available
Puccinellia simplex	California alkali grass	Poaceae	annual herb	Mar-May	None	None	G3	S2	1B.2	No Photo Available
Sagittaria sanfordii	Sanford's arrowhead	Alismataceae	perennial rhizomatous herb (emergent)	May-Oct(Nov)	None	None	G3	S3	1B.2	 ©2013 Debra L. Cook

Showing 1 to 18 of 18 entries

Suggested Citation:
California Native Plant Society, Rare Plant Program. 2022. Rare Plant Inventory (online edition, v9-01 1.5). Website https://www.rareplants.cnps.org [accessed 8 July 2022].

ATTACHMENT "D"

California Historical Resources Information System Results Letter

California Historical Resources Information System

Fresno
Kern
Kings
Madera
Tulare

Southern San Joaquin Valley Information Center
California State University, Bakersfield
Mail Stop: 72 DOB
9001 Stockdale Highway
Bakersfield, California 93311-1022
(661) 654-2289
E-mail: ssjvic@csub.edu
Website: www.csub.edu/ssjvic

To: Emily Bowen
Crawford & Bowen Planning, Inc.
113 N. Church Street, Suite 302
Visalia, CA 93291

Record Search 22-293

Date: August 1, 2022

Re: St. Johns Malli TSM Project

County: Tulare

Map(s): Visalia 7.5'

CULTURAL RESOURCES RECORDS SEARCH

The California Office of Historic Preservation (OHP) contracts with the California Historical Resources Information System's (CHRIS) regional Information Centers (ICs) to maintain information in the CHRIS inventory and make it available to local, state, and federal agencies, cultural resource professionals, Native American tribes, researchers, and the public. Recommendations made by IC coordinators or their staff regarding the interpretation and application of this information are advisory only. Such recommendations do not necessarily represent the evaluation or opinion of the State Historic Preservation Officer in carrying out the OHP's regulatory authority under federal and state law.

The following are the results of a search of the cultural resource files at the Southern San Joaquin Valley Information Center. These files include known and recorded cultural resources sites, inventory and excavation reports filed with this office, and resources listed on the National Register of Historic Places, the OHP Built Environment Resources Directory, California State Historical Landmarks, California Register of Historical Resources, California Inventory of Historic Resources, and California Points of Historical Interest. Due to processing delays and other factors, not all of the historical resource reports and resource records that have been submitted to the OHP are available via this records search. Additional information may be available through the federal, state, and local agencies that produced or paid for historical resource management work in the search area.

PRIOR CULTURAL RESOURCE STUDIES CONDUCTED WITHIN THE PROJECT AREA AND THE ONE-HALF MILE RADIUS

According to the information in our files, there has been one previous cultural resource study conducted within the project area: TU-00624. This report was completed approximately 50 years prior and should be considered out of date. There have been two additional cultural resource studies conducted within the one-half mile radius: TU-00535, 01499.

Record Search 22-293

KNOWN/RECORDED CULTURAL RESOURCES WITHIN THE PROJECT AREA AND THE ONE-HALF MILE RADIUS

According to the information in our files, there are no recorded resource within the project area. There is one known resource within the one-half mile radius: P-54-004632. This resource is known as the Santa Fe Railroad.

There are no recorded cultural resources within the project area or radius that are listed in the National Register of Historic Places, the California Register of Historical Resources, the California Points of Historical Interest, California Inventory of Historic Resources, for the California State Historic Landmarks.

COMMENTS AND RECOMMENDATIONS

We understand the proposed project consists of subdividing 67.59 acres into 35 residential parcels ranging in size from 1 - 2.5 acres. We also understand the project area is currently vacant with minimal vegetation. Because this parcel has gone un-developed, and due to changes in field methods and technology, the Information Center routinely recommends a new study when the previous one was conducted more than five years ago. As such, prior to ground disturbance activities, we recommend a qualified, professional consultant conduct a field survey to determine if cultural resources are present. Further, if any cultural resources are unearthed during any ground disturbance activities, all work must halt in the area of the find and a qualified, professional consultant should be called out to assess the findings and make the appropriate mitigation recommendations. A list of qualified consultants can be found at www.chrisinfo.org.

We also recommend that you contact the Native American Heritage Commission in Sacramento. They will provide you with a current list of Native American individuals/organizations that can assist you with information regarding cultural resources that may not be included in the CHRIS Inventory and that may be of concern to the Native groups in the area. The Commission can consult their "Sacred Lands Inventory" file to determine what sacred resources, if any, exist within this project area and the way in which these resources might be managed. Finally, please consult with the lead agency on this project to determine if any other cultural resource investigation is required. If you need any additional information or have any questions or concerns, please contact our office at (661) 654-2289.

By:

Jeremy E David, Assistant Coordinator **Date**: August 1, 2022

Please note that invoices for Information Center services will be sent under separate cover from the California State University, Bakersfield Accounting Office.

ATTACHMENT "E"

Tribal Consultation Request Letters and Tracking Table

NATIVE AMERICAN HERITAGE COMMISSION

NAHC HEADQUARTERS
1550 Harbor Boulevard
Suite 100
West Sacramento,
California 95691
(916) 373-3710
nahc@nahc.ca.gov
NAHC.ca.gov

January 15, 2023

Emily Bowen
Crawford & Bowen Planning, Inc

Via Email to: emily@candbplanning.com

Re: St Johns Malli TSM Project, Tulare County

Dear Ms. Bowen:

A record search of the Native American Heritage Commission (NAHC) Sacred Lands File (SLF) was completed for the information you have submitted for the above referenced project. The results were negative. However, the absence of specific site information in the SLF does not indicate the absence of cultural resources in any project area. Other sources of cultural resources should also be contacted for information regarding known and recorded sites.

Attached is a list of Native American tribes who may also have knowledge of cultural resources in the project area. This list should provide a starting place in locating areas of potential adverse impact within the proposed project area. I suggest you contact all of those indicated; if they cannot supply information, they might recommend others with specific knowledge. By contacting all those listed, your organization will be better able to respond to claims of failure to consult with the appropriate tribe. If a response has not been received within two weeks of notification, the Commission requests that you follow-up with a telephone call or email to ensure that the project information has been received.

If you receive notification of change of addresses and phone numbers from tribes, please notify me. With your assistance, we can assure that our lists contain current information.

If you have any questions or need additional information, please contact me at my email address: Cameron.vela@nahc.ca.gov.

Sincerely,

Cameron Vela

Cameron Vela
Cultural Resources Analyst

Attachment

Native American Heritage Commission
Native American Contact List
Tulare County
1/15/2023

Big Sandy Rancheria of Western Mono Indians
Elizabeth Kipp, Chairperson
P.O. Box 337 — Western Mono
Auberry, CA, 93602
Phone: (559) 374 - 0066
Fax: (559) 374-0055
lkipp@bsrnation.com

Santa Rosa Rancheria Tachi Yokut Tribe
Leo Sisco, Chairperson
P.O. Box 8 — Southern Valley
Lemoore, CA, 93245 — Yokut
Phone: (559) 924 - 1278
Fax: (559) 924-3583

Tule River Indian Tribe
Joey Garfield, Tribal Archaeologist
P. O. Box 589 — Yokut
Porterville, CA, 93258
Phone: (559) 783 - 8892
Fax: (559) 783-8932
joey.garfield@tulerivertribe-nsn.gov

Tule River Indian Tribe
Kerri Vera, Environmental Department
P. O. Box 589 — Yokut
Porterville, CA, 93258
Phone: (559) 783 - 8892
Fax: (559) 783-8932
kerri.vera@tulerivertribe-nsn.gov

Tule River Indian Tribe
Neil Peyron, Chairperson
P.O. Box 589 — Yokut
Porterville, CA, 93258
Phone: (559) 781 - 4271
Fax: (559) 781-4610
neil.peyron@tulerivertribe-nsn.gov

Wuksache Indian Tribe/Eshom Valley Band
Kenneth Woodrow, Chairperson
1179 Rock Haven Ct. — Foothill Yokut
Salinas, CA, 93906 — Mono
Phone: (831) 443 - 9702
kwood8934@aol.com

This list is current only as of the date of this document. Distribution of this list does not relieve any person of statutory responsibility as defined in Section 7050.5 of the Health and Safety Code, Section 5097.94 of the Public Resource Section 5097.98 of the Public Resources Code.

This list is only applicable for contacting local Native Americans with regard to cultural resources assessment for the proposed St Johns Malli TSM Project, Tulare County.

TRIBAL CONSULTATION NOTICE AND TRACKING TABLE
VISALIA RANCH AT ST. JOHNS -TSM 22-002, PZC 22-012
(SCH #2023020373)

TRIBE CONTACTED	REQUEST TYPE			ITEMS & DOCUMENTS SUBMITTED					DELIVERY METHOD			CONSULTATION PERIOD		CONSULTATION / ACTIONS
	AB 52	SB 18	Sec 106	Project Notification Form/Letter	Maps	SLF Search Results	CHRIS Results	Other	E-mail	FedEx	Certified US Mail	Return Receipt	Period Ends	Summary
SACRED LAND FILE (SLF) REQUEST														
Native American Heritage Commission NAHC@nahc.ca.gov	X			X	X			Search Request Form	12/23/22					12/23/22, D. Folk, SLF results requested; NAHC responded stating 6-8 weeks for results 01/15/23, SLF results returned with "negative" results
CONSULTATION REQUEST LETTERS (CHRIS results dated 08/01/22 obtained by consultant Emily Bowen)														
Big Sandy Rancheria of Western Mono Indians Elizabeth D. Kipp, Chairperson PO. Box 337 Auberry, CA 93602 lkipp@bsrnnation.com	X			X	X	X	X		12/23/22		12/23/22 70202450000 030275407	12/27/22	01/26/23	1/19/23, B. Alcantar, SLF results email bounced back as undeliverable. 1/20/23, D.Folk provided copy of SLF results and tribal list via email.
Dunlap Band of Mono Indians Benjamin Charley Jr., Tribal Chair P.O. Box 14 Dunlap, CA 93621 ben.charley@yahoo.com	X			X	X		X		12/23/22		12/23/22 70202450000 030275414			
Dunlap Band of Mono Indians Dirk Charley, Tribal Secretary 5509 E. McKenzie Avenue Fresno, CA 93727 dcharley2016@gmail.com	X			X	X		X		12/23/22		---	---	---	
Kern Valley Indian Tribe Robert Robinson, Co-Chairperson P.O. Box 1010 Lake Isabella, CA 93240 bbutterbredt@gmail.com	X			X	X		X		12/23/22		12/23/22 70202450000 030275322	12/29/22	01/28/23	
Kern Valley Indian Community Julie Turner, Secretary P. Box 1010 Lake Isabella, CA 93240 meindiangirl@sbcglobal.net	X			X	X		X		12/23/22		12/23/22 70202450000 030275339	12/29/22	01/28/23	
Kern Valley Indian Community Brandi Kendricks 30741 Foxridge Court Tehachapi, CA 93561 krazykendricks@hotmail.com	X			X	X		X		12/23/22		---	---	---	

TRIBAL CONSULTATION NOTICE AND TRACKING TABLE
VISALIA RANCH AT ST. JOHNS -TSM 22-002, PZC 22-012
(SCH #2023020373)

TRIBE CONTACTED	REQUEST TYPE			ITEMS & DOCUMENTS SUBMITTED					DELIVERY METHOD			CONSULTATION PERIOD		CONSULTATION / ACTIONS
	AB 52	SB 18	Sec 106	Project Notification Form/Letter	Maps	SLF Search Results	CHRIS Results	Other	E-mail	FedEx	Certified US Mail	Return Receipt	Period Ends	Summary
North Fork Mono Tribe Ron Goode, Chairperson 13396 Tollhouse Road Clovis, CA 93619 rwgoode911@hotmail.com	X			X	X		X		12/23/22		12/23/22 70202450000030275421	12/27/22	01/26/23	
Santa Rosa Rancheria Tachi Yokut Tribe Leo Sisco, Chairperson 16835 Alkali Drive Lemoore, CA 93245 LSisco@tachi-yokut-nsn.gov	X			X	X	X	X		12/23/22		12/23/22 70202450000030275346	12/28/22	01/27/23	1/19/23, B. Alcantar provided copy of SLF results via email.
Santa Rosa Rancheria Cultural Department Shana Powers, Director 16835 Alkali Drive Lemoore, CA 93245 SPowers@tachi-yokut-nsn.gov	X			X	X	X	X		12/23/22		12/23/22 70202450000030275353	12/28/22	01/27/23	1/19/23, B. Alcantar provided copy of SLF results and tribal list via email.
Santa Rosa Rancheria Cultural Department Staff Samantha McCarty SMcCarty@tachi-yokut-nsn.gov Paige Berggren PBerggren@tachi-yokut-nsn.gov	X			X	X	X	X		12/23/22		---	---	---	**1/6/23, J. Willis, email from Samantha McCarty requesting copy of SLF results, field study, and recommending mitigation measures; J. Willis replied to Ms. McCarty and relayed the requests to the applicant's consultant.** 1/19/23, B. Alcantar provided copy of SLF results and tribal list via email.
Tubatulabals of Kern Valley Robert L. Gomez, Jr., Chairperson P.O. Box 833 Weldon, CA 93283-0833 rgomez@tubatulabal.org	X			X	X		X		12/23/22		12/23/22 70202450000030275360	12/27/22	01/26/23	
Tule River Indian Tribe Neil Peyron, Chairperson P. O. Box 589 Porterville, CA 93258 neil.peyron@tulerivertribe-nsn.gov	X			X	X	X	X		12/22/23		12/23/22 70202450000030275377	01/01/23	01/31/23	1/19/23, B. Alcantar provided copy of SLF results via email.

TRIBAL CONSULTATION NOTICE AND TRACKING TABLE
VISALIA RANCH AT ST. JOHNS -TSM 22-002, PZC 22-012
(SCH #2023020373)

TRIBE CONTACTED	REQUEST TYPE			ITEMS & DOCUMENTS SUBMITTED					DELIVERY METHOD			CONSULTATION PERIOD		CONSULTATION / ACTIONS
	AB 52	SB 18	Sec 106	Project Notification Form/Letter	Maps	SLF Search Results	CHRIS Results	Other	E-mail	FedEx	Certified US Mail	Return Receipt	Period Ends	Summary
Tule River Indian Tribe Dept. of Environmental Protection Kerri Vera, Director P. O. Box 589 Porterville, CA 93258 kerri.vera@tulerivertribe-nsn.gov	X			X	X	X	X		12/23/22		12/23/22 70202450000030275384	01/01/23	01/31/23	1/19/23, B. Alcantar provided copy of SLF results via email. **1/30/23, J.Willis, email from Ms. Vera requesting information if any TCR are found on the project site.**
Tule River Indian Tribe Felix Christman, Council Member P. O. Box 589 Porterville, CA 93258 tuleriverarchmon1@gmail.com felix.christman@tulerivertribe-nsn.gov	X			X	X	X	X		12/23/22		---	---	---	1/19/23, B. Alcantar provided copy of SLF results via email.
Tule River Indian Tribe Joey Garfield, Tribal Archaeologist P. O. Box 589 Porterville, CA, 93258 joey.garfield@tulerivertribensn.gov	X			X	X	X	X		1/19/23		1/20/23 70202450000192810225 8.69	01/23/23	02/22/23	1/19/23, NAHC list dated 1/15/23 included Mr. Garfield as a contact; B. Alcantar sent email with notification.
Wuksache Indian Tribe/ Eshom Valley Band Kenneth Woodrow, Chairperson 1179 Rock Haven Ct. Salinas, CA 93906 Phone: (831) 443 - 9702 kwood8934@aol.com	X			X	X	X	X		12/23/22		12/23/22 70202450000030275391	12/28/22	01/27/23	1/19/23, B. Alcantar provided copy of SLF results via email.

RESOURCE MANAGEMENT AGENCY

5961 SOUTH MOONEY BLVD
VISALIA, CA 93277
PHONE (559) 624-7000
FAX (559) 615-3002

Aaron R. Bock — Economic Development and Planning
Reed Schenke — Public Works
Sherman Dix — Fiscal Services

REED SCHENKE, DIRECTOR — MICHAEL WASHAM, ASSOCIATE DIRECTOR

PROJECT NOTIFICATION AND TRIBAL CONSULTATION REQUEST PURSUANT TO AB 52

Project Title: Visalia Ranch at St Johns (TSM 22-002, PZC 22-012, WAC 22-005, WAN 22-018)

Project Location: The Project is located southwest of the intersection of Road 132 and Karolina Drive (APNs 079-073-001, 079-071-014, and 079-072-005), adjacent to and north of the City of Visalia in Tulare County, California.

USGS 7.5 Minute Quadrangle(s): Visalia

APN(s): 079-071-014, 079-072- 005, 079-073-001

PLSS: Section 17, Township 18 South, Range 25 East, MDB&M.

Land Use Designation / Zoning: R-A-100 (Rural Residential – minimum 100,000 s.f.) and AE-20 (Exclusive Agricultural-20 acre minimum)

Project Description: The proposed Project consists of subdividing approximately 67.60 acres into 35 residential parcels ranging in size from 1.0 – 2.5 acres (see Figure 3) with associated access roads, lighting and landscaping. Specifically, the Project includes 24 1.0-acre parcels and 11 2.5-acre parcels. To accommodate the proposed Project, a Zone Change from R-A-100 and AE-20, to R-A-110, Tentative Subdivision Map, and Williamson Act Cancellation would need to be approved by the County of Tulare. The site covers three land parcels: APN 079-073-001 is zoned as R-A-100, and APNs 079-071-014 and 079-072-005 are zoned as AE-20.

Request for Consultation: Pursuant to the provisions of AB 52, as the lead agency under the California Environmental Quality Act (CEQA), the County of Tulare hereby extends an invitation to consult on the CEQA review of the Visalia Ranch at St Johns Project in order to assist with identifying and/or preserving and/or mitigating project impacts to Native American cultural places and tribal cultural resources.

Ifyour Tribe desires to consult with the County on the review of this project, please respond in writing within thirty (30) days of receipt of this notification. Written correspondence can be mailed to the following addresses:

US Post: Tulare County Resource Management Agency
Environmental Planning Division
Attn: Jessica Willis / Hector Guerra
5961 S. Mooney Blvd.
Visalia, CA 93277-9394

E-mail: JWillis@tularecounty.ca.gov and HGuerra@tularecounty.ca.gov

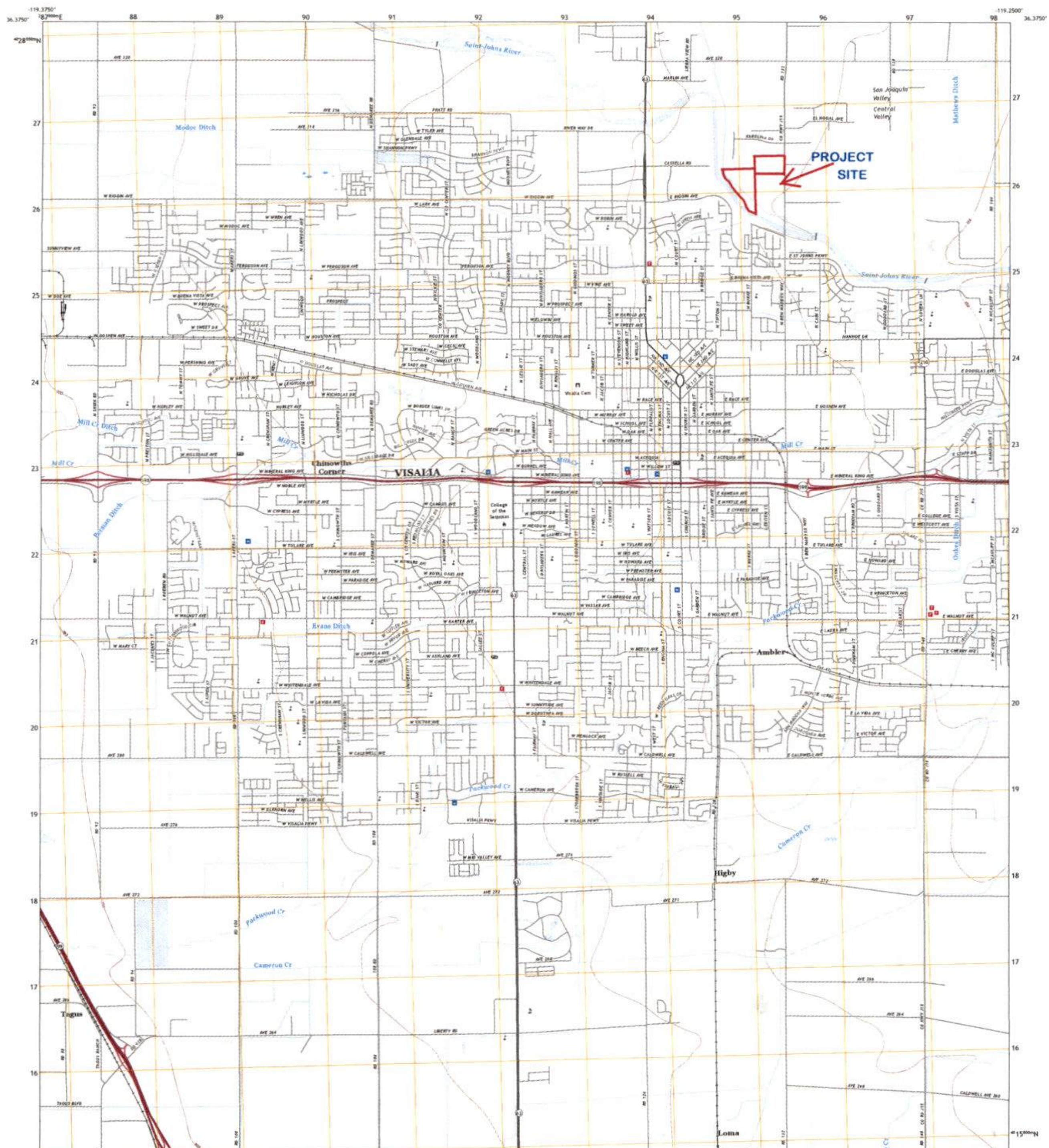
If you need further assistance or have any questions, please feel free to contact Jessica Willis, Planner IV, by phone at (559) 624-7122, or Hector Guerra, Chief Environmental Planner, at (559) 624-7121.

If the County does not receive a response to this notification, it will be presumed that your Tribe has declined the opportunity to consult on this project pursuant to AB 52.

USGS science for a changing world U.S. DEPARTMENT OF THE INTERIOR U.S. GEOLOGICAL SURVEY

The National Map US Topo

VISALIA QUADRANGLE
CALIFORNIA - TULARE COUNTY
7.5-MINUTE SERIES



Produced by the United States Geological Survey
North American Datum of 1983 (NAD83)
World Geodetic System of 1984 (WGS84). Projection and 1 000-meter grid:Universal Transverse Mercator, Zone 11S
This map is not a legal document. Boundaries may be generalized for this map scale. Private lands within government reservations may not be shown. Obtain permission before entering private lands.

Imagery	NAIP, June 2016 - October 2016
Roads	U.S. Census Bureau, 2016
Names	GNIS, 1981 - 2016
Hydrography	National Hydrography Dataset, 2006 - 2018
Contours	National Elevation Dataset, 2008
Boundaries	Multiple sources; see metadata file 2016 - 2017
Public Land Survey System	BLM, 2018
Wetlands	FWS National Wetlands Inventory 1984

UTM GRID AND 2017 MAGNETIC NORTH DECLINATION AT CENTER OF SHEET

SCALE 1:24 000

CONTOUR INTERVAL 10 FEET
NORTH AMERICAN VERTICAL DATUM OF 1988

This map was produced to conform with the National Geospatial Program US Topo Product Standard, 2011.
A metadata file associated with this product is draft version 0.6.18

ROAD CLASSIFICATION
Expressway — Local Connector
Secondary Hwy — Local Road
Ramp — 4WD
Interstate Route — US Route — State Route

ADJOINING QUADRANGLES
1 Traver
2 Monson
3 Ivanhoe
4 Goshen
5 Exeter
6 Paige
7 Tulare
8 Cairns Corner

VISALIA, CA
2018

NOVEMBER 12, 2021

VISALIA RANCH @ ST JOHNS

TENTATIVE SUBDIVISION MAP

BEING A PORTION PARCELS 5 & 14 RECORDED IN BOOK 079 OF PARCEL MAPS AT PAGE 07, OF TULARE COUNTY RECORDS, LOCATED IN THE SOUTH EAST ¼ OF OF SECTION 17, TOWNSHIP 18 SOUTH, RANGE 25 EAST, MOUNT DIABLO BASE & MERIDIAN.

OTHER ENTITLEMENTS:

- WILLIAMSON ACT NON RENEWAL/CANCELLATION
- REZONE TO R-A

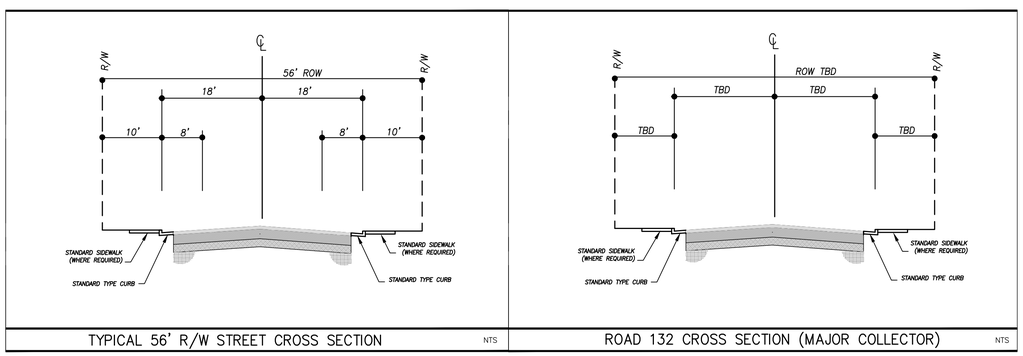
ENGINEER/PLANNER:	4-CREEKS INC.
APN:	079-071-014, 079-072-005, & -001
ACREAGE:	67.60 AC
FLOOD ZONE:	ZONE X
ZONING (EXISTING):	AE-20
ZONING (PROPOSED)	R-A
R-A:	GROSS ACREAGE: 67.60 AC NET ACREAGE: 42.4 AC TOTAL UNITS: 35

SETBACKS:

FRONT:	25'
SIDE:	5'
REAR:	25'

UTILITIES UNDER REVIEW

- WATER: PRIVATE WELL
- STORMWATER: BIO SWALES OFF ROADWAYS
- WASTEWATER: SEPTEIC SYSTEM / LEACH LINES

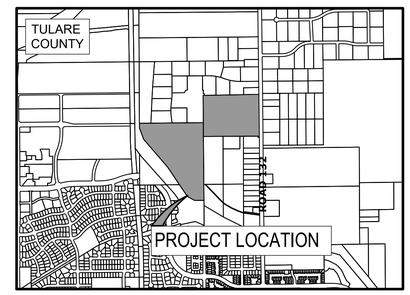


LEGENDS:

Septic

30' X 100

WATER WELL



VICINITY MAP

NORTH

150' 0' 150'

PREPARED BY:
4CREEKS
324 S. SANTA FE, STE. A
P.O. BOX 7593
VISALIA, CA 93292
TEL: 559.802.3052
FAX: 559.802.3215

RESOURCE MANAGEMENT AGENCY

5961 SOUTH MOONEY BLVD
VISALIA, CA 93277
PHONE (559) 624-7000
FAX (559) 615-3002

Aaron R. Bock — Economic Development and Planning
Reed Schenke — Public Works
Sherman Dix — Fiscal Services

REED SCHENKE, DIRECTOR — MICHAEL WASHAM, ASSOCIATE DIRECTOR

December 23, 2022

Big Sandy Rancheria of Western Mono Indians
Elizabeth D. Kipp, Chairperson
PO. Box 337
Auberry, CA 93602

RE: Project Notification and Consultation Request Pursuant to Assembly Bill (AB) 52 for the Visalia Ranch at St Johns Project (TSM 22-002, PZC 22-012, WAC 22-005, WAN 22-018)

Dear Chairperson Kipp,

Pursuant to the provisions of AB 52, as the lead agency under the California Environmental Quality Act (CEQA), the County of Tulare hereby extends an invitation to consult on the CEQA review of the Visalia Ranch at St Johns Project (TSM 22-002, PZC 22-012, WAC 22-005, WAN 22-018) in order to assist with identifying and/or preserving and/or mitigating project impacts to Native American cultural places including:

- Native American sanctified cemetery, place of worship, religious or ceremonial site, or sacred shrine; and
- Native American historic, cultural, or sacred site that is listed or may be eligible for listing in the California Register of Historical Resources including historic or prehistoric ruins and any burial ground, archaeological, or historic site.

In accordance with CEQA (Pub. Resources Code, § 21000 et seq.), the County of Tulare Resource Management Agency (RMA) will be preparing a Mitigated Negative Declaration (MND) to evaluate the environmental effects associated with the Project.

Sacred Lands File Search

The County through their consultant, Crawford & Bowen Planning Inc, requested a Sacred Lands File (SLF) search through the Native American Heritage Commission (NAHC) for the proposed Project on December 16, 2022. The County has not yet received the results of the SLF search; however, the results will be made available upon the release of the MND for public review. The results may be made available to your Tribal Representatives if a written request for consultation is submitted to the County within thirty (30) days of receipt of this letter.

California Historical Resources Information System

The County's consultant, Crawford & Bowen Planning, Inc., requested a search of the California Historical Resources Information System (CHRIS) for the Project area through the Southern San Joaquin Valley Information Center (SSJVIC). The CHRIS search results dated August 1, 2022, indicated that there are no recorded resources within the project area (site); however, there is one known resource, the Santa Fe Railroad, within the ½ mile radius. The CHRIS search also indicated that there are no recorded cultural resources within the project area; however, the SSJVIC also indicated that there has been one previous cultural resource study conducted with the project area and recommends that a new field survey be conducted to determine if cultural resources are present as the study is approximately 50 years old. As such, the County is providing an opportunity for consultation with your Tribe to determine whether a Tribal Cultural Resources study will be required. The results of the CHRIS search would be made available to your Tribal Representatives if a written request for consultation is received. If the County does not receive a response to this request within thirty (30) days of receipt of this letter for CEQA purposes pursuant to AB 52, it will be presumed that there are no Tribal Cultural resources of concern, and a Cultural Resources study will not be required.

Request for Consultation

If your Tribe desires to consult with the County on the review of this project pursuant to AB 52, please respond in writing within thirty (30) days of receiving this letter. Written correspondence can be mailed to the address provided above or e-mailed to the addresses provided below.

If the County does not receive a response to this notification, it will be presumed that your Tribe has declined the opportunity to consult on this project pursuant to AB 52.

Thank you for your consideration on this matter and please do not hesitate to contact me by phone or e-mail should you have any questions or need additional information. If you need immediate assistance and I am unavailable, please contact, Hector Guerra, Chief of Environmental Planning, by phone at (559) 624-7121, or by email at hguerra@tularecounty.ca.gov.

Sincerely,

Jessica R. Willis

Jessica Willis
Planner IV
(559) 624-7121
jwillis@tularecounty.ca.gov

Attachment(s): AB 52 Project Notification and Tribal Consultation Request (with maps)
California Historical Resources Information System Records Search Results dated August 1, 2022

RESOURCE MANAGEMENT AGENCY

5961 SOUTH MOONEY BLVD
VISALIA, CA 93277
PHONE (559) 624-7000
FAX (559) 615-3002

Aaron R. Bock — Economic Development and Planning
Reed Schenke — Public Works
Sherman Dix — Fiscal Services

REED SCHENKE, DIRECTOR — MICHAEL WASHAM, ASSOCIATE DIRECTOR

December 23, 2022

Dunlap Band of Mono Indians
Benjamin Charley, Jr., Chairperson
P.O. Box 14
Dunlap, CA 93621

RE: Project Notification and Consultation Request Pursuant to Assembly Bill (AB) 52 for the Visalia Ranch at St Johns Project (TSM 22-002, PZC 22-012, WAC 22-005, WAN 22-018)

Dear Chairperson Charley,

Pursuant to the provisions of AB 52, as the lead agency under the California Environmental Quality Act (CEQA), the County of Tulare hereby extends an invitation to consult on the CEQA review of the Visalia Ranch at St Johns Project (TSM 22-002, PZC 22-012, WAC 22-005, WAN 22-018) in order to assist with identifying and/or preserving and/or mitigating project impacts to Native American cultural places including:

- Native American sanctified cemetery, place of worship, religious or ceremonial site, or sacred shrine; and
- Native American historic, cultural, or sacred site that is listed or may be eligible for listing in the California Register of Historical Resources including historic or prehistoric ruins and any burial ground, archaeological, or historic site.

In accordance with CEQA (Pub. Resources Code, § 21000 et seq.), the County of Tulare Resource Management Agency (RMA) will be preparing a Mitigated Negative Declaration (MND) to evaluate the environmental effects associated with the Project.

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Request for Consultation

If your Tribe desires to consult with the County on the review of this project pursuant to AB 52, please respond in writing within thirty (30) days of receiving this letter. Written correspondence can be mailed to the address provided above or e-mailed to the addresses provided below.

If the County does not receive a response to this notification, it will be presumed that your Tribe has declined the opportunity to consult on this project pursuant to AB 52.

Thank you for your consideration on this matter and please do not hesitate to contact me by phone or e-mail should you have any questions or need additional information. If you need immediate assistance and I am unavailable, please contact, Hector Guerra, Chief of Environmental Planning, by phone at (559) 624-7121, or by email at hguerra@tularecounty.ca.gov.

Sincerely,

Jessica R. Willis

Jessica Willis
Planner IV
(559) 624-7121
jwillis@tularecounty.ca.gov

Attachment(s): AB 52 Project Notification and Tribal Consultation Request (with maps)
California Historical Resources Information System Records Search Results dated August 1, 2022

RESOURCE MANAGEMENT AGENCY

5961 SOUTH MOONEY BLVD
VISALIA, CA 93277
PHONE (559) 624-7000
FAX (559) 615-3002

Aaron R. Bock — Economic Development and Planning
Reed Schenke — Public Works
Sherman Dix — Fiscal Services

REED SCHENKE, DIRECTOR — MICHAEL WASHAM, ASSOCIATE DIRECTOR

December 23, 2022

Kern Valley Indian Community
Robert Robinson, Chairperson
P.O. Box 1010
Lake Isabella, CA 93240

RE: Project Notification and Consultation Request Pursuant to Assembly Bill (AB) 52 for the Visalia Ranch at St Johns Project (TSM 22-002, PZC 22-012, WAC 22-005, WAN 22-018)

Dear Chairperson Robinson,

Pursuant to the provisions of AB 52, as the lead agency under the California Environmental Quality Act (CEQA), the County of Tulare hereby extends an invitation to consult on the CEQA review of the Visalia Ranch at St Johns Project (TSM 22-002, PZC 22-012, WAC 22-005, WAN 22-018) in order to assist with identifying and/or preserving and/or mitigating project impacts to Native American cultural places including:

- Native American sanctified cemetery, place of worship, religious or ceremonial site, or sacred shrine; and
- Native American historic, cultural, or sacred site that is listed or may be eligible for listing in the California Register of Historical Resources including historic or prehistoric ruins and any burial ground, archaeological, or historic site.

In accordance with CEQA (Pub. Resources Code, § 21000 et seq.), the County of Tulare Resource Management Agency (RMA) will be preparing a Mitigated Negative Declaration (MND) to evaluate the environmental effects associated with the Project.

Sacred Lands File Search

The County through their consultant, Crawford & Bowen Planning Inc, requested a Sacred Lands File (SLF) search through the Native American Heritage Commission (NAHC) for the proposed Project on December 16, 2022. The County has not yet received the results of the SLF search; however, the results will be made available upon the release of the MND for public review. The results may be made available to your Tribal Representatives if a written request for consultation is submitted to the County within thirty (30) days of receipt of this letter.

California Historical Resources Information System

The County's consultant, Crawford & Bowen Planning, Inc., requested a search of the California Historical Resources Information System (CHRIS) for the Project area through the Southern San Joaquin Valley Information Center (SSJVIC). The CHRIS search results dated August 1, 2022, indicated that there are no recorded resources within the project area (site); however, there is one known resource, the Santa Fe Railroad, within the ½ mile radius. The CHRIS search also indicated that there are no recorded cultural resources within the project area; however, the SSJVIC also indicated that there has been one previous cultural resource study conducted with the project area and recommends that a new field survey be conducted to determine if cultural resources are present as the study is approximately 50 years old. As such, the County is providing an opportunity for consultation with your Tribe to determine whether a Tribal Cultural Resources study will be required. The results of the CHRIS search would be made available to your Tribal Representatives if a written request for consultation is received. If the County does not receive a response to this request within thirty (30) days of receipt of this letter for CEQA purposes pursuant to AB 52, it will be presumed that there are no Tribal Cultural resources of concern, and a Cultural Resources study will not be required.

Request for Consultation

If your Tribe desires to consult with the County on the review of this project pursuant to AB 52, please respond in writing within thirty (30) days of receiving this letter. Written correspondence can be mailed to the address provided above or e-mailed to the addresses provided below.

If the County does not receive a response to this notification, it will be presumed that your Tribe has declined the opportunity to consult on this project pursuant to AB 52.

Thank you for your consideration on this matter and please do not hesitate to contact me by phone or e-mail should you have any questions or need additional information. If you need immediate assistance and I am unavailable, please contact, Hector Guerra, Chief of Environmental Planning, by phone at (559) 624-7121, or by email at hguerra@tularecounty.ca.gov.

Sincerely,

Jessica R. Willis

Jessica Willis
Planner IV
(559) 624-7121
jwillis@tularecounty.ca.gov

Attachment(s): AB 52 Project Notification and Tribal Consultation Request (with maps)
California Historical Resources Information System Records Search Results dated August 1, 2022

RESOURCE MANAGEMENT AGENCY

5961 SOUTH MOONEY BLVD
VISALIA, CA 93277
PHONE (559) 624-7000
FAX (559) 615-3002

Aaron R. Bock — Economic Development and Planning
Reed Schenke — Public Works
Sherman Dix — Fiscal Services

REED SCHENKE, DIRECTOR — MICHAEL WASHAM, ASSOCIATE DIRECTOR

December 23, 2022

Kern Valley Indian Community
Julie Turner, Secretary
P.O. Box 1010
Lake Isabella, CA 93240

RE: Project Notification and Consultation Request Pursuant to Assembly Bill (AB) 52 for the Visalia Ranch at St Johns Project (TSM 22-002, PZC 22-012, WAC 22-005, WAN 22-018)

Dear Ms. Turner,

Pursuant to the provisions of AB 52, as the lead agency under the California Environmental Quality Act (CEQA), the County of Tulare hereby extends an invitation to consult on the CEQA review of the Visalia Ranch at St Johns Project (TSM 22-002, PZC 22-012, WAC 22-005, WAN 22-018) in order to assist with identifying and/or preserving and/or mitigating project impacts to Native American cultural places including:

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Request for Consultation

If your Tribe desires to consult with the County on the review of this project pursuant to AB 52, please respond in writing within thirty (30) days of receiving this letter. Written correspondence can be mailed to the address provided above or e-mailed to the addresses provided below.

If the County does not receive a response to this notification, it will be presumed that your Tribe has declined the opportunity to consult on this project pursuant to AB 52.

Thank you for your consideration on this matter and please do not hesitate to contact me by phone or e-mail should you have any questions or need additional information. If you need immediate assistance and I am unavailable, please contact, Hector Guerra, Chief of Environmental Planning, by phone at (559) 624-7121, or by email at hguerra@tularecounty.ca.gov.

Sincerely,

Jessica R. Willis

Jessica Willis
Planner IV
(559) 624-7121
jwillis@tularecounty.ca.gov

Attachment(s): AB 52 Project Notification and Tribal Consultation Request (with maps)
California Historical Resources Information System Records Search Results dated August 1, 2022

RESOURCE MANAGEMENT AGENCY

5961 SOUTH MOONEY BLVD
VISALIA, CA 93277
PHONE (559) 624-7000
FAX (559) 615-3002

Aaron R. Bock — Economic Development and Planning
Reed Schenke — Public Works
Sherman Dix — Fiscal Services

REED SCHENKE, DIRECTOR — MICHAEL WASHAM, ASSOCIATE DIRECTOR

December 23, 2022

North Fork Mono Tribe
Ron Goode, Chairperson
13396 Tollhouse Road
Clovis, CA 93619

RE: Project Notification and Consultation Request Pursuant to Assembly Bill (AB) 52 for the Visalia Ranch at St Johns Project (TSM 22-002, PZC 22-012, WAC 22-005, WAN 22-018)

Dear Chairperson Goode,

Pursuant to the provisions of AB 52, as the lead agency under the California Environmental Quality Act (CEQA), the County of Tulare hereby extends an invitation to consult on the CEQA review of the Visalia Ranch at St Johns Project (TSM 22-002, PZC 22-012, WAC 22-005, WAN 22-018) in order to assist with identifying and/or preserving and/or mitigating project impacts to Native American cultural places including:

- Native American sanctified cemetery, place of worship, religious or ceremonial site, or sacred shrine; and
- Native American historic, cultural, or sacred site that is listed or may be eligible for listing in the California Register of Historical Resources including historic or prehistoric ruins and any burial ground, archaeological, or historic site.

In accordance with CEQA (Pub. Resources Code, § 21000 et seq.), the County of Tulare Resource Management Agency (RMA) will be preparing a Mitigated Negative Declaration (MND) to evaluate the environmental effects associated with the Project.

Sacred Lands File Search

The County through their consultant, Crawford & Bowen Planning Inc, requested a Sacred Lands File (SLF) search through the Native American Heritage Commission (NAHC) for the proposed Project on December 16, 2022. The County has not yet received the results of the SLF search; however, the results will be made available upon the release of the MND for public review. The results may be made available to your Tribal Representatives if a written request for consultation is submitted to the County within thirty (30) days of receipt of this letter.

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The County's consultant, Crawford & Bowen Planning, Inc., requested a search of the California Historical Resources Information System (CHRIS) for the Project area through the Southern San Joaquin Valley Information Center (SSJVIC). The CHRIS search results dated August 1, 2022, indicated that there are no recorded resources within the project area (site); however, there is one known resource, the Santa Fe Railroad, within the ½ mile radius. The CHRIS search also indicated that there are no recorded cultural resources within the project area; however, the SSJVIC also indicated that there has been one previous cultural resource study conducted with the project area and recommends that a new field survey be conducted to determine if cultural resources are present as the study is approximately 50 years old. As such, the County is providing an opportunity for consultation with your Tribe to determine whether a Tribal Cultural Resources study will be required. The results of the CHRIS search would be made available to your Tribal Representatives if a written request for consultation is received. If the County does not receive a response to this request within thirty (30) days of receipt of this letter for CEQA purposes pursuant to AB 52, it will be presumed that there are no Tribal Cultural resources of concern, and a Cultural Resources study will not be required.

Request for Consultation

If your Tribe desires to consult with the County on the review of this project pursuant to AB 52, please respond in writing within thirty (30) days of receiving this letter. Written correspondence can be mailed to the address provided above or e-mailed to the addresses provided below.

If the County does not receive a response to this notification, it will be presumed that your Tribe has declined the opportunity to consult on this project pursuant to AB 52.

Thank you for your consideration on this matter and please do not hesitate to contact me by phone or e-mail should you have any questions or need additional information. If you need immediate assistance and I am unavailable, please contact, Hector Guerra, Chief of Environmental Planning, by phone at (559) 624-7121, or by email at hguerra@tularecounty.ca.gov.

Sincerely,

Jessica R. Willis

Jessica Willis
Planner IV
(559) 624-7121
jwillis@tularecounty.ca.gov

Attachment(s): AB 52 Project Notification and Tribal Consultation Request (with maps)
California Historical Resources Information System Records Search Results dated August 1, 2022

RESOURCE MANAGEMENT AGENCY

5961 SOUTH MOONEY BLVD
VISALIA, CA 93277
PHONE (559) 624-7000
FAX (559) 615-3002

Aaron R. Bock — Economic Development and Planning
Reed Schenke — Public Works
Sherman Dix — Fiscal Services

REED SCHENKE, DIRECTOR — MICHAEL WASHAM, ASSOCIATE DIRECTOR

December 23, 2022

Santa Rosa Rancheria Tachi Yokut Tribe
Leo Sisco, Chairperson
P. O. Box 8
Lemoore, CA 93245

RE: Project Notification and Consultation Request Pursuant to Assembly Bill (AB) 52 for the Visalia Ranch at St Johns Project (TSM 22-002, PZC 22-012, WAC 22-005, WAN 22-018)

Dear Chairperson Sisco,

Pursuant to the provisions of AB 52, as the lead agency under the California Environmental Quality Act (CEQA), the County of Tulare hereby extends an invitation to consult on the CEQA review of the Visalia Ranch at St Johns Project (TSM 22-002, PZC 22-012, WAC 22-005, WAN 22-018) in order to assist with identifying and/or preserving and/or mitigating project impacts to Native American cultural places including:

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Request for Consultation

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Sincerely,

Jessica R. Willis

Jessica Willis
Planner IV
(559) 624-7121
jwillis@tularecounty.ca.gov

Attachment(s): AB 52 Project Notification and Tribal Consultation Request (with maps)
California Historical Resources Information System Records Search Results dated August 1, 2022

RESOURCE MANAGEMENT AGENCY

5961 SOUTH MOONEY BLVD
VISALIA, CA 93277
PHONE (559) 624-7000
FAX (559) 615-3002

Aaron R. Bock — Economic Development and Planning
Reed Schenke — Public Works
Sherman Dix — Fiscal Services

REED SCHENKE, DIRECTOR — MICHAEL WASHAM, ASSOCIATE DIRECTOR

December 23, 2022

Santa Rosa Rancheria
Cultural Department
Shana Powers, Director
P. O. Box 8
Lemoore, CA 93245

RE: Project Notification and Consultation Request Pursuant to Assembly Bill (AB) 52 for the Visalia Ranch at St Johns Project (TSM 22-002, PZC 22-012, WAC 22-005, WAN 22-018)

Dear Ms. Powers,

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Request for Consultation

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Sincerely,

Jessica R. Willis

Jessica Willis
Planner IV
(559) 624-7121
jwillis@tularecounty.ca.gov

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RESOURCE MANAGEMENT AGENCY

5961 SOUTH MOONEY BLVD
VISALIA, CA 93277
PHONE (559) 624-7000
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Aaron R. Bock — Economic Development and Planning
Reed Schenke — Public Works
Sherman Dix — Fiscal Services

REED SCHENKE, DIRECTOR — MICHAEL WASHAM, ASSOCIATE DIRECTOR

December 23, 2022

Tubatulabals of Kern Valley
Robert L. Gomez, Jr., Chairperson
P.O. Box 833
Weldon, CA 93283-0833

RE: Project Notification and Consultation Request Pursuant to Assembly Bill (AB) 52 for the Visalia Ranch at St Johns Project (TSM 22-002, PZC 22-012, WAC 22-005, WAN 22-018)

Dear Chairperson Gomez,

Pursuant to the provisions of AB 52, as the lead agency under the California Environmental Quality Act (CEQA), the County of Tulare hereby extends an invitation to consult on the CEQA review of the Visalia Ranch at St Johns Project (TSM 22-002, PZC 22-012, WAC 22-005, WAN 22-018) in order to assist with identifying and/or preserving and/or mitigating project impacts to Native American cultural places including:

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Sincerely,

Jessica R. Willis

Jessica Willis
Planner IV
(559) 624-7121
jwillis@tularecounty.ca.gov

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RESOURCE MANAGEMENT AGENCY

5961 SOUTH MOONEY BLVD
VISALIA, CA 93277
PHONE (559) 624-7000
FAX (559) 615-3002

Aaron R. Bock — Economic Development and Planning
Reed Schenke — Public Works
Sherman Dix — Fiscal Services

REED SCHENKE, DIRECTOR — MICHAEL WASHAM, ASSOCIATE DIRECTOR

December 23, 2022

Tule River Indian Tribe
Neil Peyron, Chairperson
P. O. Box 589
Porterville, CA 93258

RE: Project Notification and Consultation Request Pursuant to Assembly Bill (AB) 52 for the Visalia Ranch at St Johns Project (TSM 22-002, PZC 22-012, WAC 22-005, WAN 22-018)

Dear Chairperson Peyron

Pursuant to the provisions of AB 52, as the lead agency under the California Environmental Quality Act (CEQA), the County of Tulare hereby extends an invitation to consult on the CEQA review of the Visalia Ranch at St Johns Project (TSM 22-002, PZC 22-012, WAC 22-005, WAN 22-018) in order to assist with identifying and/or preserving and/or mitigating project impacts to Native American cultural places including:

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Request for Consultation

If your Tribe desires to consult with the County on the review of this project pursuant to AB 52, please respond in writing within thirty (30) days of receiving this letter. Written correspondence can be mailed to the address provided above or e-mailed to the addresses provided below.

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Thank you for your consideration on this matter and please do not hesitate to contact me by phone or e-mail should you have any questions or need additional information. If you need immediate assistance and I am unavailable, please contact, Hector Guerra, Chief of Environmental Planning, by phone at (559) 624-7121, or by email at hguerra@tularecounty.ca.gov.

Sincerely,

Jessica R. Willis

Jessica Willis
Planner IV
(559) 624-7121
jwillis@tularecounty.ca.gov

Attachment(s): AB 52 Project Notification and Tribal Consultation Request (with maps)
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RESOURCE MANAGEMENT AGENCY

5961 SOUTH MOONEY BLVD
VISALIA, CA 93277
PHONE (559) 624-7000
FAX (559) 615-3002

Aaron R. Bock — Economic Development and Planning
Reed Schenke — Public Works
Sherman Dix — Fiscal Services

REED SCHENKE, DIRECTOR — MICHAEL WASHAM, ASSOCIATE DIRECTOR

December 23, 2022

Tule River Indian Tribe
Environmental Protection Department
Kerri Vera, Director
P. O. Box 589
Porterville, CA 93258

RE: Project Notification and Consultation Request Pursuant to Assembly Bill (AB) 52 for the Visalia Ranch at St Johns Project (TSM 22-002, PZC 22-012, WAC 22-005, WAN 22-018)

Dear Ms. Vera,

Pursuant to the provisions of AB 52, as the lead agency under the California Environmental Quality Act (CEQA), the County of Tulare hereby extends an invitation to consult on the CEQA review of the Visalia Ranch at St Johns Project (TSM 22-002, PZC 22-012, WAC 22-005, WAN 22-018) in order to assist with identifying and/or preserving and/or mitigating project impacts to Native American cultural places including:

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In accordance with CEQA (Pub. Resources Code, § 21000 et seq.), the County of Tulare Resource Management Agency (RMA) will be preparing a Mitigated Negative Declaration (MND) to evaluate the environmental effects associated with the Project.

Sacred Lands File Search

The County through their consultant, Crawford & Bowen Planning Inc, requested a Sacred Lands File (SLF) search through the Native American Heritage Commission (NAHC) for the proposed Project on December 16, 2022. The County has not yet received the results of the SLF search; however, the results will be made available upon the release of the MND for public review. The results may be made available to your Tribal Representatives if a written request for consultation is submitted to the County within thirty (30) days of receipt of this letter.

California Historical Resources Information System

The County's consultant, Crawford & Bowen Planning, Inc., requested a search of the California Historical Resources Information System (CHRIS) for the Project area through the Southern San Joaquin Valley Information Center (SSJVIC). The CHRIS search results dated August 1, 2022, indicated that there are no recorded resources within the project area (site); however, there is one known resource, the Santa Fe Railroad, within the ½ mile radius. The CHRIS search also indicated that there are no recorded cultural resources within the project area; however, the SSJVIC also indicated that there has been one previous cultural resource study conducted with the project area and recommends that a new field survey be conducted to determine if cultural resources are present as the study is approximately 50 years old. As such, the County is providing an opportunity for consultation with your Tribe to determine whether a Tribal Cultural Resources study will be required. The results of the CHRIS search would be made available to your Tribal Representatives if a written request for consultation is received. If the County does not receive a response to this request within thirty (30) days of receipt of this letter for CEQA purposes pursuant to AB 52, it will be presumed that there are no Tribal Cultural resources of concern, and a Cultural Resources study will not be required.

Request for Consultation

If your Tribe desires to consult with the County on the review of this project pursuant to AB 52, please respond in writing within thirty (30) days of receiving this letter. Written correspondence can be mailed to the address provided above or e-mailed to the addresses provided below.

If the County does not receive a response to this notification, it will be presumed that your Tribe has declined the opportunity to consult on this project pursuant to AB 52.

Thank you for your consideration on this matter and please do not hesitate to contact me by phone or e-mail should you have any questions or need additional information. If you need immediate assistance and I am unavailable, please contact, Hector Guerra, Chief of Environmental Planning, by phone at (559) 624-7121, or by email at hguerra@tularecounty.ca.gov.

Sincerely,

Jessica R. Willis

Jessica Willis
Planner IV
(559) 624-7121
jwillis@tularecounty.ca.gov

Attachment(s): AB 52 Project Notification and Tribal Consultation Request (with maps)
California Historical Resources Information System Records Search Results dated August 1, 2022

RESOURCE MANAGEMENT AGENCY

5961 SOUTH MOONEY BLVD
VISALIA, CA 93277
PHONE (559) 624-7000
FAX (559) 615-3002

Aaron R. Bock — Economic Development and Planning
Reed Schenke — Public Works
Sherman Dix — Fiscal Services

REED SCHENKE, DIRECTOR — MICHAEL WASHAM, ASSOCIATE DIRECTOR

December 23, 2022

Wuksache Indian Tribe/Eshom Valley Band
Kenneth Woodrow, Chairperson
1179 Rock Haven Ct.
Salinas, CA 93906

RE: Project Notification and Consultation Request Pursuant to Assembly Bill (AB) 52 for the Visalia Ranch at St Johns Project (TSM 22-002, PZC 22-012, WAC 22-005, WAN 22-018)

Dear Chairperson Woodrow,

Pursuant to the provisions of AB 52, as the lead agency under the California Environmental Quality Act (CEQA), the County of Tulare hereby extends an invitation to consult on the CEQA review of the Visalia Ranch at St Johns Project (TSM 22-002, PZC 22-012, WAC 22-005, WAN 22-018) in order to assist with identifying and/or preserving and/or mitigating project impacts to Native American cultural places including:

- Native American sanctified cemetery, place of worship, religious or ceremonial site, or sacred shrine; and
- Native American historic, cultural, or sacred site that is listed or may be eligible for listing in the California Register of Historical Resources including historic or prehistoric ruins and any burial ground, archaeological, or historic site.

In accordance with CEQA (Pub. Resources Code, § 21000 et seq.), the County of Tulare Resource Management Agency (RMA) will be preparing a Mitigated Negative Declaration (MND) to evaluate the environmental effects associated with the Project.

Sacred Lands File Search

The County through their consultant, Crawford & Bowen Planning Inc, requested a Sacred Lands File (SLF) search through the Native American Heritage Commission (NAHC) for the proposed Project on December 16, 2022. The County has not yet received the results of the SLF search; however, the results will be made available upon the release of the MND for public review. The results may be made available to your Tribal Representatives if a written request for consultation is submitted to the County within thirty (30) days of receipt of this letter.

California Historical Resources Information System

The County's consultant, Crawford & Bowen Planning, Inc., requested a search of the California Historical Resources Information System (CHRIS) for the Project area through the Southern San Joaquin Valley Information Center (SSJVIC). The CHRIS search results dated August 1, 2022, indicated that there are no recorded resources within the project area (site); however, there is one known resource, the Santa Fe Railroad, within the ½ mile radius. The CHRIS search also indicated that there are no recorded cultural resources within the project area; however, the SSJVIC also indicated that there has been one previous cultural resource study conducted with the project area and recommends that a new field survey be conducted to determine if cultural resources are present as the study is approximately 50 years old. As such, the County is providing an opportunity for consultation with your Tribe to determine whether a Tribal Cultural Resources study will be required. The results of the CHRIS search would be made available to your Tribal Representatives if a written request for consultation is received. If the County does not receive a response to this request within thirty (30) days of receipt of this letter for CEQA purposes pursuant to AB 52, it will be presumed that there are no Tribal Cultural resources of concern, and a Cultural Resources study will not be required.

Request for Consultation

If your Tribe desires to consult with the County on the review of this project pursuant to AB 52, please respond in writing within thirty (30) days of receiving this letter. Written correspondence can be mailed to the address provided above or e-mailed to the addresses provided below.

If the County does not receive a response to this notification, it will be presumed that your Tribe has declined the opportunity to consult on this project pursuant to AB 52.

Thank you for your consideration on this matter and please do not hesitate to contact me by phone or e-mail should you have any questions or need additional information. If you need immediate assistance and I am unavailable, please contact, Hector Guerra, Chief of Environmental Planning, by phone at (559) 624-7121, or by email at hguerra@tularecounty.ca.gov.

Sincerely,

Jessica R. Willis

Jessica Willis
Planner IV
(559) 624-7121
jwillis@tularecounty.ca.gov

Attachment(s): AB 52 Project Notification and Tribal Consultation Request (with maps)
California Historical Resources Information System Records Search Results dated August 1, 2022

RESOURCE MANAGEMENT AGENCY

5961 SOUTH MOONEY BLVD
VISALIA, CA 93277
PHONE (559) 624-7000
FAX (559) 615-3002

Aaron R. Bock — Economic Development and Planning
Reed Schenke — Public Works
Sherman Dix — Fiscal Services

REED SCHENKE, DIRECTOR — MICHAEL WASHAM, ASSOCIATE DIRECTOR

January 20, 2023

Tule River Indian Tribe
Joey Garfield, Tribal Archaeologist
P. O. Box 589
Porterville, CA, 93258

RE: Project Notification and Consultation Request Pursuant to Assembly Bill (AB) 52 for the Visalia Ranch at St Johns Project (TSM 22-002, PZC 22-012, WAC 22-005, WAN 22-018)

Dear Mr. Garfield,

Pursuant to the provisions of AB 52, as the lead agency under the California Environmental Quality Act (CEQA), the County of Tulare hereby extends an invitation to consult on the CEQA review of the Visalia Ranch at St Johns Project (TSM 22-002, PZC 22-012, WAC 22-005, WAN 22-018) in order to assist with identifying and/or preserving and/or mitigating project impacts to Native American cultural places including:

- Native American sanctified cemetery, place of worship, religious or ceremonial site, or sacred shrine; and
- Native American historic, cultural, or sacred site that is listed or may be eligible for listing in the California Register of Historical Resources including historic or prehistoric ruins and any burial ground, archaeological, or historic site.

In accordance with CEQA (Pub. Resources Code, § 21000 et seq.), the County of Tulare Resource Management Agency (RMA) will be preparing a Mitigated Negative Declaration (MND) to evaluate the environmental effects associated with the Project.

Sacred Lands File Search

The County through their consultant, Crawford & Bowen Planning Inc, requested a Sacred Lands File (SLF) search through the Native American Heritage Commission (NAHC) for the proposed Project on December 16, 2022. The SLF search, dated January 15, 2023, returned with "negative" results.

California Historical Resources Information System

The County's consultant, Crawford & Bowen Planning, Inc., requested a search of the California Historical Resources Information System (CHRIS) for the Project area through the Southern San Joaquin Valley Information Center (SSJVIC). The CHRIS search results dated August 1, 2022,

indicated that there are no recorded resources within the project area (site); however, there is one known resource, the Santa Fe Railroad, within the ½ mile radius. The CHRIS search also indicated that there are no recorded cultural resources within the project area; however, the SSJVIC also indicated that there has been one previous cultural resource study conducted with the project area and recommends that a new field survey be conducted to determine if cultural resources are present as the study is approximately 50 years old. As such, the County is providing an opportunity for consultation with your Tribe to determine whether a Tribal Cultural Resources study will be required. If the County does not receive a response to this request within thirty (30) days of receipt of this letter for CEQA purposes pursuant to AB 52, it will be presumed that there are no Tribal Cultural resources of concern, and a Cultural Resources study will not be required.

Request for Consultation

If your Tribe desires to consult with the County on the review of this project pursuant to AB 52, please respond in writing within thirty (30) days of receiving this letter. Written correspondence can be mailed to the address provided above or e-mailed to the addresses provided below.

If the County does not receive a response to this notification, it will be presumed that your Tribe has declined the opportunity to consult on this project pursuant to AB 52.

Thank you for your consideration on this matter and please do not hesitate to contact me by phone or e-mail should you have any questions or need additional information. If you need immediate assistance and I am unavailable, please contact, Hector Guerra, Chief of Environmental Planning, by phone at (559) 624-7121, or by email at hguerra@tularecounty.ca.gov.

Sincerely,

Jessica R. Willis

Jessica Willis
Planner IV
(559) 624-7121
jwillis@tularecounty.ca.gov

Attachment(s):
AB 52 Project Notification and Tribal Consultation Request (with maps)
California Historical Resources Information System Records Search Results dated August 1, 2022
Native American Heritage Commission Sacred Lands File Results and Tribal Contacts List, January 15, 2023

Brenda Alcantar

From: Danielle Folk
Sent: Friday, December 23, 2022 11:53 AM
To: Neil Peyron (neil.peyron@tulerivertribe-nsn.gov); Kerri Vera (tuleriverenv@yahoo.com); Felix Christman (tuleriverarchmon1@gmail.com)
Cc: Jessica R Willis
Subject: AB 52 Project Notification- Visalia Ranch at St. Johns
Attachments: CHRIS Report 22-293_8-1-22.pdf; Site Plan - St Johns Malli TSM.pdf; Visalia Ranch at St Johns_Letter_Peyron_TRIT.pdf; Visalia Ranch at St Johns_Project Notification.pdf; Visalia Ranch_Quad Map_Visalia0001.pdf

Good afternoon.

Pursuant to AB 52, please find attached the cover letter, Project Notification and Tribal Consultation Request form, project vicinity map, and project site plan maps for the Visalia Ranch at St. Johns Project(TSM 22-002, PZC 22-012, WAC 22-005, WAC 22-018). The hard copies of these documents were sent to you via Certified Mail on Friday, December 23, 2022.

Please feel free to contact me by phone or email if you would like to begin the consultation process. Also, if your tribe would like to decline the opportunity to consult or defer to another tribe, an email stating so would be greatly appreciated.

Thank you. Happy Holidays.

Danielle Folk

Planner III
Tulare County Resource Management Agency
(559) 624-7029
Dfolk@tularecounty.ca.gov

Brenda Alcantar

From: Danielle Folk
Sent: Friday, December 23, 2022 11:54 AM
To: Ben Charley; Dirk Charley
Cc: Jessica R Willis
Subject: AB 52 Project Notification- Visalia Ranch at St. Johns
Attachments: CHRIS Report 22-293_8-1-22.pdf; Site Plan - St Johns Malli TSM.pdf; Visalia Ranch at St Johns_Letter_Charley_DBMI.pdf; Visalia Ranch at St Johns_Letter_Woodrow_WIT.pdf; Visalia Ranch_Quad Map_Visalia0001.pdf

Good afternoon.

Pursuant to AB 52, please find attached the cover letter, Project Notification and Tribal Consultation Request form, project vicinity map, and project site plan maps for the Visalia Ranch at St. Johns Project(TSM 22-002, PZC 22-012, WAC 22-005, WAC 22-018). The hard copies of these documents were sent to you via Certified Mail on Friday, December 23, 2022.

Please feel free to contact me by phone or email if you would like to begin the consultation process. Also, if your tribe would like to decline the opportunity to consult or defer to another tribe, an email stating so would be greatly appreciated.

Thank you. Happy Holidays.

Danielle Folk

Planner III
Tulare County Resource Management Agency
(559) 624-7029
Dfolk@tularecounty.ca.gov

Brenda Alcantar

From: Danielle Folk
Sent: Friday, December 23, 2022 11:56 AM
To: Ken Woodrow (Kwood8934@aol.com)
Cc: Jessica R Willis; Hector Guerra
Subject: AB 52 Project Notification- Visalia Ranch at St. Johns
Attachments: CHRIS Report 22-293_8-1-22.pdf; Site Plan - St Johns Malli TSM.pdf; Visalia Ranch at St Johns_Project Notification.pdf; Visalia Ranch_Quad Map_Visalia0001.pdf; Visalia Ranch at St Johns_Letter_Woodrow_WIT.pdf

Good afternoon.

Pursuant to AB 52, please find attached the cover letter, Project Notification and Tribal Consultation Request form, project vicinity map, and project site plan maps for the Visalia Ranch at St. Johns Project(TSM 22-002, PZC 22-012, WAC 22-005, WAC 22-018). The hard copies of these documents were sent to you via Certified Mail on Friday, December 23, 2022.

Please feel free to contact me by phone or email if you would like to begin the consultation process. Also, if your tribe would like to decline the opportunity to consult or defer to another tribe, an email stating so would be greatly appreciated.

Thank you. Happy Holidays.

Danielle Folk

Planner III
Tulare County Resource Management Agency
(559) 624-7029
Dfolk@tularecounty.ca.gov

Brenda Alcantar

From: Danielle Folk
Sent: Friday, December 23, 2022 11:57 AM
To: Robert Robinson (bbutterbredt@gmail.com); Julie Turner (meindiangirl@sbcglobal.net); Brandy Kendricks (krazykendricks@hotmail.com)
Cc: Jessica R Willis
Subject: AB 52 Project Notification- Visalia Ranch at St. Johns
Attachments: CHRIS Report 22-293_8-1-22.pdf; Site Plan - St Johns Malli TSM.pdf; Visalia Ranch at St Johns_Letter_Robinson_KVIC.pdf; Visalia Ranch at St Johns_Project Notification.pdf; Visalia Ranch_Quad Map_Visalia0001.pdf

Good afternoon.

Pursuant to AB 52, please find attached the cover letter, Project Notification and Tribal Consultation Request form, project vicinity map, and project site plan maps for the Visalia Ranch at St. Johns Project(TSM 22-002, PZC 22-012, WAC 22-005, WAC 22-018). The hard copies of these documents were sent to you via Certified Mail on Friday, December 23, 2022.

Please feel free to contact me by phone or email if you would like to begin the consultation process. Also, if your tribe would like to decline the opportunity to consult or defer to another tribe, an email stating so would be greatly appreciated.

Thank you. Happy Holidays.

Danielle Folk

Planner III
Tulare County Resource Management Agency
(559) 624-7029
Dfolk@tularecounty.ca.gov

Brenda Alcantar

From: Danielle Folk
Sent: Friday, December 23, 2022 11:59 AM
To: lkipp@bsrnation.com
Cc: Jessica R Willis
Subject: AB 52 Project Notification- Visalia Ranch at St. Johns
Attachments: CHRIS Report 22-293_8-1-22.pdf; Site Plan - St Johns Malli TSM.pdf; Visalia Ranch at St Johns_Letter_Kipp_BSRWM.pdf; Visalia Ranch at St Johns_Project Notification.pdf; Visalia Ranch_Quad Map_Visalia0001.pdf

Good afternoon.

Pursuant to AB 52, please find attached the cover letter, Project Notification and Tribal Consultation Request form, project vicinity map, and project site plan maps for the Visalia Ranch at St. Johns Project(TSM 22-002, PZC 22-012, WAC 22-005, WAC 22-018). The hard copies of these documents were sent to you via Certified Mail on Friday, December 23, 2022.

Please feel free to contact me by phone or email if you would like to begin the consultation process. Also, if your tribe would like to decline the opportunity to consult or defer to another tribe, an email stating so would be greatly appreciated.

Thank you. Happy Holidays.

Danielle Folk

Planner III
Tulare County Resource Management Agency
(559) 624-7029
Dfolk@tularecounty.ca.gov

Brenda Alcantar

From: Danielle Folk
Sent: Friday, December 23, 2022 12:00 PM
To: Ron W. Goode
Cc: Jessica R Willis
Subject: AB 52 Project Notification- Visalia Ranch at St. Johns
Attachments: CHRIS Report 22-293_8-1-22.pdf; Site Plan - St Johns Malli TSM.pdf; Visalia Ranch at St Johns_Letter_Goode_NFMT.pdf; Visalia Ranch at St Johns_Project Notification.pdf; Visalia Ranch_Quad Map_Visalia0001.pdf

Good afternoon.

Pursuant to AB 52, please find attached the cover letter, Project Notification and Tribal Consultation Request form, project vicinity map, and project site plan maps for the Visalia Ranch at St. Johns Project(TSM 22-002, PZC 22-012, WAC 22-005, WAC 22-018). The hard copies of these documents were sent to you via Certified Mail on Friday, December 23, 2022.

Please feel free to contact me by phone or email if you would like to begin the consultation process. Also, if your tribe would like to decline the opportunity to consult or defer to another tribe, an email stating so would be greatly appreciated.

Thank you. Happy Holidays.

Danielle Folk

Planner III
Tulare County Resource Management Agency
(559) 624-7029
Dfolk@tularecounty.ca.gov

Brenda Alcantar

From: Danielle Folk
Sent: Friday, December 23, 2022 12:01 PM
To: Robert L. Gomez (rgomez@tubatulabal.org)
Cc: Jessica R Willis
Subject: AB 52 Project Notification- Visalia Ranch at St. Johns
Attachments: CHRIS Report 22-293_8-1-22.pdf; Site Plan - St Johns Malli TSM.pdf; Visalia Ranch at St Johns_Letter_Gomez_TKV.pdf; Visalia Ranch at St Johns_Project Notification.pdf; Visalia Ranch_Quad Map_Visalia0001.pdf

Good afternoon.

Pursuant to AB 52, please find attached the cover letter, Project Notification and Tribal Consultation Request form, project vicinity map, and project site plan maps for the Visalia Ranch at St. Johns Project(TSM 22-002, PZC 22-012, WAC 22-005, WAC 22-018). The hard copies of these documents were sent to you via Certified Mail on Friday, December 23, 2022.

Please feel free to contact me by phone or email if you would like to begin the consultation process. Also, if your tribe would like to decline the opportunity to consult or defer to another tribe, an email stating so would be greatly appreciated.

Thank you. Happy Holidays.

Danielle Folk

Planner III
Tulare County Resource Management Agency
(559) 624-7029
Dfolk@tularecounty.ca.gov

Brenda Alcantar

From: Danielle Folk
Sent: Friday, December 23, 2022 12:03 PM
To: Shana Powers (SPowers@tachi-yokut-nsn.gov); Leo Sisco (LSisco@tachi-yokut-nsn.gov); Samantha McCarty; Paige Berggren
Cc: Jessica R Willis
Subject: AB 52 Project Notification- Visalia Ranch at St. Johns
Attachments: CHRIS Report 22-293_8-1-22.pdf; Site Plan - St Johns Malli TSM.pdf; Visalia Ranch at St Johns_Letter_Powers_SRRTYT.pdf; Visalia Ranch at St Johns_Project Notification.pdf; Visalia Ranch_Quad Map_Visalia0001.pdf

Good afternoon.

Pursuant to AB 52, please find attached the cover letter, Project Notification and Tribal Consultation Request form, project vicinity map, and project site plan maps for the Visalia Ranch at St. Johns Project(TSM 22-002, PZC 22-012, WAC 22-005, WAC 22-018). The hard copies of these documents were sent to you via Certified Mail on Friday, December 23, 2022.

Please feel free to contact me by phone or email if you would like to begin the consultation process. Also, if your tribe would like to decline the opportunity to consult or defer to another tribe, an email stating so would be greatly appreciated.

Thank you. Happy Holidays.

Danielle Folk

Planner III
Tulare County Resource Management Agency
(559) 624-7029
Dfolk@tularecounty.ca.gov

Brenda Alcantar

From: Brenda Alcantar
Sent: Thursday, January 19, 2023 9:54 AM
To: joey.garfield@tulerivertribe-nsn.gov
Subject: AB 52 Project Notification- Visalia Ranch at St. Johns
Attachments: CHRIS Report 22-293_8-1-22.pdf; Visalia Ranch at St Johns_Letter_Peyron_TRIT.pdf; Visalia Ranch_Quad Map_Visalia0001.pdf; Site Plan - St Johns Malli TSM.pdf; Visalia Ranch at St Johns_Project Notification.pdf; SLF No St Johns Malli TSM Project 1.15.2023.pdf

Good morning,

Pursuant to AB 52, please find attached the Cover letter, Project Notification and Tribal Consultation Request form, Project vicinity map, SLF results, and project site plan maps for the Visalia Ranch at St. Johns Project (TSM 22-002, PZC 22-012, WAC
22-005, WAC 22-018). The hard copies of these documents were sent via Certified Mail on Friday, December 23, 2022. Now that you have been recently added to the NAHC list as of 01/15/23 we are forwarding you electronic copies.

Please feel free to contact me by phone or email if you would like to begin the consultation process. Also, if your tribe would like to decline the opportunity to consult or defer to another tribe, an email stating so would be greatly appreciated.

Thank you.

Brenda Alcantar

Planning Tech.
Environmental Planning Division
(559) 624-7132
balcantar@tularecounty.ca.gov

Brenda Alcantar

From: Brenda Alcantar
Sent: Thursday, January 19, 2023 11:34 AM
To: SMcCarty@tachi-yokut-nsn.gov
Subject: Visalia Ranch at St. Johns; SLF results
Attachments: SLF No St Johns Malli TSM Project 1.15.2023.pdf

Good morning,

Per your tribe's request, now that Tulare County RMA has received the SLF search results for Visalia Ranch at St. Johns Malli Project (see attached) we are reaching out again to solicit your comments.

We look forward to hearing from you.

Kind Regards,

Brenda Alcantar

Planning Tech.
Environmental Planning Division
(559) 624-7132
balcantar@tularecounty.ca.gov

Brenda Alcantar

From: Brenda Alcantar
Sent: Thursday, January 19, 2023 11:35 AM
To: 'SPowers@tachi-yokut-nsn.gov'
Subject: Visalia Ranch at St. Johns; SLF results
Attachments: SLF No St Johns Malli TSM Project 1.15.2023.pdf

Good morning,

I am following up with an attached copy of the SLF results regarding the Visalia Ranch at St. Johns Malli Project. As such, we are reaching out to solicit your comments.

We look forward to hearing from you.

Kind regards,

Brenda Alcantar

Planning Tech.
Environmental Planning Division
(559) 624-7132
balcantar@tularecounty.ca.gov

Brenda Alcantar

From: Brenda Alcantar
Sent: Thursday, January 19, 2023 11:38 AM
To: ikipp@bsmation.com; LSisco@tachi-yokut-nsn.gov; kerri.vera@tulerivertribe-nsn.gov; neil.peyron@tulerivertribe-nsn.gov; kwood8934@aol.com; felix.christman@tulerivertribe-nsn.gov
Subject: Visalia Ranch at St. Johns; SLF results
Attachments: SLF No St Johns Malli TSM Project 1.15.2023.pdf

Good morning,

Tulare County RMA has received the SLF search results for Visalia Ranch at St. Johns Malli Project (see attached). The NAHC specifically identified your tribe for consultation on the Project. As such, we are reaching out again to solicit your comments.

We look forward to hearing from you.

Thank you,

Brenda Alcantar

Planning Tech.
Environmental Planning Division
(559) 624-7132
balcantar@tularecounty.ca.gov

Brenda Alcantar

From: Mail Delivery Subsystem <MAILER-DAEMON@pps.reinject>
To: ikipp@bsmation.com
Sent: Thursday, January 19, 2023 11:38 AM
Subject: Undeliverable: Visalia Ranch at St. Johns; SLF results

The original message was received at Thu, 19 Jan 2023 11:37:50 -0800 from m0234619.ppops.net [127.0.0.1]

----- The following addresses had permanent fatal errors ----- <ikipp@bsmation.com>
(reason: 550 Host unknown)

----- Transcript of session follows -----
550 5.1.2 <ikipp@bsmation.com>... Host unknown (Name server: bsmation.com.: host not found)

Brenda Alcantar

From: Brenda Alcantar
Sent: Thursday, January 19, 2023 12:08 PM
To: SMcCarty@tachi-yokut-nsn.gov; SPowers@tachi-yokut-nsn.gov
Cc: Danielle Folk; Jessica R Willis
Subject: Visalia Ranch at St. Johns
Attachments: St Johns Malli TSM Project List 1.15.2023.pdf

Hello,

Regarding the previous email I inadvertently forgot to attach the NAHC tribal contact list, please refer to the attachment.

Best regards,

Brenda Alcantar

Planning Tech.
Environmental Planning Division
(559) 624-7132
balcantar@tularecounty.ca.gov

Brenda Alcantar

From: Danielle Folk
Sent: Friday, January 20, 2023 12:48 PM
To: lkipp@bsrnation.com
Cc: Brenda Alcantar; Jessica R Willis
Subject: Visalia Ranch at St. Johns; SLF Results
Attachments: SLF No St Johns Malli TSM Project 1.15.2023.pdf; St Johns Malli TSM Project List 1.15.2023.pdf

Good afternoon.
Tulare County RMA has received the SLF search results for Visalia Ranch at St. Johns Malli Project (see attached). The NAHC specially identified your tribe for consultation on the Project. As such, we are reaching out again to solicit your comments.

We look forward to hearing from you.

Have a great weekend.

Best Regards,

Danielle Folk

Planner III
Tulare County Resource Management Agency
(559) 624-7029
Dfolk@tularecounty.ca.gov

ATTACHMENT "F"

Mitigation Monitoring and Reporting Program

Mitigation Monitoring and Reporting Program

The Mitigation Monitoring and Reporting Program (MMRP) has been prepared in compliance with State law for the Visalia Ranch at St. John's (TSM 22-002, PZC 22-012, WAC 22-005, WAN 22-018) by the County of Tulare.

The CEQA Public Resources Code Section 21081.6 requires the Lead Agency decision making body that is going to approve a project and certify the MND that it also adopt a reporting or monitoring program for those measures recommended to mitigate or avoid significant/adverse effects of the environment identified in the MND. The law states that the reporting or monitoring program shall be designed to ensure compliance during project implementation. The MMRP is to contain the following elements:

- **Action and Procedure.** The mitigation measures are recorded with the action and procedure necessary to ensure compliance. In some instances, one action may be used to verify implementation of several mitigation measures.

- **Compliance and Verification.** A procedure for compliance and verification has been outlined for each action necessary. This procedure designates who will take action, what action will be taken and when and by whom and compliance will be monitored and reported and to whom it will be report. As necessary the reporting should indicate any follow-up actions that might be necessary if the reporting notes the impact has not been mitigated.

- **Flexibility.** The program has been designed to be flexible. As monitoring progresses, changes to compliance procedures may be necessary based upon the recommendations by those responsible for the MMRP. As changes are made, new monitoring compliance procedures and records will be developed and incorporated into the program

The following table presents the Mitigation Measures identified for the proposed Project in this MND. Each Mitigation Measure is identified by the impact number. For example, 4-1 would be the first Mitigation Measure identified in the Biological analysis of the MND.

The first column of the Table identifies the Mitigation Measure. The second column, entitled "Monitoring Timing/Occurrence," identifies the time the Mitigation Measure should be initiated. The third column, "Frequency of Monitoring," identifies the frequency of the monitoring that should take place to assure the mitigation is being or has been implemented to achieve the desired outcome or performance standard... The fourth column, "Agency Responsible for Monitoring," names the party ultimately responsible for ensuring that the Mitigation Measure is implemented. The fifth column, "Method to Verify Compliance," identifies the requirements for verification that the Mitigation Measure has been implemented. The last three columns will be used by the Lead Agency (County of Tulare) to ensure that individual Mitigation Measures have been complied with and are monitored.

Mitigation Monitoring and Reporting Program							
Mitigation Measure	**Monitoring Timing / Frequency**	**Action Indicating Compliance**	**Monitoring Agency**	**Person Conducting Monitoring / Reporting**	**Verification of Compliance**		
					Initials	**Date**	**Remarks**
AGRICULTURAL RESOURCES							
Agricultural Easement							
2-1. The applicant will be required to create an agricultural land conservation easement at a ratio of one acre of developed property for 57 acres of conserved agricultural land (a 1:1 ratio). This amount of 1:1 will be represented by 57 acres within the County. Any replacement acreage will be to the satisfaction of the Planning Director of Tulare County. The applicant will purchase an agricultural land conservation easement, of like agricultural land within the County, on the entire 57 acres to be maintained and kept in agriculture in perpetuity. The "ultimate" agricultural easement shall be placed on other suitable and agriculturally compatible property, of the same soil types and arability, within Tulare County; at a replacement ratio of 1:1, and to be established as an agricultural land conservation easement in perpetuity. If creating a 57-acre agricultural land conservation easement is not feasible, the applicant will be required to provide to the County in-lieu fees sufficient to purchase an agricultural land conservation easement at a ratio of one acre of developed property for 57 acres of conserved agricultural land (a 1:1	Prior to the issuance of building permits.	Issuance of building permits by the County of Tulare Planning Department	County of Tulare Planning Department	County of Tulare Planning Department			

Mitigation Monitoring and Reporting Program							
Mitigation Measure	**Monitoring Timing / Frequency**	**Action Indicating Compliance**	**Monitoring Agency**	**Person Conducting Monitoring / Reporting**	**Verification of Compliance**		
					Initials	**Date**	**Remarks**
ratio). The applicant will be required to either create an agricultural land conservation easement at a 1:1 ratio as described above, pay in-lieu fees to the Tulare County Resource Management Agency to purchase an agricultural land conservation easement at a ratio of 1:1, or a combination thereof to satisfy the ultimate 1:1 ratio prior to the issuance of any building permit.							
BIOLOGICAL RESOURCES							
Nesting Birds Protection							
4-1. • To the extent practicable, construction shall be scheduled to avoid the nesting season, which extends from February through August. • If it is not possible to schedule construction between September and January, preconstruction surveys for nesting birds shall be conducted by a qualified biologist to ensure that no active nests will be disturbed during the implementation of the Project. A pre-construction survey shall be conducted no more than 14 days prior to the initiation of construction activities. During this survey, the qualified biologist shall inspect all potential nest substrates in and immediately adjacent to the impact	Prior to start of construction.	Retention of professional biologist/ongoing monitoring/ submittal of Report of Findings, if applicable	County of Tulare Planning Department and/or CDFW	Field survey by a qualified Biologist.			

Mitigation Monitoring and Reporting Program							
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areas. If an active nest is found close enough to the construction area to be disturbed by these activities, the qualified biologist shall determine the extent of a construction-free buffer to be established around the nest. If work cannot proceed without disturbing the nesting birds, work may need to be halted or redirected to other areas until nesting and fledging are completed or the nest has otherwise failed for non- construction related reasons.							
CULTURAL RESOURCES							
5-1. Before initiation of construction or ground-disturbing activities associated with the Project, the County shall require all construction personnel to be alerted to the possibility of buried cultural resources, including historic, archeological and paleontological resources;	During Constructio n	Daily or as needed throughout the construction period if suspicious resources are discovered	County of Tulare Planning Department via field evaluation of the resource finds by a qualified archaeologist	A qualified archaeologist shall document the results of field evaluation and shall recommend further actions that shall be taken to mitigate for unique resource or human remains found, consistent with all applicable laws including CEQA.			

Mitigation Monitoring and Reporting Program							
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					Initials	**Date**	**Remarks**
5-2. The general contractor and its supervisory staff shall be responsible for monitoring the construction Project for disturbance of cultural resources; and	During Construction	Daily or as needed throughout the construction period if suspicious resources are discovered	County of Tulare Planning Department via field evaluation of the resource finds by a qualified archaeologist	A qualified archaeologist shall document the results of field evaluation and shall recommend further actions that shall be taken to mitigate for unique resource or human remains found, consistent with all applicable laws including CEQA.			
5-3. If a potentially significant historical, archaeological, or paleontological resource, such as structural features, unusual amounts of bone or shell, artifacts, human remains, or architectural remains or trash deposits are encountered during subsurface construction activities (i.e., trenching, grading), all construction activities within a 100-foot radius of the identified potential resource shall cease until a qualified archaeologist evaluates the item for its significance and records the item on the appropriate State Department of Parks and	During Construction	Daily or as needed throughout the construction period if suspicious resources are discovered	County of Tulare Planning Department via field evaluation of the resource finds by a qualified archaeologist.	A qualified archaeologist shall document the results of field evaluation and shall recommend further actions that shall be taken to mitigate for unique resource or human remains			

Mitigation Monitoring and Reporting Program							
Mitigation Measure	**Monitoring Timing / Frequency**	**Action Indicating Compliance**	**Monitoring Agency**	**Person Conducting Monitoring / Reporting**	**Verification of Compliance**		
					Initials	**Date**	**Remarks**
Recreation (DPR) forms. The archaeologist shall determine whether the item requires further study. If, after the qualified archaeologist conducts appropriate technical analyses, the item is determined to be significant under California Environmental Quality Act, the archaeologist shall recommend feasible mitigation measures, which may include avoidance, preservation in place or other appropriate measure, as outlined in Public Resources Code section 21083.2. The Tulare County shall implement said measures.				found, consistent with all applicable laws including CEQA.			
5-4. The Project applicant will incorporate into the construction contract(s) a provision that in the event a fossil or fossil formations are discovered during any subsurface construction activities for the proposed Project (i.e., trenching, grading), all excavations within 100 feet of the find shall be temporarily halted until the find is examined by a qualified paleontologist, in accordance with Society of Vertebrate Paleontology standards. The paleontologist shall notify the appropriate representative at the Tulare County, who shall coordinate with the paleontologist as to any necessary investigation of the find. If the find is determined to be significant under CEQA, the County shall implement those measures, which may include avoidance, preservation in place, or other	During Construction	Daily or as needed throughout the construction period if suspicious resources are discovered	County of Tulare Planning Department via field evaluation of the resource finds by a qualified archaeologist	A qualified archaeologist shall document the results of field evaluation and shall recommend further actions that shall be taken to mitigate for unique resource or human remains found, consistent with all applicable laws including CEQA.			

Mitigation Monitoring and Reporting Program							
Mitigation Measure	**Monitoring Timing / Frequency**	**Action Indicating Compliance**	**Monitoring Agency**	**Person Conducting Monitoring / Reporting**	**Verification of Compliance**		
					Initials	**Date**	**Remarks**
appropriate measures, as outlined in Public Resources Code section 21083.2.							
GEOLOGY / SOILS							
See Measures 5-1 and 5-2.							
TRIBAL CULTURAL RESOURCES							
See Measures 5.1 through 5.3.							