

Initial Study and Mitigated Negative Declaration for the Dairy Ave/Circle H Biogas Project

February 2024



Prepared By:



4CREEKS

4Creeks, Inc.
324 S Santa Fe, Suite
A Visalia, CA 93292

Prepared For:



Kings County
1400 W. Lacey Blvd. Bldg. 6
Hanford, CA 93230

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Section 1

Initial Study/Negative Declaration Process



KINGS COUNTY
Community Development Agency
1400 W. Lacey Blvd., Bld. 6
Hanford, CA 93230

SECTION 1
CEQA REVIEW PROCESS

1.1 CALIFORNIA ENVIRONMENTAL QUALITY ACT GUIDELINES

Section 15063(a) of the California Environmental Quality Act (CEQA) Guidelines requires that the Lead Agency prepare an Initial Study; however, if the Lead Agency can determine that an EIR will clearly be required for the project, an initial study is not required, but may still be desirable. All phases of the project planning, implementation, and operation must be considered in the Initial Study. The purposes of an Initial Study, as listed under Section 15063(c) of the CEQA Guidelines, include:

- (1) *Provide the lead agency with information to use as the basis for deciding whether to prepare an EIR or negative declaration;*
- (2) *Enable an applicant or lead agency to modify a project, mitigating adverse impacts before an EIR is prepared, thereby enabling the project to qualify for a negative declaration;*
- (3) *Assist the preparation of an EIR, if one is required, by:*
 - (A) *Focusing the EIR on the effects determined to be significant,*
 - (B) *Identifying the effects determined not to be significant,*
 - (C) *Explaining the reasons for determining that potentially significant effects would not be significant, and*
 - (D) *Identifying whether a program EIR, tiering, or another appropriate process can be used for analysis of the project's environmental effects.*
- (4) *Facilitate environmental assessment early in the design of a project;*
- (5) *Provide documentation of the factual basis for the finding in a negative declaration that a project will not have a significant effect on the environment*
- (6) *Eliminate unnecessary EIRs;*
- (7) *Determine whether a previously prepared EIR could be used with the project.*

1.2 INITIAL STUDY

The Initial Study provided herein covers the potential environmental effects of the proposed construction and operation of a Biogas Facility in Kings County, CA. Kings County will act as the Lead Agency for processing the Initial Study/Negative Declaration pursuant to CEQA and the CEQA Guidelines.

1.3 ENVIRONMENTAL CHECKLIST

The Lead Agency may use the CEQA Environmental Checklist Form [CEQA Guidelines, Section 15063(d)(3) and (f)] in preparation of an Initial Study to provide information for determining if the project will have significant effects on the environment. A copy of the completed Environmental Checklist is set forth in **Section Three**.

1.4 NOTICE OF INTENT TO ADOPT A NEGATIVE DECLARATION

The Lead Agency shall provide a Notice of Intent to Adopt a Negative Declaration (CEQA Guidelines, Section 15072) to the public, responsible agencies, trustee agencies and the County Clerk within which the project is located, sufficiently prior to adoption by the Lead Agency of the Negative Declaration to allow the public and agencies the review period. The public review period (CEQA Guidelines, Section 21091(b)) shall not be less than 20 days. If the draft mitigated negative declaration is submitted to the State Clearinghouse for review, the review period shall be at least 30 days.

Prior to approving the project, the Lead Agency shall consider the proposed Negative Declaration together with any comments received during the public review process and shall adopt the proposed Negative Declaration only if it finds on the basis of the whole record before it, that there is no substantial evidence that the project will have a significant effect on the environment and that the Negative Declaration reflects the Lead Agency's independent judgment and analysis.

The written and oral comments received during the public review period will be considered by Kings County prior to adopting the Negative Declaration. Regardless of the type of CEQA document that must be prepared, the overall purpose of the CEQA process is to:

- 1) Assure that the environment and public health and safety are protected in the face of discretionary projects initiated by public agencies or private concerns;
- 2) Provide for full disclosure of the project's environmental effects to the public, the agency decision-makers who will approve or deny the project, and the responsible trustee agencies charged with managing resources (e.g. wildlife, air quality) that may be affected by the project; and
- 3) Provide a forum for public participation in the decision-making process pertaining to potential environmental effects.

According to Section 15070 a public agency shall prepare or have prepared a proposed negative declaration or mitigated negative declaration for a project subject to CEQA when:

- (a) *The initial study shows that there is no substantial evidence, in light of the whole record before the agency, that the project may have a significant effect on the environment, or*
- (b) *The initial study identifies potentially significant effects, but:*
 - (1) *Revisions in the project plans or proposals made by, or agreed to by the applicant before a proposed mitigated negative declaration and initial study are released for public review*

would avoid the effects or mitigate the effects to a point where clearly no significant effects would occur, and

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

The Environmental Checklist Discussion contained in Section Three of this document has determined that the environmental impacts of the project are less than significant with mitigation measures and that a Mitigated Negative Declaration is adequate for adoption by the Lead Agency.

1.5 NEGATIVE DECLARATION OR MITIGATED NEGATIVE DECLARATION

The Lead Agency shall prepare or have prepared a proposed Negative Declaration or Mitigated Negative Declaration (CEQA Guidelines Section 15070) for a project subject to CEQA when the Initial Study shows that there is no substantial evidence, in light of the whole record before the agency, that the project may have a significant effect on the environment. The proposed Negative Declaration or Mitigated Negative Declaration circulated for public review shall include the following:

- (a) A brief description of the project, including a commonly used name for the project.
- (b) The location of the project, preferably shown on a map.
- (c) A proposed finding that the project will not have a significant effect on the environment.
- (d) An attached copy of the Initial Study documenting reasons to support the finding.
- (e) Mitigation measures, if any.

1.6 INTENDED USES OF INITIAL STUDY/NEGATIVE DECLARATION DOCUMENTS

The Initial Study/Negative Declaration document is an informational document that is intended to inform decision-makers, other responsible or interested agencies, and the general public of potential environmental effects of the proposed project. The environmental review process has been established to enable the public agencies to evaluate environmental consequences and to examine and implement methods of eliminating or reducing any adverse impacts. While CEQA requires that consideration be given to avoiding environmental damage, the Lead Agency must balance any potential environmental effects against other public objectives, including economic and social goals.

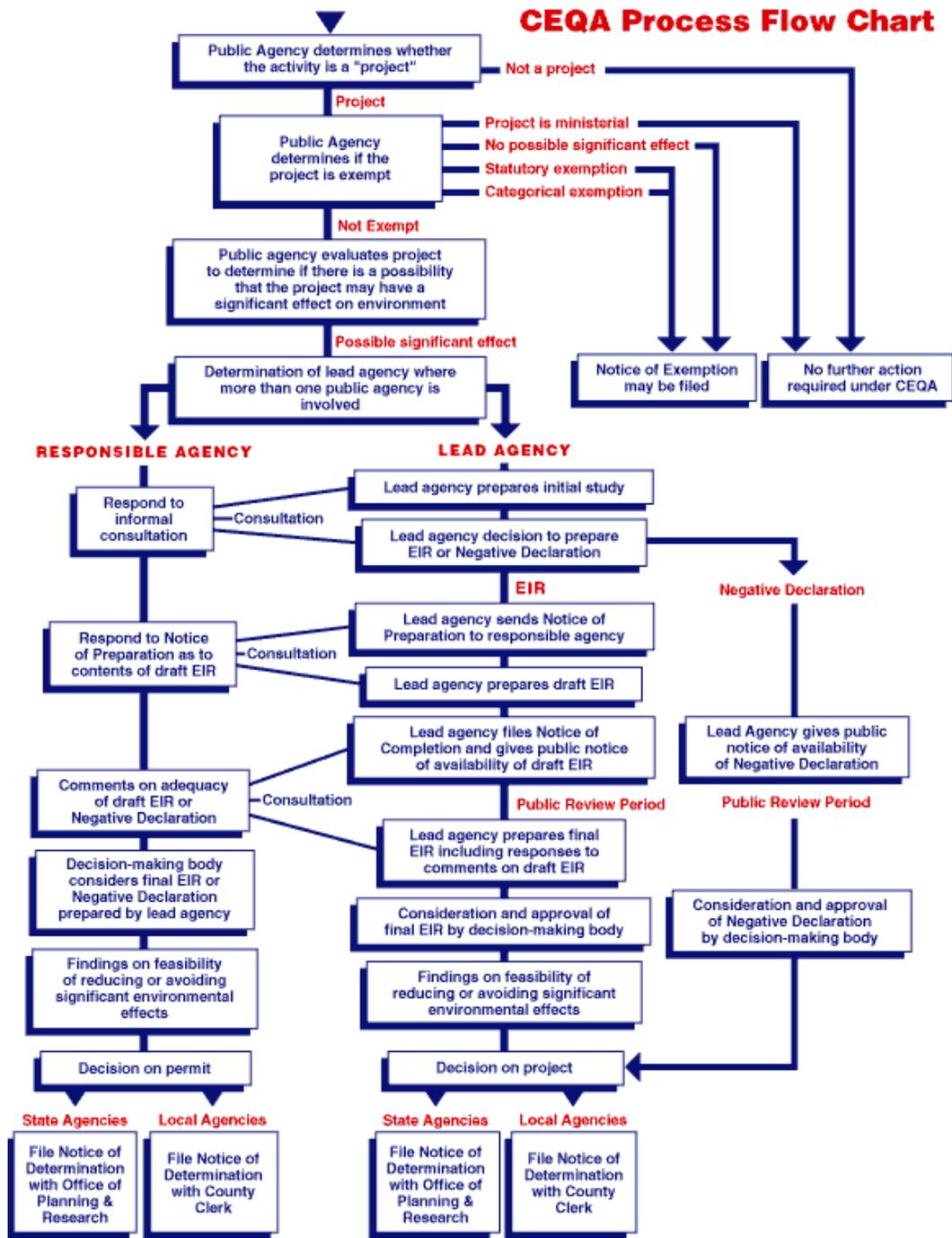
Kings County, as Lead Agency, will make a determination, based on the environmental review for the Environmental Study, Initial Study, and comments from the general public, if there are less than significant impacts from the proposed project and the requirements of CEQA can be met by adoption of a Mitigated Negative Declaration.

1.7 NOTICE OF DETERMINATION (NOD)

The Lead Agency shall file a Notice of Determination within five working days after deciding to approve the project. The Notice of Determination (CEQA Guidelines, Section 15075) shall include the following:

- (1) An identification of the project including the project title as identified on the proposed negative declaration, its location, and the State Clearinghouse identification number for the proposed negative declaration if the notice of determination is filed with the State Clearinghouse.*
- (2) A brief description of the project.*
- (3) The agency's name, the applicant's name, if any, and the date on which the agency approved the project.*
- (4) The determination of the agency that the project will not have a significant effect on the environment.*
- (5) A statement that a negative declaration or a mitigated negative declaration was adopted pursuant to the provisions of CEQA.*
- (6) A statement indicating whether mitigation measures were made a condition of the approval of the project, and whether a mitigation monitoring plan/program was adopted.*
- (7) The address where a copy of the negative declaration or mitigated negative declaration may be examined.*
- (8) The identity of the person undertaking a project which is supported, in whole or in part, through contracts, grants, subsidies, loans, or other forms of assistance from one or more public agencies or the identity of the person receiving a lease, permit, license, certificate, or other entitlement for use from one or more public agencies.*

1.8 CEQA PROCESS FLOW CHART



Section 2

Project Description



KINGS COUNTY

Community Development Agency
1400 W. Lacey Blvd., Bld. 6
Hanford, CA 93230

SECTION 2 PROJECT DESCRIPTION

2.1 PROJECT DESCRIPTION & PURPOSE

California Bioenergy LLC (CalBio) plans to develop land in Kings County, CA to construct and operate a Biogas Facility. The proposed project would affect approximately 16.2 acres within parcels 044-280-012, 044-280-005, and 044-280-013. The purpose of this project is to reduce methane emissions from livestock waste by producing raw biogas through an anaerobic digester system, which will be captured and upgraded on-site and eventually deposited at a nearby natural gas system to provide a sustainable form of vehicle fuel. The Biogas plant will produce natural gas and fertilizers from agricultural waste, particularly from the liquid wastewater produced at the two existing dairies and one feedlot facility on the project site. The Biogas plant will make use of this waste by undergoing an anaerobic, or oxygen-free, digestion process, where various microorganisms break down the waste and produce methane as a byproduct. The methane byproduct resulting from the fermentation process is then upgraded to natural gas standards on site and will be hauled offsite to an existing biogas interconnection facility for injection into the existing SoCalGas transmission lines. See Figure 2-2 for the general layout of the Biogas operation.

The Biogas plant includes three manure separation systems, underground infrastructure (water, wastewater, electrical, and biogas), the anaerobic dairy digester, and a conditioning plant. The digester will be constructed as a new Tier 1-lined pond, to standards set forth by the Regional Water Quality Control Board (RWQCB), which will be covered for gas collection. The conditioning plant will consist of biogas conditioning equipment, along with a biogas truck trailer loading station. The biogas upgrading facility within the conditioning plant is designed to collect and upgrade biogas at a maximum flowrate of 400 standard cubic feet per minute (SCFM). The truck loading station is where the tanks will be filled with biogas, which would then be delivered offsite to a natural gas transmission line located approximately 22.9 miles northeast of the Project site near Tulare, CA. In addition to the proposed facilities, the project includes improvements to the internal access roads, starting at the 6th Avenue entrance.

The anaerobic digester will be processing the raw wastewater from two dairies (Dairy Ave & Circle H) and one livestock facility (Homeland Cattle Company) on the site. The proposed anaerobic digester has the capacity to hold 19.9 million gallons of raw manure. Dairy Avenue has a permitted herd size of 1,828 milk cows and 100 dry cows, and Circle H also has a permitted herd size of 1,828 milk cows and 100 dry cows. Homeland Cattle Company has a permitted herd size of 283 heifers (1 year to breeding), 3,744 calves (4 months to 1 year old), and 856 baby

calves (0 to 3 months old) for a total of 2,375 animal units. Across the three sites, there are a total of 7,717 animal units. A breakdown of the animal unit counts and permitted herd sizes are detailed in Table 2-1, Table 2-2, and Table 2-3. A Holstein breed was assumed for all animal categories.

Animal Type	Number of Animals	Adjustment Factors		Animal Units
		Age	Breed	
Gallons/Day - Milk cows	1,828	1.00	1.4	2,559
Gallons/Day - Dry	100	0.80	1.4	112
Gallons/day - Heifers (1 yr. to Breeding)	0	0.73	1.4	0
Gallons/day - Calves (4 mo.-1 yr.)	0	0.35	1.4	0
Gallons/Day - Calves (0-3 mo.)	0	0.21	1.4	0
			Total AU:	2671

Table 2-1. Animal Unit breakdown for Dairy Ave facility.

Animal Type	Number of Animals	Adjustment Factors		Animal Units
		Age	Breed	
Gallons/Day - Milk cows	1,828	1.00	1.4	2,559
Gallons/Day - Dry	100	0.80	1.4	112
Gallons/day - Heifers (1 yr. to Breeding)	0	0.73	1.4	0
Gallons/day - Calves (4 mo.-1 yr.)	0	0.35	1.4	0
Gallons/Day - Calves (0-3 mo.)	0	0.21	1.4	0
			Total AU:	2671

Table 2-2. Animal Unit breakdown for Circle H Dairy facility.

Animal Type	Number of Animals	Adjustment Factors		Animal Units
		Age	Breed	
Gallons/Day - Milk cows	0	1.00	1.4	0
Gallons/Day - Dry	0	0.80	1.4	0
Gallons/day - Heifers (1 yr. to Breeding)	283	0.73	1.4	289
Gallons/day - Calves (4 mo.-1 yr.)	3,744	0.35	1.4	1,835
Gallons/Day - Calves (0-3 mo.)	856	0.21	1.4	252
			Total AU:	2376

Table 2-3. Animal Unit breakdown for Homeland Cattle Company

Based on varying manure excretion estimates (Nennich et al., 2005), the anaerobic digester would process approximately 83,990 gallons of liquid manure per day, so the current operation should not exceed the capacity of the Biogas facility. Manure excretion estimates were gathered from a study compiling data sets from multiple metabolism studies conducted at several universities (Nennich et al., 2005). Manure excretion in kilograms, per day, per animal unit for each age group and animal type was gathered directly from the study. Gallons per day, per animal unit was calculated by dividing the kilograms per day, per animal unit by the average density of manure in kilograms per gallon, which results in the volume of manure produced each day in gallons. Total volumes are depicted in Table 2-4.

Animal Type	Manure Kg/Day/AU ¹	Manure Gal/Day/AU	Animal Units (AU)	Gal/Day Each Group
Gallons/Day (Milk cows)	66.3	14.62	5,118	74,825
Gallons/Day - Dry Cow	38.6	8.51	224	1,906
Gallons/Day - Heifers (1 yr. to Breeding)	24.5	5.40	289	1,561
Gallons/Day - Calves (4 mo.-1 yr.)	12.4	2.73	1,835	5,010
Gallons/Day - Calves (0-3 mo.)	12.4	2.73	252	688
Total			7,717	83,990

Table 2-4. Total wastewater volume estimates from all existing facilities.

The biogas pipeline will be up to 10" in diameter and will have a minimum cover of 36" below the existing ground surface. The expected affected area is a maximum of 10 feet wide per linear foot of pipe for backhoe trenching. The project proposes approximately 2.5 miles of pipeline to conduct manure processing. The pipelines will be installed on the existing livestock facilities by method of Horizontal Directional Drilling (HDD). In this method, pits are dug on each side and the pipe is pulled with an auger, drilling from one pit to the other. All construction will occur on privately-owned property.

2.2 PROJECT LOCATION

The location of the proposed Dairy Avenue & Circle H Biogas Plant (hereinafter referred to as the "Project Site") is located in the southeastern portion of Kings County, directly south of the City of Corcoran, on the northeast corner of the intersection of Utica Avenue & 6th Avenue. The proposed Project area is located on existing farmland adjacent to the existing Homeland Cattle Company feedlot. The project would involve construction on approximately 16.2 acres within parcels 044-280-012, 044-280-005, and 044-280-013.

The properties on which the project would be located are designated by Kings County as General Agriculture (AG-40) under the General Plan and are zoned as AG-40 General Agricultural-40 District under the Kings County Development Code. The Site is within an unincorporated portion of Kings County and is approximately 10 miles south of the City of Corcoran. Current land use on the surrounding properties includes cultivated agriculture and livestock facilities. There is one rural office location approximately 1.5 miles west of the Project property. The land to the north, south, east, and west are designated by Kings County as General Agriculture (AG-40) under the Kings County General Plan and is zoned as AG-40 General Agricultural-40 District under the Kings County Development Code. The eastern boundary of the Project Site is adjacent to the Kings/Tulare County line.

2.3 OTHER PERMITS AND APPROVALS

Other permits and approvals required for the Dairy Avenue & Circle H Biogas Facility Project are listed below. It should be noted that this list is not exhaustive and additional permits and approvals may also be required.



- *County of Kings Code of Ordinances, Buildings and Structures, Section 5-7. No person shall erect, construct, enlarge, alter, repair, move, improve, remove, convert, demolish, wire, or engage in plumbing, any building or structure in the unincorporated territory of the county without first obtaining a separate building, electric, plumbing, and mechanical permit for the work proposed on each such building or structure from the building.*
- *Central Valley Regional Quality Control Board, NPDES Permit.* The proposed Project Site is within the jurisdiction of the Central Valley Regional Water Quality Control Board (RWQCB). The Central Valley RWQCB requires a National Pollution Discharge Elimination System (NPDES) Permit for projects disturbing more than one acre of total land area. A Stormwater Pollution Prevention Plan (SWPPP) is required as part of this permit. Because the project is greater than one acre, an NPDES Permit and SWPPP will be required.
- *San Joaquin Valley Air Pollution Control District, Authority to Construct/Permit to Operate.* Authority to Construct Permits are required prior to building or installing certain equipment. A Permit to Operate is required prior to operation of that equipment. Certain An Authority to Construct/Permit to Operate will be required for the following:
 - 1) Covered anaerobic digester to collect the flush manure from each facility
 - 2) Bovine Facilities
 - 3) Fugitive methane and gas produced from the bovine facilities
 - 4) Specific biogas upgrading equipment

The gas produced will be processed and treated at the on-site conditioning plant and transported offsite to a central location via truck, where it will be injected into a natural gas system for use as vehicle fuel.

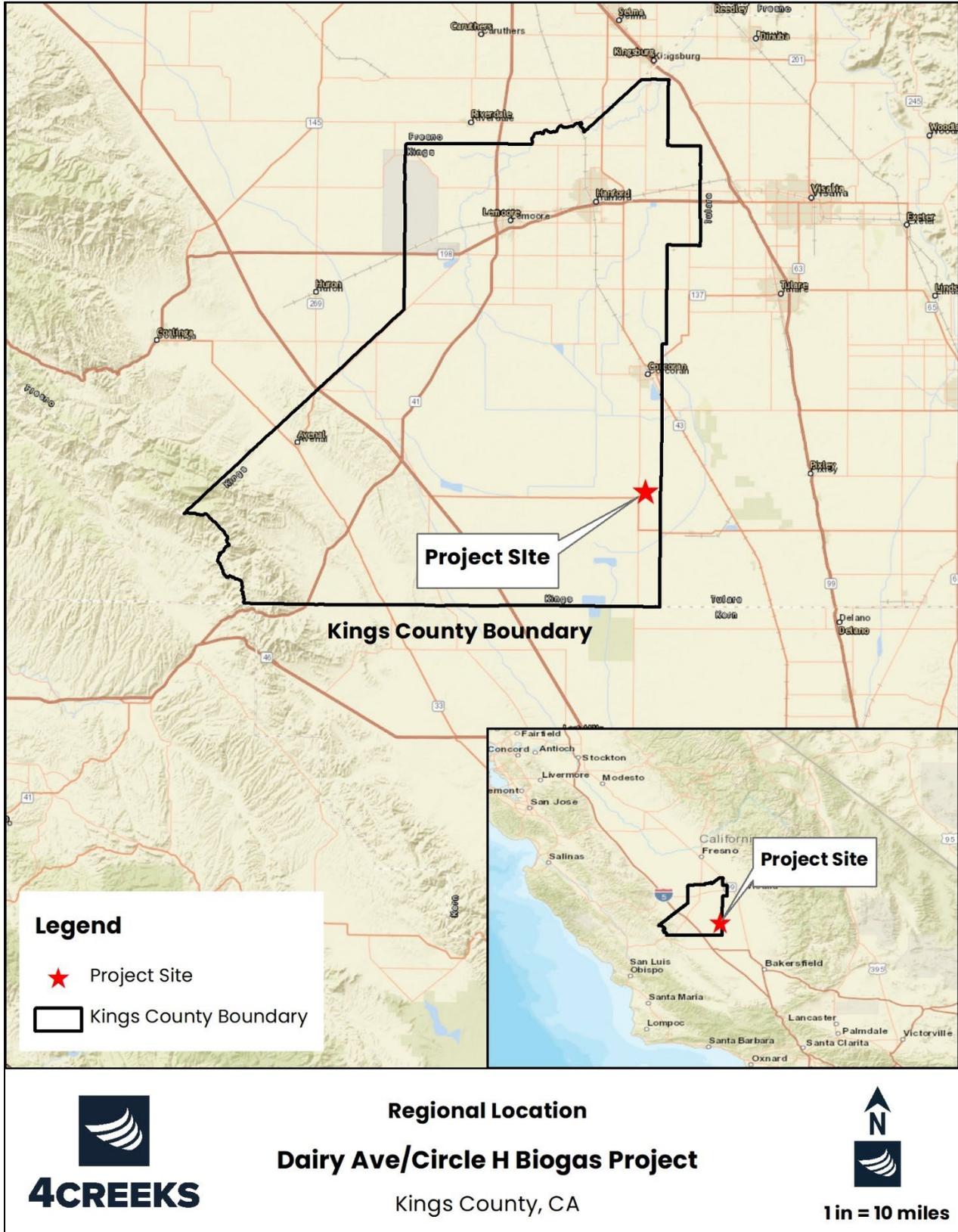


Figure 2-1. Regional Location Map

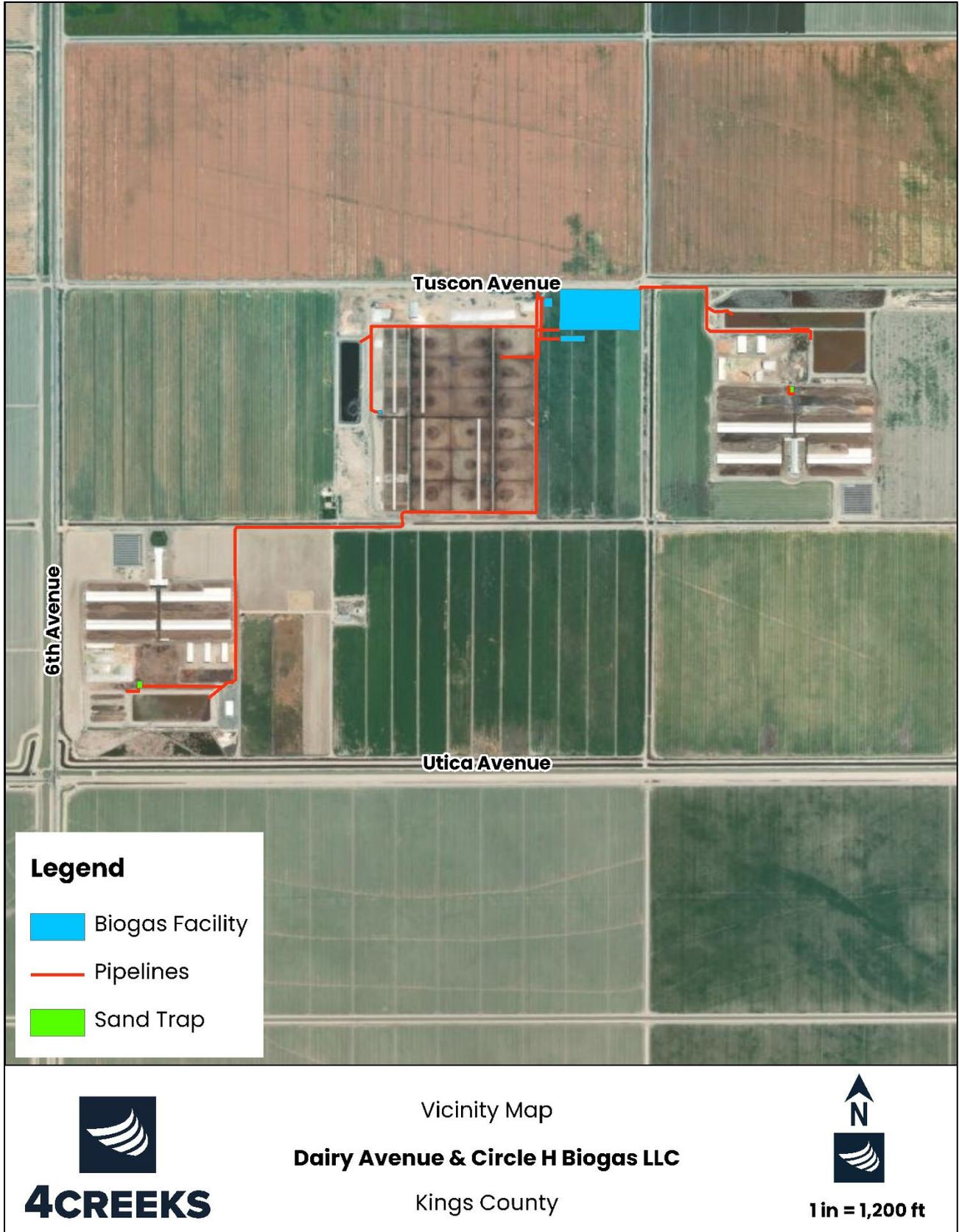


Figure 2-2. Vicinity Map

Section 3

Evaluation of Environmental Impacts



KINGS COUNTY
 Community Development Agency
 1400 W. Lacey Blvd., Bld. 6
 Hanford, CA 93230

SECTION 3 EVALUATION OF ENVIRONMENTAL IMPACTS

This document is the Initial Study/Mitigated Negative Declaration for the proposed construction and operation of a Biogas Facility in Kings County, CA. Kings County will act as the Lead Agency for this project pursuant to the California Environmental Quality Act (CEQA) and the CEQA Guidelines.

3.1 PURPOSE

The purpose of this environmental document is to implement the California Environmental Quality Act (CEQA). Section 15002(a) of the CEQA Guidelines describes the basic purposes of CEQA as follows:

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

This Initial Study of environmental impacts has been prepared to conform to the requirements of the California Environmental Quality Act (CEQA) (Public Resources Code Section 21000 et seq.) and the State CEQA Guidelines (California Code of Regulations Section 15000 et seq.). According to Section 15070, a public agency shall prepare or have prepared a proposed negative declaration or mitigated negative declaration for a project subject to CEQA when:

- (a) *The initial study shows that there is no substantial evidence, in light of the whole record before the agency, that the project may have a significant effect on the environment,*
or
- (b) *The initial study identifies potentially significant effects, but:*
 - (1) *Revisions in the project plans or proposals made by, or agreed to by the applicant before a proposed mitigated negative declaration and initial study are released for public review would avoid the effects or mitigate the effects to a point where clearly no significant effects would occur, and*
 - (2) *There is no substantial evidence, in light of the whole record before the agency, that the project as revised may have a significant effect on the environment.*

3.2 INITIAL STUDY/MITIGATED NEGATIVE DECLARATION

1. Project Title: Dairy Ave/Circle H Biogas Facility (Conditional Use Permit Number 23-04)

2. Lead Agency: Kings County
 Community Development Agency
 Contact: Victor Hernandez, Senior Planner
 1400 W. Lacey Blvd., Bldg. #6
 Hanford, CA 93230
 Telephone: (559) 852-2685
 Fax: (559) 584-8989

3. Applicant: California Bioenergy LLC
 Contact: Neil Black, President
 2134 E. Mineral King Avenue
 Visalia, CA 93292
 (559) 667-9560

4. Project Location: The location of the proposed Dairy Ave/Circle H Biogas Plant (hereinafter referred to as the "Project Site") is in the southeastern portion of Kings County, approximately 17 miles south of the City of Corcoran, and the eastern boundary of the Project site is adjacent to the Kings/Tulare County Line. The site is located on the northeast corner of the intersection of Utica Avenue & 6th Avenue. The project would involve construction on approximately 16.2 acres within the following parcels:

- 044-280-012
- 044-280-005
- 044-280-013

5. General Plan Designation: The 2035 Kings County General Plan designates the parcels involved in the project as General Agriculture (AG-40). The Site is within an unincorporated area of Kings County, and the site is approximately 17 miles south of the City of Corcoran.

6. Zoning Designation: The Kings County Development Code designates the parcels involved in the project as General Agricultural-40 District (AG-40).

7. Surrounding Land Uses and Settings: Current land use on the surrounding properties includes cultivated agriculture and livestock facilities. There is one rural office location approximately 1.5 miles west of the Project property. The land to the north, south, east, and west are designated by Kings County as General Agriculture, 40 acres, under the General Plan and is zoned as AG-40 General Agricultural-40 District under the Kings County Development Code.

8. Project Description: California Bioenergy LLC (CalBio) wants to develop land in Kings County, CA to construct and operate a Biogas Facility on the site of three existing confined animal facility operations (CAFOs) that neighbor the proposed Biogas Facility. The proposed project would affect approximately 16.2 acres within parcels 044-280-012, 044-280-005, and 044-280-013. The purpose of this project is to reduce methane emissions from livestock waste by capturing raw biogas via an anaerobic digester system, which will be upgraded on site and then deposited at a nearby natural gas system to provide a sustainable form of vehicle fuel. See Figure 3-2 for site layout.

The Biogas Facility includes approximately 16.2 acres of ground disturbance consisting of 2.5 miles of underground infrastructure, three manure separation systems, an anaerobic digester, and a conditioning plant, which will include a truck trailer loading station for hauling biogas products offsite. The 2.5 miles of pipeline throughout the project site will connect the two dairy facilities and provide water, wastewater, electrical and biogas infrastructure. In addition to the proposed building facilities, the project includes improvements to internal access roads, starting at the 6th Avenue entrance. This facility will be used to capture the gases produced by livestock waste to produce a sustainable form of energy, as well as process waste to produce high quality fertilizers.

The Biogas Facility would be operated 24 hours a day, seven days a week, all year-round. Operating the facility would require an average of one employee and a maximum of 2 employees, from 6 a.m. to 6 p.m. Monday-Sunday. During operations, the Biogas Facility would export approximately 1 truckload of biogas per day to a SoCalGas transmission line approximately 22.9 miles away in Tulare, CA. There would be an average of 4 truck trips per week and a maximum of 7 trips per week. Power use for the biogas upgrading facility is expected to be 500 kWh (electricity). With livestock operations included, the total electricity would total 960 kWh per day.

9. Parking and access: Vehicular access to the project site will be available via 6th Avenue. The proposed project includes paving of internal access roads which will provide full access to the entire Project site. During construction, workers will utilize temporary onsite construction staging areas for parking vehicles and equipment.

10. Landscaping and Design All landscaping and design components will comply with Article 4, Section 418.B.5 of the Kings County Development Code for the AG-40 Zone District. The landscape and design plans will be required at the time building permits are submitted for the project and will be subject to the "California Model Water Efficient Landscape Ordinance" as well as those requirements listed in Article 15, Section 1504 of the Kings County Development Code.

11. Utilities and Electrical Services: The proposed project will receive electricity from PG&E. Wastewater from employee restroom facilities will be collected by an existing septic system. Primary sources of wastewater from operation of the plant will be recycled on site for biogas and fertilizer production. All stormwater within the project area will be contained

on-site. The project will be serviced by existing water entitlements and no new water service would be required.

12. Project Components: The discretionary approvals required from Kings County for the proposed project include but are not limited to:

- Conditional Use Permit
- Kings County Building Permit
- Central Valley Region RWQCB NPDES Permit
- SJVAPCD Authority to Construct/Permit to Operate

ACRONYMS

BMP	Best Management Practices
CAA	Clean Air Act
CCR	California Code of Regulation
CDFG	California Department of Fish and Game
CEQA	California Environmental Quality Act
CWA	California Water Act
DHS	Department of Health Services
FEIR	Final Environmental Impact Report
FPPA	Farmland Protection Policy Act
ISMND	Initial Study Mitigated Negative Declaration
MCL	Maximum Contaminant Level
ND	Negative Declaration
NAC	Noise Abatement Criteria
RCRA	Resource Conservation and Recovery Act of 1976
RWQCB	Regional Water Quality Control Board
SHPO	State Historic Preservation Office
SJVAPCD	San Joaquin Valley Air Pollution Control District
SWPPP	Storm Water Pollution Prevention Plan

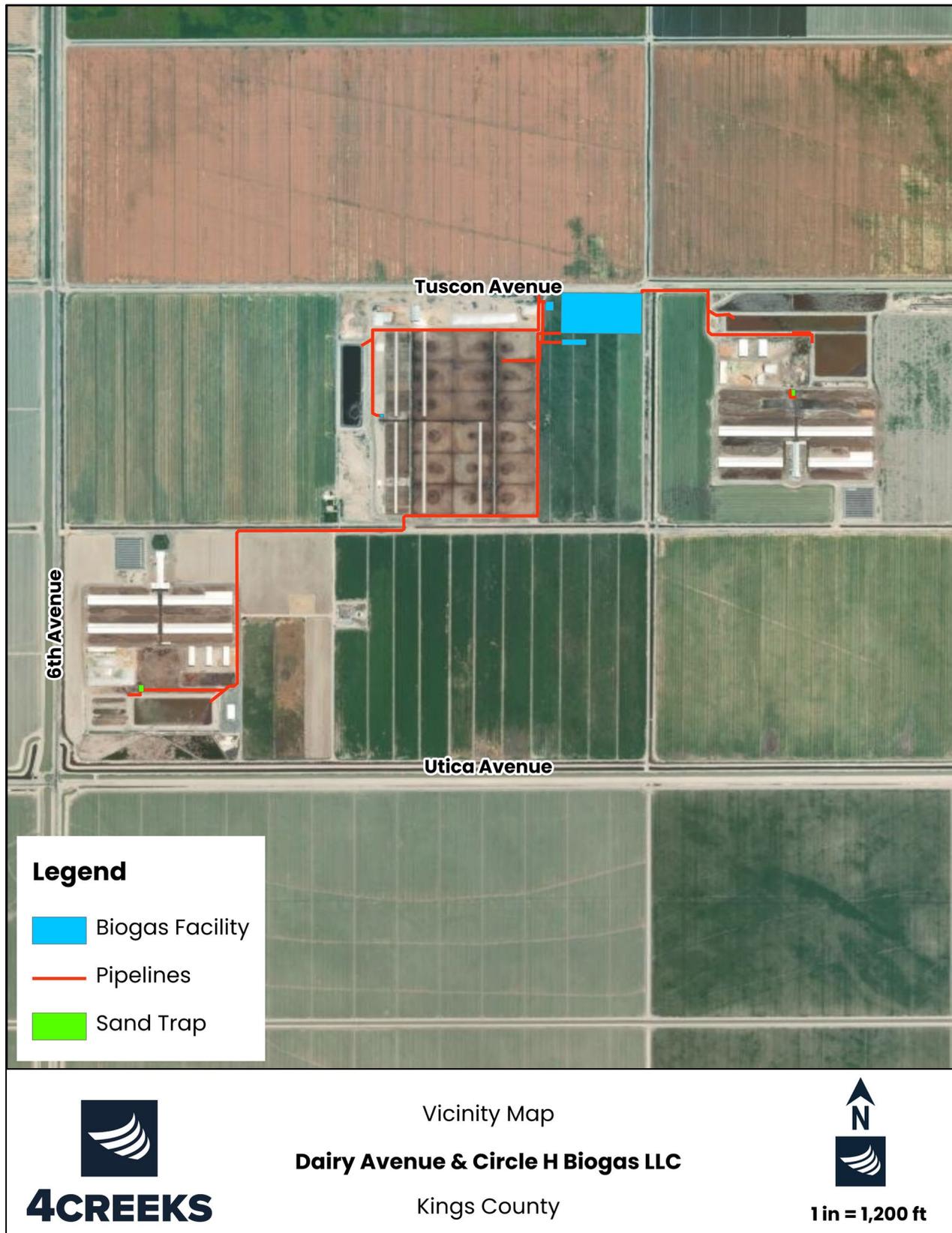


Figure 3-1. Vicinity Map

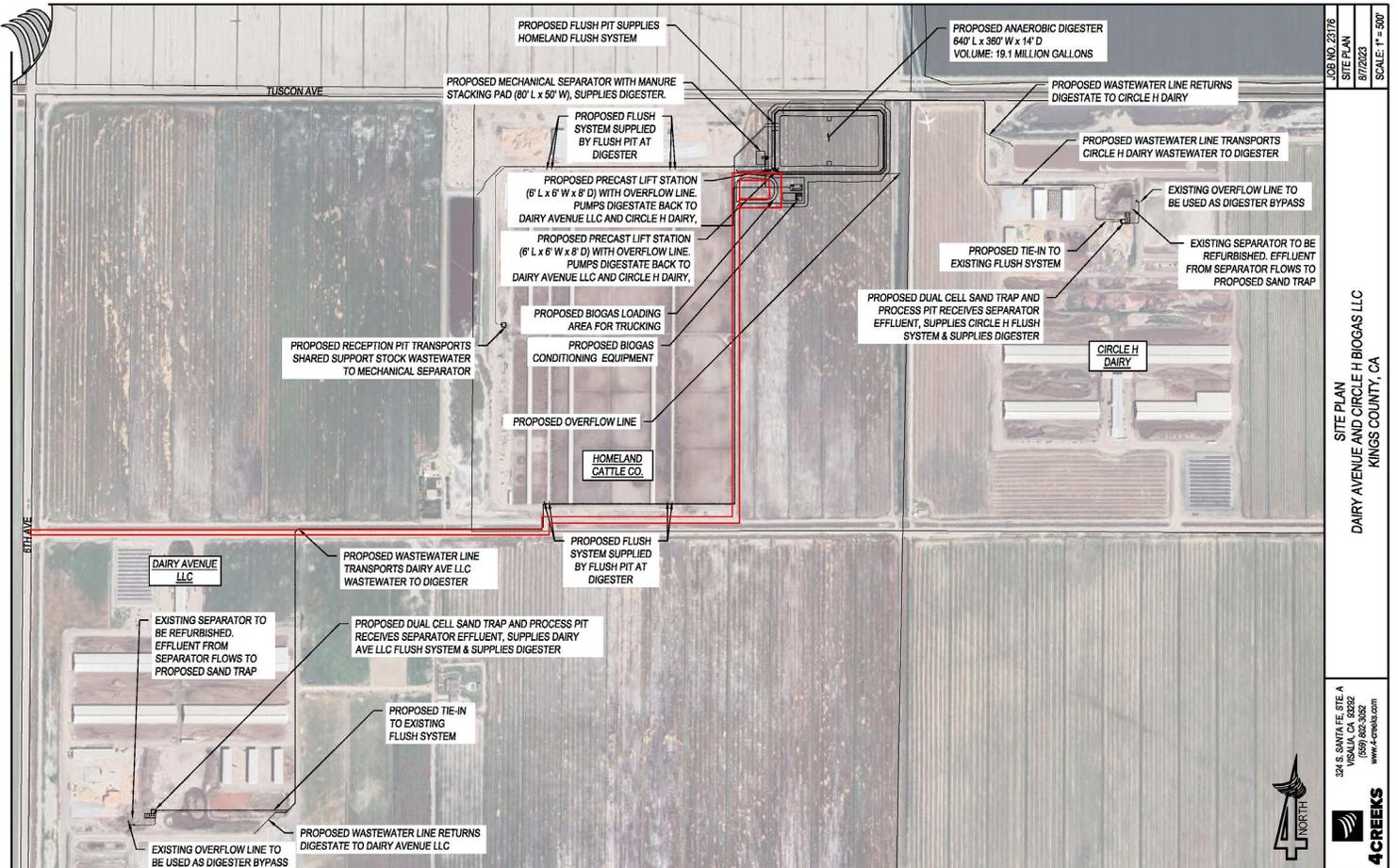


Figure 3-2. Overall Project Site Plan

3.3 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 any 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.

3.4 ENVIRONMENTAL FACTORS POTENTIALLY AFFECTED

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

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

DETERMINATION: (To be completed by the Lead Agency) Where potential impacts are anticipated to be significant, mitigation measures will be required, so that impacts may be avoided or reduced to insignificant levels.

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 by or agreed to by the project proponent. A MITIGATED NEGATIVE DECLARATION will be prepared.
- I find that the proposed project MAY have a significant effect on the environment, and an ENVIRONMENTAL IMPACT REPORT is required.
- I find that the proposed project MAY have a "potentially significant impact" or "potentially significant unless mitigated" impact on the environment, but at least one effect 1) has been adequately analyzed in an earlier document pursuant to applicable legal standards, and 2) has been addressed by mitigation measures based on the earlier analysis as described on attached sheets. A Negative Declaration 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 requested.


2/12/2024

 SIGNATURE DATE

Victor Hernandez Kings County Community Development Agency

 PRINTED NAME Agency

3.5 ENVIRONMENTAL ANALYSIS

The following section provides an evaluation of the impact categories and questions contained in the checklist and identify mitigation measures, if applicable.

I. AESTHETICS

Except as provided in Public Resources Code Section 21099, would the project:	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less than Significant Impact	No Impact
a) Have a substantial adverse effect on a scenic vista?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b) Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within state scenic highway?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c) In non-urbanized areas, substantially degrade the existing visual character or quality 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?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
d) Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

Environmental Setting

The Open Space Element of the 2035 Kings County General Plan identifies a number of aesthetic resources within the County.

Kettleman Hills: The Kettleman Hills is a low mountain range within the California Interior Coastal Range. The hills reach an elevation of approximately 1,200 feet and divide the San Joaquin Valley from the much smaller Kettleman Plains to the west. The proposed project is located approximately 20 miles south-east of Kettleman Hills.

The Kings River: The Kings River is approximately 125 miles in length and flows along the northern edges of the County. The seasonal flows originate from releases from Pine Flat Reservoir. The Kings River is considered to be one of the most identifiable features in the County and is the source of the County's namesake. The Kings River is approximately 24 miles northwest of the proposed Project site.

Cross Creek: Cross Creek is a natural waterway channel that flows through the northern half of the County. Cross Creek flows are very intermittent, as water is usually diverted for agricultural use upstream. Cross Creek is located approximately 20 miles north of the Project site.

Scenic Highways: There are no state designated scenic highways in Kings County. A portion of SR-41, from its intersection with SR-33 through to the San Luis Obispo County line, is an eligible state scenic highway. This portion of SR-41 is located in the south-west portion of the county and is approximately 33 miles south-west of the proposed Project Site. The following photos demonstrate the aesthetic character of the project area. As shown, the proposed Project Site is located in an area dominated by agricultural land uses.



Photo 1: Agricultural field on the site with dairy structures in the distance. Photo looking west. Source: Google Maps, 2023



Photo 2: Irrigation ditch and agricultural fields on the site. Photo looking southeast. Source: Google Maps, 2023



Photo 3: View of existing Dairy Avenue facility and an irrigation ditch. Photo looking southeast. Source: Google Maps, 2023



Photo 4: Irrigation ditch at the south end of the site and view of cattle structures. Photo looking northeast. Source: Google Maps, 2023

Regulatory Setting

State Scenic Highways: The State Scenic Highway Program was implemented by Caltrans and was developed to preserve the aesthetic quality of certain highway corridors. Highways included in this program are designated as scenic highways. A highway is designated as scenic based on how much of the natural landscape is visible to travelers, the quality of that landscape, and the extent to which development obstructs views of the landscape.

2035 Kings County General Plan: The 2035 Kings County General Plan includes the following objectives and policies pertaining to aesthetic resources:

- OS Objective B1.1 – Protect and enhance views from roadways which cross scenic areas or serve as scenic entranceways to cities and communities.
- OS Objective B1.2 – Preserve roadside landscapes which have high visual quality and contribute to the local environment.
- OS Objective B1.3 – Protect the scenic qualities of human-made and natural landscapes and prominent view sheds.

Kings County Development Code: Kings County Development Code Section 418(B) states that Exterior lighting should be designed to be compatible with the architectural and landscape design of the project and identifies the following exterior lighting requirements for agricultural zones:

1. All new proposed uses shall preserve the existing nighttime environment by ensuring that the outdoor lighting for the use is so arranged and/or hooded as to reflect light away from adjoining properties.
2. New lighting that is part of residential, commercial, industrial, or recreational development shall be oriented away from sensitive uses, and shall be hooded, shielded, and located to direct light pools downward and prevent glare.
3. To achieve the desired lighting level for parking and pedestrian areas, the use of shorter, low intensity fixtures is encouraged over the use of a few tall fixtures that illuminate large areas.

Discussion

a) Would the project have a substantial adverse effect on a scenic vista?

Less than Significant Impact: A scenic vista is defined as a viewpoint that provides expansive views of highly valued landscape for the benefit of the general public. The Open Space Element of the 2035 Kings County General Plan identifies three scenic vistas in Kings County- the Coastal Ranges of Kettleman Hills, the Kings River, and Cross Creek.

The proposed Biogas Facility is located approximately 20 miles south-east of Kettleman Hills, 24 miles southeast of the Kings River, and 20 miles south of Cross Creek. The low profile of the proposed facilities, in conjunction with the distance between the proposed facilities to the scenic resources, ensures the project would not impact views of these features. Therefore, the Project would have a *less than significant impact* on scenic vistas.

b) Would the project substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?

No Impact: The site does not contain any rock outcroppings or historic buildings. Upon review of the state route “scenic highways” in Kings County, it was determined that there are no highways designated by State or local agencies as “Scenic highways” near the Project Site. Therefore, the proposed project would have *no impact* on any scenic resources.

c) In non-urbanized areas, would the project substantially degrade the existing visual character or quality 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?

Less than Significant Impact: The proposed Project Site is located in a non-urbanized area in southeast Kings County. The Biogas Facility would be visible from a publicly accessible vantage point (6th Avenue & Utica Avenue). However, because the Project Site is currently used for dairy production and is previously disturbed, the County does not anticipate that the development of the proposed project will create a visually degraded character or quality to the Project Site or to the properties near and around the Project Site. Additionally, all of the development will be required to comply with the design review and design limitations required by the General Plan and the County’s Development Code which require setbacks, landscaping and designs to limit the impact to neighboring properties. The proposed project would not substantially degrade the existing visual character or quality of public views of the site and its surroundings. Impacts would be *less than significant*.

d) Would the project create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?

Less than Significant Impact: The project proposes minimal outdoor lighting and does not include any notable reflective materials that could result in impacts today or nighttime views. Additionally, the project will comply with Article 1, Section 114.A.5 and Article 4, Section 418.E of the Kings County Development Code. These policies require sources of light and glare to be directed away from the sky and adjacent property lines. Consistency with these policies the project applicant will ensure that any impacts resulting from new light sources remains *less than significant*.

Mitigation Measures for Aesthetic Resources

None Required

II. AGRICULTURE AND FOREST RESOURCES:

Would the project:	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less than Significant Impact	No Impact
a) Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Conflict with existing zoning for agricultural use, or a Williamson Act Contract?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
c) Conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code section 12220(g)), timberland (as defined by Public Resources Code section 4526), or timberland zoned timberland Production (as defined by Government Code section 51104(g))?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d) Result in the loss of forestland or conversion of forest land to non-forest use?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
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 forestland to non-forest use?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Environmental Setting

As one of the agricultural counties within the Central San Joaquin Valley, agriculture is a primary driver of the Kings County economy and is a significant source of regional identity. As such, agricultural land is a highly valued resource. The proposed project would involve construction on approximately 16.2 acres of agricultural land in the west central portion of Kings County. The proposed Project would be located mostly on land designated as Farmland of Statewide importance and Confined Animal Agriculture, with some being classified as Grazing Land by the California Farmland Mapping and Monitoring Program (FMMP).

Regulatory Setting

California Farmland Mapping and Monitoring Program (FMMP): The FMMP is implemented by the California Department of Conservation (DOC) to conserve and protect agricultural lands within the State. Land is included in this program based on soil type, annual crop yields, and

other factors that influence the quality of farmland. The FMMP mapping categories for the most important statewide farmland are as follows:

- *Prime Farmland* has the ideal physical and chemical composition for crop production. It has been used for irrigated production in the four years prior to classification and is capable of producing sustained yields.
- *Farmland of Statewide Importance* has also been used for irrigated production in the four years prior to classification and is only slightly poorer quality than Prime Farmland.
- *Unique Farmland* has been cropped in the four years prior to classification and does not meet the criteria for Prime Farmland or Farmland of Statewide Importance but has produced specific crops with high economic value.
- *Farmland of Local Importance* encompasses farmland that does not meet the criteria for the previous three categories. These may lack irrigation, produce major crops, be zoned as agricultural, and/or support dairy.
- *Grazing Land* has vegetation that is suitable for grazing livestock.

2035 Kings County General Plan: The Land Use Element, the Open Space Element and the Resource Conservation Element of the 2035 Kings County General Plan includes the following objectives and policies pertaining to agricultural resources:

- LU Goal B1: Protect agricultural lands throughout the County, and in particular along the edges of community districts and Urban Fringe by maintaining large parcel sizes and preventing the premature development of incompatible urban uses
- LU Goal B2: Agricultural production continues to be supported and enhanced in areas designated for agriculture, while conflicts between agriculture and nonagricultural uses are minimized
 - Land Use Objective B2.1: Recognize agriculture as the highest and best use of agricultural designated land and preserve the right of farmers and agricultural operations to continue customary and usual agricultural practices and operate in the most efficient manner possible.
 - LU Policy B2.1.1: The primary use of land designated Limited Agriculture, General Agriculture, and Exclusive Agriculture shall remain devoted to agricultural uses and related support services
- Open Space Objective A1.1: Protect agricultural land as an important, sustainable component of the Kings County economy
 - Policy A1.1.1: Preserve agricultural land in open and economically sustainable sized parcels for farming and establishment of agricultural processing facilities
 - Policy A1.1.2: Recognize agricultural land as a valued open space feature within the County that promotes the economy, public welfare, and quality of life for Kings County residents
- Resource Conservation Objective B1.1: Identify the County's highest priority agricultural lands that are critical to the County's agricultural economy, prime soils, and water availability, and emphasize higher preservation efforts for these areas.
- Resource Conservation Objective B1.2: Establish feasible mitigation for the loss of agricultural land conversion that is not over burdensome to landowner and

development interests yet enhances long term preservation efforts of the County's highest priority agricultural lands.

- Resource Conservation Policy B1.2.1: Require new development that results in the loss of agricultural lands to provide mitigation to offset the loss. The County's Farmland Preservation Mitigation Strategy shall require comparable acreage enrollment in the County's Farmland Security Zone.
- Resource Conservation Policy B1.2.2: Conversion of agricultural land to urban uses shall require payment of mitigation fees that are based on average per acre fee for the establishment of a new Farmland Security Zone creation. All mitigation costs shall be borne by project proponent(s).
- Resource Conservation Policy B1.2.3: Under the County's existing program, mitigation fees shall be used for the creation of new Farmland Security Zone contracts only and applied on willing landowner property that is greater than ten acres and located within the "Medium," "Medium-High" and "Highest" Priority Agricultural Land as defined under the County's Priority Agricultural Land Model, and within the eligible Department of Conservation farmland classifications as required by the California Land Conservation Act of 1965.
- Resource Conservation Policy C1.1.2: Evaluate the effects of the loss of agricultural soils related to discretionary land use approvals for non-agricultural uses that are allowed in agriculturally zoned land.

Kings County Right-to-Farm Policy: The *Kings County Code of Ordinances* Section 14-36.1, the "Notice of Disclosure and Acknowledgment of Agricultural Land Use Protection and Right to Farm Policies of the County of Kings," (Right-to-Farm) requires the approvals of rezoning, land divisions, zoning permits, and residential building permits include a condition that notice and disclosure be provided, which is to be recorded with the property title, page that specifically acknowledges and notifies all future owners that they are in proximity to agricultural uses, and lists the types of operations and possible nuisances or inconveniences associated with farming such as equipment and animal noises; farming activities conducted on a 24-hour, 7-day a week basis; odors from manure, fertilizers, pesticides, chemicals, or other sources; the aerial and ground application of chemicals and seeds; dust; flies and other insects; and smoke. The ordinance states that the County does not consider normal farming operations involving these activities to be a nuisance, and that current owners and future purchasers should be prepared to accept such annoyances or discomfort from normal, usual, and customary agricultural operations, facilities, and practices. This Right-to-Farm disclosure policy establishes the primacy of agricultural operations over other land uses and reduces the potential for conflict with adjacent land uses.

Discussion

- a) Would the project 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?**

No Impact: The proposed project is located on land that is designated as Farmland of Statewide Importance, Confined Animal Agriculture and Grazing Land and would not convert any important farmlands to a non-agricultural use. The proposed pipelines, anaerobic digester, upgrading facility and manure separation system would not convert lands to a non-agricultural use and is intended to enhance the sustainability of existing agricultural production. The proposed project is not considered commercial agricultural use, but rather, a compatible use that is a conditionally permitted use within the AG-40 zone. There will be no reduction in activity in areas designated as Prime Farmland, Unique Farmland, or Farmland of Statewide Importance. Therefore, the project would have *no impact*.

- b) Would the project conflict with existing zoning for agricultural use, or a Williamson Act Contract?**

Less than Significant Impact: The Project Site is located in the AG-40 zone district and will not conflict with this zoning. Article 4, Section 407 of the Kings County Development Code states that Table 4-1 prescribes the land use regulations for "Agricultural" districts. The regulations for each district are established by letter designation shown in the key to Table 4-1. Table 4-1 lists biomass energy facilities and projects (that can be used to make liquid biofuels) as a conditional use subject to Kings County Planning Commission approval in the General Agricultural (AG-40) zone district. Therefore, approval of a conditional use permit would be required in order for the proposed use to comply with Section 407 and Table 4-1. The proposed biogas project is intended to enhance the sustainability of agricultural production on the three participating facilities.

The proposed Project site is restricted by a Farmland Security Zone contract. The *Uniform Rules for Agricultural Preserves in Kings County* state that during the term of the contract, the only uses permitted upon the land shall be Commercial Agricultural Uses and Compatible Uses. Section A.3.d. of the Uniform Rules for Agricultural Preserves in Kings County lists the operation of dairies and feed lots as a Commercial Agricultural Use. The project would not conflict with the existing zoning for agricultural land use or a Farmland Security Zone contract, because the proposed development would be an incidental use to support the existing dairy facility. Therefore, the project would have a *less than significant impact*.

- c) **Would the project conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code section 12220(g)), timberland (as defined by Public Resources Code section 4526), or timberland zoned timberland Production (as defined by Government Code section 51104(g))?**

No Impact: The Project Site does not contain forest land, timberland or timberland zoned Timberland Production; the Project Site is not zoned for forest or timberland production; and there is no zone change proposed for the site. Therefore, *no impacts* would occur.

- d) **Would the project result in the loss of forestland or conversion of forest land to non-forest use?**

No Impact: No loss of forest land or conversion of forestland, as defined under Public Resource Code or General Code, to non-forest use will occur as a result of the project and there would be *no impacts*.

- e) **Would the project 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 forestland to non-forest use?**

No Impact: As discussed in Impact Analysis II-a above, the proposed project does not convert Prime Farmland, Unique Farmland, or Farmland of Statewide importance (Farmland) to non-agricultural use. As discussed in Impact Analysis II-c above, the Project Site is not located in the vicinity of forestland; therefore, the proposed project would not convert forest land to non-forest use. Thus, *no impact* would occur.

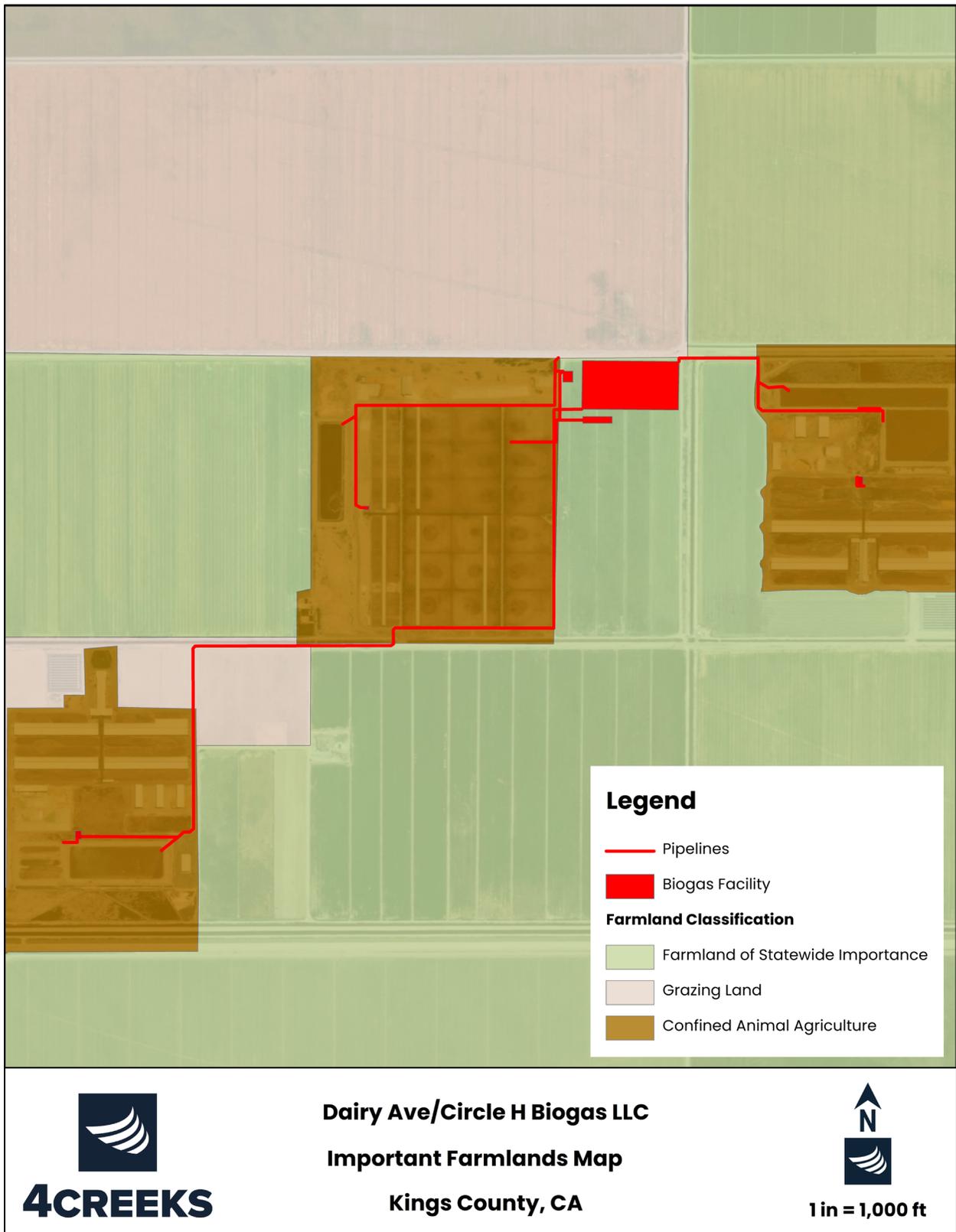


Figure 3-3. Important Farmlands Map

III. AIR QUALITY

Where available, the significance criteria established by the applicable air quality management district of air pollution control district may be relied upon to make the following determinations. Would the project:	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less than Significant Impact	No Impact
a) Conflict with or obstruct implementation of the applicable air quality plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
c) Expose sensitive receptors to substantial pollutant concentrations?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
d) Result in other emissions (such as those leading to odors) adversely affecting a substantial number of people?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

Environmental Setting

Air pollution is directly related to regional topography. Topographic features can either stimulate the movement of air or restrict air movement. California is divided into regional air basins based on topographic air drainage features. The proposed Project Site is within the San Joaquin Valley Air Basin, which is bordered by the Sierra Nevada Mountains to the east, Coastal Ranges to the west, and the Tehachapi Mountains to the south. The mountain ranges surrounding the San Joaquin Valley Air Basin (SJVAB) serve to restrict air movement and prevent the dispersal of pollution. As a result, the SJVAB is highly susceptible to pollution accumulation over time. As shown in Table 3-1, the SJVAB is in nonattainment for several pollutant standards.

Pollutant	Designation/Classification	
	Federal Standards	State Standards
Ozone - One hour	No Federal Standard ^f	Nonattainment/Severe
Ozone - Eight hour	Nonattainment/Extreme ^e	Nonattainment
PM 10	Attainment ^c	Nonattainment
PM 2.5	Nonattainment ^d	Nonattainment
Carbon Monoxide	Attainment/Unclassified	Attainment/Unclassified
Nitrogen Dioxide	Attainment/Unclassified	Attainment
Sulfur Dioxide	Attainment/Unclassified	Attainment
Lead (Particulate)	No Designation/Classification	Attainment
Hydrogen Sulfide	No Federal Standard	Unclassified
Sulfates	No Federal Standard	Attainment

Visibility Reducing Particles	No Federal Standard	Unclassified
Vinyl Chloride	No Federal Standard	Attainment
<p>^a See 40 CFR Part 81</p> <p>^b See CCR Title 17 Sections 60200–60210</p> <p>^c On September 25, 2008, EPA redesignated the San Joaquin Valley to attainment for the PM10 National Ambient Air Quality Standard (NAAQS) and approved the PM10 Maintenance Plan.</p> <p>^d The Valley is designated nonattainment for the 1997 PM2.5 NAAQS. EPA designated the Valley as nonattainment for the 2006 PM2.5 NAAQS on November 13, 2009 (effective December 14, 2009).</p> <p>^e Though the Valley was initially classified as serious nonattainment for the 1997 8-hour ozone standard, EPA approved Valley reclassification to extreme nonattainment in the Federal Register on May 5, 2010 (effective June 4, 2010).</p> <p>^f Effective June 15, 2005, the U.S. Environmental Protection Agency (EPA) revoked the federal 1-hour ozone standard, including associated designations and classifications. EPA had previously classified the SJVAB as extreme nonattainment for this standard. EPA approved the 2004 Extreme Ozone Attainment Demonstration Plan on March 8, 2010 (effective April 7, 2010). Many applicable requirements for extreme 1-hour ozone nonattainment areas continue to apply to the SJVAB.</p>		

Table 3-1. San Joaquin Valley Attainment Status; Source: SJVAPCD

Valley Fever: Valley Fever is an illness caused by a fungus (*Coccidioides immitis* and *C. posadasii*) that grows in soils under certain conditions. Favorable conditions for the Valley Fever fungus include low rainfall, high summer temperatures, and moderate winter temperatures. In California, the counties with the highest incident of Valley Fever are Fresno, Kern and Kings Counties. When soils are disturbed by wind or activities like construction and farming, Valley Fever fungal spores can become airborne. The spores present a potential health hazard when inhaled. Individuals in occupations such as construction, agriculture, and archaeology have a higher risk of exposure due to working in areas of disturbed soils which may have the Valley Fever fungus.

Regulatory Setting

Federal Clean Air Act – The 1977 Federal Clean Air Act (CAA) authorized the establishment of the National Ambient Air Quality Standards (NAAQS) and set deadlines for their attainment. The Clean Air Act identifies specific emission reduction goals, requires both a demonstration of reasonable further progress and an attainment demonstration, and incorporates more stringent sanctions for failure to meet interim milestones. The U.S. EPA is the federal agency charged with administering the Act and other air quality-related legislation. EPA’s principal function includes setting NAAQS; establishing minimum national emission limits for major sources of pollution; and promulgating regulations. Under CAA, the NCCAB is identified as an attainment area for all pollutants.

California Clean Air Act – California Air Resources Board coordinates and oversees both state and federal air pollution control programs in California. As part of this responsibility, the California Air Resources Board monitors existing air quality, establishes California Ambient Air Quality Standards, and limits allowable emissions from vehicular sources. Regulatory authority within established air basins is provided by air pollution control and management districts,

which control stationary-source and most categories of area-source emissions and develop regional air quality plans. The project is located within the jurisdiction of the San Joaquin Valley Air Pollution Control District.

The state and federal standards for the criteria pollutants are presented in Section 8.4 of The San Joaquin Valley Unified Air Pollution Control District's 2015 "Guidance for Assessing and Mitigating Air Quality Impacts" (see Table 3-2, below). These standards are designed to protect public health and welfare. The "primary" standards have been established to protect public health. The "secondary" standards are intended to protect the nation's welfare and account for air pollutant effects on soils, water, visibility, materials, vegetation and other aspects of general welfare. The U.S. EPA revoked the national 1-hour ozone standard on June 15, 2005, and the annual PM₁₀ standard on September 21, 2006, when a new PM_{2.5} 24-hour standard was established.

Pollutant	Averaging Time	California Standards ¹		National Standards ²		
		Concentration ³	Method ⁴	Primary ^{3,5}	Secondary ^{3,6}	Method ⁷
Ozone (O₃)	1 Hour	0.09 ppm (180 µg/m ³)	Ultraviolet Photometry	--	Same as Primary Standard	Ultraviolet 8 Hour Photometry
	8 Hour	0.070 ppm (137 µg/m ³)		0.075 ppm (147 µg/m ³)		
Respirable Particulate Matter (PM₁₀)	24 Hour	50 µg/m ³	Gravimetric or Beta Attenuation	150 µg/m ³	Same as Primary Standard	Inertial Separation and Gravimetric Annual Analysis
	Annual Arithmetic Mean	20 µg/m ³		--		
Fine Particulate Matter (PM_{2.5})	24 Hour		Gravimetric or Beta Attenuation	35 µg/m ³	Same as Primary Standard	Inertial Separation and Gravimetric Annual Analysis
	Annual Arithmetic Mean	12 µg/m ³		12 µg/m ³		
Carbon Monoxide (CO)	1 Hour	20 ppm (23 mg/m ³)	Non-Dispersive Infrared Photometry (NDIR)	35 ppm (40 mg/m ³)	--	Non-Dispersive Infrared Photometry (NDIR)
	8 Hour	9.0 ppm (10 mg/m ³)		9 ppm (10 mg/m ³)	--	
	8 Hour (Lake Tahoe)	6 ppm (7 mg/m ³)		--	--	
Nitrogen Dioxide (NO₂)⁸	1 Hour	0.18 ppm (339 µg/m ³)	Gas Phase Chemiluminescence	100 ppb (188 µg/m ³)	--	Gas Phase Annual Chemiluminescence
	Arithmetic Mean	0.030 ppm (57 µg/m ³)		53 ppb (100 µg/m ³)	Same as Primary Standard	
Sulfur Dioxide	1 Hour	0.25 ppm (655 µg/m ³)	Ultraviolet Fluorescence	75 ppb (196 µg/m ³)	--	Ultraviolet Fluorescence; Spectrophotometry
	3 Hour	--		--	0.5 ppm	



Pollutant	Averaging Time	California Standards ¹		National Standards ²		
		Concentration ³	Method ⁴	Primary ⁵	Secondary ⁶	Method ⁷
					(1300 $\mu\text{g}/\text{m}^3$)	(Pararosaniline Method)
	24 Hour	0.04 ppm (105 $\mu\text{g}/\text{m}^3$)		0.14 ppm (for certain areas) ⁹	--	
	Annual Arithmetic Mean	--		0.030 ppm (for certain areas) ⁹	--	
Lead ^{10,11}	30 Day Average	1.5 $\mu\text{g}/\text{m}^3$	Atomic Absorption	--	--	High Volume Sampler and Atomic Absorption
	Calendar Quarter	--		1.5 $\mu\text{g}/\text{m}^3$ (for certain areas) ¹¹	Same as Primary Standard	
	Rolling 3-Month Average	--		0.15 $\mu\text{g}/\text{m}^3$		
Visibility Reducing Particles ¹²	8 Hour	See footnote 12	Beta Attenuation and Transmittance through Filter Tape	No National Standard		
Sulfates	24 Hour	25 $\mu\text{g}/\text{m}^3$	Ion Chromatography			
Hydrogen Sulfide	1 Hour	0.03 ppm (42 $\mu\text{g}/\text{m}^3$)	Ultraviolet Fluorescence			
Vinyl Chloride ¹⁰	24 Hour	0.01 ppm (26 $\mu\text{g}/\text{m}^3$)	Gas Chromatography			
<p>1. California standards for ozone, carbon monoxide (except 8-hour Lake Tahoe), sulfur dioxide (1 and 24 hour), nitrogen dioxide, and particulate matter (PM10, PM2.5, and visibility reducing particles), are values that are not to be exceeded. All others are not to be equaled or exceeded. California ambient air quality standards are listed in the Table of Standards in Section 70200 of Title 17 of the California Code of Regulations.</p> <p>2. National standards (other than ozone, particulate matter, and those based on annual arithmetic mean) are not to be exceeded more than once a year. The ozone standard is attained when the fourth highest 8-hour concentration measured at each site in a year, averaged over three years, is equal to or less than the standard. For PM10, the 24-hour standard is attained when the expected number of days per calendar year with a 24-hour average concentration above 150 $\mu\text{g}/\text{m}^3$ is equal to or less than one. For PM2.5, the 24-hour standard is attained when 98 percent of the daily concentrations, averaged over three years, are equal to or less than the standard. Contact the U.S. EPA for further clarification and current national policies.</p> <p>3. Concentration expressed first in units in which it was promulgated. Equivalent units given in parentheses are based upon a reference temperature of 25°C and a reference pressure of 760 torr. Most measurements of air quality are to be corrected to a reference temperature of 25°C and a reference pressure of 760 torr; ppm in this table refers to ppm by volume, or micromoles of pollutant per mole of gas.</p> <p>4. Any equivalent measurement method which can be shown to the satisfaction of the ARB to give equivalent results at or near the level of the air quality standard may be used.</p> <p>5. National Primary Standards: The levels of air quality necessary, with an adequate margin of safety to protect public health.</p> <p>6. National Secondary Standards: The levels of air quality necessary to protect the public welfare from any known or anticipated adverse effects of a pollutant.</p>						

Pollutant	Averaging Time	California Standards ¹		National Standards ²		
		Concentration ³	Method ⁴	Primary ^{3,5}	Secondary ^{3,6}	Method ⁷
7. Reference method as described by the U.S. EPA. An "equivalent method" of measurement may be used but must have a "consistent relationship to the reference method" and must be approved by the U.S. EPA.						
8. To attain the 1-hour national standard, the 3-year average of the annual 98th percentile of the 1-hour daily maximum concentrations at each site must not exceed 100 ppb. Note that the national standards are in units of parts per billion (ppb). California standards are in units of parts per million (ppm). To directly compare the national standards to the California standards the units can be converted from ppb to ppm. In this case, the national standards of 53 ppb and 100 ppb are identical to 0.053 ppm and 0.100 ppm, respectively.						
9. On June 2, 2010, a new 1-hour SO ₂ standard was established, and the existing 24-hour and annual primary standards were revoked. To attain the 1-hour national standard, the 3-year average of the annual 99th percentile of the 1-hour daily maximum concentrations at each site must not exceed 75 ppb. The 1971 SO ₂ national standards (24-hour and annual) remain in effect until one year after an area is designated for the 2010 standard, except that in areas designated nonattainment for the 1971 standards, the 1971 standards remain in effect until implementation plans to attain or maintain the 2010 standards are approved. Note that the 1-hour national standard is in units of parts per billion (ppb). California standards are in units of parts per million (ppm). To directly compare the 1-hour national standard to the California standard the units can be converted to ppm. In this case, the national standard of 75 ppb is identical to 0.075 ppm.						
10. The ARB has identified lead and vinyl chloride as 'toxic air contaminants' with no threshold level of exposure for adverse health effects determined. These actions allow for the implementation of control measures at levels below the ambient concentrations specified for these pollutants.						
11. The national standard for lead was revised on October 15, 2008, to a rolling 3-month average. The 1978 lead standard (1.5 µg/m ³ as a quarterly average) remains in effect until one year after an area is designated for the 2008 standard, except that in areas designated nonattainment for the 1978 standard, the 1978 standard remains in effect until implementation plans to attain or maintain the 2008 standard are approved.						
12. In 1989, the ARB converted both the general statewide 10-mile visibility standard and the Lake Tahoe 30-mile visibility standard to instrumental equivalents, which are "extinction of 0.23 per kilometer" and "extinction of 0.07 per kilometer" for the statewide and Lake Tahoe Air Basin standards, respectively.						

Table 3-2. Ambient Air Quality Standards; Source: SJVAPCD

San Joaquin Valley Air Pollution Control District (SJVAPCD) – The SJVAPCD is responsible for enforcing air quality standards in the project area. To meet state and federal air quality objectives, the SJVAPCD adopted the following thresholds of significance for projects:

Pollutant/Precursor	Construction Emissions	Operational Emissions	
		Permitted Equipment and Activities	Non-Permitted Equipment and Activities
	Emissions (tpy)	Emissions (tpy)	Emissions (tpy)
CO	100	100	100
NOx	10	10	10
ROG	10	10	10
SOx	27	27	27
PM10	15	15	15
PM2.5	15	15	15

Table 3-3. SJVAPCD Thresholds of Significance for Criteria Pollutants; Source: SJVAPCD

Rule 9510: The Indirect Source Review (ISR) program is implemented by the SJVAPCD to reduce NO_x and PM₁₀ emissions from new development projects. Emissions are reduced by

requiring specific design elements or off-site mitigation fees. The program requires developers of larger residential, commercial, and industrial projects to reduce smog-forming and particulate emissions generated by their projects. If a project is subject to ISR, the project applicant is required to submit an Air Impact Assessment to the SJVAPCD. A project is exempt from ISR if the project's primary functions are subject to Rule 2201.

Rule 2201: Rule 2201 was developed to review new and modified Stationary Sources of air pollution and to provide emissions trade-offs, by which Authorities to Construct such sources may be granted. The Rule applies to all new stationary sources and all modifications of existing stationary sources that are subject to District permit requirements and may emit one or more affected pollutant. It was determined in conversations with representatives of the SJVAPCD that the proposed project is subject to Rule 2201 and thus exempt from ISR. Under Rule 2201, an Authority to Construct/Permit to Operate is required to construct and operate certain equipment. An Authority to Construct/Permit to Operate will be required for the following equipment:

- Thiopaq (or equivalent) wet scrubber H₂S removal vessels consisting of wet caustic H₂S scrubber with a bioreactor and sulfur separator,
- Iron media scrubbers for H₂S removal,
- Product gas scrubber,
- Gas compressors,
- Electrically heated thermal swing adsorption (tsa) gas drier and purifier activated carbon adsorption,
- Vacuum pressure swing adsorption (vpsa) gas polishing system,
- Emergency biogas vent

Discussion

a) Would the project conflict with or obstruct implementation of the applicable air quality plan?

Less than Significant Impact: The proposed project is located within the boundaries of the San Joaquin Valley Air Pollution Control District (SJVAPCD) and would result in air pollutant emissions that are regulated by the air district during both its construction and operational phases. The SJVAPCD is responsible for bringing air quality in Kings County into compliance with federal and state air quality standards. The air district has Particulate Matter (PM) plans, Ozone Plans, and Carbon Monoxide Plans that serve as the clean air plan for the basin. Together, these plans quantify the required emission reductions to meet federal and state air quality standards and provide strategies to meet these standards. The air basin is currently in nonattainment for the state eight-hour ozone, PM 10 standards, and PM 2.5 standards, and in nonattainment for the federal eight-hour ozone and PM 2.5 standards. The air basin is in severe nonattainment for the state one-hour ozone and extreme nonattainment for the federal eight-hour ozone. A project is considered to be compliant with SJVAPCD Air Quality Control Plans if the project-generated emissions are below the SJVAPCD's significance thresholds.

Construction Phase. Project construction will involve installation of the proposed 2.5-mile biogas pipeline and construction of the proposed upgrading facility. Construction related emissions were estimated using CalEEMod. The full CalEEMod Report can be found in Appendix A. As shown in Table 3-4 below, the project construction related emissions do not exceed the thresholds established by the SJVAPCD.

	CO (tpy)	ROG (tpy)	SOx (tpy)*	NOx (tpy)	PM10 (tpy)	PM2.5 (tpy)
Emissions Generated from Project Construction	9.4109	0.8357	0.0210	6.5461	1.5452	0.5827
SJVAPCD Thresholds of Significance	100	10	27	10	15	15
*Threshold established by SJVAPCD for SOx, however emissions are reported as SO2 by CalEEMod.						

Table 3-4. Projected Project Emissions Compared to SJVAPCD Thresholds of Significance for Criteria Pollutants related to Construction; Source: SJVAPCD, CalEEMod Analysis (Appendix A)

Operational Phase. The proposed project involves a number of components that require Air District Permits. These project components and applicable Air District Rules are described below. Considering the size of the project, number of employees, and general project operations, the proposed Project is not expected to exceed the criteria pollutant thresholds established by the SJVAPCD. It should be noted that this list is not exhaustive, and the project will comply with all applicable air quality regulations.

	CO (tpy)	ROG (tpy)	SOx (tpy)*	NOx (tpy)	PM10 (tpy)	PM2.5 (tpy)
Total Emissions Generated from Project Operation	0.0411	3.25	0.000320	0.050	0.0185	0.00533
SJVAPCD Thresholds of Significance*	100	10	27	10	15	15
*Threshold established by SJVAPCD for SOx, however emissions are reported as SO2 by CalEEMod.						

Table 3-5. Projected Project Emissions Compared to SJVAPCD Thresholds of Significance for Criteria Pollutants related to Construction; Source: SJVAPCD, CalEEMod Analysis (Appendix A)

Stationary Sources: The proposed Project contains components that may require a Permit to Operate, according to SJVAPCD District Rule 2201. Based on the proposed facility equipment, the SJVAPCD evaluates the facility as a fully enclosed, controlled system, and any fugitive emissions from piping components are negligible based on the low volatile organic carbon (VOC) content of biogas. Previous analyses of similar digester projects have consistently shown that the VOC content of digester gas is very

low (less than 1% by weight). Therefore, the total Project emissions falling under Rule 2201 are considered negligible.

Thiopaq H2S Scrubber: Biogas contains hydrogen sulfide that must be removed from the gas stream to meet SJVAPCD requirements for H2S control. Combustion of H2S emissions would produce a toxic criteria pollutant, Sulfur dioxide (SO₂). Air District Rule 4320 is designed to control SO₂ emissions from these sources. Thus, compliance with SJVAPCD APCD Rule 4320 would address this potential emissions source.

Emergency Vent: An emergency vent will be incorporated to prevent build-up of gas pressure during maintenance of the system or in emergency situations. The manual gas release valves will be opened to release the digester gas, which is composed primarily of methane and carbon dioxide. Once the system is operational again, the gas relief valves will be closed. According to the SJVAPCD, the venting of biogas for emergency purposes has negligible emissions and is not subject to the Best Available Control Technology (BACT) standard established in Rule 2201.

In terms of potential stationary sources, the proposed digester and conditioning plant are a fully enclosed, controlled system, and any fugitive emissions from piping components are negligible based on the volatile organic compound (VOC) content of the biogas, therefore the total stationary source emissions for criteria pollutants are zero. Additionally, emissions from project construction are below the thresholds of significance established by the SJVAPCD, and compliance with SJVAPCD rules and regulations will address any significant impacts related to operational emissions. Therefore, the project would not conflict with an applicable air quality plan and the impact is *less than significant*.

b) Would the project 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?

Less than Significant Impact: The SJVAPCD accounts for cumulative impacts to air quality in Section 1.8 "Thresholds of Significance – Cumulative Impacts" in its 2015 Guide for Assessing and Mitigating Air Quality Impacts. The SJVAPCD considered basin-wide cumulative impacts to air quality when developing its significance thresholds. Because construction emissions are below the significance thresholds adopted by the air district, and compliance with SJVAPCD rules will address any cumulative impacts regarding operational emissions, impacts regarding cumulative emissions would be *less than significant*.

c) Would the project expose sensitive receptors to substantial pollutant concentrations?

Less than Significant Impact with Mitigation Incorporation: A sensitive receptor is defined as a facility or land uses that includes members of the population that are particularly sensitive to the effects of air pollutants, such as children, the elderly, and people with illnesses. Examples include schools, hospitals, and residential areas. There are no nearby hospitals, schools, or residences, but there is one rural office location located approximately 1.5 miles west of the western boundary of the Project site. The nearest residence is approximately 6 miles from the proposed Project Site. Emissions generated during construction and operation of the proposed project will be regulated by the SJVAPCD to ensure impacts to any sensitive receptors remain less than significant.

The proposed project would also result in disturbance of soils, which could expose construction workers to Valley Fever fungal spores. This impact needs to be addressed and mitigated. Mitigation measures AIR-1 and AIR-2 are suggested for reducing exposure of the public and workers from Valley Fever spores during ground disturbing activities and are described in further detail below.

Because the proposed project will comply with all thresholds and regulations established by the SJVAPCD, the impact would be *less than significant with mitigation incorporated*.

d) Would the project result in other emissions (such as those leading to odors) adversely affecting a substantial number of people?

Less than Significant Impact: The potential sources of odor include dairy manure and food waste feedstock. However, the dairies involved in the proposed project are an existing source of dairy manure odors and odor is not expected to increase as a result of project implementation.

Manure management at dairies without incorporation of digester facilities typically involves flushing or scraping manure into onsite storage ponds or stockpiles. Manure in storage ponds and stockpiles would naturally undergo anaerobic decomposition, and as a result, odorous compounds are released into the surrounding environment. In contrast, the proposed project would gather gas from dairy digesters and would keep it in an enclosed environment while the gas is cleaned and injected into an existing natural gas pipeline. The enclosed environment would not permit odors to escape.

The project would result in typical construction odors during the construction phase. However, any odors generated from project construction would be temporary and common to any construction activity. Additionally, construction odors would not affect a substantial number of people, as the Project Site is in a rural area and there are no agricultural residences within one-half mile of the Project Site.

Because odors generated during project construction would be temporary, relatively insignificant, and would not affect a substantial number of people, and operation of the proposed project would not create objectionable odors, the impact is *less than significant*.

Mitigation Measures for Air Quality

Mitigation Measure AIR-1: Implement the Dust Control Plan required to be approved for the project by the San Joaquin Valley Air Pollution District under District Rule 8021 prior to ground disturbing activity.

Mitigation Measure AIR-2: When exposure to dust is unavoidable for workers who will be disturbing the top 2-12 inches of soil, provide workers with NIOSH-approved respiratory protection with particulate filters rated as N95, N99, NI00, P100, or HEPA, as recommended in the California Department of Public Health publication "*Preventing Work-Related Coccidioidomycosis (Valley Fever)*."

IV. BIOLOGICAL RESOURCES

Would the project:	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	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 & Game or U.S. fish and Wildlife Service?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b) Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by the California Department of Fish and Game or US Fish and Wildlife Service?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
e) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Discussion for this section originates from the Biological Evaluation that was prepared for this project by Live Oak Associates, Inc. to identify sensitive biological resources, provide project impact analysis, and suggest mitigation measures. The full document can be found in Appendix B.

Environmental Setting

The project site is located in the southeastern portion of Kings County in the San Joaquin Valley, which has, for decades, experienced intensive agricultural disturbances and more recently intensive urban development. Both project sites sit approximately 16 miles south of the City of Corcoran and approximately 11 miles northwest of the Census Designated Place (CDP) of Alpaugh. Current land use on the site includes cultivated agricultural and livestock facilities. Land use immediately surrounding the project site is best described as agricultural and/or dairy facilities. Land use to the north, south, east, and west are designated by Kings County as General Agriculture (AG-40) under the Kings County General Plan and is zoned as AG-40 General Agriculture-40 District under the Kings County Development Code. Two aquatic features, a tributary canal of the Homeland Canal, which borders the west side of the Dairy Ave facility, and a tributary canal of Main Canal, which borders the south side of the Dairy Ave facility, are present near the project site but do not border the areas of potential effect ("APE"). The site itself lies within the historic bed of Tulare Lake, a portion of which was holding water approximately 3 miles north of the project site as a result of record setting precipitation during the winter of 2022/2023.

Like most of California, the San Joaquin Valley has a Mediterranean climate. Warm dry summers are followed by cool moist winters. Summer temperatures commonly exceed 100 degrees Fahrenheit, and the relative humidity is generally very low. Winter temperatures rarely rise much above 70 degrees Fahrenheit, with daytime highs often below 60 degrees Fahrenheit. Annual precipitation within the project site is about 11 inches, almost 85% of which falls between the months of October and March. Nearly all precipitation falls in the form of rain. Stormwater readily infiltrates the soils of and surrounding the project site. Native plant and animal species once abundant in the region 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 overall topography of the project site is relatively flat with an approximate elevation of 191 to 195 feet National Geodetic Vertical Datum (NGVD). One soil-mapping unit was identified within the site: Gepford clay, partially drained. This soil type is classified as poorly drained with a very high runoff class and a hydric rating. Hydric soils have the propensity to pond water in depressions and form vernal pools. Prior to past project-related improvements, it is expected that soils of the project site were substantially altered by historic farming practices and regular dairy operations involving excavation, compaction, and grading. As a result, the soils of the site would not have exhibited their native soil characteristics or had any particular significance to biological resources at the time of the improvements.

Natural biotic habitats are absent from the project site due to years of agricultural uses and activities associated with dairy operations. The land usage of the project site can be characterized by two habitat types: agricultural and ruderal/developed. Ruderal/developed portions of the site include dirt roads, wastewater ponds, vacant portions of previously disturbed land, and an active dairy with associated infrastructure. The project site does not

contain jurisdictional waters or wetlands within the project boundary. The tributary canals of Homeland and Main canal are adjacent to the project site but outside the project area. A comprehensive list of the vascular plants, terrestrial invertebrates, and photos taken during the site visit can be found in the full Biological Evaluation and is provided in Appendix B of this Initial Study.

Regulatory Setting

Federal Endangered Species Act (FESA) – defines an *endangered species* as “any species or subspecies that is in danger of extinction throughout all or a significant portion of its range.” A threatened species is defined as “any species or subspecies that is likely to become an endangered species within the foreseeable future throughout all or a significant portion of its range.”

Clean Water Act – Section 404 of the Clean Water Act of (1972) is to maintain, restore, and enhance the physical, chemical, and biological integrity of the nation’s waters. Under Section 404 of the Clean Water Act, the US Army Corps of Engineers (USACE) regulates discharges of dredged and fill materials into “waters of the United States” (jurisdictional waters). Waters of the US including navigable waters of the United States, interstate waters, tidally influenced waters, and all other waters where the use, degradation, or destruction of the waters could affect interstate or foreign commerce, tributaries to any of these waters, and wetlands that meet any of these criteria or that are adjacent to any of these waters or their tributaries. The 2023 WOTUS Rule also defines a number of exclusions from the definition of waters of the U.S., many of which are longstanding exclusions from earlier regulatory regimes. These generally include:

- Waste treatment systems
- Prior converted cropland
- Ditches excavated wholly in and draining only dry land that do not carry a relatively permanent flow of water
- Certain artificial features, e.g., irrigation basins, swimming pools, borrow pits, and artificially irrigated areas
- Swales and erosional features characterized by low volume, infrequent, or short duration flow

California Endangered Species Act (CESA) – prohibits the take of any state-listed threatened and endangered species. CESA defines *take* as “any action or attempt to hunt, pursue, catch, capture, or kill any listed species.” If the proposed project results in a take of a listed species, a permit pursuant to Section 2080 of CESA is required from the California Department of Fish and Game.

Federal Migratory Bird Treaty Act (FMBTA: 16 USC 703-712) – prohibits killing, possessing, or trading in any bird species covered in one of four international conventions to which the United States is a party, except in accordance with regulations prescribed by the Secretary of the Interior. The name of the act is misleading, as it actually covers almost all birds native to the

United States, even those that are non-migratory. The FMBTA encompasses whole birds, parts of birds, and bird nests and eggs. Native birds are also protected under California state law. The California Fish and Game Code makes it unlawful to take or possess any non-game bird covered by the FMBTA (Section 3513), as well as any other native non-game bird (Section 3800), even if incidental to lawful activities.

- **Birds of Prey:** Birds of prey are protected in California under provisions of the Fish and Game Code (Section 3503.5), which states that it is unlawful to take, possess, or destroy any birds in the order Falconiformes (hawks and eagles) or Strigiformes (owls), as well as their nests and eggs. The bald eagle and golden eagle are afforded additional protection under the federal Bald and Golden Eagle Protection Act (16 USC 668), which makes it unlawful to kill birds or their eggs.
- **Nesting Birds:** In California, protection is afforded to the nests and eggs of all birds. California Fish and Game Code (Section 3503) states that it is “unlawful to take, possess, or needlessly destroy the nest or eggs of any bird except as otherwise provided by this code or any regulation adopted pursuant thereto.” Breeding-season disturbance that causes nest abandonment and/or loss of reproductive effort is considered a form of “take” by the CDFW.

2035 Kings County General Plan: The Resource Conservation Element of the 2035 Kings County General Plan includes the following objectives pertaining to biological resources:

- Resource Conservation Objective D1.1 Require that development in or adjacent to important natural plant and animal habitats minimize the disruption of such habitats.
- Resource Conservation Objective D2.1 Maintain compatible land uses in natural wetland habitats designated by state and federal agencies.
- Resource Conservation Objective D3.1 Ensure that, in development decisions affecting riparian environments, the conservation of fish and wildlife habitat and the protection of scenic qualities are balanced with other purposes representing basic health, safety, and economic needs.
- Resource Conservation Objective E1.1 Require mitigation measures to protect important plant and wildlife habitats.
- Resource Conservation Objective F1.1 Protect freshwater recreational fishing along the Kings River and the California Aqueduct by balancing agricultural and development needs with the protection of these resources.

Discussion

- a) **Would the project 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 & Game or U.S. Fish and Wildlife Service?**

Less than Significant Impact with Mitigation Incorporated: Natural biotic habitats are absent from the project site due to decades of agricultural use of the site. There are twelve

special status plant species known to occur in the region, but the ruderal/developed habitat on the Project site would not presently support any of these special status plant species. Of the seventeen special status animal species known in the region, eleven of these species are considered absent or unlikely to occur on the Project site due to the absence of suitable habitat, the site's current agricultural operation and the site being outside of the species' distributional range. Since there is little to no likelihood for these species to occur on site, they have no appreciable potential to be affected through construction-related injury, mortality, or loss of habitat. The only special status species where mitigation is warranted are Swainson's hawks and burrowing owls due to potentially suitable habitat on and near the site.

The Project site has the potential to be used for nesting by several native avian species protected by the Migratory Bird Treaty Act and related state laws. Swainson's hawks have the potential to nest within the vicinity of the Project site in mature trees of adjacent farm residences. Additionally, there are three known occurrences of burrowing owls within 3 miles of the Project site and 15 total known occurrences within 10 miles of the Project site. In order to prevent potential impacts on Swainson's hawk and the burrowing owl, implementation of Mitigation Measures BIO-1a, BIO-1b, BIO-1c, BIO-2a, BIO-2b, and BIO-2c, will ensure that impacts to species identified as a candidate, sensitive, or special status would be *less than significant with mitigation incorporated*.

Mitigation Measures:

Mitigation Measures for Swainson's Hawk

- **BIO-1a (Construction Timing):** If feasible, the project will be implemented outside of the avian nesting season, typically defined as February 1 to August 31.
- **BIO-1b (Pre-construction Surveys):** If construction is to occur between February 1 and August 31, a qualified biologist will conduct pre-construction surveys for active bird nests within 10 days prior to the start of construction. The survey area will encompass the site and accessible surrounding lands within 250 feet for nesting migratory birds, 500 feet for raptors, ½ mile for Swainson's hawks.
- **BIO-1c (Avoidance of Active Nests):** Should any active nests be discovered; the biologist will identify a suitable construction-free buffer around the nest. This buffer will be identified on the ground with flagging or fencing and will be maintained until the biologist has determined that the young have fledged and are capable of foraging independently.

Mitigation Measures for Burrowing Owl

- **BIO-2a (Take Avoidance Survey):** A pre-construction "take avoidance" survey will be conducted by a qualified biologist for burrowing owl no less than 14 days prior to the onset of construction in the APE according to the methods described in the Staff Report on Burrowing Owl Mitigation (CDFW 2012). The survey area will include all suitable habitat on and within 200 meters of the project impact area, where accessible.

- **BIO-2b (Avoidance of Active Nests):** If project activities are undertaken during the breeding season (February 1- August 31) and active nest burrows are identified on or within the APE, a 200-meter disturbance-free buffer will be established around these burrows. The buffers will be enclosed with temporary fencing or flagging to prevent construction equipment and workers from entering the setback area. Buffers will remain in place for the duration of the breeding season unless otherwise arranged with CDFW. After breeding season has ended and all young have left the nest, passive relocation of any remaining owls may take place as described below.
- **BIO-2c (Avoidance or Passive Relocation of Resident Owls):** During the non-breeding season (September 1- January 31), resident owls occupying burrows in project impact areas may either be avoided or passively relocated to alternative habitat. If the Applicant chooses to avoid active owl burrows within the APE during the nonbreeding season, a 50-meter disturbance free buffer will be established around these burrows or alternative measures as determined by a qualified biologist. These buffers will be enclosed with temporary fencing or flagging and will remain in place until a qualified biologist determines that the burrows are no longer active. If the Applicant chooses to passively relocate owls during the non-breeding season, this activity will be conducted in accordance with a relocation plan prepared by a qualified biologist.

b) Would the project have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by the California Department of Fish and Game or US Fish and Wildlife Service?

No Impact: Sensitive Natural Communities are those that are of limited distribution, distinguished by significant biological diversity, home to special status plant and animal species, of importance in maintaining water quality or sustaining flows, etc. Examples of sensitive natural communities include several types of wetlands, riparian habitat, and valley scrub habitats. CDFW has assigned State Ranks to California's natural communities that reflect the condition and imperilment of that community throughout its range within the state. State Ranks are represented with a letter and number score. Older ranks, which need to be updated in the CNDDDB, may still contain a decimal "threat" rank of .1, .2, or .3, where .1 indicates very threatened status, .2 indicates moderate threat, and .3 indicates few or no current known threats. The project site supports no sensitive natural communities. There is *no impact*.

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

No Impact: Jurisdictional waters include rivers, creeks, and drainages that have a defined bed and bank and which, at the very least, carry ephemeral flows. Jurisdictional waters also include lakes, ponds, reservoirs, and wetlands. Such waters may be subject to the regulatory authority of the USACE, the CDFW, and the RWQCB. See Section 3.9 of Appendix

B for additional information. Jurisdictional waters are absent from the Project Site. There is *No Impact*.

d) Would the project interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?

No Impact: Geographic features that could be utilized as wildlife movement corridors are absent from the project site. The site also does not contain or adjoin features likely to support regular and predictable wildlife movement. Therefore, the project will have *no impact* on wildlife movement corridors.

e) Would the project conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?

No Impact: The Resource Conservation Element lists policies protecting biological resources (2035 Kings County General Plan, pages RC-47 through RC-50). The project is consistent with all relevant policies, including RC Policy D1.1.1 and RC Policy E1.1.1, which require the preparation of a biological evaluation to ensure the minimization of potential impacts to sensitive plant and animal habitats, wetlands, and riparian habitats; and consultation with state and federal regulatory agencies, where required, to ensure avoidance or minimization of potential impacts to threatened and endangered species. The Project does not conflict with any local policies or ordinances protecting biological resources, as a Biological Evaluation was prepared for this Project. There is *no impact*.

f) Would the project conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?

No Impact: The proposed project appears to be consistent with the goals and policies of the 2035 Kings County General Plan. No known Habitat Conservation Plans, Natural Community Conservation Plans or other approved local, regional, or state habitat conservation plan are in effect for the area. Therefore, the project would be carried out in compliance with local policies and ordinances. There is *no impact*.

V. CULTURAL RESOURCES

Would the project:	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less than Significant Impact	No Impact
a) Cause a substantial adverse change in the significance of a historical resource pursuant to Section 15064.5?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b) Cause a substantial adverse change in the significance of an archaeological resource pursuant to Section 15064.5?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c) Disturb any human remains, including those interred outside of dedicated cemeteries?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Environmental Setting

Taylored Archaeology performed a Phase I cultural resource assessment for the Dairy Avenue and Circle H Biogas LLC Project in Kings County, California. The full report can be found in Appendix C. The cultural resource assessment included a records search with the Southern San Joaquin Valley Information Center, a review of historic USGS maps and aerial map archives, Native American outreach, and an archaeological pedestrian survey of the Project area. The Project is located in southern Kings County on the valley floor of the San Joaquin Valley on the lakebed of the former Tulare Lake. Before the appearance of agriculture in the nineteenth century, the Project location would have been comprised of the lake or tule marshes depending on the lake level. Riparian environments would also have been present along various waterways, including drainages and marshes. The valley floor of the region was largely dominated by marshlands, lakes, and annual grasslands. Historically, these habitats provided a lush environment for large animals, including various migratory birds and other waterfowl, grizzly bear (*Ursus arctos californicus*), tule elk (*Cervus* sp.), pronghorn (*Antilocapra americana*), mule deer (*Odocoileus hemionus*), black bear (*Ursus americanus*), and mountain lion (*Puma concolor*) (Preston 1981).

The Project area is in the Southern Valley Yokuts ethnographic territory of the San Joaquin Valley and located in the lakebed of the former Tulare Lake. The Yokuts were generally divided into three major groups, the Northern Valley Yokuts, the Southern Valley Yokuts, and the Foothill Yokuts. The Yokuts are a sub-group of the Penutian language that covers much of coastal and central California and Oregon. The Yokuts language contained multiple dialects spoken throughout the region, though many of them were mutually understandable. According to Kroeber's (1925) map of Southern and Central Yokuts, the Project is within the Wowol Yokuts territory, who occupied the southern shore of Tulare Lake in modern-day southern Kings County. The closest village in this area was Sukwutnu which was located near the tule marshes surrounding the southeastern shore of Tulare Lake and Poso Creek approximately 15 miles southeast of the Project site. According to the Native American Heritage Commission, the

Native American tribal group that is currently associated with the Project area is the Santa Rosa Rancheria Tachi Yokut Tribe.

European contact in modern-day California first occurred in 1542, and expeditions along the California coast continued throughout the sixteenth century and primarily focused on finding favorable harbors for further expansion and trade across the Pacific. The topography of California, with high mountains, large deserts, and few natural harbors lead to European expansion into California only starting in the 1760s. Life at the California missions was hard and brutal for Native Americans, with many dying of disease, poor conditions, and many fleeing to areas not under direct Spanish control. The arrival of rail lines in the late 1800s brought an increase in agriculture and farms that clashed with existing ranching operations in modern-day Kings County. Starting in 1870's, land use switched from grazing to farming with the introduction of the "No Fence Law" in 1874 and the expansion of irrigation systems. This marked the beginning of the transition of the Valley from native grasslands and vegetation to irrigated crops. The expansion of agriculture promoted the growth of small farming towns throughout the Valley floor.

Cultural Resources Record Search and Native American Consultation: A records search was conducted at the Southern San Joaquin Valley Archaeological Information Center (AIC), to determine if historical or archaeological sites had previously been recorded within the study area, if the project area had been systematically surveyed by archaeologists prior to the initial study, and/or whether the region of the field project was known to contain archaeological sites and to thereby be archaeologically sensitive.

The AIC results indicated that two previous cultural resource studies have been completed in the project area and there were no additional surveys conducted within 0.5 miles of the project site. Previous surveys did not identify cultural resources within the project site or within 0.5 miles of the project site.

Outreach letters were sent on November 15th, 2023, to the following Native American organizations/individuals were contacted from the list provided by the NAHC:

- Cultural Specialist I Nichole Escalon of the Santa Rosa Rancheria Tachi Yokut Tribe;
- THPO Shana Powers of the Santa Rosa Rancheria Tachi Yokut Tribe;
- Cultural Specialist II Samantha McCarty of the Santa Rosa Rancheria Tachi Yokut Tribe;
- Chairperson Neil Peyron of the Tule River Indian Tribe;
- Environmental Department Kerri Vera of the Tule River Tribe;
- Tribal Archaeologist Joey Garfield of the Tule River Indian Tribe; and
- Chairperson Kenneth Woodrow of the Wuksache Indian Tribe/Eshom Valley Band.

One response was received on November 28th, 2023, from Samantha McCarty, Cultural Specialist II, of the Santa Rosa Rancheria Tachi Yokut Tribe. In her email, Samantha McCarty stated that the Tachi Tribe was working on a response. There have been no other responses from the representatives to date (Appendix C).

Regulatory Setting

“Cultural resources” are defined as prehistoric or historical archaeological sites as well as historical objects, buildings, or structures. In accordance with 36 Code of Federal Regulations (CFR) §60.4, “historical” in this report applies to cultural resources which are at least 50 years old. The significance or importance of a cultural resource is dependent upon whether the resource qualifies for inclusion at the local level in a local register of historical resources, at the state level in the California Register of Historical Resources (CRHR), or at the federal level in the National Register of Historic Places (NRHP). Cultural resources that are determined to be eligible for inclusion in the CRHR are called “historical resources” (California Code of Regulations [CCR] 15064.5[a]). Under this statute the determination of eligibility is partially based on the consideration of the criteria of significance as defined in 14 CCR 15064.5(a)(3). Cultural resources eligible for inclusion in the NRHP are deemed “historic properties”.

California Environmental Quality Act (CEQA)

Pursuant to CEQA, a historical resource is a resource listed in, or determined to be eligible for listing in, the CRHR. Historical resources may include, but are not limited to, “any object, building, structure, site, area, place, record, or manuscript which a lead agency determines to be historically or archaeologically significant” (PRC §5020.1[j]). In addition, a resource included in a local register of historical resources or identified as significant in a local survey conducted in accordance with the state guidelines are also considered historic resources under California Public Resources Code (PRC) Section 5020.1.

CEQA details appropriate measures for the evaluation and protection of cultural resources in §15064.5 of the CEQA Guidelines. According to CEQA guidelines §15064.5 (a)(3), criteria for listing on the CRHR includes the following:

- (A) Is associated with events that have made a significant contribution to the broad patterns of California’s history and cultural heritage.*
- (B) Is associated with the lives of persons important in our past.*
- (C) 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.*
- (D) Has yielded, or may be likely to yield, information important in prehistory or history.*

According to CEQA guidelines §21074 (a)(1), criteria for tribal cultural resources includes the following:

- (1) Sites, features, places, cultural landscapes, sacred places, and objects with cultural value to a California Native American tribe that are either of the following:*
 - (A) included or determined to be eligible for inclusion in the California Register of Historical Resources.*
 - (B) included in a local register of historical resources as defined in subdivision (k) of Section 5020.1.*

Protection of cultural resources within California is additionally regulated by PRC §5097.5, which prohibits destruction, defacing, or removal of any historic or prehistoric cultural features on land under the jurisdiction of State or local authorities.

National Historic Preservation Act: The National Historic Preservation Act was adopted in 1966 to preserve historic and archeological sites in the United States. The Act created the National Register of Historic Places, the list of National Historic Landmarks, and the State Historic Preservation offices.

California Historic Register: The California Historic Register was developed as a program to identify, evaluate, register, and protect Historical Resources in California. California Historical Landmarks are sites, buildings, features, or events that are of statewide significance and have anthropological, cultural, military, political, architectural, economic, scientific, religious, experimental, or other value. In order for a resource to be designated as a historical landmark, it must meet the following criteria:

- The first, last, only, or most significant of its type in the state or within a large geographic region (Northern, Central, or Southern California).
- Associated with an individual or group having a profound influence on the history of California.
- A prototype of, or an outstanding example of, a period, style, architectural movement, or construction or is one of the more notable works or the best surviving work in a region of a pioneer architect, designer, or master builder.

Kings County General Plan: The Resource Conservation Element of the 2035 Kings County General Plan includes the following objective pertaining to cultural and historic resources:

- RC Objective II.1 Promote the rehabilitation or adaptation to new uses of historic sites and structures.
- RC Objective II.2 Identify potential archaeological and historical resources and, where appropriate, protect such resources.

Discussion

a) Would the project cause a substantial adverse change in the significance of a historical resource pursuant to Section 15064.5?

Less Than Significant Impact with Mitigation: Based on the results of the records search, archival research, Native American outreach, and the archaeological pedestrian survey, no historical resources are located within the project site. Although no historical resources were identified, the presence of remains or unanticipated cultural resources under the ground surface is possible. Implementation of Mitigation Measures CUL-1 and CUL-2 will ensure that impacts to this checklist item will be *less than significant with mitigation* incorporation.

b) Would the project cause a substantial adverse change in the significance of an archaeological resource pursuant to Section 15064.5?

Less Than Significant Impact with Mitigation: There are no known archaeological resources located within the project area according to the cultural records search, archival research and the archaeological pedestrian survey conducted within the Project area. However, the discovery of archaeological resources below the ground surface is possible, so implementation of Mitigation Measures CUL-1 and CUL-2 will ensure that potential impact will be *less than significant with mitigation* incorporation.

c) Would the project disturb any human remains, including those interred outside of dedicated cemeteries?

Less Than Significant Impact With Mitigation: There are no known human remains buried in the project vicinity. If human remains are unearthed during development, there is a potential for a significant impact. As such, implementation of Mitigation Measures CUL-1 and CUL-2 will ensure that impacts remain *less than significant with mitigation* incorporation.

Mitigation Measures

Mitigation Measure CUL-1: Protection of Cultural Resources. In order to avoid the potential for impacts to historic and prehistoric archaeological resources, the following measures shall be implemented, as necessary, in conjunction with the construction of the Project:

- a. **Cultural Resources Alert on Project Plans:** The project proponent shall note on any plans that require ground disturbing excavation that there is a potential for exposing buried cultural resources.
- b. **Pre-Construction Briefing:** The project proponent shall retain Santa Rosa Rancheria Cultural Staff to provide a pre-construction Cultural Sensitivity Training to construction staff regarding the discovery of cultural resources and the potential for discovery during ground disturbing activities, which will include information on potential cultural material finds and, on the procedures, to be enacted if resources are found.
- c. **Stop Work Near any Discovered Cultural Resources:** The project proponent shall retain a professional archaeologist on an "on-call" basis during ground disturbing construction for the project to review, identify and evaluate cultural resources that may be inadvertently exposed during construction. Should previously unidentified cultural resources be discovered during construction of the project, the project

proponent shall cease work within 100 feet of the resources, and Kings County Community Development Agency (CDA) shall be notified immediately. The archaeologist shall review and evaluate any discoveries to determine if they are historical resource(s) and/or unique archaeological resources under CEQA.

- d. Mitigation for Discovered Cultural Resources: If the professional archaeologist determines that any cultural resources exposed during construction constitute a historical resource and/or unique archaeological resource, he/she shall notify the project proponent and other appropriate parties of the evaluation and recommended mitigation measures to mitigate the impact to a less-than-significant level. Mitigation measures may include avoidance, preservation in-place, recordation, additional archaeological testing, and data recovery, among other options. Treatment of any significant cultural resources shall be undertaken with the approval of the Kings County CDA. The archaeologist shall document the resources using DPR 523 forms and file said forms with the California Historical Resources Information System, Southern San Joaquin Valley Information Center. The resources shall be photo-documented and collected by the archaeologist for submittal to the Santa Rosa Rancheria's Cultural and Historical Preservation Department. The archaeologist shall be required to submit to the County for review and approval a report of the findings and method of curation or protection of the resources. Further grading or sitework within the area of discovery shall not be allowed until the preceding steps have been taken.
- e. Native American Monitoring: Prior to any ground disturbance, the project proponent shall offer the Santa Rosa Rancheria Tachi Yokut Tribe the opportunity to provide a Native American Monitor during ground disturbing activities during both construction and decommissioning. Tribal participation would be dependent upon the availability and interest of the Tribe.
- f. Disposition of Cultural Resources: Upon coordination with the Kings County Community Development Agency, any prehistoric archaeological artifacts recovered shall be donated to an appropriate Tribal custodian or a qualified scientific institution where they would be afforded applicable cultural resources laws and guidelines.

Mitigation Measure CUL-2: Protection of Buried Human Remains. In order to avoid the potential for impacts to buried human remains, the following measures shall be implemented, as necessary, in conjunction with the construction of the Project:

- a. Pursuant to State Health and Safety Code Section 7050.5(e) and Public Resources Code Section 5097.98, if human bone or bone of unknown origin is found at any time during on- or off-site construction, all work shall stop within 25 feet of the discovery and the Kings County Coroner shall be notified immediately and the resource shall be protected in compliance with applicable state and federal laws. If the remains are determined to be Native American, the Coroner shall notify the California State Native American Heritage Commission (NAHC), who shall identify the person believed to be the Most Likely Descendant (MLD) pursuant to Public Resources Code Section 5097.98. The project proponent and MLD, with the assistance of the archaeologist, shall make all reasonable efforts to develop an agreement for the treatment of human remains and associated or unassociated funerary objects with appropriate dignity (CEQA Guidelines Sec. 15064.5(d)). The agreed upon treatment shall address the appropriate excavation, removal, recordation, analysis, custodianship, curation, and final disposition of the human remains and associated or unassociated funerary objects. California Public Resources Code allows 48 hours for the MLD to make their wishes known to the landowner after being granted access to the site. If the MLD and the other parties do not agree on the reburial method, the project will follow Public Resources Code Section 5097.98(b) which states that "... the landowner or his or her authorized representative shall reinter the human remains and items associated with Native American burials with appropriate dignity on the property in a location not subject to further subsurface disturbance."
- b. Any findings shall be submitted by the archaeologist in a professional report submitted to the project applicant, the MLD, the Kings County Community Development Agency, and the California Historical Resources Information System, Southern San Joaquin Valley Information Center.

VI. ENERGY

Would the project:	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	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?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b) Conflict with or obstruct a state or local plan for renewable energy or energy efficiency?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Environmental Setting

Pacific Gas and Electric (PG&E) provides natural gas and electricity services to the region. PG&E is a subsidiary of the PG&E Corporation and serves approximately 16 million people throughout a 70,000-square-mile service area in northern and central California. PG&E supplies power to its customers from a variety of renewable and nonrenewable sources. Table 3-6 below shows the proportion of each energy resource sold to California consumers by PG&E in 2021 as compared to the statewide average.

Fuel Type		PG&E Power Mix	California Power Mix
Coal		0%	3%
Large Hydroelectric		4%	9.2%
Natural Gas		8.9%	37.9%
Nuclear		39.3%	9.3%
Other (Oil/Petroleum Coke/Waste Heat)		0%	0.2%
Unspecified Sources of Power¹		0%	6.8%
Eligible Renewables	Biomass	4.2%	2.3%
	Geothermal	5.2%	4.8%
	Small Hydro	1.8%	1%
	Solar	25.7%	14.2%
	Wind	10.9%	11.4%
	Total Eligible Renewable		47.7%
1. "Unspecified sources of power" means electricity from transactions that are not traceable to specific generation sources.			

Table 3-6. PG&E and State average power resources; Source: California Energy Commission, Pacific Gas & Electric

Regulatory Setting

Bioenergy Action Plan for California: The Bioenergy Action Plan for California was adopted in 2006. The plan outlines goals, objectives, and actions to achieve the state’s bioenergy policy objectives and biomass production and use targets. The policy objectives and biomass production and use targets identified in the Plan are provided below:

State Policy Objectives

1. Maximize the contributions of bioenergy toward achieving the state’s petroleum reduction, climate change, renewable energy, and environmental goals.
2. Establish California as a market leader in technology innovation, sustainable biomass development, and market development for bio-based products.
3. Coordinate research, development, demonstration, and commercialization efforts across federal and state agencies.
4. Align existing regulatory requirements to encourage production and use of California’s biomass resources.
5. Facilitate market entry for new applications of bioenergy including electricity, biogas, and biofuels.

Biomass Production and Use Targets

In Executive Order S-06-06, Governor Schwarzenegger established the following targets to increase the production and use of bioenergy, including ethanol and biodiesel fuels made from renewable resources:

1. Regarding biofuels, the state shall produce a minimum of 20 percent of its biofuels within California by 2010, 40 percent by 2020, and 75 percent by 2050.
2. Regarding the use of biomass for electricity, the state shall meet a 20 percent target within the established state goals for renewable generation for 2010 and 2020.

2035 Kings County General Plan: The Kings County General Plan Air Quality Element includes goals, objectives, and policies regarding energy efficiency and conservation:

- AQ Policy E1.1.1: Initiate and sustain ongoing efforts with local water and energy utilities and developers to establish and implement voluntary incentive-based programs to encourage the use of energy efficient designs and equipment in new and existing development projects within the County.
- AQ Policy E1.1.2: Initiate and sustain ongoing efforts with agriculture, the building industry, water and energy utilities and the SJVAPCD to promote enhanced energy conservation and sustainable building standards for new construction.
- AQ Policy E1.1.3: Work with local water and energy utilities and the building industry to develop or revise County design standards relating to solar orientation of building

occupancies, water use, landscaping, reduction in impervious surfaces, parking lot shading and such other measures oriented towards reducing energy demand.

- AQ Policy E1.1.4: Actively promote the more efficient location of industries within the County which are labor intensive, utilize cogeneration or renewable sources of energy, support and enhance agricultural activities, and are consistent with other policies of the General Plan.
- AQ Policy E1.1.5: County staff will proactively work with the Cooperative Agricultural Extension office, California Energy Commission, local water and energy utilities, the agricultural industry, and other potential partners to seek funding sources and implement programs which reduce water and energy use, reduce air emissions, and reduce the creation of greenhouse gases.

Discussion

a) Would the project result in potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during project construction or operation?

Less Than Significant Impact: Energy use associated with construction and operation of the Biogas Facility was estimated using CalEEMod (Appendix A), EMFAC data, and project specific information provided by the applicant. During project construction there would be an increase in energy consumption related to worker trips and operation of construction equipment (Table 3-7). This energy use would be limited to the greatest extent possible through compliance with local, state, and federal regulations. This energy use is justified by the purpose of the project, which is to generate, upgrade and transport treated biogas to a nearby transmission line so it can be used as vehicle fuel. The raw biogas will be upgraded to renewable natural gas (RNG) standards. Energy calculations are provided in Appendix D and summarized in Tables 3-7 and 3-8, below.

Off-Road Equipment Fuel (Diesel)		On-Road Vehicle Fuel				Total MBTU
		Diesel		Gasoline		
Gallons	MBTU	Gallons	MBTU	Gallons	MBTU	
186,815	25,967	409	57	6194	719	26,743
Total Construction Energy Use						26,743
Average Annual Construction Energy Use						17,829

Table 3-7. Construction Related Energy Use. Source: CalEEMod & EMFAC (See Appendix D)

Mobile Fuel Use		
Fuel	Gal/Year	MBTU
Gasoline	1225	147
Diesel	2563	352
Electricity Use		
kWh/Year		MBTU
350,400		1,196
Total Operational Energy Use		MBTU
		1,695

Table 3-8. Operations Related Energy Use. Source: CalEEMod & EMFAC (Based on project specific values and CalEEMod estimations. See Appendix D)

Energy consumption during Project operation would include electricity and/or vehicle fuel usage associated with the anaerobic digester equipment, the manure separation system, the transportation of treated biogas offsite, and the conditioning plant as well as the accompanying equipment required to support the wastewater conveyance and biogas formation process. Electricity would also be used for on-site lighting and office space for site operation and maintenance personnel, and indirect sources such as water use. Energy associated with transportation during Project operation would be similar to the current baseline conditions, as there would be the same small number of site operators and workers required at the current dairy facilities. The biogas operation would require approximately 2 workers/day. One truck trip per day is expected for offsite hauling of treated biogas. The use of petroleum-based fuel such as diesel or gasoline would be similar to that which occurs under existing permitted uses on the site.

By upgrading raw biogas into the readily usable form known as renewable natural gas (RNG), the project prevents the wasteful disposal of an energy resource that would otherwise be released into the environment without benefit. During project operations, the proposed biogas upgrading and livestock facilities requires 960 kWh of power per day to operate, and will operate approximately 24 hours per day, seven days per week, creating a total energy demand of 350,400 kWh/year for all operations on the Project site. The biogas equipment alone requires 500 kWh of energy, but all facilities on the site were included in this analysis as a conservative measure. Even with livestock facility energy usage included, the energy needed to operate the facility is far outweighed by the facility's potential energy output.

The proposed biogas upgrading facility will have the capacity to treat 400 standard cubic feet of raw biogas per minute. The total output of RNG from the upgrading facility would be 50-75% of the raw biogas input because methane makes up 50-75% of raw biogas by volume. Therefore, the project has the potential to provide 200-300 cubic feet of RNG each minute.

SoCalGas requires RNG to have a heating value of 990–1150 BTU/cubic foot to be injected into natural gas pipelines. Using an assumption of 1000 BTU/cubic foot for the heating value and a total RNG output of 105,120,000–157,680,000 cubic feet per year, the proposed upgrading facility can provide 1,051,200 – 1,576,800 therms/year. To compare the facility's potential operational energy output to its operational energy demand, it is necessary to convert both to a common unit. While the energy content of RNG is typically expressed in therms, the potential energy output of the biogas upgrading facility was converted to kWh for the purpose of comparison. It was found that the potential energy output of the biogas upgrading facility is 30,807,627 – 46,211,441 kWh/year. The energy demand of the upgrading facility is approximately 350,400 kWh per year. Therefore, the upgrading facility produces 30,457,227 – 45,861,041 more kWh than it consumes per year.

Project operation, which involves the transportation and conversion of raw biogas, would also comply with local, State, and federal regulations to avoid inefficient or unnecessary energy usage.

Because the project will generate far more energy than it consumes, the project would not result in wasteful, inefficient, or unnecessary consumption of energy resources. There is *no impact*.

b) Would the project conflict with or obstruct a state or local plan for renewable energy or energy efficiency?

No Impact: The proposed project will not conflict with or obstruct any state or local plans for renewable energy or energy efficiency. The project will promote energy efficiency by creating an energy source from the waste produced by three on-site dairy/livestock facilities. Additionally, the solid byproducts from the biogas formation process will be used as a high-quality fertilizer. The project is consistent with Executive Order S-06-06, which seeks to increase the production and use of bioenergy, and the state policy objectives established by the bioenergy action plan for California. There is *no impact*.

Mitigation Measures for Energy Resources

None Required

VII. GEOLOGY AND SOILS

Would the project:	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less than Significant Impact	No Impact
a) Directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving:				
i) Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault? Refer to Division of Mines and Geology Special Publication 42.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
ii) Strong seismic ground shaking?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
iii) Seismic-related ground failure, including liquefaction?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
iv) Landslides?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Result in substantial soil erosion or the loss of topsoil?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
e) Have soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems where sewers are not available for the disposal of wastewater?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
f) Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Environmental Setting

The proposed project is located on one soil type. The properties of this soil is described briefly below:

- **Gepford Clay, partially drained.** The Gepford Clay series consists of deep, poorly drained soils that formed in alluvium derived from igneous and sedimentary rocks. These soils exhibit high runoff, moderately low permeability, and are generally poorly drained with clayey textures throughout the profile. These soils often form on basin floors and may be slightly saline to strongly saline.

Regulatory Setting

California Building Code: The California Building Code contains general building design and construction requirements relating to fire and life safety, structural safety, and access compliance. CBC provisions provide minimum standards to safeguard life or limb, health, property and public welfare by regulating and controlling the design, construction, quality of materials, use and occupancy, location and maintenance of all buildings and structures and certain equipment.

2035 Kings County General Plan: The Health and Safety Element of the 2035 Kings County General Plan includes the following objectives pertaining to soils and geology:

- Health and Safety Objective A1.3 Limit growth and development in hazard areas to minimize new areas susceptible to higher risk of natural hazards.
- Health and Safety Objective A1.4 Maintain County building and construction standards and regulations to remain current with State and Federal requirements that serve to protect residents from natural hazards.
- Health and Safety Objective A1.5 Increase communication regarding hazard mitigation among communities in the County and improve organizational capabilities to address health and safety issues in mitigation and response.
- Health and Safety Objective A2.1 Regulate new construction to achieve acceptable levels of risk posed by geologic hazards.

According to Figure HS-2 and Table HS-2 in the Health and Safety Element of the Kings County General Plan, the County has been divided into six seismic zones, V1-V4, C1 and C2. Seismic zones are categorized based on the intensity of ground motion that could be reasonably anticipated if an earthquake occurred in Kings County. V1-V4 indicate Valley Zones, which are areas along the valley floor, with the highest near-surface amplification in the west and the lowest towards the east. C1 and C2 indicate Coast Ranges Zones, which are areas closest to the San Andreas fault and are expected to experience moderately high ground shaking levels. V1 indicates the area of least expected seismic shaking, and C2 regions are areas expected to have the highest shaking characteristics due to its proximity to the San Andreas Fault.

Definitions

Paleontological Resources. For the purposes of this section, “paleontological resources” refers to the fossilized plant and animal remains of prehistoric species. Paleontological Resources are a limited scientific and educational resource and are valued for the information they yield about the history of the earth and its ecology. Fossilized remains, such as bones, teeth, shells, and leaves, are found in geologic deposits (i.e., rock formations). Paleontological resources generally include the geologic formations and localities in which the fossils are collected.

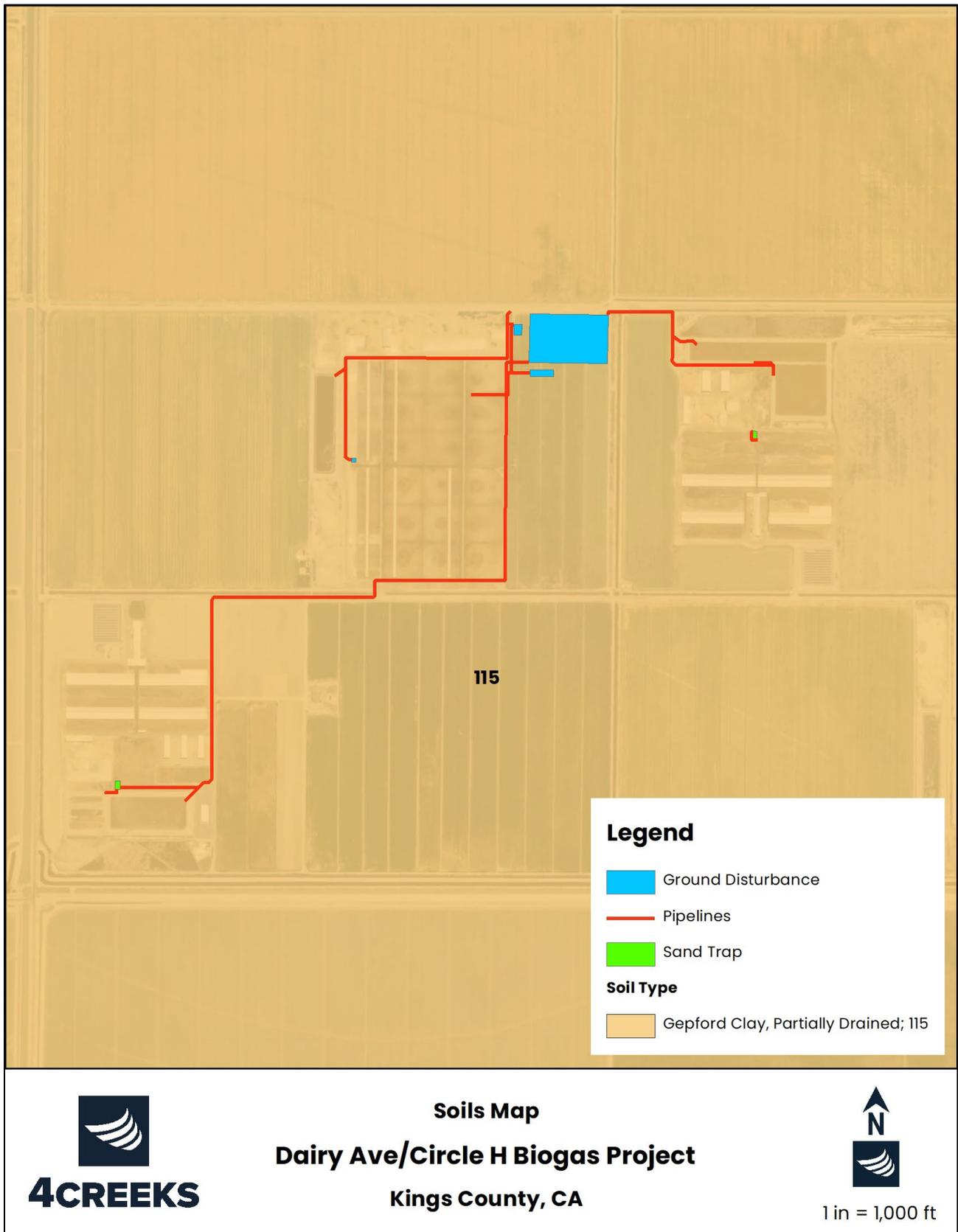


Figure 3-4. Soils Map

Discussion

a) Would the project directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving:

a-i) Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault? Refer to Division of Mines and Geology Special Publication 42.

No Impact: According to the 2035 Kings County General Plan, no active faults systems are located within Kings County. The potential for strong seismic ground shaking on the Project Site is not a significant environmental concern due to the infrequent seismic activity of the area and distance to the faults. The project is not located within the Alquist-Priolo Earthquake Fault Zone and the nearest fault is the Nunez fault, which lies in the Alcalde Hills 7.5-minute quadrangle, located northwest of Coalinga in Fresno County, approximately 63 miles northwest of the Project Site. Furthermore, according to the 2035 Kings County General Plan, there are no known major fault systems within Kings County. The greatest potential for geologic disaster in Kings County is posed by the San Andreas Fault, which is located approximately four miles west of the Kings County boundary line with Monterey County. The distance from the nearest active faults precludes the possibility of fault rupture on the Project Site. Therefore, there would be *no impact*.

a-ii) Strong seismic ground shaking?

Less than Significant Impact: The proposed project would not expose people to seismic ground shaking beyond the conditions that currently exist throughout the project area. The Project Site is located within an area designated as Zone V₂ or Valley Zone 2, which is identified as the area of moderate seismic shaking by the Kings County Seismic Zone Description in Table HS-2 of the 2035 Kings County General Plan. Valley Zone 2 is a moderate distance from the San Andreas Fault and the combined effect is such that shaking is expected to be minimal. The Project Site's percent probability of exceeding peak ground acceleration (% g) in the next 50 years is between 30-40%, which is the second lowest within the county. Although the project area could potentially experience ground shaking, the magnitude of the hazard would not be severe as indicated by the 2035 Kings County General Plan. The project would be constructed to the standards of the most recent seismic Uniform Building and Safety Code (UBSC) and a *less than significant impact* would occur.

a-iii) Seismic-related ground failure, including liquefaction?

Less than Significant Impact: Liquefaction is a phenomenon whereby unconsolidated and/or near-saturated soils lose cohesion and are converted to

a fluid state as a result of severe vibratory motion. The relatively rapid loss of soil shear strength during strong earthquake shaking results in temporary, fluid-like behavior of the soil. According to the 2035 Kings County General Plan, the proposed project is located in an area suitable for liquefaction. However, the General Plan classifies the Project Site as Seismic Zone V2, meaning that the distance to fault systems is sufficiently great that the effect should be minimal. Therefore, the impacts are *less than significant*.

a-iv) Landslides?

No Impact: The Project Site is generally flat. There are no hill slopes in the area and no potential for landslides. No geologic landforms exist on or near the site that would result in a landslide event. There would be *no impact*.

b) Would the project result in substantial soil erosion or the loss of topsoil?

Less Than Significant Impact: Because the Project Site is generally flat, minimal grading would be required to accommodate the proposed development. Although construction activities may result in a loss of topsoil, any soil erosion impacts would be temporary and subject to best management practices required by SWPPP. These best management practices are developed to prevent significant impacts related to erosion from construction. Because impacts related to erosion would be temporary and limited to construction, and required best management practices would prevent significant impacts related to erosion, the impact will remain *less than significant*.

c) Would the project 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?

Less than Significant Impact: While the soils associated with the Project Site are considered to be stable and have a low capacity for landslides, lateral spreading, subsidence, liquefaction or collapse, the 2035 Kings County General Plan identifies the project site as within an area suitable for liquefaction. However, the General Plan classifies the Project Site as Seismic Zone V2, meaning that the distance to fault systems is sufficiently great that the effect should be minimal. Because the project area is considered to be stable, and this project would not require extensive grading or other activities that would increase the risk of landslides, lateral spreading, subsidence, liquefaction or collapse, the impact is considered *less than significant*.

d) Would the project be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating direct or indirect substantial risks to life or property?

No Impact: Expansive soils contain high levels of particular clay minerals, such as smectite and vermiculite, which allow them to absorb water and exhibit shrink/swell

features. These soil types expand as water is absorbed and shrink as water evaporates, which may damage building foundations and create potential risks to life or property. None of the soils associated with the Project site contain high levels of shrink-swell clay types, and the site is not located within an area of expansive soils as defined by the 2035 Kings County General Plan. There is *no impact*.

e) Would the project have soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems where sewers are not available for the disposal of wastewater?

No Impact: The proposed project does not include construction of septic tanks, but the project does propose a network of underground pipelines and aboveground structures that will conduct livestock wastewater. The wastewater will be recycled, so there will be no disposal system required. The soil on the site will be able to adequately support the underground pipeline network. Additionally, the groundwater in the project area is found around 14 feet below the surface. There is *no impact*.

f) Would the project directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?

Less than Significant with Mitigation Incorporated: There are no known paleontological resources located within the project area. However, implementation of Mitigation Measures CUL-1 and CUL-2 will ensure that any impacts resulting from project implementation remain *less than significant with mitigation* incorporated.

Mitigation Measures for Impacts to Geology and Soils:

See Cultural Resources Section- Mitigation Measures CUL-1 & CUL-2

VIII. GREENHOUSE GAS EMISSIONS

Would the project:	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less than Significant Impact	No Impact
a) Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Environmental Setting

Natural processes and human activities emit greenhouse gases. The presence of GHGs in the atmosphere affects the earth's temperature. Without the natural heat-trapping effect of GHGs, the earth's surface would be about 34°C cooler. However, it is believed that emissions from human activities, such as electricity production and vehicle use, have elevated the concentration of these gases in the atmosphere beyond the level of naturally occurring concentrations.

The effect of greenhouse gasses on earth's temperature is equivalent to the way a greenhouse retains heat. Common GHGs include water vapor, carbon dioxide, methane, nitrous oxide, ozone, chlorofluorocarbons, hydro chlorofluorocarbons, hydro fluorocarbons, per fluorocarbons, sulfur, and hexafluoride. Some gases are more effective than others. The Global Warming Potential (GWP) has been calculated for each greenhouse gas to reflect how long it remains in the atmosphere, on average, and how strongly it absorbs energy. Gases with a higher GWP absorb more energy, per pound, than gases with a lower GWP, and thus contribute more to global warming. For example, one pound of methane is equivalent to twenty-one pounds of carbon dioxide.

GHGs as defined by AB 32 include the following gases: carbon dioxide, methane, nitrous oxide, hydrofluorocarbons, perfluorocarbons, and sulfur hexafluoride. GHGs as defined by AB 32 are summarized in Table 3-9. Each gas's effect on climate change depends on three main factors. The first being the quantity of these gases are in the atmosphere, followed by how long they stay in the atmosphere and finally how strongly they impact global temperatures.

Greenhouse Gas	Description and Physical Properties	Lifetime	GWP	Sources
Methane (CH ₄)	Is a flammable gas and is the main component of natural gas	12 years	21	Emitted during the production and transport of coal, natural gas, and oil. Methane emissions also result from livestock and other agricultural practices and by the decay of organic waste in municipal solid waste landfills.
Carbon dioxide (CO ₂)	An odorless, colorless, natural greenhouse gas.	30-95 years	1	Enters the atmosphere through burning fossil fuels (coal, natural gas and oil), solid waste, trees and wood products, and also as a result of certain chemical reactions (e.g., manufacture of cement). Carbon dioxide is removed from the atmosphere (or "sequestered") when it is absorbed by plants as part of the biological carbon cycle.
Chloro-fluorocarbons	Gases formed synthetically by replacing all hydrogen atoms in methane or ethane with chlorine and/or fluorine atoms. They are non-toxic nonflammable, insoluble and chemically unreactive in the troposphere (the level of air at the earth's surface).	55-140 years	3,800 to 8,100	Were synthesized in 1928 for use as refrigerants, aerosol propellants, and cleaning solvents. They destroy stratospheric ozone.
Hydrofluorocarbons	A manufactured greenhouse gas. It was developed to replace ozone-depleting gases found in a variety of appliances. Composed of a group of greenhouse gases containing carbon, chlorine and at least one hydrogen atom.	14 years	140 to 11,700	Powerful greenhouse gases that are emitted from a variety of industrial processes. Fluorinated gases are sometimes used as substitutes for stratospheric ozone-depleting substances. These gases are typically emitted in smaller quantities, but because they are potent greenhouse gases.

Greenhouse Gas	Description and Physical Properties	Lifetime	GWP	Sources
Nitrous oxide (N ₂ O)	Commonly known as laughing gas, is a chemical compound with the formula N ₂ O. It is an oxide of nitrogen. At room temperature, it is a colorless, non-flammable gas, with a slightly sweet odor and taste. It is used in surgery and dentistry for its anesthetic and analgesic effects.	120 years	310	Emitted during agricultural and industrial activities, as well as during combustion of fossil fuels and solid waste.
Pre-fluorocarbons	Has a stable molecular structure and only breaks down by ultraviolet rays about 60 kilometers above Earth's surface.	50,000 years	6,500 to 9,200	Two main sources of pre-fluorocarbons are primary aluminum production and semiconductor manufacturing.
Sulfur hexafluoride	An inorganic, odorless, colorless, and nontoxic nonflammable gas.	3,200 years	23,900	This gas is manufactured and used for insulation in electric power transmission equipment, in the magnesium industry, in semiconductor manufacturing and as a tracer gas.

Table 3-9. Greenhouse Gases; Source: EPA, Intergovernmental Panel on Climate Change

In regard to the quantity of these gases that are in the atmosphere, we first must establish the amount of particular gas in the air, known as Concentration, or abundance, which are measured in parts per million, parts per billion and even parts per trillion. To put this measurement in more relatable terms, one part per million is equivalent to one drop of water diluted into about 13 gallons of water, roughly a full tank of gas in a compact car. Therefore, it can be assumed larger emission of greenhouse gases lead to a higher concentration in the atmosphere.

Each of the designated gases described above can reside in the atmosphere for different amounts of time, ranging from a few years to thousands of years. All of these gases remain in the atmosphere long enough to become well mixed, meaning that the amount that is measured in the atmosphere is roughly the same all over the world regardless of the source of the emission.

Regulatory Setting

AB 32: AB 32 set the 2020 greenhouse gas emissions reduction goal into law. It directed the California Air Resources Board to begin developing discrete early actions to reduce

greenhouse gases while also preparing a scoping plan to identify how best to reach the 2020 limit. The reduction measures to meet the 2020 target were to be adopted by the start of 2011.

SB 1078, SB 107 and Executive Order S-14-08: SB 1078, SB 107, and Executive Order S-14-08 require California to generate 20% of its electricity from renewable energy by 2017. SB 107 then changed the 2017 deadline to 2010. Executive Order S-14-08 required that all retail sellers of electricity serve 33 percent of their load with renewable energy by 2020.

Guidance for Valley Land-use Agencies in Addressing GHG Emission Impacts for New Projects under CEQA and District Policy – Addressing GHG Emission Impacts for Stationary Source Projects Under CEQA When Serving as the Lead Agency (SJVAPCD 2009): In 2015, the SJVAPCD adopted reference documents for *Guidance for Assessing and Mitigating Air Quality Impacts*, which acknowledges the current absence of numerical thresholds and recommendations for a tiered approach to establish GHG impacts on the surrounding environment:

- I. If a project complies 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, then the project would be determined to have a less than significant individual and cumulative impact for GHG emissions;
- II. If a project does not comply with an approved GHG emission reduction plan or mitigation program, then it would be required to implement Best Performance Standards (BPS); and
- III. If a project is not implementing BPS, then it should demonstrate that its GHG emissions would be reduced or mitigated by at least 29 percent compared to Business as Usual (BAU).

Discussion

a) Would the project generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?

No Impact: Greenhouse gas emissions for the construction and operation of the proposed biogas pipeline and upgrading facility were modeled using the California Emissions Estimator Model (CalEEMod). The full CalEEMod report can be found in Appendix A.

Construction: Greenhouse gas emissions, generated during construction, would include activities such as site preparation, trenching for pipeline installation, and construction of the anaerobic digester and biogas upgrading facility. The CalEEMod Emissions report predicts that this project's construction will create a maximum of 1,857 MT of CO₂e emissions per year. Because the SJVAPCD does not have numeric thresholds for assessing the significance of construction related GHG emissions, predicted emissions from project construction were compared to SCAQMD thresholds for construction

related GHG emissions. The SCAQMD currently has a threshold of 10,000 metric tons of CO₂e per year for construction emissions amortized over a 30-year project lifetime plus annual operation emissions. Because this threshold was established by the SCAQMD in an effort to control GHG emissions in the largest metropolitan area within California, this threshold is considered a conservative approach for evaluating the significance of GHG emissions in a more rural area, such as Kings County. Amortized for a typical 30-year lifetime, construction related GHG emissions are estimated at 61.9 MT CO₂e per year.

Operation: The proposed biogas upgrading facility and associated livestock facilities requires 960 kWh of power to operate each day, and will operate 24 hours per day, creating a total energy demand of 350,400 kWh/year. Electricity will be provided to the site by PG&E, which has an emissions rate of 0.524 lbs CO₂ per kWh. Therefore, energy use associated with operation of the proposed project will generate approximately 83.28 MT CO₂/year. This number will likely decrease over time to reflect increasing emissions standards for utility companies.

Additionally, the covered anaerobic digester will be capturing greenhouse gas emissions that would have otherwise been released into the atmosphere. The existing use on the site involves the production of approximately 83,990 gallons of manure per day. The manure storage method of the existing operation are facultative lagoons on the site, which produce considerable methane emissions. With the addition of the anaerobic digester, the project is projected to remove approximately 7,018 metric tons of CO₂e per year when a flow rate of 400 scf/minute and an emissions factor of 0.003 MT CH₄/MT manure is assumed. Therefore, greenhouse gas reductions from capturing biogas on the site entirely outweighs the greenhouse gas emissions produced from electricity usage for project operations.

Trip Generation: Operational trips include the passenger vehicle trips from the two employees working on the site and the daily truck trips associated with biogas delivery. The Project will generate four daily employee trips (inbound and outbound) and two daily truck trips for biogas delivery (inbound and outbound). CalEEMod estimates 31.03 MT/CO₂e per year from operational trips alone, which will be included in the total annual estimates for greenhouse gas emissions for the proposed Project.

Amortized over a 30-year period, the total annualized GHG emissions from the construction and operation of the proposed project is estimated to be 176.21 MT CO₂e, which is well below the threshold established by the SCAQMD. When factoring in the removal of greenhouse gas emissions resulting from the anaerobic digester, 7,018 metric tons of CO₂e would be removed that would have otherwise been emitted, so the operational emissions are entirely outweighed by the capturing of greenhouse gas emissions. According to SJVAPCD, projects that comply with an approved GHG emission reduction plan or GHG mitigation program which avoids or substantially reduces GHG emissions within the geographic area in which a project is located would be determined to have a less than significant individual and cumulative impact on GHG emissions. The GHG

emissions associated with the proposed project would not exceed the quantitative thresholds developed by the neighboring Air Quality Management District. Therefore, GHG emissions from the project would not have a significant impact on the environment and the impact is considered to be *less than significant*.

b) Would the project conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases?

No Impact: The SJVAPCD is responsible for regulating GHG emissions within the project area to meet statewide GHG emission reduction objectives. The regulations and standards enforced by the SJVAPCD are designed to ensure that the region meets the goals of AB 32, SB 1078, SB 107, and Executive Order S-14-08. The project is not in conflict with any local or statewide plans, policies or regulations adopted to reduce GHG emissions. There is *no impact*.

IX. HAZARDS AND HAZARDOUS MATERIALS

Would the project:	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	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?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
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?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c) Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
e) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard or excessive noise for people residing or working in the project area?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
f) Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
g) Expose people or structures, either directly or indirectly, to significant risk of loss, injury or death involving wildland fires?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Environmental Setting

The proposed Project Site is located approximately 26 miles south of the nearest public airport (Hanford Municipal Airport), 10 miles south of the nearest private airfield (Boswell Airport), and 5.3 miles northwest of the nearest school (Alpaugh Elementary School). The Department of Toxic Substances Control's (DTSC's) Envirostor was used to identify any sites known to be associated with releases of hazardous materials or wastes within the project area. This

research confirmed that the project would not be located on a site that is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5.

Regulatory Setting

Comprehensive Environmental Response, Compensation, and Liability Act of 1980 (42 U.S. Code [U.S.C.] §9601 et seq.). The Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA, or the Superfund Act) authorizes the President to respond to releases or threatened releases of hazardous substances into the environment.

Occupational Safety and Health Administration. The Occupational Safety and Health Administration (OSHA) sets and enforces Occupational Safety and Health Standards to assure safe working conditions. OSHA provides training, outreach, education, and compliance assistance to promote safe workplaces. The Project would be subject to OSHA requirements during construction, operation, and maintenance.

Toxic Substances Control Act of 1976 (15 U.S.C. §2601 et seq.). The Toxic Substance Control Act was enacted by Congress in 1976 and authorizes the EPA to regulate any chemical substances determined to cause an unreasonable risk to public health or the environment.

Hazardous Waste Control Law, Title 26. The Hazardous Waste Control Law creates hazardous waste management program requirements. The law is implemented by regulations contained in Title 26 of the California Code of Regulations (CCR), which contains requirements for the following aspects of hazardous waste management:

- Identification and classification;
- Generation and transportation;
- Design and permitting of recycling, treatment, storage, and disposal facilities;
- Treatment standards;
- Operation of facilities and staff training; and
- Closure of facilities and liability requirements.

California Code of Regulations, Title 22, Chapter 11. Title 22 of the California Code of Regulations contains regulations for the identification and classification of hazardous wastes. The CCR defines a waste as hazardous if it has any of the following characteristics: ignitability, corrosively, reactivity, and/or toxicity.

California Emergency Services Act. The California Emergency Services Act created a multi-agency emergency response plan for the state of California. The Act coordinates various agencies, including CalEPA, Caltrans, the California Highway Patrol, regional water quality control boards, air quality management districts, and county disaster response offices.

Hazardous Materials Release Response Plans and Inventory Law of 1985. Pursuant to the Hazardous Materials Release Response Plans and Inventory Law of 1985, local agencies are required to develop “area plans” for response to releases of hazardous materials and wastes.

Kings County maintains a Hazardous Material Incident Response Plan to coordinate emergency response agencies for incidents and requires the submittal of business plans by persons who handle hazardous materials.

2035 Kings County General Plan: The Health and Safety Element of the 2035 Kings County General Plan includes the following objectives pertaining to hazards and hazardous materials:

- HS Objective B1.5 Ensure adequate protection of County residents from new generations of toxic or hazardous waste substances.
 - HS Policy B1.5.1: Evaluate development applications to determine the potential for hazardous waste generation and be required to provide sufficient financial assurance that is available to the County to cover waste cleanup and/or site restoration in instances where the site has been abandoned or the business operator is unable to remove hazardous materials from the site.

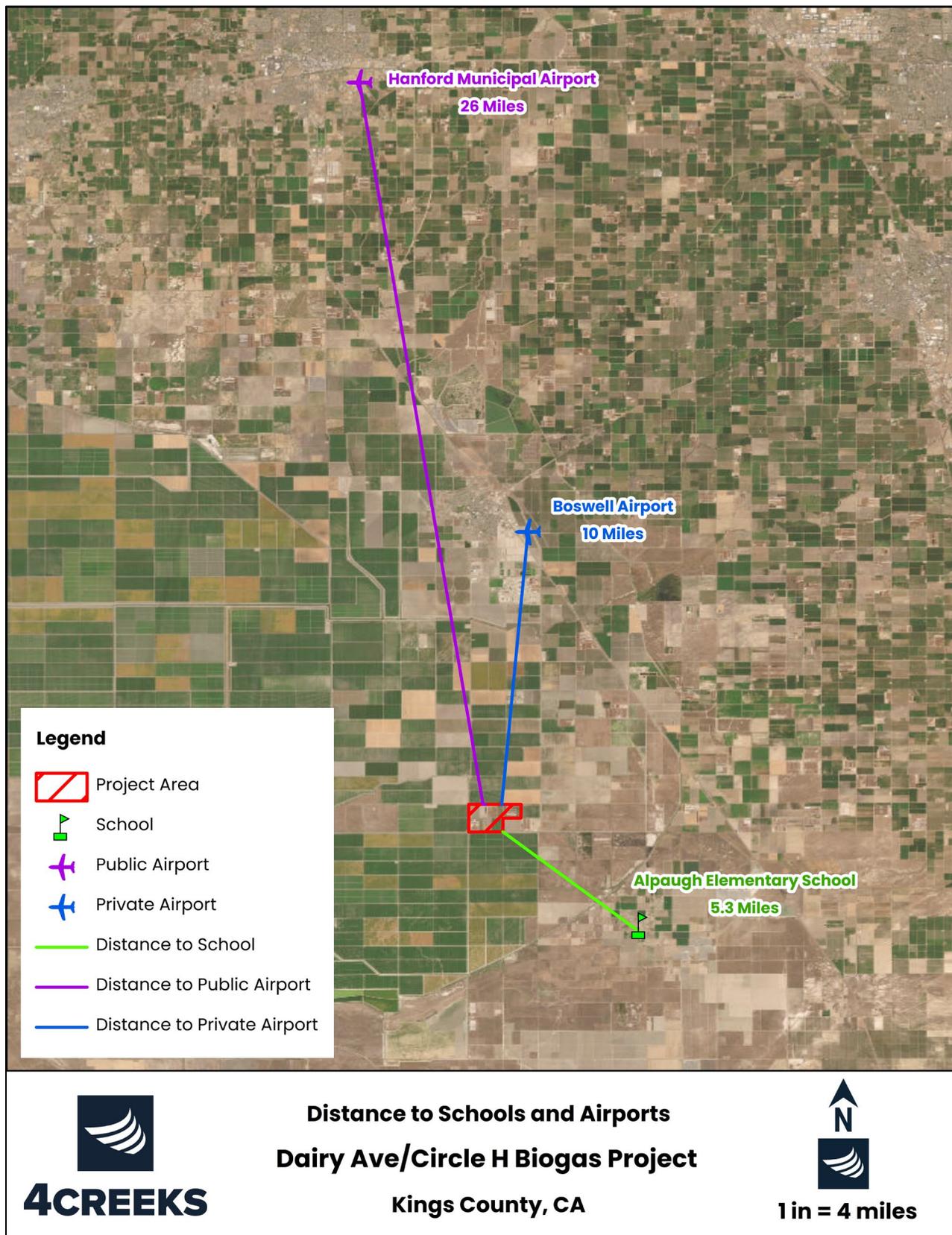


Figure 3-5. Distance to Schools and Airports.

Discussion

a) **Would the project create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?**

Less than Significant Impact with Mitigation Incorporated: Project construction activities may involve the use and transport of hazardous materials. During construction, the contractor will use fuel trucks to refuel onsite equipment and may use paints and solvents to a limited degree. Construction and operations related activities will comply with the California fire code, local building codes, and gas pipeline regulations.

The plant will be designed to comply with all relevant codes, most importantly, those of the National Fire Protection Association (NFPA), the National Electrical Code (NEC), and of the American Society of Mechanical Engineers (ASME). Hazard areas will be classified within the plant, and instrumentation and equipment will be selected which is suitable for the hazard areas in which they reside. The pressure vessels will be equipped with pressure safety valves (PSVs) and operation of the plant will be under the continuous control of supervisory control and data acquisition (SCADA) system. The SCADA system will monitor operating pressures, temperatures, and flow rates, and in the event of off-specification conditions, the SCADA system will automatically initiate a controlled plant shutdown. The plant will also be equipped with emergency stop (E-stop) buttons at key locations, which allow the operator to directly initiate a plant shutdown. The Kings County Fire Department will be responsible for enforcing provisions of the fire code and the California Public Utilities Code regulates the safety of gas transmission pipelines. Standard safety measures for biogas treatment facilities include safety flares to reduce excess gas storage.

During project operations, raw biogas will be transported through a pipeline to a biogas upgrading facility. Raw biogas is composed primarily of Methane and Carbon dioxide (see Table 3-10).

Compound	Formula	%
Methane	CH ₄	50-75
Carbon dioxide	CO ₂	25-50
Nitrogen	N ₂	0-10
Hydrogen	H ₂	0-1
Hydrogen sulfide	H ₂ S	0.1-0.5
Oxygen	O ₂	0-0.5

Table 3-10. Typical Composition of Biogas; Source: Basic Information on Biogas Archived 6 February 2010 at the Wayback Machine, www.kolumbus.fi.

Methane: Although methane is not toxic, handling methane can be hazardous. Methane has an ignition temperature of 1,000 degrees Fahrenheit and is flammable at concentrations between 5 and 15 percent in air. There are no spark sources within the pipe so no combustion could occur within the pipeline. If a gathering line is breached, flammable methane will leak. However, because raw biogas only contains 60-75% methane, and the operating pressure of the pipeline is only 50 psi, the risks associated with the pipeline are less than that of a typical natural gas transmission line. By comparison, natural gas contains 87-97% methane and natural gas transmission lines generally operate at pressures above 200 psi. Additionally, the presence of carbon dioxide in the raw biogas would make the methane difficult to light and maintain combustion. The pipeline will be built and monitored to the US Department of Transportation Pipeline Safety and Hazardous Materials Administration (PSHMA) standards. Consistency with these standards ensures that any risks associated with the transport of Methane are reduced to less than significant levels.

Carbon dioxide: Because Carbon dioxide is heavier than air, the presence of carbon dioxide can pose risks to human health in the event of a gathering line breach. While leaked carbon dioxide would normally dissipate by diffusion, there is risk of suffocation if carbon dioxide leaks into a hole or trench. The SCADA system will continuously monitor flow and pressure at the inlet and outlet of the pipeline and is designed to initiate an automatic shutdown in the event of off-specification conditions. If a gathering line breach does occur, the SCADA system would recognize a change in pressure and initiate immediate shutdown. This would suspend delivery and prevent excess accumulation of carbon dioxide.

Hydrogen sulfide: Hydrogen sulfide is the only compound found in biogas that is specifically listed as a hazardous material. Hydrogen sulfide can be immediately dangerous to life and health at concentrations over 100 ppm. Biogas contains about 5,000 ppm Hydrogen Sulfide, which can be extremely lethal. Concentrations of Hydrogen sulfide will be reduced to less than 100 ppm at each dairy before entering the gathering lines. Therefore, the gas in the gathering lines will contain less than 100 ppm Hydrogen Sulfide. If there is a gathering line breach, the escaping low concentration Hydrogen sulfide will quickly dissipate.

Because the biogas in the pipeline will not contain dangerous levels of Hydrogen sulfide, the pressures within the pipeline are not high enough to be of risk, and the SCADA system will prevent the release of excess gasses in the event of a breach, implementation of Mitigation Measure HAZ-1 will further prevent impacts related to hazardous materials, the impact is reduced to *less than significant with mitigation*.

b) Would the project create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?

Less than Significant Impact with Mitigation Incorporated: Although the project does have the potential to release biogas into the air in the event of equipment failure, it would not create a significant hazard to the public or environment. The operation of the plant will be under the continuous control of a supervisory control and data acquisition (SCADA) system. The SCADA system will monitor operating pressures, temperatures, and flow rates. In the event of off-specification conditions, the SCADA system will automatically initiate a controlled plant shutdown. The plant will also be equipped with emergency stop (E-stop) buttons at key locations, which will allow the operator to directly initiate a plant shutdown.

Although small amounts of methane, carbon dioxide, and hydrogen sulfide could be released prior to plant shutdown, this will not create a substantial public hazard. Methane, while flammable at concentrations found in biogas, is lighter than air and would dissipate very quickly once system shutdown occurs. Because carbon dioxide is heavier than air, there is a risk of suffocation if carbon dioxide accumulates into a hole or trench. The SCADA system would prevent excess carbon dioxide accumulation by initiating immediate shutdown once a breach is sensed. The release of hydrogen sulfide could result in impacts to human health if toxic gasses are inhaled, however because the gas in the gathering lines will contain less than 100 ppm Hydrogen sulfide, and the concentrations of Hydrogen sulfide would quickly dissipate after system shutdown is initiated by the SCADA system, significant impacts to human health would not occur. Implementation of Mitigation Measure HAZ-1 will ensure that, in the event of a leak or rupture, the facility is shut down as soon as possible to minimize the release of biogas into the atmosphere. The inclusion of manual E-stop buttons at the facility will provide additional fail-safe measures in the event of equipment failure.

Over-the-road transportation of the treated compressed biogas is classified by the U.S. Department of Transportation (DOT) as a Class 2, Division 2.1 hazardous material and must adhere to specific requirements outlined by the DOT. The best practices for biogas transportation are outlined in Mitigation Measure HAZ-2, which will ensure that in the event of an accident, there is minimal release of biogas into the atmosphere.

Additionally, the compounds found in biogas are mostly not considered to be hazardous. Biogas does contain a small amount Hydrogen sulfide, which is considered to be hazardous, however the compound is found in only limited amounts in biogas. In the unlikely event that biogas is accidentally released into the atmosphere by a leak or rupture of the pipe segments, any Hydrogen sulfide released into the atmosphere would be at concentrations far below the State Standard. Expansion of the proposed pipeline network to connect additional dairies to the proposed biogas upgrading facility would not increase the severity of this impact. Implementation of Mitigation Measure HAZ-1 and HAZ-2 will further reduce this impact by limiting additional release of Hydrogen

sulfide if equipment failure or if a vehicle accident does occur. The impact is reduced to *less than significant with mitigation incorporation*.

c) Would the project emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?

No Impact: The project is not located within ¼ mile of an existing or proposed school, as the nearest school site is Alpaugh Elementary School, which is approximately 5.3 miles southeast of the Project site. There is no reasonably foreseeable condition or incident involving the emission, handling, or disposal of hazardous materials, substances, or waste that would affect areas within ¼ miles of existing or proposed school sites. There is *no impact*.

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

No Impact: The Project Site is not listed as a hazardous materials site pursuant to Government Code Section 65962.5 and is not included on a list compiled by the Department of Toxic Substances Control. There would be *no impact*.

e) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard or excessive noise for people residing or working in the project area?

No Impact: The proposed project is located approximately 26 miles away from the nearest public airport (Hanford Municipal Airport) and 10 miles from the nearest private airstrip (Boswell Airport). The site is not located in an airport land use plan and there is *no impact*.

f) Would the project impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?

No Impact: The proposed project's access routes would meet all emergency access requirements of Kings County. Construction of the proposed project would not create an obstruction to surrounding roadways or other access routes used by emergency response units. The proposed project would not impair implementation of, or physically interfere with, an adopted emergency response plan or emergency evacuation plan. According to Figure HS-20 of the Health and Safety Element, the Project Site is adjacent to two County-wide Secondary Evacuation Routes, which are Utica Avenue and 6th Avenue. However, the Project will not modify either of these roadways or create any obstructions to the roadway. There is *no impact*.

g) Would the project expose people or structures, either directly or indirectly, to significant risk of loss, injury or death involving wildland fires?

No Impact: The California Department of Forestry and Fire Protection (CAL FIRE) is responsible for identifying the governmental agencies responsible for preventing and suppressing fires in all areas of the State. Within the County, this responsibility is shared between the cities, County, State, and Naval Air Base. Generally, fire season in Kings County extends from early spring to late fall. Determination of wildland fire hazards is based on three major factors: fuel loading, weather conditions, and topography.

In most of Kings County, CAL FIRE ranks fuel loading as low fuel hazards, where fuels are mainly crops and grasses. Vacant parcels where dry weeds are permitted to accumulate are a fire hazard, but grain crops, such as oats and barley, are also at risk because they are harvested in a dry state during the peak fire season. According to Figure HS-9 of the 2035 Kings County General Plan Health and Safety Element, the Project Site is within 2,400 meters of a moderate threat from wildfires. This designation applies to a sizable portion of Kings County. Project construction would not require blasting or any other technique that would increase wild land fires, and development of the site would result in a reduction of brush at the Project Site and would therefore reduce the threat of wildfire in the area. For these reasons, the proposed project would have *no impact* on wildland fires.

Mitigation Measures:

Mitigation Measure HAZ-1: Installation of a supervisory control and data acquisition (SCADA) system shall be established and maintained for the operational life of the project. The SCADA system will monitor operating pressures, temperatures, and flow rates, and in the event of off-specification conditions, the SCADA system will automatically initiate a controlled plant shutdown. The plant shall also be equipped with emergency stop (E-stop) buttons at key locations, which will allow the operator to directly initiate a plant shutdown.

Mitigation Measure HAZ-2: Truck transportation of treated compressed biogas will adhere to the requirements outlined by the U.S. Department of Transportation. These requirements include the following:

- Use of DOT-approved tanks (DOT-3AAX seamless steel cylinders) that do not exceed the rated tank pressure
- Contents will maintain a water content of less than 0.5 lbs/million scf
- Contents will maintain a methane content of 98%
- Appropriate hazardous materials markings

X. HYDROLOGY AND WATER QUALITY

Would the project:	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less than Significant Impact	No Impact
a) Violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or ground water quality?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b) Substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
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 result in substantial erosion or siltation on- or off-site?				
i) result in substantial erosion or siltation on- or off-site;	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
ii) substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or offsite;	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
iii) create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff; or?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
iv) impede or redirect flood flows?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
d) In flood hazard, tsunami, or seiche zones, risk release of pollutants due to project inundation?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
e) Conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Environmental Setting

Groundwater: The proposed Project Site is located in the Tulare Lake Hydrologic Region, which covers 10.9 million acres south of the San Joaquin River. The Tulare Lake Hydrologic Region is composed of 12 groundwater basins. The proposed Project Site lies within the San Joaquin

Valley Groundwater Basin. The San Joaquin Valley Groundwater Basin is divided into seven sub-basins. The proposed Project is located within the Tulare Lake Sub-basin.

The Tulare Lake Hydrologic Region is managed by the Tri-County Water Authority Groundwater Sustainability Agency (GSA). GSA's are formed on a basin-wide scale to sustainably manage water at a local level. Each GSA is required to prepare a Groundwater Sustainability Plan (GSP) pursuant to the Sustainable Groundwater Management Act (SGMA). The purpose of the GSP is to plan and implement actions to sustainably manage groundwater without causing undesirable results.

Surface Waters: The proposed Project Site is within the Tulare-Buena Vista Lakes Watershed which covers portions of Kern and Kings County. The most prominent rivers and streams within the Watershed are the Kings River and the Kaweah River. The alluvial fans of the Kings River and Kaweah River dominate the landscape within the Kings County Water District. Other surface waters include the Saint Johns River and Cross Creek.

Flood Risk: The Federal Emergency Management Agency (FEMA) defines the predominant flood prone areas through their Flood Insurance Rate Maps (FIRM). Floods have historically been the major cause of disaster within Kings County. The main reason is that drainage patterns direct all flows towards the Tulare Lake Basin in southern Kings County. Data from the Flood Insurance Rate Map system has been gathered to create Figure 3-6, which shows the flood zones occurring within the Project area. All ground disturbance associated with the proposed Project is within an area defined as having moderate to minimal hazards from flooding, but the nearest flood zone is approximately 0.25 miles away (1% Annual Chance no BFE's). The flood risk categories have been defined by the FEMA glossary, with additional information adapted from the Health and Safety Element of the 2035 Kings County General Plan.

- **A; 1% Annual Chance no BFE's:** Areas starting with the letter 'A' are considered 'high risk' flood zones. 'A' zones indicate a 100-year flood zone, or areas with a 1% chance of flooding each year, there are no base flood elevations (BFE) included on the FIRM map.
- **AE; 1% Annual Chance with BFE's:** 100-year flood zone, or a 1% chance of flooding annually, with base flood elevations included on FIRM map.
- **AH; 1% Annual Chance Shallow Flooding (Depths 1-3 feet):** 100-year flood zone with shallow flooding depths of 1 to 3 feet.
- **D; Undetermined Flood Hazard:** Floods are possible, but flood hazard is undetermined or unstudied.
- **X; Moderate or Minimal Flood Hazard:** Non-Special Flood Hazard area with a moderate to minimal flood hazard risk. Flood hazards are reduced, but not completely removed.

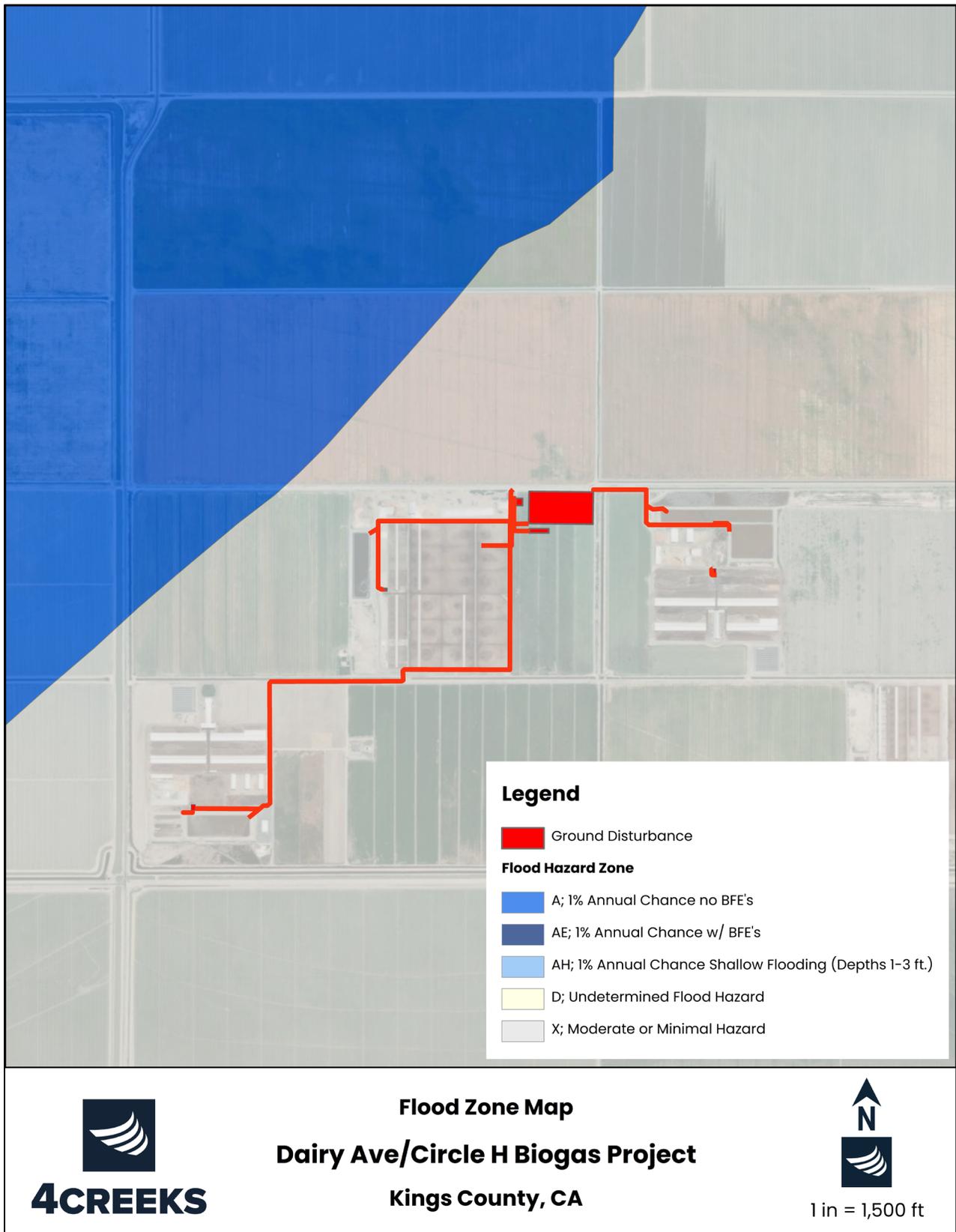


Figure 3-6. Flood Zone Map

Regulatory Setting

Clean Water Act: The Clean Water Act (CWA) is enforced by the U.S. EPA and was developed in 1972 to regulate discharges of pollutants into the waters of the United States. The Act made it unlawful to discharge any pollutant from a point source into navigable waters unless a National Pollution Discharge Elimination System (NPDES) Permit is obtained.

Central Valley RWQCB: The proposed Project Site is within the jurisdiction of the Central Valley Regional Water Quality Control Board (RWQCB). The Central Valley RWQCB requires a National Pollution Discharge Elimination System (NPDES) Permit and Stormwater Pollution Prevention Plan (SWPPP) for projects disturbing more than one acre of total land area. Because the project is greater than one acre, an NPDES Permit and SWPPP will be required.

Discussion

a) Would the project violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or ground water quality?

Less than Significant Impact with Mitigation Incorporated: Because implementation of the proposed project will involve ground disturbance of more than one-acre, significant impacts related to water quality standards or waste discharge requirements may occur. However, a SWPPP will be required for the project and will include erosion and sediment control measures to reduce runoff during construction. Implementation of BMPs through stormwater quality protection measures would ensure there is no violation of water quality standards or waste discharge requirement during construction. Impacts to water quality or waste discharge are not anticipated for post-construction operation or maintenance on the biogas project.

Implementation of Mitigation Measure HYD-1 and HYD-2 will ensure that this project will not violate any water quality standards or wastewater discharge requirements. Therefore, the impact is *less than significant with mitigation incorporation*.

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

Less than Significant Impact: The proposed project would not have a significant impact on groundwater resources. During project construction, water use is estimated to be approximately 0.12 acre-feet/acre/month. This water will be used primarily for dust control. During operations, the proposed project will not use any water for the biogas upgrading process, however approximately 10 gallons per day would be used for periodic equipment cleaning and other miscellaneous maintenance tasks. For the 13-acre project, this would equate to approximately 0.00092 acre-feet/acre/month.

The project site is located in an area of significant agricultural activity. Therefore, it is relevant to compare project-related water use to typical agricultural water use. Because Table RC-3 in the Resource Conservation Element of the Kings County General Plan identifies wheat (grain) as having the largest number of harvested acres within the County, the amount of water used for wheat production was used to evaluate the significance of the project's water use.

The 2015 California Agricultural Production and Irrigated Water Use Report states that wheat production requires an average of 2.1 acre-feet of applied water/acre/year, or 0.18 acre-feet/acre/month. Because construction-related water use is anticipated to be approximately 0.12 acre-feet/acre/month, and operational water use is anticipated to be approximately 0.00092 acre-feet/acre/month, both construction and operation of the proposed project would require less water than would be required by typical crop cultivation.

Future expansion of the proposed pipeline network would result in additional construction-related water use; however, it would not result in increased operational water use. Construction-related water use for pipeline expansion is estimated to be approximately 0.12 acre-feet/acre/month.

Because the project would use a relatively small amount of water in comparison to adjacent agricultural uses, the proposed project would not substantially deplete groundwater supplies or interfere substantially with groundwater recharge. The proposed project does not meet the definition of a "project" as defined by Water Code Water Code § 10912 and would not be subject to a Water Supply Assessment pursuant to SB 610 or SB 221. The impact is *less than significant*.

c) Would the project 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?

Less than Significant Impact: The proposed project will not impact existing drainage patterns or alter the course of a stream or river. The project area is generally flat and no significant grading or leveling will be required. Added impervious surfaces will be limited to the building footprint and internal access roads and all stormwater will be contained on-site. Therefore, the project will have a *less than significant impact* on 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?

Less than Significant Impact: The proposed project will not alter existing drainage patterns or increase surface runoff in a manner that could result in flooding on or

off site. The project area is generally flat and no significant grading or leveling will be required. Added impervious surfaces will be limited to the building footprint and the internal access roads and all stormwater will be contained on-site. Therefore, the project will have a *less than significant impact* on flooding on or off site.

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?

Less than Significant Impact with Mitigation Incorporated: The proposed project will not alter existing drainage patterns or impact existing stormwater drainage systems during project operations. However, pipe installation and other construction activities could create a potential for surface water to carry sediment into the storm water system and downstream waterways. Implementation of Mitigation Measures HYD-1 and HYD-2 will reduce impacts related to stormwater and polluted runoff to less than significant levels. Therefore, the impact is *less than significant with mitigation incorporation*.

iv. impede or redirect flood flows?

Less than Significant Impact: The project will not substantially alter the existing drainage pattern of the site, nor alter the course of a stream or river. The project site contains a relatively small area of impervious concrete to be installed above the adopted FEMA Base Flood Elevation to prevent flooding of permanent site fixtures. The remaining area of the small site shall be below the Base Flood Elevation, sloped and graded to minimize any potential flood impacts. Storm water accumulated on the proposed site shall be retained on the parcel, as occurs currently. Therefore, the project will have a *less than significant impact* on flood flows.

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

No Impact: The proposed project is located inland and not near an ocean or large body of water, therefore, would not be affected by a tsunami. The proposed project is located in a relatively flat area and would not be impacted by inundation related to mudflow. Therefore, the proposed project would have *no impacts* related to seiche, tsunami, or mudflow.

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

No Impact: The proposed project would comply with local, State, and federal regulations regarding water quality and groundwater management. It would not conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan. There is *no impact*.

Mitigation Measures:

HYD-1: Stormwater Quality Protection: Prior to project construction, the applicant shall be required to file a "Notice of Intent" (NOI) with the SWRCB to comply with the General Permit and prepare a Storm Water Pollution Prevention Plan (SWPPP). The SWPPP shall be prepared by a licensed engineer and shall detail the treatment measures and best management practices (BMPs) to control pollutants that shall be implemented and complied with during project construction. Example SWPPP measures may include the following:

- Preserve existing vegetation where required and when feasible
- Reseeding vegetation, where appropriate
- Control erosion in concentrated flow paths by applying erosion control blankets, check dams, erosion control seeding, or alternative methods
- Maintain sufficient quantities of temporary sediment control materials on-site throughout the duration of the project

Mitigation Measure HYD-2: Report of Waste Discharge. Prior to construction grading the applicant shall be required to file a Report of Waste Discharge (RWD) with the Central Valley Regional Water Quality Control Board (CVRWQCB) pursuant to California Water Code (CWC) Section 13260. Wastewater generated from the facility will be pretreated to remove harmful constituents so that the water can be used for land application at agronomic rates. The RWD shall include a technical report addressing wastewater treatment operations, wastewater volume, wastewater characteristics, land application areas and wastewater loading rates to ensure proper application for crop utilization. Pursuant to the CVRWQCB permitting process, the applicant shall file a Notice of Intent (NOI) with the Kings Water Alliance for the Regional Central Valley Salinity Alternatives for Long-term Sustainability (CV-SALTS) Nitrate Control Program.

XI. LAND USE AND PLANNING

Would the project:	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less than Significant Impact	No Impact
a) Physically divide an established community?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Environmental Setting

The proposed project is located in an unincorporated area of Kings County, 10 miles south of the City of Corcoran and 5.3 miles northwest of Alpaugh. Current land use on the surrounding properties includes cultivated agriculture and livestock facilities. There is one rural office location approximately 1.5 miles west of the Project site. The land to the north, south, east, and west are designated by Kings County as General Agriculture, 40 acres, under the General Plan and is zoned as AG-40 General Agricultural-40 District under the Kings County Development Code.

Regulatory Setting

2035 Kings County General Plan: As shown in Figure LU-11, the Kings County Land Use Map shows that the proposed Project Site and the land to the north, west, and east are designated by Kings County as General Agriculture (General Agriculture – 40 Acre) under the General Plan. Page LU-13, Section III.A.1. of the “Land Use Element” of the *2035 Kings County General Plan* states that agricultural land use designations account for a vast majority of the County’s land use. Included within this land use type are four agricultural type land use designations, Limited Agriculture, General Agriculture 20 Acre Minimum, General Agriculture 40 Acre Minimum, and Exclusive Agriculture. The major differences between the four Agriculture designations relate to minimum parcel size, animal keeping, and agricultural service businesses. These designations preserve land best suited for agriculture, protect land from premature conversion, prevents encroachment of incompatible uses, and establish intensity of agricultural uses in a manner that remains compatible with other uses within the County. The development of agricultural services and manure processing facilities within the Agricultural areas of the County shall develop to County standards.

Page LU-13, Section III.A.1. of the “Land Use Element” of the *2035 Kings County General Plan* states that the AG-40 designation is applied to rural areas of the county south of Kansas Avenue,

excluding the Urban Fringe areas of Corcoran, the Communities of Kettleman City and Stratford, and high slope areas of the Coast Ranges. Included in the AG-40 designation are large corporate farming operations in the Tulare Lake Basin, and areas of the valley floor that are characterized by extensive and intensive agricultural uses. This portion of the County contains a network of irrigation channels and levees that divert surface water to support the various agricultural uses in the area. This region should be reserved for agricultural uses due to its high-quality soil, comprehensive irrigation network, exclusive agricultural character and the need to reserve land for intensive agricultural uses. Most of the land in this area is prone to flood risks, so agricultural uses should be maintained to reduce threats to human development and wellbeing.

Page LU-27, Section IV.B of the “Land Use Element” of the 2035 *Kings County General Plan* states that Agriculture Open Space is the most extensive environment category that displays the rural agricultural nature of the County. This environment category covers the vast agricultural resources of the County that accounted for \$1.76 billion in 2008 gross agricultural production. The Agricultural land use designations (Limited Agriculture, General Agriculture 20 Acre, General Agriculture 40 Acre, and Exclusive Agriculture) are used to define distinct areas of agricultural intensity and protect agricultural land from the encroachment of incompatible uses. Limited and General Agriculture designated areas provide appropriate locations for agricultural support businesses, while Exclusive Agriculture provides a safety and noise buffer around the Naval Air Station Lemoore. Other small areas designated Open Space and Public are also intermixed throughout the vast agricultural landscape. These include open space buffers near community districts, and public facilities such as school sites, utility provider sites, wastewater facilities, and County parks. The following objectives in the Land Use Element of the 2035 *Kings County General Plan* are applicable to the Project Site’s agricultural land use designation:

- Land Use Objective B1.1 Preserve the integrity of the County’s agricultural land resources through agricultural land use designations and other long term preservation policies.
- Land Use Objective B1.2 Maintain large parcel sizes of agricultural designated land within Urban Fringe areas and around Community Districts to retain viable agricultural production until such time as land is planned and ready for conversion to other uses.
- Land Use Objective B2.1 Recognize agriculture as the highest and best use of agricultural designated land and preserve the right of farmers and agricultural operations to continue customary and usual agricultural practices and operate in the most efficient manner possible.
- Land Use Objective B2.2 Minimize and reduce the potential for conflicts between agriculture and non-agricultural urban uses.
- Land Use Objective B2.3 Increase diversified business opportunities within agricultural areas when they are compatible with agricultural operations.
- Land Use Objective B3.1 Direct agricultural support services to General Agriculture land use designated areas, while ensuring that services are not harmful to the long-term

agricultural use of the land or potential future urban growth if within the Blueprint Urban Growth Boundary.

Page RC-42 of the "Resource Conservation Element" of the 2035 *Kings County General Plan* identifies the following objectives and policies related to resource conservation planning areas:

- RC Objective A2.1: Maintain the existing Kings River water conveyance system as a designated floodway and encourage the preservation of riparian habitat along the Kings River consistent with state and federally mandated flood control purposes.
 - RC Policy A2.1.1: Recognize the Kings River Conservation District's responsibility to maintain the Kings River channels and levees for flood control purposes. On land within the floodway, allow farming and other uses that are consistent with the designated floodway regulations and any requirements of the Central Valley Flood Protection Board.
 - RC Policy A2.1.2: Apply the "Natural Resource Conservation" land use designation along the Kings River, Cross Creek, and in environmentally sensitive areas having existing natural watercourses, drainage basins, sloughs, or other natural water features. Permitted uses within designated floodway channels shall be limited to uses such as flood control channels, water pumping stations and reservoirs, irrigation ditches, water recharge basins, limited open public recreational uses such as passive riverside parks, related incidental structures, and agricultural crop production that does not include permanent structures. Any construction or development in this designation along the Kings River designated floodway channel shall be subject to the encroachment permit process required by the Central Valley Flood Protection Board.
 - RC Policy A2.1.3: Apply the "Natural Resource Conservation" land use designation to all areas of the County west of State Route 33 where topography consists of 15% or greater slopes. Permitted uses on steep sloped Natural Resource Conservation land include livestock grazing, livestock and timber, vines, and horticultural specialties.
 - RC Policy A2.1.4: Coordinate the review of all development proposals within or adjacent to designated floodways with relevant resource conservation district entities to ensure compliance with Central Valley Flood Protection Board requirements, and local Floodplain Administration requirements.

Kings County Development Code: The proposed Project Site and surrounding properties are zoned as AG-40, General Agricultural-40. This district is intended for intensive agricultural use of land. This area should be reserved for commercial agricultural uses due to its high soil quality. The minimum parcel size in the AG-40 zoning district is 40 acres. Agricultural produce processing, packing, and shipping facilities, as well as bovine dairies and expansions of existing bovine dairies are allowed in this zoning district with a Conditional Use Permit. The following is from the Kings County Development Code related to this project:

- **Article 4, Section 407:** Table 4-1 prescribes the land use regulations for “Agricultural” districts. The regulations for each district are established by letter designation shown in the key, which lists biomass energy facilities and projects as a conditional use subject to Kings County Planning Commission approval of a Conditional Use Permit in the General Agricultural (AG-40) district.
- **Article 10, Section 1002:** The Dairy Development Overlay Zone (DDOZ) designates portions of Kings County where the majority of dairies exist and new dairies may be located. There are nine areas totaling approximately 394 square miles. New dairies and the expansion of existing dairies is allowed within the DDOZ, according to the Dairy Element of the 2035 Kings County General Plan and Application Guidelines for New and Expanding Dairy Permits and is permitted by the agricultural zoning district. The proposed project is located in the DDOZ 5, Southeast Central zone.



Figure 3-7. Land Use Map



Figure 3-8. Zoning Map

Discussion

a) Would the project physically divide an established community?

No Impact: The Project Site is located on contiguous parcels and would not physically divide an established community. There is *no impact*.

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

No Impact: The proposed project is conditionally permitted under the current zoning and general plan land use designation, as noted in this document's Regulatory Setting section for Land Use and Planning. The project does not conflict with any land use plans for the area, and there is *no impact*.

Mitigation Measures for Impacts to Land Use and Planning

None Required

XII. MINERAL RESOURCES

Would the project:	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Environmental Setting

There are no mineral resource zones in Kings County, and there is no mineral extraction occurring on or adjacent to the proposed Project Site. Historical mines within the County include an open pit gypsum mine and a mercury mine; however, these mines are now closed.

Regulatory Setting

California State Surface Mining and Reclamation Act: The California State Surface Mining and Reclamation Act was adopted in 1975 to regulate surface mining to prevent adverse environmental impacts and to preserve the state's mineral resources. The Act is enforced by the California Department of Conservation's Division of Mine Reclamation. Under the California State Surface Mining and Reclamation Act of 1975, Mineral Resource Zones (MRZs) are used by the State Geologist to classify land according to its level of significance as a mineral resource. MRZs are used to help identify and protect state mineral resources from urban expansion or other irreversible land uses that might preclude mineral extraction.

The State Geologist has not yet mapped and classified mineral resources in Kings County (CDC 2013). No Mineral Resource Zone (MRZ) designations have been identified within the county. Only limited commercial mining and mineral extraction takes place in Kings County and such activities are currently limited to excavation of sand, gravel, and some hydrocarbon drilling. Historical mining of gypsum, mercury, and hydrocarbons indicated that there may be deposits of these minerals within Kings County (Kings County CDA 2010).

Discussion

- a) Would the project 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?**

No Impact: There are no known mineral resources of importance to the region on the Project Site and the Project Site is not designated under the County's General Plan as an important mineral resource recovery site (2035 Kings County General Plan). Thus, there is *no impact*.

- b) Would the project result in the loss of availability of a locally - important mineral resource recovery site delineated on a local general plan, specific plan or other lands use plan?**

No Impact: There are no known mineral resources of importance to the region on the Project Site and the Project Site is not designated under the County's General Plan as an important mineral resource recovery site (2035 Kings County General Plan). Thus, there is *no impact*.

Mitigation Measures for Impacts to Mineral Resources

None Required

XIII. NOISE

Would the project:	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less than Significant Impact	No Impact
a) Generation of a substantial temporary or permanent increase in ambient noise levels in the vicinity or the project in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b) Generation of excessive ground-borne vibration or groundborne noise levels?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c) For a project located within the vicinity of a private airstrip or airport land use plan or, where such a plan has not been adopted, within two miles of public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Environmental Setting

Noise is often described as unwanted sound. Sound is the variation in air pressure that the human ear can detect. If the pressure variations occur at least 20 times per second, they can be detected by the human ear. The number of pressure variations per second is called the frequency of sound, and is expressed as cycles per second, called Hertz (Hz). Ambient noise is the “background” noise of an environment. Ambient noise levels on the proposed Project Site are primarily due to agricultural activities and traffic. Construction activities usually result in an increase in sound above ambient noise levels.

There is one rural office location approximately 1.5 miles west of the proposed Biogas Facility. This rural office facility is located in an area designated for agricultural uses. Agricultural activities on agricultural lands are protected under the Kings County Right-to-Farm Ordinance.

Regulatory Setting

2035 Kings County General Plan: The Noise Element of the 2035 Kings County General Plan contains the following non-transportation noise standards for the unincorporated area of the County:

Receiving Land Use	Outdoor Area ²		Interior ³	Notes
	Daytime	Nighttime	Day & Night	
All Residential	55 / 75	50 / 70	35 / 55	
Transient Lodging	55 / 75	---	35 / 55	4
Hospitals & Nursing Homes	55 / 75	---	35 / 55	5, 6
Theaters & Auditoriums	---	---	30 / 50	6
Churches, Meeting Halls, Schools, Libraries, etc.	55 / 75	---	35 / 60	6
Office Buildings	60 / 75	---	45 / 65	6
Commercial Buildings	55 / 75	---	45 / 65	6
Playgrounds, Parks, etc.	65 / 75	---	---	6
Industry	60 / 80	---	50 / 70	6

Notes:

1. The Table N-8 standards shall be reduced by 5 dB for sounds consisting primarily of speech or music, and for recurring impulsive sounds. If the existing ambient noise level exceeds the standards of Table N-8, then the noise level standards shall be increased at 5 dB increments to encompass the ambient.
2. Sensitive areas are defined acoustic terminology section.
3. Interior noise level standards are applied within noise-sensitive areas of the various land uses, with windows and doors in the closed positions.
4. Outdoor activity areas of transient lodging facilities are not commonly used during nighttime hours.
5. Hospitals are often noise-generating uses. The exterior noise level standards for hospitals are applicable only at clearly identified areas designated for outdoor relaxation by either hospital staff or patients.
6. The outdoor activity areas of these uses (if any), are not typically utilized during nighttime hours.

Discussion

- a) Would the project result in the 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?**

Less than Significant Impact: Project construction is anticipated to last approximately 7 months and will involve temporary noise sources in the vicinity of the project. The average exterior noise levels generated by construction equipment that will likely be used in the proposed project are provided in Table 3-11. There is one rural office location approximately 1.5 miles west of the project site, which is the nearest sensitive receptor. The County requires that mitigation measures be implemented if noise levels exceed 75 dB in sensitive outdoor areas or if interior noise levels exceed 55 dB (Lmax). As shown in Figure 3-8, it was found that a sensitive receptor must be at least 250 feet from construction to avoid noise levels exceeding these thresholds.

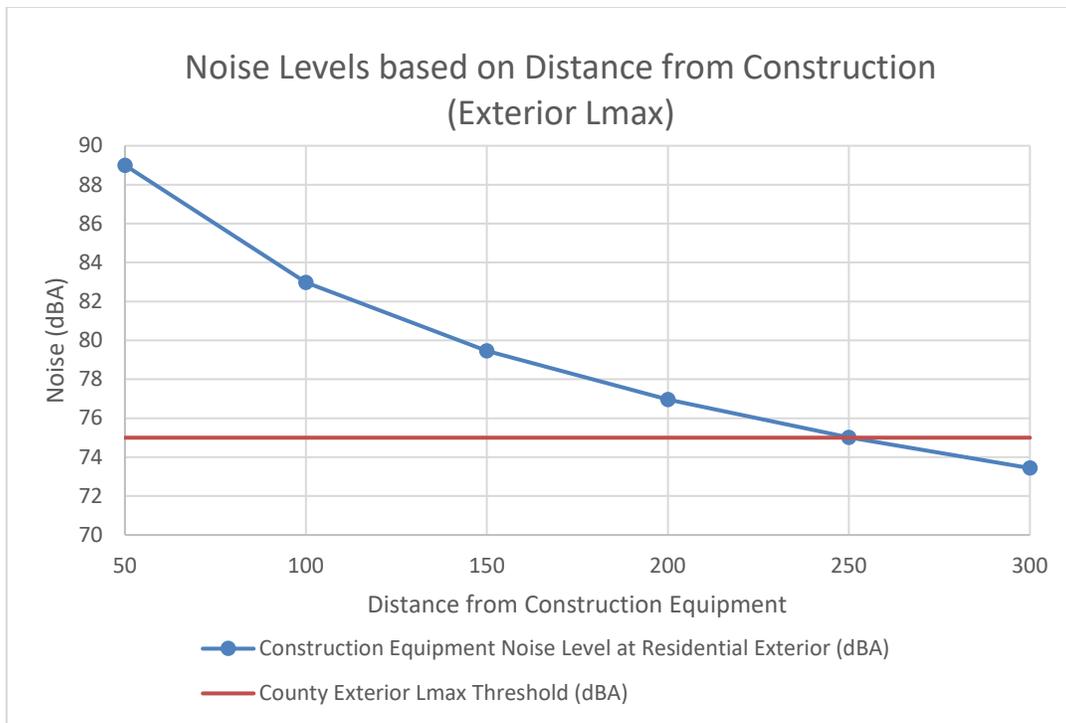


Figure 3-9. Construction-related noise levels based on distance from construction equipment (Exterior).

There are no residences or other sensitive receptors within 250 feet of the proposed project. The nearest agricultural residence is approximately 5 miles east of the nearest area of Project disturbance, and the rural office location is 1.5 miles west of the Project site. Therefore, noise generated by construction activities would not exceed thresholds established by Kings County for sensitive receptors. Additionally, a condition of approval will be added to the conditional use permit stating that, “Noise-producing construction activities will be limited to daytime hours and the project will comply with all County ordinances regarding construction-related noise levels and noise-generating equipment.”

Type of Equipment	Lmax at 50 feet (dBA)	Construction	
		Lmax at 1.5 miles ¹ (dBA)	Lmax at 5 miles ² (dBA)
		Exterior	Exterior
Graders	85	41	30
Excavators	81	37	26
Bore/Drill Rigs	80	36	25
Tractors	84	40	29
Loaders	85	41	30
Backhoes	80	36	25
Concrete/ Industrial Saws	90	46	35
Generators	81	37	26
Plate Compactors	83	39	28
Pavers	85	41	30
Cement and Mortar Mixers	85	41	30
Rollers	85	41	30
Cranes	85	41	30
Forklifts	75	31	20
Average Sound Level (dBA)	83	39	28
1. Distance to rural office location from Project Site			
2. Distance to nearest residence from Project Site.			

Table 3-11. Noise levels of noise-generating construction equipment at various distances. Source: Federal Highway Administration Construction Noise Handbook (dBA at 50 feet). Noise levels beyond 50 feet were estimated using the inverse square law¹ based on given values for dBA at 50 feet.

Operation of the proposed biogas plant will generate noise levels at a maximum of 85 dBA. The nearest property line with a sensitive receptor is approximately 1.5 miles from the Biogas Facility, and the nearest residence is approximately 5 miles from the proposed Biogas Facility. At 1.5 and 5 miles, noise levels will be below ambient noise levels, which were established in the Noise Element of the Kings County General Plan.

The average noise level of the construction equipment at 1.5 miles is 39 dBA and 28 dBA at a distance of 5 miles (See Table 3-11). According to Figure N-2 in the Noise Element of the Kings County General Plan, which shows typical sound levels of common noise sources, these average sound levels would be less than the background ambient noise

¹ Energy Education inverse square law calculator. "Estimating Sounds Levels with the Inverse Square Law" <http://hyperphysics.phy-astr.gsu.edu/hbase/Acoustic/isprob2.html#c1>

level within a residence. Therefore, noise resulting from construction equipment would be negligible.

Additionally, operation of the proposed project will not generate noise in excess of County noise standards for any residences or other sensitive receptors, and the distance from sensitive receptors is such that substantial stationary noise sources would not have a significant impact. Because noise generated during project construction would be intermittent, short term, would not exceed the thresholds established by Kings County for sensitive receptors, and noise generated from operation of the proposed project would not exceed thresholds established by the County for sensitive receptors, the impact is *less than significant*.

b) Would the project result in the generation of excessive groundborne vibration or groundborne noise levels?

No Impact: Construction and operation of the proposed Biogas Facility would not require the use of pile drivers, jack hammers, vibratory rollers, or any other equipment that would typically generate excessive ground-borne vibration. Additionally, there are no rural residences within proximity to the Project, as the nearest residence is 5 miles away. Therefore, it is not anticipated that the project would result in significant excessive ground borne vibration or ground borne noise levels. There is *no impact*.

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 public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels?

No Impact: Kings County does have an Airport Land Use Compatibility Plan; however, the Project Site is not within an area covered by an airport land use plan and is not included within any Compatibility Maps for any public airport or public use airport. Additionally, the site is not within 2 miles of a public or public use airport. There is *no impact*.

Mitigation Measures for Noise Impacts

None Required

XIV. POPULATION AND HOUSING

Would the project:	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less than Significant Impact	No Impact
a) Induce substantial unplanned population growth in an area, either directly (for example, by new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure)?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Displace substantial numbers of existing people or housing, necessitating the construction of replacement housing elsewhere?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Environmental Setting

The United States Census Bureau estimated the population in Kings County to be 152,981 as of July 2022. This is a slight decrease from the 2010 census, which estimated the population in Kings County to be 152,982. The population in Kings County is projected to grow by 15% between 2020 and 2030. Factors that influence population growth include job availability, housing availability, and the capacity of existing infrastructure.

Regulatory Setting

The Kings County population size is regulated by the Kings County Development Code and Land Use Element of the General Plan. These documents regulate the number of dwelling units per acre allowed on residential land uses and establish minimum and maximum lot sizes. These factors have a direct impact on the County's population size.

The Land Use Element of the 2035 Kings County General Plan highlights the importance of preserving agricultural lands from premature urbanization. Policies and goals of the 2035 General Plan include those that encourage growth in more urbanized areas of the County, as well as those that encourage preservation of agricultural uses and industries.

The Housing Element of the 2035 Kings County General Plan includes policies that address housing, employment, and growth management, as well as the adequate provision of resources, facilities, and services. The Housing Element contains a number of goals and policies intended to encourage continuous analysis and evaluation of population trends and housing needs to allow for the development of sites and facilities that sustain population growth in the county; encourage development in existing communities; and acknowledge the governmental, environmental, infrastructure, and land use constraints

Discussion

- a) Would the project induce substantial unplanned population growth in an area, either directly (for example, by new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure)?**

No Impact: The construction and operation of the proposed Biogas Facility would not result in any substantial unplanned population growth or population displacement in Kings County. The Project does not propose any onsite residences leading to direct population growth. The Biogas Facility is expected to employ 2 people. As of September 2023, the U.S. Bureau of Labor Statistics estimated the unemployment rate in Kings County to be 7.0%. Therefore, it is assumed that the existing population in Kings County would easily fulfill the labor demand for the proposed project. The project would not induce substantial unplanned population growth. There is *no impact*.

- b) Would the project displace substantial numbers of existing people or housing, necessitating the construction of replacement housing elsewhere?**

No Impact: The construction and operation of the proposed project would not result in existing residences being removed, and no individuals would be displaced because of the project. There is *no impact*.

Mitigation Measures for Impacts to Population and Housing

None Required

XV. PUBLIC SERVICES

Would the Project:	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less than Significant Impact	No Impact
a) Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable serve ratios, response times of other performance objectives for any of the public services:				
a. Fire protection?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b. Police protection?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
c. Schools?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d. Parks?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
e. Other public facilities?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Environmental Setting

Fire: The Project Site is served by the Kings County Fire Department (KCFD), which operates 10 fire stations within the unincorporated areas of the County and is headquartered in Hanford (2035 Kings County General Plan, Health and Safety Element). The KCFD has 88 full-time employees and responds to over 5,100 calls annually. The KCFD responds to a variety of calls, including structure, vehicle, wildland and grass fires, medical aids, traffic accidents, hazardous materials incidents, and various public assistance calls.

Police: Law enforcement services are provided to the Project Site via the Kings County Sheriff’s Department, which is headquartered in the City of Hanford. As noted in the Health and Safety Element of the 2035 Kings County General Plan, the County is currently divided into six beat districts with five Sheriff Sub-stations throughout Kings County. Each beat district has at least one deputy sheriff on duty at all times to serve the unincorporated communities and surrounding County areas. The California Highway Patrol provides traffic enforcement on State Highways and County roads. Kings County is within the California Highway Patrol’s Central Division. The nearest CHP office to the Project Site is located in Hanford.

Schools: The proposed Project Site is located within the Corcoran Joint Unified School District. The nearest elementary school within this school district, Mark Twain Elementary School, is located approximately 9.5 miles north of the Project Site. Although the closest school, Alpaugh Elementary School, is outside of the County and the Corcoran Joint Unified School in Tulare County, approximately 5.3 miles southeast of the proposed Project site.

Regulatory Setting

The Corcoran Joint Unified School District is regulated by the California Department of Education and the Kings County Sheriff's Department is regulated by the California Department of Justice. Objectives and Policies relating to Fire Protection are included in the Health and Safety Element of the 2035 Kings County General Plan. These Objectives and Policies are as follows:

- Health and Safety Objective B1.4 Provide local health services and emergency medical services in the County's Community Districts to meet the needs of a growing population.
 - HS Policy B1.4.3: Ensure that County Fire Department personnel remain trained and equipped to provide emergency medical services to those in need of such services within the unincorporated areas of the County.
- Health and Safety Objective C2.2. Provide quality fire protection services throughout the County by the Kings County Fire Department, and Fire safety preventative measures to prevent unnecessary exposure of people and property to fire hazards in both County Local Responsibility Areas and State Responsibility Area.
 - HS Policy C2.2.1: Community planning efforts should evaluate the projected need for Fire Department personnel and equipment and necessary funding support to maintain current levels of service as community growth occurs.
 - HS Policy C2.2.2: Development proposals and code revisions shall be referred to the County Fire Department for review and comment.
 - HS Policy C2.2.3: Use the 1997 Uniform Code for the abatement of Dangerous Buildings. All new structures to be occupied shall be built to current Fire Code Standards.
 - HS Policy C2.2.4: Review development proposals according to California Department of Forestry and Fire Protection "Fire Hazard Severity Zone Maps" to determine whether a site is located within a Very High Fire Hazard Severity Zone and subject to Wildland-Urban Interface Fire Area Building Standards and defensible space requirements as adopted under Senate Bill 1595 and effective February 1, 2009.
 - HS Policy C2.2.5: Forward for review and comment all proposed structures within the State Responsibility Area to the California Department of Forestry and Fire Protection within all State Responsibility Areas.
- Health and Safety Objective C3.3. Maintain sufficient operational area clearance for the Kings County Fire Department Heliport that serves Kings County Fire Department Search and Rescue helicopter and contracted helicopter ambulance services which are critical to emergency response and safety of people within the region.
 - HS Policy C3.3.1: Critically review new development proposals within a quarter mile of the Kings County Fire Department heliport to ensure compatibility of structures and uses with the operation of helicopters at County Fire Station No. 4.

Discussion

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

a. Fire protection?

Less than Significant Impact: The Kings County Fire Department will provide fire protection services to the Project Site. According to the Kings County Fire Department website, the nearest Kings County Fire Station (Station 11) is located approximately 10.3 miles north of the Project Site. The existing employed population in Kings County is more than sufficient to meet the labor demands of the proposed project, so the project would not contribute to an increased population size within the Kings County Fire Department Service Area. The project will not result in the need for new facilities for the Kings County Fire Department, nor will it extend the boundaries of the Kings County Fire Department Service Area. Additionally, the applicant will be required to pay impact development fee to offset any potential impacts to existing Fire Department Facilities. The impact is therefore *less than significant*.

b. Police protection?

Less than Significant Impact: Kings County will provide police protection services to the Project Site. The existing unemployed population in Kings County is more than sufficient to meet the labor demands of the proposed project, so the project would not contribute to an increased population size within the Kings County Sheriff Department service area. The project will not result in the need for new facilities for the Kings County Sheriff Department, nor will it extend to the boundaries of the Kings County Sheriff Department Service Area. Additionally, the applicant will be required to pay an impact development fee to offset any potential impacts to existing Sheriff Department Facilities. The impact is therefore *less than significant*.

c. Schools?

No Impact: The project will not result in additional residents to Kings County and will not increase the number of students in the school district. Therefore, there is *no impact*.

d. Parks?

No Impact: Because the project will not result in additional residents, the project will not create a need for additional parkland. Therefore, there is *no impact*.

e. Other Public Facilities?

No Impact: The proposed project will not result in additional residences, and the existing unemployed population in Kings County is more than sufficient to meet the labor demands of the proposed project, so the project would not contribute to an increased population size within Kings County. The project will not create the need for other public facilities to be expanded. There is *no impact*.

Mitigation Measures for Impacts to Public Services

None Required

XVI. RECREATION

Would the project:	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Environmental Setting

Alpaugh Co Park is the closest park/recreational area to the Project Site and is located in the community of Alpaugh, CA approximately 5.3 miles southeast of the Project site. Kings County presently owns and maintains three parks (Burris, Hickey, and Kingston) which are located in the north portions of the County and surrounded by agricultural areas.

Regulatory Setting

2035 Kings County General Plan: The Open Space Element of the 2035 Kings County General Plan contains the following objectives and policies relating to parks and recreation.

- Open Space Objective D1.1 Maintain and enhance the existing County park system within available funding constraints.
 - OS Policy D1.1.1: Apply the "Public/Quasi-Public" land use designation to County parks.
 - OS Policy D1.1.2: Community Plans should facilitate the development and maintenance of community park(s) within Community District areas to expand recreational resources available to residents.
 - OS Policy D1.1.3: Support community involvement that builds capacity for the long-term maintenance and upkeep of open space and community park space within Community Districts.
- Open Space Objective D1.2 Encourage the development of private recreational facilities compatible with the rural character of Kings County.

- OS Policy D1.2.1: Support the establishment of new commercial recreational development, provided it is compatible with surrounding land uses and the intensity of such development does not exceed the ability of the natural environment of the site and the surrounding area to accommodate it. Such facilities may include, but are not limited to campgrounds, recreational camps, hotels and destination resorts, ball courts and ball fields, skeet clubs and facilities, hunting and fishing clubs, and equestrian facilities.

Discussion

- 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?**

No Impact: The project will not result in additional residents, so the project will not increase the use of existing parkland or create need for additional parkland. Therefore, there is no *impact*.

- b) Does the project include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment?**

No Impact: There are no parkland or recreational facilities associated with the project. The project will not result in additional residents and the project will not create a need for additional parkland. Therefore, there is no *impact*.

Mitigation Measures for Impacts to Recreation

None Required

XVII. TRANSPORTATION

Would the project:	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Conflict or be inconsistent with CEQA Guidelines section 15064.3, subdivision (b)?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
c) Substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d) Result in inadequate emergency access?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Environmental Setting

Vehicular Access

Vehicular access to the project is available via 6th Avenue. The site will have an access point from the north and south of 6th Avenue. There are no other access points, as the area is rural and does not typically encounter large volumes of traffic. The proposed project includes improvements to the internal access roads starting at the 6th Avenue entrance.

Regulatory Setting

Kings County Improvement Standards: The Kings County Improvement Standards are developed and enforced by the Kings County Public Works Department to guide the development and maintenance of County Roads. The cross-section drawings contained in the County Improvement Standards dictate the development of roads within the county.

Kings County General Plan (2035) – Circulation Element: According to the Kings County General Plan Circulation Element, level-of-service can be defined as a tool to measure the operating conditions of an intersection or a roadway segment based on traffic volume and capacity. LOS is a qualitative measurement, whereby a letter grade “A” through “F” indicates worsening traffic conditions of a particular intersection or roadway segment. Vehicle miles traveled (VMT) is widely known as a traffic metric that indicates the total number of miles traveled by a vehicle in a region over a specified period of time. The following goals, objectives and policies pertaining to transportation are as follows:

- **C OBJECTIVE A1.3:** Maintain an adequate Level of Service operation for County roadways and ensure proper maintenance occurs along critical routes for emergency response vehicles.
 - C Policy A1.3.1: Maintain and manage County roadway systems to maintain a minimum Level of Service Standard “D” or better on all major roadways and arterial intersections.
- **C OBJECTIVE A1.2:** Improve the quality of life of residents through Transportation projects that enhance environmental benefits related to air quality, energy use, noise, and land use.
 - C Policy A1.2.1: Coordinate land use planning with planned transportation facilities to make efficient use of the transportation system and reduce total vehicle miles traveled, vehicle emissions, and energy use through improved accessibility to schools, job centers, and commercial services.

CEQA guidelines Section 15064.3 (b) – Criteria for Analyzing Transportation Impacts: Section 15064.3 (b) of the CEQA guidelines establishes the following criteria for analyzing transportation impacts.

1. **Land Use Projects.** Vehicle miles traveled exceeding an applicable threshold of significance may indicate a significant impact. Generally, projects within one-half mile of either an existing major transit stop or a stop along an existing high-quality transit corridor should be presumed to cause a less than significant transportation impact. Projects that decrease vehicle miles traveled in the project area compared to existing conditions should be considered to have a less than significant transportation impact.
2. **Transportation Projects.** Transportation projects that reduce, or have no impact on, vehicle miles traveled should be presumed to cause a less than significant transportation impact. For roadway capacity projects, agencies have discretion to determine the appropriate measure of transportation impact consistent with CEQA and other applicable requirements. To the extent that such impacts have already been adequately addressed at a programmatic level, a lead agency may tier from that analysis as provided in Section 15152.
3. **Qualitative Analysis.** If existing models or methods are not available to estimate the vehicle miles traveled for the particular project being considered, a lead agency may analyze the project’s vehicle miles traveled qualitatively. Such a qualitative analysis would evaluate factors such as the availability of transit, proximity to other destinations, etc. For many projects, a qualitative analysis of construction traffic may be appropriate.
4. **Methodology.** A lead agency has discretion to choose the most appropriate methodology to evaluate a project’s vehicle miles traveled, including whether to express the change in absolute terms, per capita, per household or in any other measure. A lead agency may use models to estimate a project’s vehicle miles traveled and may revise those estimates to reflect professional judgment based on substantial evidence. Any

assumptions used to estimate vehicle miles traveled and any revisions to model outputs should be documented and explained in the environmental document prepared for the project. The standard of adequacy in Section 15151 shall apply to the analysis described in this section.

Technical Advisory on Evaluating Transportation Impacts in CEQA – Office of Planning and Research (2018):

The transportation Technical Advisory created by the OPR provides recommendation regarding the assessment of VMT, thresholds of significance, and mitigation measures. The OPR has identified several screening thresholds that quickly identify when projects should be expected to have a less-than-significant impact without conducting a detailed VMT analysis. (See CEQA Guidelines, §§ 15063(c)(3)(C), 15128, and Appendix G). The following project types contain features pertaining to size, surrounding VMT, transit availability, and affordable housing can be assumed to have a less-than-significant transportation impact:

1. Projects that generate/attract fewer than 110 trips per day can be screened from further analysis, as long as there is no substantial evidence that a project would create a potentially significant level of VMT or inconsistency with a Sustainable Communities Strategy (SCS) or general plan.
2. Residential and office projects located in areas with low VMT and incorporate features such as increased density, mixed use development, transit accessibility and other VMT reducing project features.
3. Residential, retail, and office projects within ½ mile of an existing major transit stop or an existing transit stop near a high-quality transit corridor.
4. A project containing a high percentage of affordable housing in infill locations. Projects that contain 100 percent affordable residential development or the residential portion of a mixed-use development in infill locations may be screened from further analysis.

Senate Bill 743: Codified in Public Resources Code Section 21099, required changes to the guidelines implementing CEQA (Cal. Code Regs., Title 14, Div. 6, Ch 3, § 15000 et seq.) regarding the analysis of transportation impacts. Pursuant to Section 21099, the criteria for determining the significance of transportation impacts must “promote the reduction of greenhouse gas emissions, the development of multimodal transportation networks, and diversity of land uses.” (*Id.*, subd. (b)(1); see generally, adopted CEQA Guidelines, § 15064.2, subd. (b) [Criteria for Analyzing Transportation Impacts].) Therefore, the California Natural Resource Agency has certified and adopted vehicle miles traveled (VMT) as the most appropriate metric to evaluate transportation impacts. The adoption of the changes to the CEQA Guidelines has also removed automobile delay, or “level of service” metrics from consideration under CEQA, and it no longer constitutes a significant environmental effect under CEQA (Pub. Resources Code, § 21099, subd. (b)(3)). (“Technical Advisory on Evaluating Transportation Impacts in CEQA”, 2018)

Discussion

a) Would the project conflict with a program, plan, ordinance, or policy addressing the circulation system, including transit, roadway, bicycle, and pedestrian facilities?

No Impact: The Project would not be in conflict with the standards and goals set forth in the Kings County Circulation Element. Table C-4 in the Circulation Element of the 2035 Kings County General Plan indicates a LOS rating of B in 2006 and estimates an LOS rating of C for the year 2035 for the 2 road segments involved in the Project – 6th Avenue and Utica Avenue. The projected annual average daily traffic volume (AADT) for Utica Avenue and 6th Avenue is estimated to be 6,320 by the year 2035. According to Project specific estimates based on the Project’s size and design, the construction phase of the Project is expected to produce roughly 26 combined vendor and worker trips per day, per phase. Circulation Element Policy A1.3.2 states that proposed projects exceeding 100 peak hour trips or more must conduct a traffic impact study. Since the project is not expected to produce more than 100 peak hour trips, and the roadways involved are projected to have a LOS rating of D or better, the Project will not significantly increase the usage of the roadways near the Project site. Additional information regarding vehicle trips associated with operation is provided in Appendix E.

Additionally, the Project is required to submit improvement plans, including roadway improvements, for review and approval by the City Engineer to ensure improvements will be consistent with City standards. The project is within a remote land use area and the project would not require public transit, or non-motorized transportation facilities during construction and operation. The project will adhere to all design standards established by the County. The project does not conflict with any plans or ordinances regarding the effectiveness of the circulation system, as the project will not significantly increase the usage of roadway, transit, bicycle, or pedestrian facilities in the area. There is *no impact*.

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

Less than Significant Impact: The State of California Governor’s Office of Planning and Research (OPR) *Technical Advisory on Evaluating Traffic Impacts in CEQA* dated December 2018 provides guidance for determining a project’s transportation impacts. Transportation impacts are identified based on vehicle miles traveled (VMT).

The OPR Technical Advisory indicates that projects that generate or attract fewer than 110 trips per day generally may be presumed to cause a less-than-significant transportation impact. The OPR Technical Advisory also states: *“For the purposes of this*

section, ‘vehicle miles traveled’ refers to the amount and distance of automobile travel attributable to a project.’ Here, the term “automobile” refers to on-road passenger vehicles, specifically cars and light trucks.” Therefore, heavy truck trips typical of those that will be generated by the proposed Project are generally excluded from the requirements of CEQA as they pertain to transportation impacts and VMT.

It is anticipated that operation of the proposed upgrading facility will generate approximately 4 employee trips and 2 service/delivery trips per day, totaling 6 trips per day. Of the 6 total average daily trips generated by the project, only 4 would be classified as on-road passenger vehicles and subject to CEQA VMT standards, so the number of operational trips relevant to CEQA analysis would be a total of 4 vehicle trips per day. Because the project would generate fewer than the threshold of 110 trips per day as established by the OPR Technical Advisory, this increase in VMT during project operations would be considered less than significant under CEQA. A VMT Memo prepared by 4Creeks, Inc. can be found in Appendix E, which contains a more comprehensive description of VMT and trip information for the proposed Project.

The proposed project would result in a temporary increase in VMT during project construction and a slight increase during operations. Because VMT increases during project construction would be temporary and offset by the project’s overall benefit to air quality, and VMT generated during project operations would not exceed thresholds established by the OPR technical advisory, the impact is *less than significant*.

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

No Impact: No public roadway design features or incompatible uses are included in the proposed project. All equipment, including pipelines, will remain on-site and outside of public right-of-way (R-O-W). There is *no impact*.

d) Would the project result in inadequate emergency access?

No Impact: This project would not result in inadequate emergency access. The Project would not act as a barrier to an existing emergency access route. Emergency access to the site would be via 6th Avenue. A network of private internal roads is proposed to provide full access to the entire project site. Additionally, the project is required to comply with all Public Work Standards and California Fire Code Standards regarding access drive widths and access spacing standards. Emergency access is not expected to be impacted by the project so there is *no impact*.

Mitigation Measures for Transportation Impacts

None Required

XVIII. TRIBAL CULTURAL RESOURCES

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less than Significant Impact	No Impact
A) Would the project cause a substantial adverse change in the significance of a tribal cultural resource, defined in Public Resources Code section 21074 as either a site, feature, place, cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American tribe, and that is:				
i) Listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources as defined in Public Resources Code section 5020.1(k), or	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
ii) A resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of Public Resources Code Section 5024.1. In applying the criteria set forth in subdivision (c) of Public Resource Code Section 5024.1, the lead agency shall consider the significance of the resource to a California Native American tribe.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Environmental Setting

Taylored Archaeology performed a Phase I cultural resource assessment for the Dairy Avenue and Circle H Biogas LLC Project in Kings County, California. The full report can be found in Appendix C. The cultural resource assessment included a records search with the Southern San Joaquin Valley Information Center (SSJVIC), a review of historic USGS maps and aerial map archives, Native American outreach, and an archaeological pedestrian survey of the Project area. The Project is located in southern Kings County on the valley floor of the San Joaquin Valley on the lakebed of the former Tulare Lake. The Project area is in the Southern Valley Yokuts ethnographic territory of the San Joaquin Valley and located in the lakebed of the former Tulare Lake. The Yokuts were generally divided into three major groups, the Northern Valley Yokuts, the Southern Valley Yokuts, and the Foothill Yokuts. The Yokuts are a sub-group of the Penutian

language that covers much of coastal and central California and Oregon. The Yokuts language contained multiple dialects spoken throughout the region, though many of them were mutually understandable. According to Kroeber's (1925) map of Southern and Central Yokuts, the Project is within the Wowol Yokuts territory, who occupied the southern shore of Tulare Lake in modern-day southern Kings County. The closest village in this area was Sukwutnu which was located near the tule marshes surrounding the southeastern shore of Tulare Lake and Poso Creek approximately 15 miles southeast of the Project site.

Primary Yokuts villages were typically located along lakeshores and major stream courses, with scattered secondary or temporary camps and settlements located near gathering areas in the foothills. Yokuts were organized into local tribes that had one or more linked villages and smaller settlements within a territory. Due to the abundance of natural resources within the greater Tulare Lake area, the Yokuts maintained some of the largest populations in North America west of the continental divide. According to the Native American Heritage Commission, the Native American tribal group that is currently associated with the Project area is the Santa Rosa Rancheria Tachi Yokut Tribe.

Cultural Resources Record Search and Native American Consultation: A records search was conducted on behalf of the Applicant at the Southern San Joaquin Valley Archaeological Information Center (AIC), to determine if historical or archaeological sites had previously been recorded within the study area, if the project area had been systematically surveyed by archaeologists prior to the initial study, and/or whether the region of the field project was known to contain archaeological sites and to thereby be archaeologically sensitive.

The AIC results indicated that two previous cultural resource studies have been completed in the project area and there were no additional surveys conducted within 0.5 miles of the project site. Previous surveys did not identify cultural resources within the project site or within 0.5 miles of the project site.

Outreach letters were sent on November 15th, 2023, to the following Native American organizations/individuals were contacted from the list provided by the NAHC:

- Cultural Specialist I Nichole Escalon of the Santa Rosa Rancheria Tachi Yokut Tribe;
- THPO Shana Powers of the Santa Rosa Rancheria Tachi Yokut Tribe;
- Cultural Specialist II Samantha McCarty of the Santa Rosa Rancheria Tachi Yokut Tribe;
- Chairperson Neil Peyron of the Tule River Indian Tribe;
- Environmental Department Kerri Vera of the Tule River Tribe;
- Tribal Archaeologist Joey Garfield of the Tule River Indian Tribe; and
- Chairperson Kenneth Woodrow of the Wuksache Indian Tribe/Eshom Valley Band.

One response was received on November 28th, 2023, from Samantha McCarty, Cultural Specialist II, of the Santa Rosa Rancheria Tachi Yokut Tribe. In her email, Samantha McCarty

stated that the Tachi Tribe was working on a response. There have been no other responses from the representatives to date (Appendix C).

Regulatory Setting

Archaeological Resources

As stated above, archaeological resources may be considered historical resources. If they do not meet the qualifications under the California Public Resources Code 21084.1 or California Code of Regulations Section 15064.5, they are instead determined to be “unique” as defined by the CEQA Statute Section 21083.2. A unique archaeological resource is an artifact, object, or site that: (1) contains information (for which there is a demonstrable public interest) needed to answer important scientific research questions; (2) has a special and particular quality, such as being the oldest of its type or the best available example of its type; or (3) is directly associated with a scientifically recognized important prehistoric or historic event or person.

Tribal Cultural Resource (TCR)

Tribal Cultural Resources can include site features, places, cultural landscapes, sacred places, or objects, which are of cultural value to a Tribe. It is either listed on or eligible for the CA Historic Register or a local historic register or determined by the lead agency to be treated as TCR.

Paleontological Resources

For the purposes of this section, “paleontological resources” refers to the fossilized plant and animal remains of prehistoric species. Paleontological Resources are a limited scientific and educational resource and are valued for the information they yield about the history of the earth and its ecology. Fossilized remains, such as bones, teeth, shells, and leaves, are found in geologic deposits (i.e., rock formations). Paleontological resources generally include the geologic formations and localities in which the fossils are collected.

Native American Reserve (NAR)

This designation recognizes tribal trust and reservation lands managed by a Native American Tribe under the United States Department of the Interior’s Bureau of Indian Affairs over which the County has no land use jurisdiction. The County encourages adoption of tribal management plans for these areas that consider compatibility and impacts upon adjacent area facilities and plans.

National Historic Preservation Act

The National Historic Preservation Act was adopted in 1966 to preserve historic and archeological sites in the United States. The Act created the National Register of Historic Places, the list of National Historic Landmarks, and the State Historic Preservation offices.

California Health and Safety Code Sections 7050.5, 7051, And 7054

These sections collectively address the illegality of interference with human burial remains, as well as the disposition of Native American burials in archaeological sites. The law protects such

remains from disturbance, vandalism, or inadvertent destruction, and establishes procedures to be implemented if Native American skeletal remains are discovered during construction of a project, including the treatment of remains prior to, during, and after evaluation, and reburial procedures.

California Public Resources Code Section 15064.5(e)

This law addresses the disposition of Native American burials in archaeological sites and protects such remains from disturbance, vandalism, or inadvertent destruction. The section establishes procedures to be implemented if Native American skeletal remains are discovered during construction of a project and establishes the Native American Heritage Commission as the entity responsible to resolve disputes regarding the disposition of such remains.

Assembly Bill 52

Assembly Bill (AB) 52 establishes a formal consultation process for California tribes as part of CEQA and equates significant impacts on tribal cultural resources with significant environmental impacts. AB 52 defines a “California Native American Tribe” as a Native American tribe located in California that is on the contact list maintained by the Native American Heritage Commission. AB 52 requires formal consultation with California Native American Tribes prior to determining the level of environmental document if a tribe has requested to be informed by the lead agency of proposed projects. AB 52 also requires that consultation address project alternatives, mitigation measures, for significant effects, if requested by the California Native American Tribe, and that consultation be considered concluded when either the parties agree to measures to mitigate or avoid a significant effect, or the agency concludes that mutual agreement cannot be reached. Under AB 52, such measures shall be recommended for inclusion in the environmental document and adopted mitigation monitoring program if determined to avoid or lessen a significant impact on a tribal cultural resource.

California Historic Register

The California Historic Register was developed as a program to identify, evaluate, register, and protect Historical Resources in California. California Historical Landmarks are sites, buildings, features, or events that are of statewide significance and have anthropological, cultural, military, political, architectural, economic, scientific, religious, experimental, or other value. For a resource to be designated as a historical landmark, it must meet the following criteria:

- 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.

Kings County General Plan

The Resource Conservation Element of the 2035 Kings County General Plan includes the following objectives pertaining to tribal cultural resources:

- **RC OBJECTIVE II.2:** Identify potential archaeological and historical resources and, where appropriate, protect such resources.
- **RC Policy II.2.1:** Participate in and support efforts to identify significant cultural and archaeological resources and protect those resources in accordance to Public Resources Code 5097.9 and 5097.993.
- **RC Policy II.2.2:** Continue to solicit input from 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.
- **RC Policy II.2.3:** Address archaeological and cultural resources in accordance with the California Environmental Quality Act (CEQA) for discretionary land use applications.
- **RC Policy II.2.4:** The County will respectfully comply with Government Code §65352.3 (SB18) by conducting formal consultations with tribes as identified by the Native American Heritage Commission on all general plan and specific plan amendments.
- **RC Policy II.2.5:** The County will respectfully comply with Government Code §6254. (r) and 6254.10 by protecting confidential information concerning Native American cultural resources. For example, adopting internal procedures such as keeping confidential archaeological reports away from public view or discussion in public meetings.
- **RC Policy II.2.6:** The County shall work in good faith with the Santa Rosa Rancheria Tachi Yokut Tribe (“Tribe”), the developer and other parties if the Tribe requests return of certain Native American artifacts from private development projects (e.g. for interpretive or educational value). The developer is expected to act in good faith when considering the Tribe’s request for artifacts. Artifacts not desired by the Tribe shall be placed in a qualified repository as established by the California State Historical Resources Commission (see Guidelines for the Curation of Archaeological Collections, May 1993). If no facility is available, then all artifacts shall be donated to the Tribe.

Discussion

a) Would the project cause a substantial adverse change in the significance of a tribal cultural resource, defined in Public Resources Code section 21074 as either a site, feature, place, cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American tribe, and that is:

- i. Listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources as defined in Public Resources Code section 5020.1(k), or**

Less Than Significant Impact with Mitigation: Based on the results of the records search and Native American outreach, no previously recorded Tribal Cultural Resources listed or eligible for listing in the California Register of Historic Resources are located within the project site. Although no Tribal cultural resources were identified, the presence of remains or unanticipated cultural resources under the ground surface is possible. Implementation of Mitigation Measures CUL-1 and CUL-2 as outlined within the MMRP, will ensure that impacts to Tribal Cultural Resources will be *less than significant with mitigation* incorporation.

- ii. A resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of Public Resources Code Section 5024.1. In applying the criteria set forth in subdivision (c) of Public Resource Code Section 5024.1, the lead agency shall consider the significance of the resource to a California Native American tribe.**

Less Than Significant Impact with Mitigation: Based on the results of the records search and Native American outreach, no known Tribal cultural resources are located within the project site. In regard to the project site Kings County has not made any determination of resources pursuant to criteria set forth in Subdivision (c) of Public Resources Code Section 5024.1. Although no Tribal cultural resources were identified, the presence of remains or unanticipated cultural resources under the ground surface is possible. Implementation of Mitigation Measures CUL-1 and CUL-2 will ensure that impacts to this checklist item will be *less than significant with mitigation* incorporation.

Mitigation Measures

Mitigation Measure CUL-1: Protection of Cultural Resources. In order to avoid the potential for impacts to historic and prehistoric archaeological resources, the following measures shall be implemented, as necessary, in conjunction with the construction of the Project:

- a. Cultural Resources Alert on Project Plans: The project proponent shall note on any plans that require ground disturbing excavation that there is a potential for exposing buried cultural resources.
- b. Pre-Construction Briefing: The project proponent shall retain Santa Rosa Rancheria Cultural Staff to provide a pre-construction Cultural Sensitivity Training to construction staff regarding the discovery of cultural resources and the potential for discovery during ground disturbing activities, which will include information on potential cultural material finds and, on the procedures, to be enacted if resources are found.
- c. Stop Work Near any Discovered Cultural Resources: The project proponent shall retain a professional archaeologist on an "on-call" basis during ground disturbing construction for the project to review, identify and evaluate cultural resources that may be inadvertently exposed during construction. Should previously unidentified cultural resources be discovered during construction of the project, the project proponent shall cease work within 100 feet of the resources, and Kings County Community Development Agency (CDA) shall be notified immediately. The archaeologist shall review and evaluate any discoveries to determine if they are historical resource(s) and/or unique archaeological resources under CEQA.
- d. Mitigation for Discovered Cultural Resources: If the professional archaeologist determines that any cultural resources exposed during construction constitute a historical resource and/or unique archaeological resource, he/she shall notify the project proponent and other appropriate parties of the evaluation and recommended mitigation measures to mitigate the impact to a less-than-significant level. Mitigation measures may include avoidance, preservation in-place, recordation, additional archaeological testing, and data recovery, among other options. Treatment of any significant cultural resources shall be undertaken with the approval of the Kings County CDA. The archaeologist shall document the resources using DPR 523 forms and file said forms with the California Historical Resources Information System, Southern San Joaquin Valley Information Center. The resources shall be photo-documented and collected by the archaeologist for submittal to the Santa Rosa Rancheria's Cultural and Historical Preservation Department. The archaeologist shall be required to submit to the County for review and approval a report of the findings and method of curation or protection of the resources. Further grading or sitework within the area of discovery shall not be allowed until the preceding steps have been taken.

- e. Native American Monitoring: Prior to any ground disturbance, the project proponent shall offer the Santa Rosa Rancheria Tachi Yokut Tribe the opportunity to provide a Native American Monitor during ground disturbing activities during both construction and decommissioning. Tribal participation would be dependent upon the availability and interest of the Tribe.
- f. Disposition of Cultural Resources: Upon coordination with the Kings County Community Development Agency, any prehistoric archaeological artifacts recovered shall be donated to an appropriate Tribal custodian or a qualified scientific institution where they would be afforded applicable cultural resources laws and guidelines.

Mitigation Measure CUL-2: Protection of Buried Human Remains. In order to avoid the potential for impacts to buried human remains, the following measures shall be implemented, as necessary, in conjunction with the construction of the Project:

- a. Pursuant to State Health and Safety Code Section 7050.5(e) and Public Resources Code Section 5097.98, if human bone or bone of unknown origin is found at any time during on- or off-site construction, all work shall stop within 25 feet of the discovery and the Kings County Coroner shall be notified immediately and the resource shall be protected in compliance with applicable state and federal laws. If the remains are determined to be Native American, the Coroner shall notify the California State Native American Heritage Commission (NAHC), who shall identify the person believed to be the Most Likely Descendant (MLD) pursuant to Public Resources Code Section 5097.98. The project proponent and MLD, with the assistance of the archaeologist, shall make all reasonable efforts to develop an agreement for the treatment of human remains and associated or unassociated funerary objects with appropriate dignity (CEQA Guidelines Sec. 15064.5(d)). The agreed upon treatment shall address the appropriate excavation, removal, recordation, analysis, custodianship, curation, and final disposition of the human remains and associated or unassociated funerary objects. California Public Resources Code allows 48 hours for the MLD to make their wishes known to the landowner after being granted access to the site. If the MLD and the other parties do not agree on the reburial method, the project will follow Public Resources Code Section 5097.98(b) which states that "...the landowner or his or her authorized representative shall reinter the human remains and items associated with Native American burials with appropriate dignity on the property in a location not subject to further subsurface disturbance."

- b. Any findings shall be submitted by the archaeologist in a professional report submitted to the project applicant, the MLD, the Kings County Community Development Agency, and the California Historical Resources Information System, Southern San Joaquin Valley Information Center.

XIX. UTILITIES AND SERVICE SYSTEMS

Would the project:	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Have sufficient water supplies available to serve the project and reasonably foreseeable future development during normal, dry, and multiple dry years?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
e) Comply with federal, state, and local management and reduction statutes and regulations related to solid waste?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Environmental Setting

Wastewater: Wastewater generated within the project area is contained and treated on-site. No additional wastewater treatment services will be required as a result of the project implementation.

Solid Waste: Solid waste collection and disposal service in Kings County is provided by the Kings Waste and Recycling Authority (KWRA). The KWRA was formed in 1998 by agreement between Kings County and the cities of Lemoore, Hanford, and Corcoran. Solid waste from the member jurisdictions is transported to KWRA Materials Recovery Facility in Hanford where wastes are separated for recycling, composting, or landfill disposal. Commercial solid waste

is collected by private contract with licensed haulers. Used construction and demolition material is accepted at several approved facilities in the region.

Non-recyclable materials are transferred to the B-17 Landfill Unit at the Chemical Waste Management, Inc. (CWMI) Kettleman Hills Facility located on SR-41 in Kettleman Hills. The B-17 Landfill Unit has a maximum disposal rate of 2,000 tons per day, and currently accepts an average of 1,350 tons per day (<http://kettlemanhillslandfill.wm.com/fact-sheets/2011/facility-overview.jsp>).

The total permitted capacity of B-17 Landfill Unit is 18.4 million cubic yards according to Page 2-3 in Section 2.3 of the Draft Subsequent Environmental Impact Report (DSEIR) for Conditional Use Permit (CUP) No. 04-01 for the B-17 Landfill Project. The Waste Management Kettleman Hills B-17 Landfill 2016 Airspace Report (www.calrecycle.ca.gov/SWFacilities/Directory/16-AA-0021/Document/306996) lists a remaining capacity of approximately 15,843,300 cubic yards for B-17.

Page 2-3 in Section 2.3 of the DSEIR for CUP No. 04-01 for the B-17 Landfill Project also states that the facility will be permitted to receive up to 2,000 tons per day of non-hazardous waste (municipal solid waste and designated waste) for disposal, 6 days per week (except Sundays) from 8:00 a.m. until 6:00 p.m. There is no limit on Class II soils that are received for beneficial use, such as daily or intermediate cover, or wastes received for use alternative daily cover (ADC).

Water: Existing water entitlements currently provide water to the proposed Project Site. Implementation of the proposed project will not require additional water entitlements.

Stormwater: Stormwater will be contained on-site. No additional stormwater facilities will be required as a result of project implementation.

Electric Power and Natural Gas: The proposed biogas production and upgrading facility will require a new electrical service through PG&E. There are no PG&E electric transmission lines on or near the project site.

Telecommunication Facilities: The system will have the capability to monitor various components remotely, through the use of cellular data. Monitored components include, but are not limited to, gas volume, gas quality and system pressures at the Upgrading Facility Site. Automated triggers and alarms shall be in place to remotely alert staff if any components are operating outside of set limits.

Regulatory Setting

CalRecycle: California Code of Regulations, Title 14, Natural Resources – Division 7 contains all current CalRecycle regulations regarding nonhazardous waste management in the state. These regulations include standards for the handling of solid waste, standards for the handling of compostable materials, design standards for disposal facilities, and disposal standards for specific types of waste.

Central Valley RWQCB: The Central Valley RWQCB requires a Stormwater Pollution Prevention Plan (SWPPP) for projects disturbing more than one acre of total land area. Because the project is greater than one acre, a SWPPP to manage stormwater generated during project construction will be required.

The Central Valley RWQCB regulates Wastewater Discharges to Land by establishing thresholds for discharged pollutants and implementing monitoring programs to evaluate program compliance. This program regulates approximately 1500 dischargers in the region. The Central Valley RWQCB is also responsible for implementing the federal program, the National Pollutant Discharge Elimination System (NPDES). The NPDES Program is the federal permitting program that regulates discharges of pollutants to surface waters of the U.S. Under this program, a NPDES permit is required to discharge pollutants into Waters of the U.S. There are 350 permitted facilities within the Central Valley Region.

Discussion

a) Would the project 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 expansion of which could cause significant environmental effects?

No Impact: The biogas facility including the anaerobic digester, upgrading facility and truck loading station will require new electrical service, which is in progress with PG&E. Wastewater and stormwater will be generated, but will be contained on site and recycled through the manure separation systems and digester, resulting in treated wastewater which will be used for irrigation and other uses on the site. Water used during construction and operations for purposes of dust control would be promptly absorbed by the pervious ground surface. The project would not produce wastewater or runoff that would require disposal or treatment off-site and no construction or expansion of off-site wastewater or telecommunications facilities would be required as a result of the project.

The site will need to meet County Improvement Standards which may require improvements for stormwater. The terrain of the Project Site is virtually flat, and the project will result in no substantial modification of existing site grades. The project will introduce very few structural elements with impervious surfaces that would impede direct

percolation of rainwater into the soil. The proposed anaerobic digester and conditioning plant would be installed on various concrete pads totaling approximately 12.98 acres which would act as an impervious surface. During normal rain events, runoff from impervious surfaces would be absorbed by the adjacent vegetated ground and percolate into the soil. During more intense or prolonged storm events, the ground would become saturated and relatively minor volumes of stormwater may temporarily pond on the surface and gradually percolate into the ground, as occurs under existing conditions. Due to the virtually level ground conditions, and the very minor introduction of impervious surfaces to the site by the project, the potential for stormwater to be mobilized and concentrated in sustained runoff flows is unlikely to occur. Therefore, the project would not require the construction of new stormwater drainage facilities. As such, the project would result in *no impact* relative to construction or expansion of stormwater drainage facilities.

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

No Impact: Additional water entitlements are not proposed for the site. During project construction, water use is estimated to be approximately 0.12 acre-feet/acre/month. This water will be used primarily for dust control and will be provided by water trucks, no additional water entitlements will be required. During operations, the proposed project will not use any water for the biogas upgrading process, however approximately 10 gallons per day would be used for periodic equipment cleaning and other miscellaneous maintenance tasks. Existing water supplies are sufficient to meet this demand during normal, dry and multiple dry years. No additional water entitlements will be required, as wastewater will be treated on-site as a result of the biogas collection and treatment process, which will be returned to each of the on-site CAFO's for irrigation or storage.

Because the site's existing entitlements are sufficient to meet the project's operational water demand, and wastewater will be treated and recycled on-site, no new or expanded entitlements are needed for the proposed project and the impact. There is *no impact*.

c) Would the project 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?

No Impact: Wastewater will be produced as a result of project implementation, but no septic system or other disposal facilities would be required. The raw wastewater will be recycled via the on-site manure separation system and digester which will treat the wastewater, which can in turn be used for irrigation and other agricultural uses. Moreover, the anaerobic digester has the capacity of 19.9 million gallons of raw manure. Amongst the three livestock facilities on the biogas facility site (Dairy Ave, Circle Homeland Cattle Co.), there are a total of 7,717 animal units. Total wastewater production estimates are provided in Table 3-12, below. With this herd size and approximate estimates on manure excretion

rates for each of the cattle types (Nennich et al., 2005), the digester would process roughly 83,990 gallons of liquid manure per day. Therefore, the current operation should not exceed the capacity of the biogas facility. There would be *no impacts* to the applicable wastewater treatment provider.

Animal Type	Manure Kg/Day/AU ¹	Manure Gal/Day/AU	Animal Units (AU)	Gal/Day Each Group
Gallons/Day (Milk cows)	66.3	14.62	5,118	74,825
Gallons/Day - Dry Cow	38.6	8.51	224	1,906
Gallons/Day - Heifers (1 yr. to Breeding)	24.5	5.40	289	1,561
Gallons/Day - Calves (4 mo.-1 yr.)	12.4	2.73	1,835	5,010
Gallons/Day - Calves (0-3 mo.)	12.4	2.73	252	688
Total			7,717	83,990

Table 3-12: Total wastewater volume estimates from all existing facilities.

d) Would the project 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?

No Impact: Waste Management will be provided by Kings Waste and Recycling Authority. Solid waste is anticipated as a result of project implementation, but the solid waste will be recycled and used as high-quality fertilizer at neighboring agricultural operations. Additionally, the landfill has sufficient permitted capacity to accommodate the project's solid waste disposal needs, if needed. This impact would not be increased as a result of future expansion of the proposed pipeline network to connect additional dairies to the proposed biogas facility. Due to the recycling strategy for solid waste on the Project site, there is *no impact*.

e) Would the project comply with federal, state, and local management and reduction statutes and regulations related to solid waste?

No Impact: The proposed project would comply with the California Integrated Waste Management Act of 1989 (AB 939), which requires each city and county in California to prepare, adopt, and implement a Source Reduction and Recycling Element. Policies pertaining to solid waste, source reduction, and recycling are identified in the Source Reduction and Recycling Element (SRRE) and the Household Hazardous Waste Element (HHWE) of the Kings County Integrated Waste Management Plan. The KWRA serves all County unincorporated areas, and the Cities of Corcoran, Hanford and Lemoore. Municipal waste generated in these areas are first directed to the KWRA facility and then transferred to the Chemical Waste Management, Inc. Kettleman Hills Facility which operates both municipal waste and hazardous waste landfills at their site located west of Interstate 5 along State Route 41.

Solid wastes resulting from the wastewater treatment process on the Project site would be used to make high-quality fertilizers, which will be used on neighboring agricultural operations. If needed, remaining solid waste materials would be disposed of at MSW Landfill B-17, in Kettleman City, California, which is permitted by Kings County and inspected monthly by the Kings County Health Department, Environmental Health Services Division. Some construction waste would be recycled at the KWRA Material Recovery Facility and Transfer Station, if possible, prior to the remainder of the waste being disposed of at MSW Landfill B-17. Any hazardous materials and wastes would be recycled, treated, and disposed of in accordance with federal, state, and local laws. Therefore, there would be *no impacts* under this criterion.

Mitigation Measures for Impacts to Utilities and Service Systems

None Required

XX. WILDFIRE

If located in or near state responsibility areas or lands classified as very high fire hazard severity zones, would the project:	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less than Significant Impact	No Impact
a) Substantially impair an adopted emergency response plan or emergency evacuation plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

Environmental Setting

According to the Fire Hazard Severity Zone map provided by the California Department of Forestry and Fire Protection (Cal Fire), the project is not located in or near state responsibility areas or lands classified as very high fire severity zones. The Project Site is located approximately 28 miles east of the closest moderate fire hazard severity zone in a state responsibility area. The Project Site and its surrounding areas are developed for agricultural uses and are not susceptible to wildfires.

Regulatory Setting**Definition**

Fire hazard severity zones: geographical areas designated pursuant to California Public Resources Codes Sections 4201 through 4204 and classified as Very High, High, or Moderate in State Responsibility Areas or as Local Agency Very High Fire Hazard Severity Zones designated pursuant to California Government Code, Sections 51175 through 51189.

Kings County Emergency Operations Plan (2015): The Kings County Emergency Operations Plan establishes goals, priorities, and strategies in the event of an emergency. The goals and priorities are outlined below.

2.1 Goals, Priorities and Strategies: During the response phase, emergency managers set goals, prioritize actions and outline operational strategies. This plan provides a broad overview of those goals, priorities and strategies, and describes what should occur during each step, when, and at whose direction.

2.1.1 Operational Goals: During the response phase, the agencies that are charged with responsibilities in this plan should focus on the following five goals:

- Mitigate hazards.
- Meet basic human needs.
- Address the needs of people with disabilities and others with access and functional needs.
- Restore essential services.
- Support community and economic recovery.

2.1.2 Operational Priorities: Operational priorities govern resource allocation and the response strategies for the County of Kings and its political subdivisions during an emergency. Below are operational priorities addressed in this plan.

- Save Lives – The preservation of life is the top priority of emergency managers and first responders and takes precedence over all other considerations.
- Protect Health and Safety – Measures should be taken to mitigate the impact of the emergency on public health and safety.
- Protect Property – All feasible efforts must be made to protect public and private property and resources, including critical infrastructure, from damage during and after an emergency.
- Preserve the Environment – All possible efforts must be made to preserve California's environment and protect it from damage during an emergency.

Discussion

If located in or near state responsibility areas or lands classified as very high fire hazard severity zones, would the project:

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

No Impact: The Project Site falls under Kings County Operational Area. Kings County has established an Emergency Operations Plan detailing multi-jurisdictional and

interagency coordination during emergency operations. The project will be reviewed by the County's Fire Department to ensure that the project does not impair emergency response or emergency evacuation. There is *no impact*.

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

No Impact: The Kings County Multi-Jurisdictional Local Hazard Mitigation Plan describes Kings County as mostly flat with a gentle sloping towards a topographic low point in the Tulare Lake Basin. Thus, the topography of Kings County reduces fire hazard throughout most of the County. The project would not exacerbate wildfire risks and expose project occupants to pollutant concentrations from a wildfire or the uncontrolled spread of wildfire. There is *no impact*.

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?

Less than Significant Impact: The project involves the construction, installation, and operation of a 2.5-mile underground pipeline, which will divert wastewater at Dairy Avenue and Circle H Dairies, and Homeland Cattle Company to a proposed anaerobic digester, which will connect to a conditioning plant for raw biogas upgrading to RNG standards. The upgraded biogas will then be loaded at the truck loading station for export to a local transmission line near Tulare, CA.

Construction and operations related activities will comply with the California fire code, local building codes, and gas pipeline regulations. The Kings County Fire Department will be responsible for enforcing provisions of the fire code, and the safety of gas transmissions through pipelines will be regulated through the California Public Utilities Code. The biogas treatment facilities will also include safety flares to reduce excess gas storage. The impact is *less than significant*.

d) Would the project expose people or structures to significant risks, including downslope or downstream flooding or landslides, as a result of runoff, post-fire slope instability, or drainage changes?

Less than Significant Impact: The proposed project will not alter existing drainage patterns or increase surface runoff in a manner that could result in flooding on or off site. The project area is generally flat and no significant grading or leveling will be required. Added impervious surfaces will be limited to the footprint of the proposed biogas upgrading facility and all stormwater will be contained on-site. This impact

would not be increased if the proposed pipeline network were expanded to connect additional dairies to the proposed biogas facility. Since the proposed project will not expose people or structures to downslope or downstream flooding or landslides, the impact is *less than significant*.

Mitigation Measures for Wildfire Impacts

None Required

XXI. MANDATORY FINDINGS OF SIGNIFICANCE

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less than Significant Impact	No Impact
a) Does the project have the potential to substantially degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, substantially reduce the number or restrict the range of a rare or endangered plant or animal or eliminate important examples of the major periods of California history or prehistory?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
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)?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
c) Does the project have environmental effects, which will cause substantial adverse effects on human beings, either directly or indirectly?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

Discussion

a) Does the project have the potential to substantially degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, substantially reduce the number or restrict the range of a rare or endangered plant or animal or eliminate important examples of the major periods of California history or prehistory?

Less than Significant Impact with Mitigation Incorporated: This initial study/mitigated negative declaration found the project could have significant impacts on air quality, hydrology and water quality, hazards and hazardous materials, biological resources,

geology and soils, cultural resources, and tribal cultural resources. However, implementation of the identified mitigation measures for each respective section would ensure that impacts are *less than significant with mitigation incorporated*.

- b) Does the project have impacts that are individually limited, but cumulatively considerable? (“Cumulatively considerable” means that the incremental effects of a project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects)?**

Less than Significant Impact: CEQA Guidelines Section 15065(a) states that a Lead Agency shall consider whether the cumulative impact of a project is significant and whether the effects of the project are cumulatively considerable. The assessment of the significance of the cumulative effects of a project must, therefore, be conducted in connection with the effects of past projects, other current projects, and probable future projects. Due to the nature of the project and consistency with environmental policies, incremental contributions to impacts are considered less than cumulatively considerable. The proposed project would not contribute substantially to adverse cumulative conditions, or create any substantial indirect impacts (i.e., increase in population could lead to an increased need for housing, increase in traffic, air pollutants, etc.)

As described in the impact analysis in Sections I through XVII above, any potentially significant impacts of the proposed project would be reduced to a less-than-significant level following incorporation of the mitigation measures listed in the Mitigation Monitoring and Reporting Program. All pending, approved, and completed projects in the vicinity of the proposed project would be subject to review in separate environmental documents and required to conform to the 2035 Kings County General Plan, the Kings County Development Code, mitigate for project-specific impacts, and provide appropriate engineering to ensure the development meets all applicable federal, State and local regulations and codes. As currently designed, and by complying with the recommended mitigation measures, the proposed project would not contribute to a cumulative impact. Thus, the cumulative impacts of pending, approved, and completed projects would be less than cumulatively considerable. Impacts would be *less than significant*.

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

Less than Significant Impact: The ways in which people can be subject to adverse effects from the project includes potential exposure to valley fever spores, potential ground shaking, and potential exposure to contamination from hazardous materials.

The analyses of environmental issues contained in this Initial Study indicate that the project is not expected to have substantial impact on human beings, either directly or indirectly. Mitigation measures have been incorporated in the project design to reduce all potentially significant impacts to less than significant, which results in a *less than significant* impact to this checklist item.

XXII. MITIGATION MONITORING AND REPORTING PROGRAM

As required by Public Resources Code Section 21081.6, subd. (a)(1), a Mitigation Monitoring and Reporting Program (MMRP) has been prepared for the project in order to monitor the implementation of the mitigation measures that have been adopted for the project. This Mitigation Monitoring and Reporting Program (MMRP) has been created based upon the findings of the Initial Study/Mitigated Negative Declaration (IS/MND) for the Dairy Avenue & Circle H Biogas Project proposed by California Bioenergy, LLC in Kings County.

The first column of the table identifies the mitigation measure. The second column names the party responsible for carrying out the required action. The third column, "Timing of Mitigation Measure" identifies the time the mitigation measure should be initiated. The fourth column, "Responsible Party for Monitoring," names the party ensuring that the mitigation measure is implemented. The last column will be used by the County to ensure that the individual mitigation measures have been monitored.

Plan checking and verification of mitigation compliance shall be the responsibility of Kings County.

Mitigation Measure	Responsible Party for Implementation	Implementation Timing	Responsible Party for Monitoring	Verification
Mitigation Measure AIR-1: Implement the Dust Control Plan required to be approved for the project by the San Joaquin Valley Air Pollution District under District Rule 8021 prior to ground disturbing activity.	Project Sponsor	Prior to the start of construction.	Kings County	

Mitigation Measure	Responsible Party for Implementation	Implementation Timing	Responsible Party for Monitoring	Verification
<p>Mitigation Measure AIR-2: When exposure to dust is unavoidable for workers who will be disturbing the top 2-12 inches of soil, provide workers with NIOSH-approved respiratory protection with particulate filters rated as N95, N99, N100, P100, or HEPA, as recommended in the California Department of Public Health publication "<i>Preventing Work-Related Coccidioidomycosis (Valley Fever)</i>".</p>	Project Sponsor	Ongoing during construction	Kings County	
<p>Mitigation Measure BIO-1a: Construction Timing. If feasible, the project will be implemented outside of the avian nesting season, typically defined as February 1 to August 31.</p>	Project Sponsor	Ongoing during Construction	Kings County	
<p>Mitigation Measure BIO-1b: Preconstruction Surveys. If construction is to occur between February 1 and August 31, a qualified biologist will conduct pre-construction surveys for active bird nests within 10 days prior to the start of construction. The survey area will encompass the site and accessible surrounding lands within 250 feet for nesting migratory birds, 500 feet for raptors, ½ mile for Swainson's hawks.</p>	Project Sponsor	Within ten Days Prior to the Start of Construction. Only required if construction occurs between February 1st and August 31st.	Kings County	

Mitigation Measure	Responsible Party for Implementation	Implementation Timing	Responsible Party for Monitoring	Verification
<p>Mitigation Measure BIO-1c: Avoidance. Should any active nests be discovered, the biologist will identify a suitable construction-free buffer around the nest. This buffer will be identified on the ground with flagging or fencing and will be maintained until the biologist has determined that the young have fledged and are capable of foraging independently.</p>	<p>Project Sponsor</p>	<p>Ongoing during Construction. Only required if construction occurs between February 1st and August 31st.</p>	<p>Kings County</p>	
<p>Mitigation Measure BIO-2a: Take Avoidance Survey. A pre-construction “take avoidance” survey will be conducted by a qualified biologist for burrowing owl no less than 14 days prior to the onset of construction in the APE according to the methods described in the <i>Staff Report on Burrowing Owl Mitigation</i> (CDFW 2012). The survey area will include all suitable habitat on and within 200 meters of the project impact area, where accessible.</p>	<p>Project Sponsor</p>	<p>Within 14 Days Prior to the Start of Construction.</p>	<p>Kings County</p>	

Mitigation Measure	Responsible Party for Implementation	Implementation Timing	Responsible Party for Monitoring	Verification
<p>Mitigation Measure BIO-2b: Avoidance of Active Nests. If project activities are undertaken during the breeding season (February 1- August 31) and active nest burrows are identified on or within the APE, a 200-meter disturbance-free buffer will be established around these burrows. The buffers will be enclosed with temporary fencing or flagging to prevent construction equipment and workers from entering the setback area. Buffers will remain in place for the duration of the breeding season unless otherwise arranged with CDFW. After breeding season has ended and all young have left the nest, passive relocation of any remaining owls may take place as described below.</p>	Project Sponsor	Ongoing during Construction; only required if Project construction occurs between February 1 st and August 31 st .	Kings County	

Mitigation Measure	Responsible Party for Implementation	Implementation Timing	Responsible Party for Monitoring	Verification
<p>Mitigation Measure BIO-2c: Avoidance or Passive Relocation of Resident Owls. During the non-breeding season (September 1- January 31), resident owls occupying burrows in project impact areas may either be avoided or passively relocated to alternative habitat. If the Applicant chooses to avoid active owl burrows within the APE during the non-breeding season, a 50-meter disturbance free buffer will be established around these burrows or alternative measures as determined by a qualified biologist. These buffers will be enclosed with temporary fencing or flagging and will remain in place until a qualified biologist determines that the burrows are no longer active. If the Applicant chooses to passively relocate owls during the non-breeding season, this activity will be conducted in accordance with a relocation plan prepared by a qualified biologist.</p>	<p>Project Sponsor</p>	<p>Ongoing during Construction. Only required if construction occurs between September 1 and January 31st</p>	<p>Kings County</p>	

<p>Mitigation Measure CUL-1: In order to avoid the potential for impacts to historic and prehistoric archaeological resources, the following measures shall be implemented, as necessary, in conjunction with the construction of the Project:</p> <ul style="list-style-type: none"> a. Cultural Resources Alert on Project Plans: The project proponent shall note on any plans that require ground disturbing excavation that there is a potential for exposing buried cultural resources. b. Pre-Construction Briefing: The project proponent shall retain Santa Rosa Rancheria Cultural Staff to provide a pre-construction Cultural Sensitivity Training to construction staff regarding the discovery of cultural resources and the potential for discovery during ground disturbing activities, which will include information on potential 	<p>Project Sponsor</p>	<p>Prior to the start of construction and ongoing during construction</p>	<p>Kings County</p>	
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<p>cultural material finds and, on the procedures, to be enacted if resources are found.</p> <p>c. Stop Work Near any Discovered Cultural Resources: The project proponent shall retain a professional archaeologist on an "on-call" basis during ground disturbing construction for the project to review, identify and evaluate cultural resources that may be inadvertently exposed during construction. Should previously unidentified cultural resources be discovered during construction of the project, the project proponent shall cease work within 100 feet of the resources, and Kings County Community Development Agency (CDA) shall be notified immediately. The archaeologist shall</p>				
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<p>review and evaluate any discoveries to determine if they are historical resource(s) and/or unique archaeological resources under CEQA.</p> <p>d. Mitigation for Discovered Cultural Resources: If the professional archaeologist determines that any cultural resources exposed during construction constitute a historical resource and/or unique archaeological resource, he/she shall notify the project proponent and other appropriate parties of the evaluation and recommended mitigation measures to mitigate the impact to a less-than-significant level. Mitigation measures may include avoidance, preservation in-place, recordation, additional</p>				
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<p>archaeological testing, and data recovery, among other options. Treatment of any significant cultural resources shall be undertaken with the approval of the Kings County CDA. The archaeologist shall document the resources using DPR 523 forms and file said forms with the California Historical Resources Information System, Southern San Joaquin Valley Information Center. The resources shall be photo-documented and collected by the archaeologist for submittal to the Santa Rosa Rancheria's Cultural and Historical Preservation Department. The archaeologist shall be required to submit to the County for review and approval a report of the findings and</p>				
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<p>method of curation or protection of the resources. Further grading or sitework within the area of discovery shall not be allowed until the preceding steps have been taken.</p> <p>e. Native American Monitoring: Prior to any ground disturbance, the project proponent shall offer the Santa Rosa Rancheria Tachi Yokut Tribe the opportunity to provide a Native American Monitor during ground disturbing activities during both construction and decommissioning. Tribal participation would be dependent upon the availability and interest of the Tribe.</p> <p>f. Disposition of Cultural Resources: Upon coordination with the Kings County Community Development Agency, any prehistoric archaeological artifacts recovered</p>				
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Mitigation Measure	Responsible Party for Implementation	Implementation Timing	Responsible Party for Monitoring	Verification
<p>shall be donated to an appropriate Tribal custodian or a qualified scientific institution where they would be afforded applicable cultural resources laws and guidelines.</p>				

<p>Mitigation Measure CUL-2: Protection of Buried Human Remains. In order to avoid the potential for impacts to buried human remains, the following measures shall be implemented, as necessary, in conjunction with the construction of the Project:</p> <p>a. Pursuant to State Health and Safety Code Section 7050.5(e) and Public Resources Code Section 5097.98, if human bone or bone of unknown origin is found at any time during on- or off-site construction, all work shall stop within 25 feet of the discovery and the Kings County Coroner shall be notified immediately and the resource shall be protected in compliance with applicable state and federal laws. If the remains are determined to be Native American, the Coroner shall notify the California State Native American Heritage Commission (NAHC), who shall identify the person believed to be the Most Likely Descendant (MLD) pursuant to Public Resources Code Section 5097.98. The project proponent and MLD, with the assistance of the archaeologist, shall make all reasonable efforts to develop an agreement for the treatment of human</p>	<p>Project Sponsor</p>	<p>Prior to the start of construction and ongoing during construction</p>	<p>Kings County</p>	
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<p>remains and associated or unassociated funerary objects with appropriate dignity (CEQA Guidelines Sec. 15064.5(d)). The agreed upon treatment shall address the appropriate excavation, removal, recordation, analysis, custodianship, curation, and final disposition of the human remains and associated or unassociated funerary objects. California Public Resources Code allows 48 hours for the MLD to make their wishes known to the landowner after being granted access to the site. If the MLD and the other parties do not agree on the reburial method, the project will follow Public Resources Code Section 5097.98(b) which states that "...the landowner or his or her authorized representative shall reinter the human remains and items associated with Native American burials with appropriate dignity on the property in a location not subject to further subsurface disturbance."</p> <p>b. Any findings shall be submitted by the archaeologist in a professional report submitted to the project applicant, the MLD, the Kings County Community Development Agency, and the California Historical Resources Information System, Southern San</p>				
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Mitigation Measure	Responsible Party for Implementation	Implementation Timing	Responsible Party for Monitoring	Verification
Joaquin Valley Information Center.				
<p>Mitigation Measure HAZ-1: Installation of a supervisory control and data acquisition (SCADA) system shall be established and maintained for the operational life of the project. The SCADA system will monitor operating pressures, temperatures, and flow rates, and in the event of off-specification conditions, the SCADA system will automatically initiate a controlled plant shutdown. The plant shall also be equipped with emergency stop (E-stop) buttons at key locations, which will allow the operator to directly initiate a plant shutdown.</p>	Project Sponsor	Prior to the start of construction	Kings County	
<p>Mitigation Measure HAZ-2: Truck transportation of treated compressed biogas will adhere to the requirements outlined by the U.S. Department of Transportation. These requirements include the following:</p> <ul style="list-style-type: none"> • Use of DOT-approved tanks (DOT-3AAX seamless steel cylinders) that do not exceed the rated tank pressure • Contents will maintain a water 	Project Sponsor	Prior to the start of construction	Kings County	

Mitigation Measure	Responsible Party for Implementation	Implementation Timing	Responsible Party for Monitoring	Verification
<p>content of less than 0.5 lbs/million scf</p> <ul style="list-style-type: none"> • Contents will maintain a methane content of 98% • <p>Appropriate hazardous materials markings</p>				

Mitigation Measure	Responsible Party for Implementation	Implementation Timing	Responsible Party for Monitoring	Verification
<p>Mitigation Measure HYD-1: Stormwater Quality Protection: Prior to project construction, the applicant shall be required to file a "Notice of Intent" (NOI) with the SWRCB to comply with the General Permit and prepare a Storm Water Pollution Prevention Plan (SWPPP). The SWPPP shall be prepared by a licensed engineer and shall detail the treatment measures and best management practices (BMPs) to control pollutants that shall be implemented and complied with during project construction. Example SWPPP measures may include the following:</p> <ul style="list-style-type: none"> • Preserve existing vegetation where required and when feasible • Reseeding vegetation, where appropriate • Control erosion in concentrated flow paths by applying erosion control blankets, check dams, erosion control seeding, or alternative methods <p>Maintain sufficient quantities of temporary sediment control materials on-site throughout the duration of the project</p>	<p>Project Sponsor</p>	<p>Prior to the Start of Construction</p>	<p>Kings County</p>	

Mitigation Measure	Responsible Party for Implementation	Implementation Timing	Responsible Party for Monitoring	Verification
<p>Mitigation Measure HYD-2: Report of Waste Discharge. Prior to construction grading the applicant shall be required to file a Report of Waste Discharge (RWD) with the Central Valley Regional Water Quality Control Board (CVRWQCB) pursuant to California Water Code (CWC) Section 13260. Wastewater generated from the facility will be pretreated to remove harmful constituents so that the water can be used for land application at agronomic rates. The RWD shall include a technical report addressing wastewater treatment operations, wastewater volume, wastewater characteristics, land application areas and wastewater loading rates to ensure proper application for crop use. Pursuant to the CVRWQCB permitting process, the applicant shall file a Notice of Intent (NOI) with the Kings Water Alliance for the Regional Central Valley Salinity Alternatives for Long-term Sustainability (CV-SALTS) Nitrate Control Program.</p>	<p>Project Sponsor</p>	<p>Prior to the Start of Construction</p>	<p>Kings County</p>	

3.6 SUPPORTING INFORMATION AND SOURCES

1. 2035 Kings County General Plan.
<https://www.countyofkings.com/departments/community-development-agency/information/2035-general-plan>
2. Kings County General Plan EIR.
<https://www.countyofkings.com/home/showdocument?id=5897>
3. Kings County Regional Climate Action Plan.
<https://www.kingscog.org/vertical/sites/%7BC427AE30-9936-4733-B9D4-140709AD3BBF%7D/uploads/RegionalCAP-GHGAppendices.pdf>
4. Kings County Zoning Ordinance.
<https://www.countyofkings.com/departments/community-development-agency/information/zoning-ordinance>
5. Improvements Standards, Kings County.
<https://www.countyofkings.com/home/showdocument?id=15475>
6. SJVAPCD Regulations and Guidelines. <http://www.valleyair.org/rules/1ruleslist.htm>
7. Flood Insurance Rate Maps. <https://www.fema.gov/flood-insurance-rate-map-firm>
8. California Air Resources Board's (CARB's) Air Quality and Land Use Handbook.
<https://www.arb.ca.gov/ch/handbook.pdf>
9. 2010 California Environmental Quality Act CEQA Guidelines.
http://resources.ca.gov/ceqa/docs/2010_CEQA_Statutes_and_Guidelines.pdf
10. California Building Code. <http://www.bsc.ca.gov/Codes.aspx>
11. California Stormwater Pollution Prevention Program (SWPPP).
http://www.dot.ca.gov/hq/construc/stormwater/SWPPP_Prep_Manual_3_03.pdf
12. Government Code Section 65962.5.
https://leginfo.legislature.ca.gov/faces/codes_displaySection.xhtml?lawCode=GOV§ionNum=65962.5
13. California Environmental Protection Agency (CEPA). <https://calepa.ca.gov/>
14. Pacific Gas and Electric Company Carbon Footprint Calculator Assumptions.
<https://www.pge.com/includes/docs/pdfs/about/environment/calculator/assumptions.pdf>
15. Lamancusa, J.S. "Transmission of Sound through Structures." *Penn State*, ME 458 – Engineering Noise Control, 2000. <https://www.mne.psu.edu/lamancusa/me458/>
16. US Department of Housing and Urban Development Noise Guidebook. *Hud Exchange*, 2009. <https://www.hudexchange.info/resource/313/hud-noise-guidebook/>
17. Federal Highway Administration Noise Barrier Design Handbook.
https://rosap.ntl.bts.gov/view/dot/977/dot_977_DS1.pdf?
18. Federal Highway Administration Construction Noise Handbook.
19. Noise Control For Buildings – Guidelines for acoustical problem solving. *CertainTeed Saint-Gobain*. <https://www.certainteed.com/resources/30-29-121.pdf>

20. <https://www.socalgas.com/1443740736978/gas-quality-standards-one-sheet.pdf>
21. <https://fred.stlouisfed.org/series/CAKING3URN>
22. <https://sgp.fas.org/crs/misc/R44093.pdf>
23. Kings County Department of Agriculture 2020 Crop Report.
<https://www.countyofkings.com/home/showpublisheddocument/27389/637654154589100000>
24. 2021 Total System Electric Generation, California Energy Commission (2021). [2021 Total System Electric Generation \(ca.gov\)](#)
25. PG & E Power Mix (2021). [Building a cleaner, safer energy future \(pge.com\)](#)
26. Nennich, T., Harrison, J., VanWieringen, L., Meyer, D. L., Heinrichs, A., Weiss, W., St-Pierre, N., Kincaid, R., Davidson, D., & Block, E. (2005). Prediction of Manure and Nutrient Excretion from Dairy Cattle. *Journal of Dairy Science*, 88(10), 3721–3733. [https://doi.org/10.3168/jds.s0022-0302\(05\)73058-7](https://doi.org/10.3168/jds.s0022-0302(05)73058-7)
27. [Storage and Transportation of Biogas & Biomethane – SUSCON.org](#)

Section 4

List of Report Preparers



KINGS COUNTY
 Community Development Agency
 1400 W. Lacey Blvd., Bld. 6
 Hanford, CA 93230

SECTION 4
LIST OF PREPARERS

LIST OF PREPARERS

4-Creeks Inc.

- David Duda, AICP, GISP
- Molly Baumeister, Planner/Project Manager
- Annamarie Wagner, Assistant Planner

PERSONS AND AGENCIES CONSULTED

The following individuals and agencies contributed to this Initial Study/Mitigated Negative Declaration:

4-Creeks Inc.

- David De Groot, PE.
- Matt Razor, PE.
- Kyle Parreira, PE
- David Mendez, Utility Design and Coordinator

Kings County

- Alex Hernandez, Deputy Director of Planning
- Victor Hernandez, County Planner

Live Oak and Associates

- Jeff Gurule, Senior Project Manager/Staff Ecologist
- Austin Pearson, Vice President/Senior Staff Ecologist

Taylored Archaeology

- Consuelo Sauls, M.A.

Appendix A

CalEEMod Report

Dairy Ave - user defined - Kings County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

**Dairy Ave - user defined
Kings County, Annual**

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
User Defined Industrial	1.00	User Defined Unit	16.20	705,672.00	0

1.2 Other Project Characteristics

Urbanization	Rural	Wind Speed (m/s)	2.2	Precipitation Freq (Days)	37
Climate Zone	3			Operational Year	2024
Utility Company	Pacific Gas and Electric Company				
CO2 Intensity (lb/MWhr)	203.98	CH4 Intensity (lb/MWhr)	0.033	N2O Intensity (lb/MWhr)	0.004

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use - Project will have 16.2 acres of ground disturbance.

Construction Phase - Dates reflect project construction schedule.

Off-road Equipment - Project specific construction information.

Off-road Equipment - Project specific construction values.

Off-road Equipment - Project specific construction equipment.

Off-road Equipment - Project specific information.

Trips and VMT - Based on CalEEMod assumption that number of workers is 1.25 times the total pieces of equipment not including building construction. Only one phase was calculated for building construction VMT.

Vehicle Trips - Based on project specific trip information, which includes trip lengths and trip rates.

Fleet Mix - Values reflect project specific vehicle types and proportions during operational phase.

Stationary Sources - Emergency Generators and Fire Pumps -

Dairy Ave - user defined - Kings County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

Stationary Sources - User Defined -

Energy Use - Livestock facilities and the upgrading facility will require approximately 350,400 kWh/year in electricity demand.

Table Name	Column Name	Default Value	New Value
tblConstructionPhase	NumDays	300.00	153.00
tblConstructionPhase	NumDays	30.00	115.00
tblConstructionPhase	NumDays	10.00	115.00
tblEnergyUse	NT24E	0.00	350,400.00
tblFleetMix	HHD	0.04	0.34
tblFleetMix	LDA	0.50	0.22
tblFleetMix	LDT1	0.05	0.22
tblFleetMix	LDT2	0.17	0.22
tblFleetMix	LHD1	0.03	0.00
tblFleetMix	LHD2	6.7450e-003	0.00
tblFleetMix	MCY	0.02	0.00
tblFleetMix	MDV	0.16	0.00
tblFleetMix	MH	3.5200e-003	0.00
tblFleetMix	MHD	8.2690e-003	0.00
tblFleetMix	OBUS	6.2000e-004	0.00
tblFleetMix	SBUS	1.1520e-003	0.00
tblFleetMix	UBUS	1.8900e-004	0.00
tblLandUse	LandUseSquareFeet	0.00	705,672.00
tblLandUse	LotAcreage	0.00	16.20
tblOffRoadEquipment	HorsePower	97.00	247.00
tblOffRoadEquipment	HorsePower	78.00	247.00
tblOffRoadEquipment	HorsePower	158.00	97.00
tblOffRoadEquipment	HorsePower	84.00	187.00
tblOffRoadEquipment	HorsePower	8.00	367.00
tblOffRoadEquipment	LoadFactor	0.37	0.40
tblOffRoadEquipment	LoadFactor	0.48	0.40

Dairy Ave - user defined - Kings County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

tblOffRoadEquipment	LoadFactor	0.38	0.37
tblOffRoadEquipment	LoadFactor	0.74	0.41
tblOffRoadEquipment	LoadFactor	0.43	0.48
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	4.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	2.00
tblOffRoadEquipment	UsageHours	8.00	10.00
tblOffRoadEquipment	UsageHours	8.00	5.00
tblOffRoadEquipment	UsageHours	8.00	10.00
tblOffRoadEquipment	UsageHours	8.00	10.00
tblOffRoadEquipment	UsageHours	8.00	10.00
tblProjectCharacteristics	UrbanizationLevel	Urban	Rural
tblTripsAndVMT	HaulingTripLength	20.00	0.00
tblTripsAndVMT	HaulingTripLength	20.00	0.00
tblTripsAndVMT	HaulingTripLength	20.00	0.00
tblTripsAndVMT	VendorTripLength	6.60	0.00
tblTripsAndVMT	VendorTripLength	6.60	0.00
tblTripsAndVMT	VendorTripLength	6.60	0.00
tblTripsAndVMT	VendorTripNumber	116.00	0.00
tblTripsAndVMT	VendorTripNumber	116.00	0.00
tblTripsAndVMT	VendorTripNumber	116.00	0.00
tblTripsAndVMT	WorkerTripLength	16.80	0.00
tblTripsAndVMT	WorkerTripLength	16.80	0.00
tblTripsAndVMT	WorkerTripLength	16.80	0.00
tblTripsAndVMT	WorkerTripNumber	53.00	40.00
tblTripsAndVMT	WorkerTripNumber	296.00	0.00
tblTripsAndVMT	WorkerTripNumber	296.00	0.00
tblTripsAndVMT	WorkerTripNumber	296.00	0.00
tblVehicleTrips	CC_TL	6.60	23.00

Dairy Ave - user defined - Kings County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

tblVehicleTrips	CC_TTP	0.00	34.00
tblVehicleTrips	CNW_TL	6.60	0.00
tblVehicleTrips	CW_TL	14.70	20.00
tblVehicleTrips	CW_TTP	0.00	66.00
tblVehicleTrips	PR_TP	0.00	100.00
tblVehicleTrips	ST_TR	0.00	6.00
tblVehicleTrips	SU_TR	0.00	6.00
tblVehicleTrips	WD_TR	0.00	6.00

2.0 Emissions Summary

Dairy Ave - user defined - Kings County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

Quarter	Start Date	End Date	Maximum Unmitigated ROG + NOX (tons/quarter)	Maximum Mitigated ROG + NOX (tons/quarter)
1	3-1-2024	5-31-2024	4.0886	4.0886
2	6-1-2024	8-31-2024	3.1613	3.1613
3	9-1-2024	9-30-2024	0.1281	0.1281
		Highest	4.0886	4.0886

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	3.2466	0.0000	1.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	2.0000e-005	2.0000e-005	0.0000	0.0000	2.0000e-005
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	22,878,118.8154	22,878,118.8154	3,701.2350	448.6346	23,104,342.7867
Mobile	2.3500e-003	0.0500	0.0411	3.2000e-004	0.0180	5.2000e-004	0.0185	4.8300e-003	5.0000e-004	5.3300e-003	0.0000	29.9593	29.9593	2.4000e-004	3.5600e-003	31.0258
Waste						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Water						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	3.2490	0.0500	0.0411	3.2000e-004	0.0180	5.2000e-004	0.0185	4.8300e-003	5.0000e-004	5.3300e-003	0.0000	22,878,148.7747	22,878,148.7747	3,701.2353	448.6381	23,104,373.8125

Dairy Ave - user defined - Kings County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not 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	3.2466	0.0000	1.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	2.0000e-005	2.0000e-005	0.0000	0.0000	2.0000e-005
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	22,878,118.8154	22,878,118.8154	3,701.2350	448.6346	23,104,342.7867
Mobile	2.3500e-003	0.0500	0.0411	3.2000e-004	0.0180	5.2000e-004	0.0185	4.8300e-003	5.0000e-004	5.3300e-003	0.0000	29.9593	29.9593	2.4000e-004	3.5600e-003	31.0258
Waste						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Water						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	3.2490	0.0500	0.0411	3.2000e-004	0.0180	5.2000e-004	0.0185	4.8300e-003	5.0000e-004	5.3300e-003	0.0000	22,878,148.7747	22,878,148.7747	3,701.2353	448.6381	23,104,373.8125

	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
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	Site Preparation	Site Preparation	3/1/2024	8/8/2024	5	115	
2	Grading	Grading	3/1/2024	8/8/2024	5	115	
3	Trenching	Trenching	3/1/2024	8/8/2024	5	115	

Dairy Ave - user defined - Kings County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

4	Building Construction	Building Construction	3/1/2024	10/1/2024	5	153
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Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 0

Acres of Paving: 0

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

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Site Preparation	Air Compressors	2	5.00	78	0.48
Site Preparation	Excavators	2	10.00	97	0.37
Site Preparation	Generator Sets	4	10.00	84	0.74
Site Preparation	Other Construction Equipment	2	10.00	172	0.42
Site Preparation	Plate Compactors	4	10.00	8	0.43
Site Preparation	Tractors/Loaders/Backhoes	2	10.00	247	0.40
Grading	Air Compressors	2	5.00	247	0.40
Grading	Excavators	2	10.00	158	0.38
Grading	Generator Sets	4	10.00	187	0.41
Grading	Other Construction Equipment	2	10.00	172	0.42
Grading	Plate Compactors	4	10.00	367	0.48
Grading	Tractors/Loaders/Backhoes	2	10.00	97	0.37
Trenching	Air Compressors	2	5.00	78	0.48
Trenching	Excavators	3	10.00	158	0.38
Trenching	Generator Sets	4	10.00	84	0.74
Trenching	Other Construction Equipment	2	10.00	172	0.42
Trenching	Plate Compactors	4	10.00	8	0.43
Trenching	Tractors/Loaders/Backhoes	6	10.00	97	0.37
Building Construction	Forklifts	2	5.00	89	0.20

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

Building Construction	Welders	2	10.00	46	0.45
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Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Site Preparation	16	40.00	0.00	0.00	16.80	6.60	20.00	LD_Mix	HDT_Mix	HHDT
Grading	16	40.00	0.00	0.00	16.80	6.60	20.00	LD_Mix	HDT_Mix	HHDT
Trenching	21	40.00	0.00	0.00	16.80	6.60	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	4	0.00	0.00	0.00	0.00	0.00	0.00	LD_Mix	HDT_Mix	HHDT
Building Construction	4	0.00	0.00	0.00	0.00	0.00	0.00	LD_Mix	HDT_Mix	HHDT
Building Construction	4	0.00	0.00	0.00	0.00	0.00	0.00	LD_Mix	HDT_Mix	HHDT
Building Construction	4	296.00	116.00	0.00	16.80	6.60	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

3.2 Site Preparation - 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					
Fugitive Dust					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.2203	1.9602	2.4668	4.8600e-003		0.0873	0.0873		0.0835	0.0835	0.0000	419.3388	419.3388	0.0811	0.0000	421.3672
Total	0.2203	1.9602	2.4668	4.8600e-003	0.0000	0.0873	0.0873	0.0000	0.0835	0.0835	0.0000	419.3388	419.3388	0.0811	0.0000	421.3672

Dairy Ave - user defined - Kings County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.2 Site Preparation - 2024

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	8.4200e-003	5.9400e-003	0.0752	2.4000e-004	0.0287	1.3000e-004	0.0289	7.6300e-003	1.2000e-004	7.7500e-003	0.0000	21.6754	21.6754	4.9000e-004	5.4000e-004	21.8496
Total	8.4200e-003	5.9400e-003	0.0752	2.4000e-004	0.0287	1.3000e-004	0.0289	7.6300e-003	1.2000e-004	7.7500e-003	0.0000	21.6754	21.6754	4.9000e-004	5.4000e-004	21.8496

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					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.2203	1.9602	2.4668	4.8600e-003		0.0873	0.0873		0.0835	0.0835	0.0000	419.3384	419.3384	0.0811	0.0000	421.3667
Total	0.2203	1.9602	2.4668	4.8600e-003	0.0000	0.0873	0.0873	0.0000	0.0835	0.0835	0.0000	419.3384	419.3384	0.0811	0.0000	421.3667

Dairy Ave - user defined - Kings County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.2 Site Preparation - 2024

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	8.4200e-003	5.9400e-003	0.0752	2.4000e-004	0.0287	1.3000e-004	0.0289	7.6300e-003	1.2000e-004	7.7500e-003	0.0000	21.6754	21.6754	4.9000e-004	5.4000e-004	21.8496
Total	8.4200e-003	5.9400e-003	0.0752	2.4000e-004	0.0287	1.3000e-004	0.0289	7.6300e-003	1.2000e-004	7.7500e-003	0.0000	21.6754	21.6754	4.9000e-004	5.4000e-004	21.8496

3.3 Grading - 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					
Fugitive Dust					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.1836	1.4821	1.8948	5.1600e-003		0.0610	0.0610		0.0576	0.0576	0.0000	447.6060	447.6060	0.0663	0.0000	449.2627
Total	0.1836	1.4821	1.8948	5.1600e-003	0.0000	0.0610	0.0610	0.0000	0.0576	0.0576	0.0000	447.6060	447.6060	0.0663	0.0000	449.2627

Dairy Ave - user defined - Kings County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.3 Grading - 2024

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	8.4200e-003	5.9400e-003	0.0752	2.4000e-004	0.0287	1.3000e-004	0.0289	7.6300e-003	1.2000e-004	7.7500e-003	0.0000	21.6754	21.6754	4.9000e-004	5.4000e-004	21.8496
Total	8.4200e-003	5.9400e-003	0.0752	2.4000e-004	0.0287	1.3000e-004	0.0289	7.6300e-003	1.2000e-004	7.7500e-003	0.0000	21.6754	21.6754	4.9000e-004	5.4000e-004	21.8496

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					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.1836	1.4821	1.8948	5.1600e-003		0.0610	0.0610		0.0576	0.0576	0.0000	447.6054	447.6054	0.0663	0.0000	449.2622
Total	0.1836	1.4821	1.8948	5.1600e-003	0.0000	0.0610	0.0610	0.0000	0.0576	0.0576	0.0000	447.6054	447.6054	0.0663	0.0000	449.2622

Dairy Ave - user defined - Kings County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.3 Grading - 2024

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	8.4200e-003	5.9400e-003	0.0752	2.4000e-004	0.0287	1.3000e-004	0.0289	7.6300e-003	1.2000e-004	7.7500e-003	0.0000	21.6754	21.6754	4.9000e-004	5.4000e-004	21.8496
Total	8.4200e-003	5.9400e-003	0.0752	2.4000e-004	0.0287	1.3000e-004	0.0289	7.6300e-003	1.2000e-004	7.7500e-003	0.0000	21.6754	21.6754	4.9000e-004	5.4000e-004	21.8496

3.4 Trenching - 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	0.2595	2.3092	3.5323	5.6600e-003		0.1079	0.1079		0.1025	0.1025	0.0000	489.8903	489.8903	0.1040	0.0000	492.4891
Total	0.2595	2.3092	3.5323	5.6600e-003		0.1079	0.1079		0.1025	0.1025	0.0000	489.8903	489.8903	0.1040	0.0000	492.4891

Dairy Ave - user defined - Kings County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.4 Trenching - 2024

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	8.4200e-003	5.9400e-003	0.0752	2.4000e-004	0.0287	1.3000e-004	0.0289	7.6300e-003	1.2000e-004	7.7500e-003	0.0000	21.6754	21.6754	4.9000e-004	5.4000e-004	21.8496
Total	8.4200e-003	5.9400e-003	0.0752	2.4000e-004	0.0287	1.3000e-004	0.0289	7.6300e-003	1.2000e-004	7.7500e-003	0.0000	21.6754	21.6754	4.9000e-004	5.4000e-004	21.8496

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	0.2595	2.3092	3.5323	5.6600e-003		0.1079	0.1079		0.1025	0.1025	0.0000	489.8898	489.8898	0.1040	0.0000	492.4885
Total	0.2595	2.3092	3.5323	5.6600e-003		0.1079	0.1079		0.1025	0.1025	0.0000	489.8898	489.8898	0.1040	0.0000	492.4885

Dairy Ave - user defined - Kings County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.4 Trenching - 2024

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	8.4200e-003	5.9400e-003	0.0752	2.4000e-004	0.0287	1.3000e-004	0.0289	7.6300e-003	1.2000e-004	7.7500e-003	0.0000	21.6754	21.6754	4.9000e-004	5.4000e-004	21.8496
Total	8.4200e-003	5.9400e-003	0.0752	2.4000e-004	0.0287	1.3000e-004	0.0289	7.6300e-003	1.2000e-004	7.7500e-003	0.0000	21.6754	21.6754	4.9000e-004	5.4000e-004	21.8496

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	0.0541	0.3486	0.4271	6.3000e-004		0.0140	0.0140		0.0136	0.0136	0.0000	48.8388	48.8388	7.8300e-003	0.0000	49.0345
Total	0.0541	0.3486	0.4271	6.3000e-004		0.0140	0.0140		0.0136	0.0136	0.0000	48.8388	48.8388	7.8300e-003	0.0000	49.0345

Dairy Ave - user defined - Kings County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not 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	0.0102	0.3697	0.1241	1.6500e-003	0.1667	2.3900e-003	0.1691	0.0432	2.2800e-003	0.0455	0.0000	158.0041	158.0041	6.1000e-004	0.0228	164.8192
Worker	0.0829	0.0585	0.7402	2.3300e-003	1.0182	1.3100e-003	1.0195	0.2556	1.2100e-003	0.2568	0.0000	213.3993	213.3993	4.7900e-003	5.3500e-003	215.1139
Total	0.0930	0.4282	0.8643	3.9800e-003	1.1848	3.7000e-003	1.1885	0.2989	3.4900e-003	0.3023	0.0000	371.4034	371.4034	5.4000e-003	0.0282	379.9331

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	0.0541	0.3486	0.4271	6.3000e-004		0.0140	0.0140		0.0136	0.0136	0.0000	48.8387	48.8387	7.8300e-003	0.0000	49.0344
Total	0.0541	0.3486	0.4271	6.3000e-004		0.0140	0.0140		0.0136	0.0136	0.0000	48.8387	48.8387	7.8300e-003	0.0000	49.0344

Dairy Ave - user defined - Kings County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not 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	0.0102	0.3697	0.1241	1.6500e-003	0.1667	2.3900e-003	0.1691	0.0432	2.2800e-003	0.0455	0.0000	158.0041	158.0041	6.1000e-004	0.0228	164.8192
Worker	0.0829	0.0585	0.7402	2.3300e-003	1.0182	1.3100e-003	1.0195	0.2556	1.2100e-003	0.2568	0.0000	213.3993	213.3993	4.7900e-003	5.3500e-003	215.1139
Total	0.0930	0.4282	0.8643	3.9800e-003	1.1848	3.7000e-003	1.1885	0.2989	3.4900e-003	0.3023	0.0000	371.4034	371.4034	5.4000e-003	0.0282	379.9331

Dairy Ave - user defined - Kings County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	2.3500e-003	0.0500	0.0411	3.2000e-004	0.0180	5.2000e-004	0.0185	4.8300e-003	5.0000e-004	5.3300e-003	0.0000	29.9593	29.9593	2.4000e-004	3.5600e-003	31.0258
Unmitigated	2.3500e-003	0.0500	0.0411	3.2000e-004	0.0180	5.2000e-004	0.0185	4.8300e-003	5.0000e-004	5.3300e-003	0.0000	29.9593	29.9593	2.4000e-004	3.5600e-003	31.0258

4.2 Trip Summary Information

Land Use	Average Daily Trip Rate			Unmitigated	Mitigated
	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
User Defined Industrial	6.00	6.00	6.00	45,908	45,908
Total	6.00	6.00	6.00	45,908	45,908

4.3 Trip Type Information

Land Use	Miles			Trip %			Trip Purpose %		
	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
User Defined Industrial	20.00	23.00	0.00	66.00	34.00	0.00	100	0	0

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
User Defined Industrial	0.220000	0.220000	0.220000	0.000000	0.000000	0.000000	0.000000	0.340000	0.000000	0.000000	0.000000	0.000000	0.000000

Dairy Ave - user defined - Kings County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

5.3 Energy by Land Use - Electricity

Unmitigated

Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	MT/yr			
User Defined	2,472,676	8,8154	0	23,104,34
Industrial	+011	8,8154	0	2,7867
Total	22,878,11	3,701,235	448,6346	23,104,34

Mitigated

Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	MT/yr			
User Defined	2,472,676	8,8154	0	23,104,34
Industrial	+011	8,8154	0	2,7867
Total	22,878,11	3,701,235	448,6346	23,104,34

6.0 Area Detail

6.1 Mitigation Measures Area

Dairy Ave - user defined - Kings County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not 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	3.2466	0.0000	1.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	2.0000e-005	2.0000e-005	0.0000	0.0000	2.0000e-005
Unmitigated	3.2466	0.0000	1.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	2.0000e-005	2.0000e-005	0.0000	0.0000	2.0000e-005

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	0.4906					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	2.7560					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	0.0000	0.0000	1.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	2.0000e-005	2.0000e-005	0.0000	0.0000	2.0000e-005
Total	3.2466	0.0000	1.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	2.0000e-005	2.0000e-005	0.0000	0.0000	2.0000e-005

Dairy Ave - user defined - Kings County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not 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	0.4906					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	2.7560					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	0.0000	0.0000	1.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	2.0000e-005	2.0000e-005	0.0000	0.0000	2.0000e-005
Total	3.2466	0.0000	1.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	2.0000e-005	2.0000e-005	0.0000	0.0000	2.0000e-005

7.0 Water Detail

7.1 Mitigation Measures Water

Dairy Ave - user defined - Kings County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	0.0000	0.0000	0.0000	0.0000
Unmitigated	0.0000	0.0000	0.0000	0.0000

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
User Defined Industrial	0 / 0	0.0000	0.0000	0.0000	0.0000
Total		0.0000	0.0000	0.0000	0.0000

Dairy Ave - user defined - Kings County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

7.2 Water by Land Use

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
User Defined Industrial	0 / 0	0.0000	0.0000	0.0000	0.0000
Total		0.0000	0.0000	0.0000	0.0000

8.0 Waste Detail

8.1 Mitigation Measures Waste

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	0.0000	0.0000	0.0000	0.0000
Unmitigated	0.0000	0.0000	0.0000	0.0000

Dairy Ave - user defined - Kings County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

8.2 Waste by Land Use

Unmitigated

Waste Disposed	Land Use	tons	Total CO2	CH4	N2O	CO2e
	Land Use		MT/yr			
	User Defined Industrial	0	0.0000	0.0000	0.0000	0.0000
	Total		0.0000	0.0000	0.0000	0.0000

Mitigated

Waste Disposed	Land Use	tons	Total CO2	CH4	N2O	CO2e
	Land Use		MT/yr			
	User Defined Industrial	0	0.0000	0.0000	0.0000	0.0000
	Total		0.0000	0.0000	0.0000	0.0000

9.0 Operational Offroad

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

Dairy Ave - user defined - Kings County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

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

Boilers

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

User Defined Equipment

Equipment Type	Number
----------------	--------

11.0 Vegetation

Appendix B

Biological Evaluation



LIVE OAK

ASSOCIATES, INC.

**BIOLOGICAL EVALUATION
DAIRY AVENUE/HOMELAND CATTLE COMPANY/CIRCLE H DAIRY
BIOGAS FACILITY PROJECT
CORCORAN, KINGS COUNTY, CA**

By:

LIVE OAK ASSOCIATES, INC.

Natalie E. Neff, Staff Ecologist
Austin Pearson, Vice President

For:

Molly Baumeister
4-Creeks, Inc.
324 South Santa Fe Street, Suite A
Visalia, CA 93292

October 25, 2023

Project No. 2821-01

OAKHURST

P.O. Box 2697 | 39930 Sierra Way #B
Oakhurst, CA 93644

P: (559) 642-4880 | F: (559) 642-4883

SAN JOSE

6840 Via Del Oro, Suite 220
San Jose, CA 95119

(408) 224-8300

SOUTH LAKE TAHOE

P.O. Box 7314
South Lake Tahoe, CA 96158

(408) 281-5885

WWW.LOAINC.COM



EXECUTIVE SUMMARY

Live Oak Associates, Inc. (LOA) conducted an investigation of the biotic resources of approximately 16.2-acres of land proposed to be converted into a biogas facility with associated infrastructure across portions of Circle H Dairy and Dairy Ave LLC (collectively the “project site”) in Kings County, California. LOA’s analysis was completed pursuant to the California Environmental Quality Act (CEQA).

The proposed project includes the construction of a biogas facility and associated infrastructure which includes: 1) a 19 million gallon anaerobic digester; 2) three manure separation systems; 3) a conditioning plant; and 4) approximately 2.5 miles of underground pipeline.

Biotic habitats/land uses identified on the site include agricultural and ruderal/developed. The site has experienced decades of agricultural disturbance and was used for row crop production as early as 1985 and up to 2006 when the site began to be developed for dairy operations. Land within the project site is highly disturbed, offering limited habitat for native flora and fauna, however, the project could result in significant impacts to common nesting birds and burrowing owl. Impacts to common nesting birds will be reduced either by constructing the project outside of the nesting season or through preconstruction surveys and avoidance of active nests if construction must occur during the nesting season. Impacts to burrowing owls will be reduced through preconstruction surveys and avoidance of active burrows. If avoidance of active burrows is not feasible, owls may be passively relocated during the non-breeding season.

Impacts would be less than significant for all 12 locally occurring special status plant species, for 12 locally occurring special status animal species that would not be expected to occur on the project site, and for 5 special status animal species (tricolored blackbird, Swainson’s hawk, golden eagle, mountain plover, and San Joaquin kit fox) that could forage over/on the project site but would roost, nest, or reproduce elsewhere. The project will not result in a significant loss of habitat for special status animal species. The project would have a less than significant impact on wildlife movement corridors, sensitive habitats, and jurisdictional waters. The project appears to be in compliance with local policies and no habitat conservation plans are in effect for the project area.



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1.0 INTRODUCTION

The following technical report, prepared by Live Oak Associates, Inc. (LOA) in support of California Environmental Quality Act (CEQA) review, describes the biotic resources of an approximately 16.2 acre project site (or “site”) that is to be the location of the Dairy Avenue/Homeland Cattle Company/Circle H Dairy biogas facility and associated infrastructure (“project”), and evaluates potential impacts to those resources.

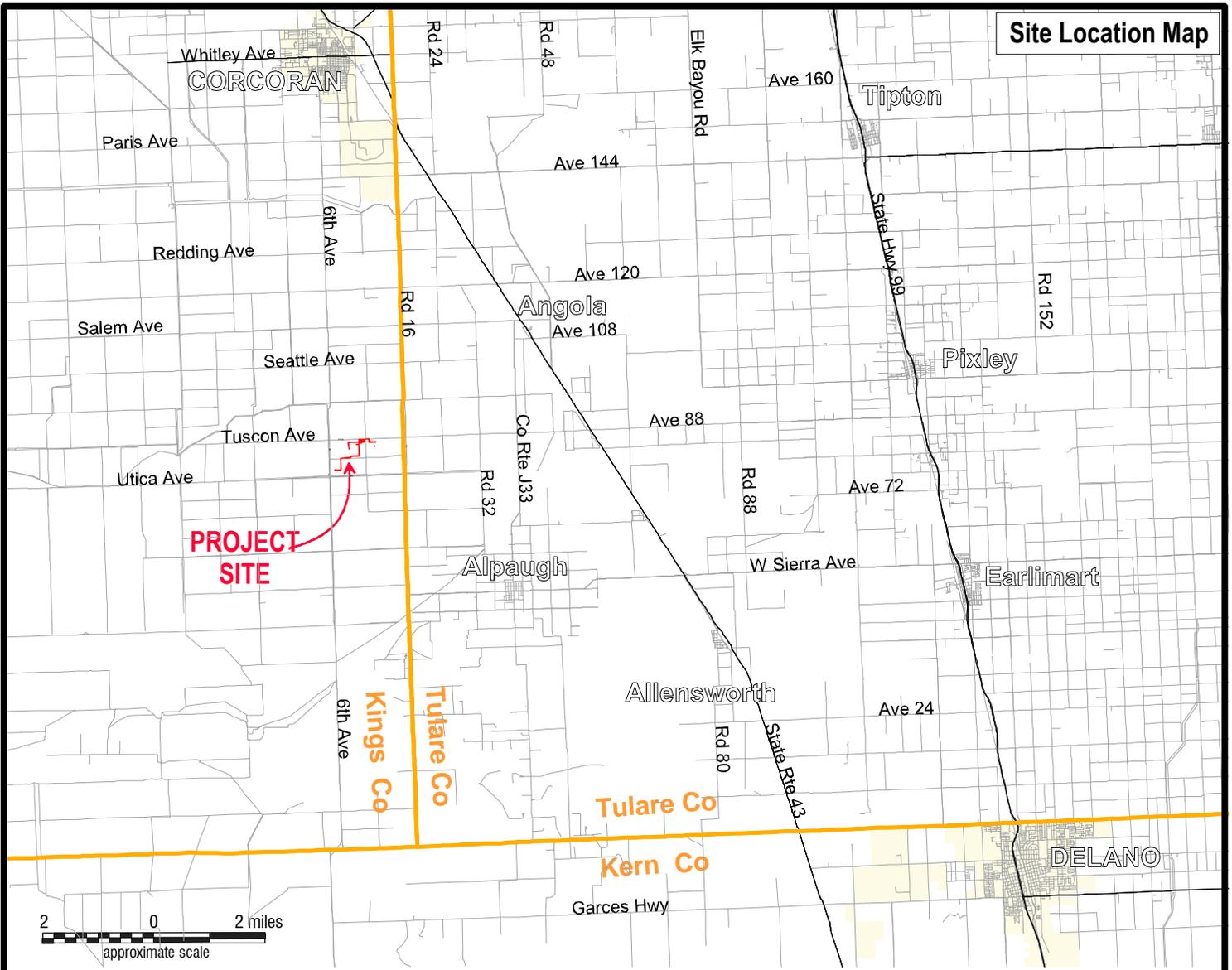
The Circle H Dairy is located at the intersection of 4th Avenue and Tuscon Ave, Homeland Dairy is located approximately .6 miles east of 6th Avenue and south adjacent to Tuscon Ave, and Dairy Avenue Dairy is at 6th Avenue and Utica Avenue. All are approximately 16 miles south of the City of Corcoran, in Kings County, California (Figure 1). The site may be found entirely on the *Hacienda Ranch NE* U.S. Geological Survey (USGS) 7.5-minute quadrangle in Section 12, Township 23 South, Range 22 East (Figure 2).

1.1 PROJECT DESCRIPTION

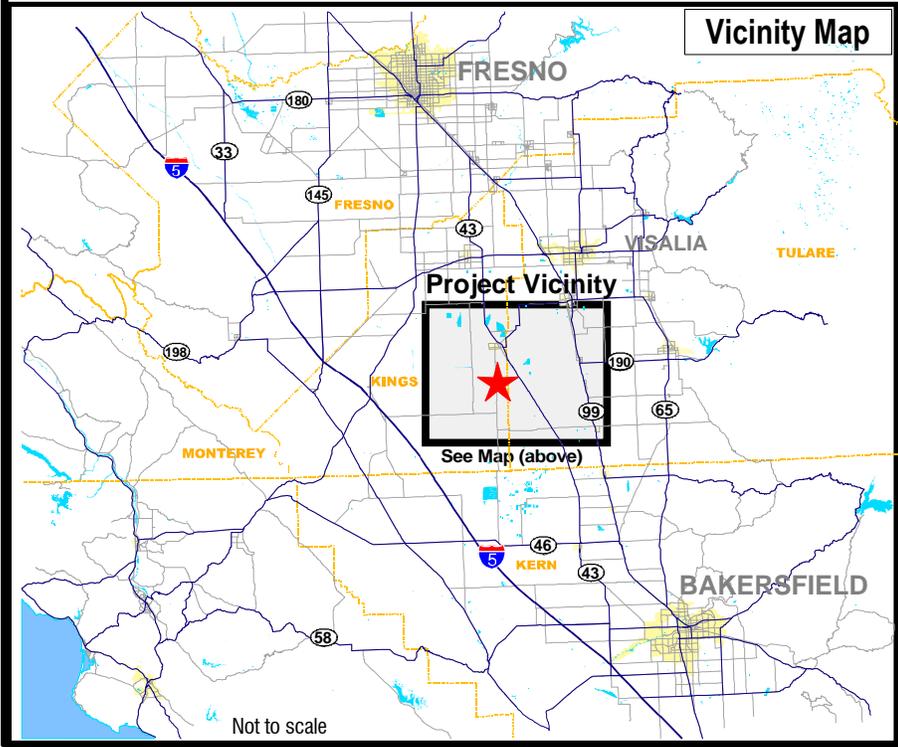
California Bioenergy LLC (CalBio) wants to develop land in Kings County, CA to construct and operate a Biogas Facility. The proposed project would affect approximately 16.2 acres on parcels 044-280- 012, 044-280-005, and 044-280-013. The purpose of this project is to reduce methane emissions from livestock waste by producing raw biogas through an anaerobic digester system, which will be created and upgraded on-site and eventually deposited at a nearby natural gas system to provide a sustainable form of vehicle fuel. The Biogas plant will sustainably produce natural gas and fertilizers from agricultural waste, particularly from the liquid wastewater produced at the three existing dairy and livestock facilities on the project site, which include Dairy Avenue and Circle H dairies, and Homeland Cattle Company.

The Biogas plant will make use of this waste by undergoing an anaerobic, or oxygen-free digestion, process where various microorganisms break down the waste and produce methane as a byproduct. The methane byproduct resulting from the fermentation process is then upgraded to natural gas standards on site and will be hauled offsite to an existing biogas interconnection facility on Avenue 96, south of Avenue 184, for injection into the existing SoCalGas transmission

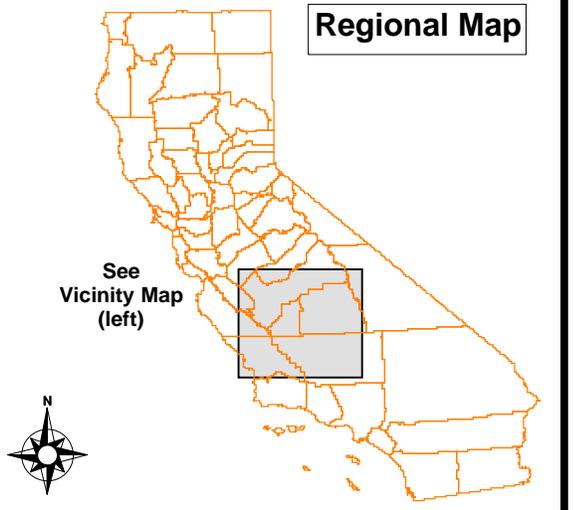
Site Location Map



Vicinity Map



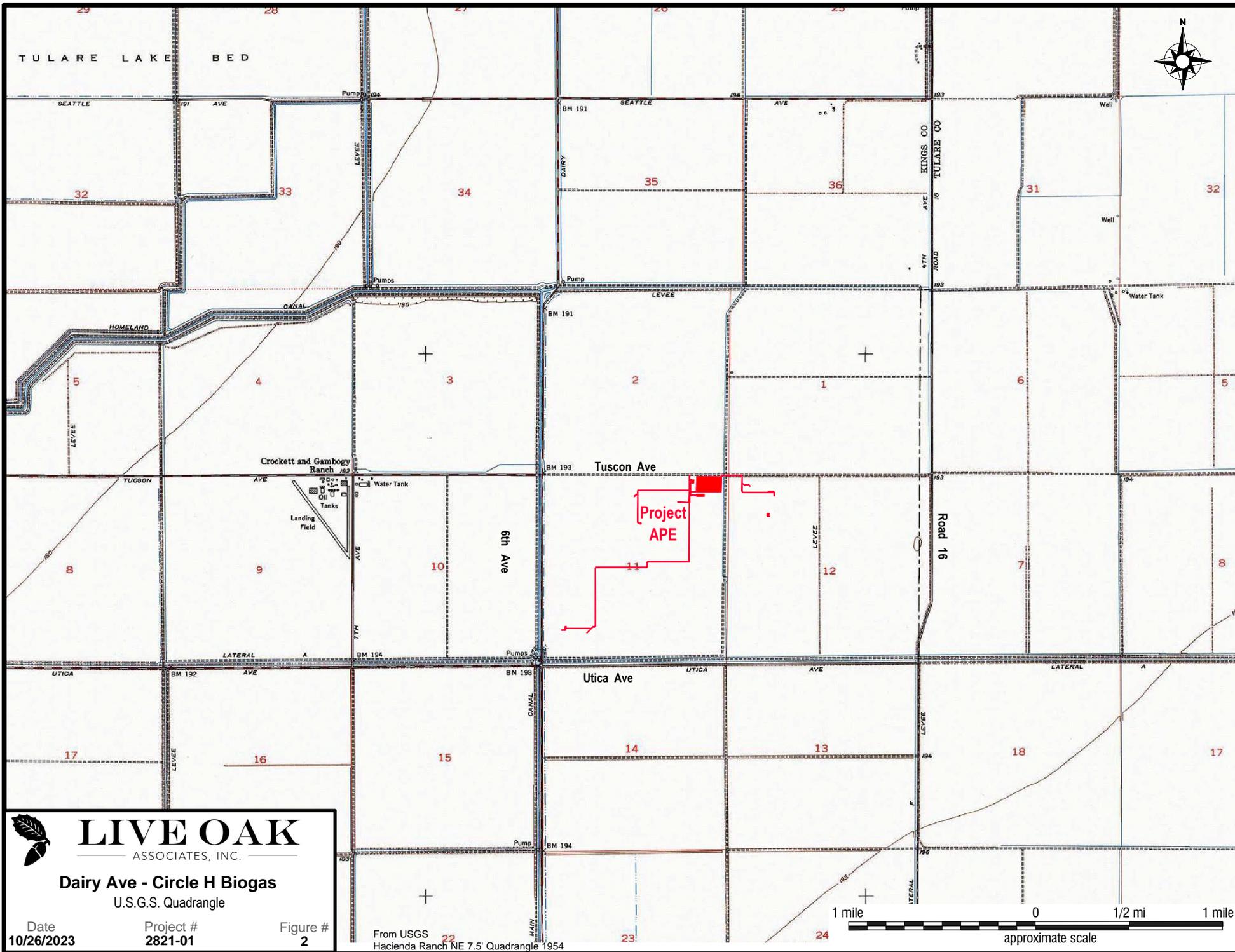
Regional Map



LIVE OAK
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Dairy Ave - Circle H Biogas
Site / Vicinity Map

Date: 10/26/2023 Project #: 2821-01 Figure #: 1




LIVE OAK
 ASSOCIATES, INC.

Dairy Ave - Circle H Biogas
 U.S.G.S. Quadrangle

Date **10/26/2023** Project # **2821-01** Figure # **2**

From USGS
Hacienda Ranch NE 7.5' Quadrangle 1954





lines. The gas injected into the natural gas system will be used for vehicle fuel. See Appendix A for the general layout of the Biogas operation.

The Biogas plant includes three manure separation systems, underground infrastructure (water, wastewater, electrical, and biogas), the anaerobic dairy digester, and a conditioning plant. The conditioning plant will consist of biogas conditioning equipment, along with a biogas truck trailer loading station. The truck loading station is where the tanks will be filled with biogas, which would then be delivered offsite to a natural gas facility near the city of Terra Bella in Tulare County, CA. In addition to the proposed facilities, the project includes improvements to the internal access roads, starting at the 6th Avenue entrance.

The anaerobic digester will be processing the raw liquid wastewater from three dairies/livestock facilities on the site, Dairy Avenue, Circle H and Homeland Cattle Company. The proposed anaerobic digester has the capacity to hold 19.9 million gallons of raw manure. Dairy Avenue and Circle H both are permitted to have 2,672 animal units and Homeland Cattle Company is permitted to have 2,375 animal units. Across the three sites, there are a total of 7,719 animal units. Based on varying manure excretion estimates (Nennich et al., 2005), the anaerobic digester would process approximately 83,990 gallons of liquid manure per day, so the current operation should not exceed the capacity of the Biogas facility.

The biogas pipeline will be 10” in diameter at its widest point and will be located at least 72” below the existing ground surface. The expected affected area is approximately 10 feet wide per linear foot of pipe for backhoe trenching. The project proposes approximately 2.5 miles of pipeline to conduct manure processing. The pipe will be installed under roads and canals by method of jack-and-bore. In this method, pits are dug on each side of the road (or canal) and a ram is placed in one pit to punch a steel casing pipe underneath. Once the steel casing is received on the other side, the operational pipe is slid into the casing and connected on each side. A two (2) foot thick concrete cap will be placed on top of said piping which is located within any unpaved portions of the Public Right-of-Way. All pipeline installation activities will be designed subject to approval by the Kings County Public Works Department.



1.2 REPORT OBJECTIVES

Development of agricultural areas has the potential to damage or modify habitats used by sensitive plant and wildlife species. In such cases, site development may be regulated by state or federal agencies, subject to review under CEQA and/or subject to local policies and ordinances. This report address issues related to: 1) sensitive biotic resources occurring within the project site; 2) the federal, state, and local laws regulating such resources; and 3) mitigation measures that may be required to reduce the magnitude of anticipated impacts and/or comply with permit requirements of state and federal resource agencies. As such, the objectives of this report aims to:

- Summarize all site-specific information related to existing biological resources.
- Make reasonable inferences about the biological resources that could occur onsite based on habitat suitability and the proximity of the site to a species' known range.
- Summarize all state and federal natural resource protection laws that may be relevant to past or future site development.
- Identify and discuss project impacts to biological resources within the context of CEQA guidelines and relevant state and federal laws.
- Identify avoidance and mitigation measures that would reduce the magnitude of project impacts in a manner consistent with the requirements of CEQA and that are generally consistent with recommendations of the resource agencies regulating affected biological resources.



1.3 STUDY METHODOLOGY

Prior to any field investigations, a background review of the project site and region was conducted. Sources of information used included: (1) the *California Natural Diversity Database* (CDFW 2023), (2) the *Online Inventory of Rare and Endangered Vascular Plants of California* (CNPS 2023), and (3) manuals, reports, and references related to plants and animals of the San Joaquin Valley region. For the completed improvement area or composting facility, historic aerial photography was also analyzed to assess pre-improvement conditions.

A reconnaissance-level field survey of the project site was conducted on October 11, 2023 by LOA ecologist Natalie Neff. The survey consisted of walking the project site while identifying its principal land uses and the constituent plants and animals of each land use. The field survey conducted for this study was sufficient to assess the significance of possible biological impacts associated with the development plans for the project site.

LOA's field investigation did not include an aquatic resources delineation or focused surveys for special status species. The field survey was sufficient to generally describe those features of the project site that could be subject to the jurisdiction of the U.S. Army Corps of Engineers (USACE), California Department of Fish and Wildlife (CDFW), and/or the Regional Water Quality Control Board (RWQCB), and to assess the significance of possible biological impacts associated with development of the project site.

Following the field survey, LOA conducted an analysis of potential project impacts based on the known and potential biotic resources of the project site discussed in Section 2.0.



2.0 EXISTING CONDITIONS

2.1 REGIONAL SETTING

The project site is located in Kings County in the San Joaquin Valley, which has, for decades, experienced intensive agricultural disturbances and more recently intensive urban development. Both project sites sit approximately 16 miles south of the City of Corcoran and approximately 11 miles northwest of the Census Designated Place (CDP) of Alpaugh. Current land use on the site includes cultivated agricultural and livestock facilities. Land use immediately surrounding the project site is best described as agricultural and/or dairy facilities. Land use to the north, south, east, and west are designated by Kings County as General Agriculture (AG-40) under the Kings County General Plan and is zoned as AG-40 General Agriculture-40 District under the Kings County Development Code. Two aquatic features, a tributary canal of the Homeland Canal, which borders the west side of Dairy Ave Dairy and a tributary canal of Main Canal, which borders the south side of Dairy Ave Dairy, are present near the project site but do not border the areas of potential effect (“APE”). The site itself lies within the historic bed of Tulare Lake, a portion of which was holding water approximately 3 miles north of the project site as a result of record setting precipitation during the winter of 2022/2023.

Like most of California, the San Joaquin Valley has a Mediterranean climate. Warm dry summers are followed by cool moist winters. Summer temperatures commonly exceed 100 degrees Fahrenheit, and the relative humidity is generally very low. Winter temperatures rarely rise much above 70 degrees Fahrenheit, with daytime highs often below 60 degrees Fahrenheit. Annual precipitation within the project site is about 11 inches, almost 85% of which falls between the months of October and March. Nearly all precipitation falls in the form of rain. Stormwater readily infiltrates the soils of and surrounding the project site.

Native plant and animal species once abundant in the region 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.



2.2 PHYSICAL CONDITIONS OF PROJECT SITE

The overall topography of the project site is relatively flat with an approximate elevation of 191 to 195 feet National Geodetic Vertical Datum (NGVD). One soil-mapping unit was identified within the site: Gepford clay, partially drained. This soil type is classified as poorly drained with a very high runoff class and a hydric rating. Hydric soils have the propensity to pond water in depressions and form vernal pools.

Prior to past project-related improvements, it is expected that soils of the project site were substantially altered by historic farming practices and regular dairy operations involving excavation, compaction, and grading. As a result, the soils of the site would not have exhibited their native soil characteristics or had any particular significance to biological resources at the time of the improvements.

2.3 BIOTIC HABITAT/LAND USES

Natural biotic habitats are absent from the project site due to years of agricultural uses and activities associated with dairy operations. The land usage of the project site can be characterized by two habitat types: agricultural and ruderal/developed (Figure 3). A comprehensive list of the vascular plants observed on the project site is provided in Appendix B. A list of the terrestrial vertebrates observed and those that likely use habitats on and adjacent to the project site is provided in Appendix C. Photos taken during the site visit are presented in Appendix D.

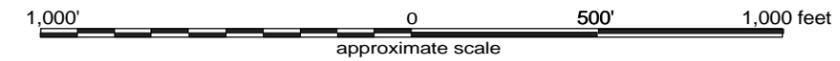
2.3.1 Ruderal/Developed

A majority of the project site is best described as ruderal/developed. Historic aerial imagery dating to 1985 shows this parcel was previously used for row crop production. In 2006, the site appears to have the beginning developments of dairy infrastructure and farm housing, along with continuing row crop production. This site has experienced heavy use and ground disturbance for decades. Currently, the majority of the site is actively used on a daily basis.

Ruderal/developed portions of the site include dirt roads, wastewater ponds, vacant portions of previously disturbed land, and an active dairy with associated infrastructure. In general, these areas were not densely vegetated, but the vegetation that reside in this habitat was primarily



Source:
 Project Design courtesy of 4 Creeks Engineering
 Aerial photo courtesy of U.S.D.A. NAIP Aerial Photo Field Office 2022



LIVE OAK
 ASSOCIATES, INC.

Dairy Ave - Circle H Biogas
 Habitats / Land Use

Date 10/26/2023 Project # 2821-01 Figure # 3



amaranth and horseweed species including redroot pigweed (*Amaranthus retroflexus*), mat amaranth (*Amaranthus blitoides*), Canada horseweed (*Erigeron canadensis*), and Flax-leaf fleabane (*Erigeron bonariensis*). Other common plants included alkali weed (*Cressa truxillensis*), cheeseweed (*Malva parviflora*), and Tamarisk trees (*Tamarix sp.*) on the southeast portion of Dairy Avenue.

No amphibian use is expected in this habitat due to the lack of breeding habitat in the vicinity of the site, as well as the generally anthropogenic nature of the surrounding landscape. Reptile species common to ruderal habitats of the San Joaquin Valley may occur in the site's less active areas. Lizard species may include San Joaquin fence lizards (*Sceloporus occidentalis biseriatus*) and western side-blotched lizards (*Uta stansburiana elegans*). Snake species may include California kingsnake (*Lampropeltis californiae*) and Pacific gophersnake (*Pituophis catenifer catenifer*). None of these species were observed here but would be reasonably attracted to this habitat based on the prey species observed during the field survey.

The ruderal/developed land provides habitat for many avian species because of the insects attracted to the feedlots and open source grain. Mourning dove (*Zenaida macroura*), Brewer's blackbird (*Euphagus cyanocephalus*), killdeer (*Charadrius vociferus*), American crows (*Corvus brachyrhynchos*), and a red-tailed hawk (*Buteo jamaicensis*) were observed foraging, soaring, or perching in the project site. Three inactive cup-nests were found in a Tamarisk tree. Other species such as great horned owls (*Bubo virginianus*) and barn owls (*Tyto alba*) also have a potential to forage on site.

Ground squirrels (*Otospermophilus beecheyi*) and their many burrows were seen across the site, but specifically along the dirt roads, on the berms of wastewater basins, and in the less disturbed portions of the project area. Heerman's kangaroo rat (*Dipodomys heermanni*) burrows and Botta's pocket gopher (*Thomomys bottae*) burrows were spotted in the less disturbed ruderal areas as well. Disturbance tolerant mammal species that may also appear on the project site include deer mice (*Peromyscus maniculatus*), raccoons (*Procyon lotor*), and coyotes (*Canis latrans*).



2.3.2 Agricultural

One section of the project site, specifically the proposed location for the 19-million-gallon anaerobic digester, can be categorized as agricultural habitat. This area consisted of a field of rye grass (*Festuca sp.*), located on the eastern half of Homeland Cattle Company's facility. Other species growing in the field included crab grass (*Digitaria ischaemum*), Bermuda grass (*Cynodon dactylon*), prickly lettuce (*Lactuca serriola*) and nettle-leaf goosefoot (*Chenopodium murale*).

As with the ruderal/developed habitat, no amphibians are expected to occur in this habitat due to lack of available habitat. Lizards are likely to be absent due to the density of the grass, but snakes like California kingsnake or pacific gopher snake could utilize this habitat for foraging.

The dense rye grass provides ample habitat for avian species to nest, forage, and take cover. American pipit (*Anthus rubescens*), song sparrow (*Melospiza melodia*), and Lincoln sparrow (*Melospiza lincolnii*) were found resting and foraging in the grassy field. Other avian species that could be found in this habitat include white crowned sparrow (*Zonotrichia leucophrys*) and western meadowlarks (*Sturnella neglecta*).

Some mammal species such as deer mice and brown rats (*Rattus norvegicus*) could utilize this habitat as well. Mammalian predators like coyotes and red fox (*Vulpes vulpes*) may forage in this habitat. Common bat species may also reasonably be expected to forage on site due to the insect populations present in the grassy field.



2.4 SPECIAL-STATUS PLANTS AND ANIMALS

Many species of plants and animals within the state of California have low populations, limited distributions, or both. Such species may be considered “rare” and are vulnerable to extirpation as the state’s human population grows and the habitats these species occupy are converted to agricultural and urban uses. As described more fully in Section 3.0, state and federal laws have provided CDFW and the U.S. Fish and Wildlife Service (USFWS) with a mechanism for conserving and protecting the diversity of plant and animal species native to the state. A sizable number of native plants and animals have been formally designated as “threatened” or “endangered” under state and federal endangered species legislation. Others have been designated as candidates for such listing. Still others have been designated as “species of special concern” by the CDFW. The California Native Plant Society (CNPS) has developed its own set of lists (i.e., California Rare Plant Ranks, or CRPR) of native plants considered rare, threatened, or endangered (CNPS 2023). Collectively, these plants and animals are referred to as “special status species.”

Special status plants and wildlife of the project vicinity and their potential for occurrence on the project site have been identified in Table 1. The list of species for Table 1 was obtained using the *California Natural Diversity Database* (CDFW 2023) and entailed a records search for the nine 7.5-minute quadrangles containing and surrounding the project site (*Lemoore, Hanford, Laton, Riverdale, Burrel, Vanguard, Raisin, Caruthers, and Conejo*). Other sources of information for this table included *The California Native Plant Society’s Inventory of Rare and Endangered Vascular Plants of California* (CNPS 2023), iNaturalist (iNaturalist 2023), eBird (eBird 2023), and California Herps (Nafis 2023). Note that only federally and state listed plants listed as 1A, 1B, 2A, 2B, or 3 with threat ranks 0.1, 0.2, and 0.3 by the California Rare Plant Ranking (CRPR) are included in this table. Other special status plants with a CRPR 4 may be considered for CEQA evaluation if they meet the criteria for rare or locally significant, addressed in the *2023 CEQA Statute & Guidelines* Section 15380 and Section 15125(c) (AEP 2023).



TABLE 1. LIST OF SPECIAL STATUS SPECIES POTENTIALLY OCCURRING IN THE PROJECT VICINITY

PLANTS (Adapted from CDFW 2023 and CNPS 2023)

Species Listed as Threatened or Endangered under the State and/or Federal Endangered Species Act

Species	Status	Habitat/Range	*Occurrence within the Project Site
San Joaquin Woollythreads (<i>Monolopia congdonii</i>)	FE CRPR 1B.2	Occurs in chenopod scrub and valley and foothill grassland habitats between 200 and 2,600 feet in elevation. Blooms February-May.	Absent. Suitable habitat is absent from the project site.

CNPS-listed Species

Earlimate Orache (<i>Atriplex cordulata</i> var. <i>erecticaulis</i>)	CRPR 1B.2	Occurs in valley and foothill grassland between 130 and 330 feet in elevation; blooms August-September.	Absent. Suitable habitat is absent from the project site.
Lost Hills Crownscale (<i>Atriplex coronata vallicola</i>)	CRPR 1B.2	Occurs in alkali soils within chenopod scrub, valley and foothill grassland, and vernal pool habitat at elevations up to 2,000 feet. Blooms April to August.	Absent. Suitable habitat for this species is absent from the project site, and there are no known populations in the vicinity.
Brittlescale (<i>Atriplex depressa</i>)	CRPR 1B.2	Occurs in chenopod scrub, valley and foothill grassland, and wetland habitats; blooms April-October; elevations below 1,050 ft.	Absent. Suitable habitat is absent from the project site and there are no known populations in the vicinity.
Lesser Saltscale (<i>Atriplex minuscula</i>)	CRPR 1B.1	Occurs in alkali sink and grassland habitats in sandy, alkaline soils; elevations below 750 feet; blooms May-October.	Absent. Suitable habitat is absent from the project site and there are no known populations in the vicinity.
Horn's Milk Vetch (<i>Astagalus hornii</i> var. <i>hornii</i>)	CRPR 1B.1	Occurs in alkaline meadows, seeps, and lake margins; elevations between 250 and 1,100 feet. Blooms October-May.	Absent. Suitable habitat is absent from the project site and project site is below elevation required for this species.
Slough Thistle (<i>Cirsium crassicaule</i>)	CRPR 1B.1	Occurs in chenopod scrub, marshes and swamps and riparian scrub at elevations below 330 feet. Blooms May to August.	Absent. Suitable habitat is absent from the project site and there are no known populations in the vicinity.
Recurved Larkspur (<i>Delphinium recurvatum</i>)	CRPR 1B.2	Occurs in cismontane woodland and valley and foothill grasslands; blooms March-June; alkaline soils; elevations below 2,500 feet.	Absent. Suitable habitat is absent from the project site and there are no known populations in the vicinity.
Alkali-sink Goldfields (<i>Lasthenia chrysantha</i>)	CRPR 1B.1	Occurs in valley grassland, alkali sink, wetland riparian areas less than 328 ft. in elevation in the southern Sacramento Valley and San Joaquin Valley. Blooms February – June.	Absent. Suitable habitat is absent from the project site. The closest occurrence is from an unknown year in the 1900s approximately 7 miles North East of the project site.
Coulter's Goldfields (<i>Lasthenia glabrata</i> spp. <i>coulteri</i>)	CRPR 1B.1	Occurs in alkaline soils of playas and vernal pools; elevations below 4,000 feet. Blooms February-June.	Absent. Suitable habitat is absent from the project site. The closest occurrence is from 1965 at a location approximately 7 miles east of the project site.
Merced Phacelia (<i>Phacelia ciliate</i> var. <i>opaca</i>)	CRPR 3.2	Restricted to heavy clay soils on the San Joaquin Valley floor and adjacent hills at elevations below 330 feet.	Absent. Suitable habitat is absent from the project site. The closest occurrence is from 1937, approximately 8 miles south from the project site.



TABLE 1. LIST OF SPECIAL STATUS SPECIES POTENTIALLY OCCURRING IN THE PROJECT VICINITY

PLANTS (Adapted from CDFW 2023 and CNPS 2023)

CNPS-listed Species (cont.)

Species	Status	Habitat	*Occurrence within the Project Site
California Alkali Grass (<i>Puccinellia simplex</i>)	CRPR 1B.2	Occurs in alkali sinks and flats within grassland and chenopod scrub habitats of the Central Valley, San Francisco Bay area and western Mojave Desert; elevations below 3,000 feet. Blooms March-May.	Absent. Suitable habitat for this species is absent from the project site, and there are no known populations in the vicinity.

ANIMALS (adapted from CDFW 2023)

Species Listed as Threatened or Endangered under the State and/or Federal Endangered Species Act

Species	Status	Habitat	*Occurrence within the Project Site
Vernal Pool Fairy Shrimp (<i>Branchiecta lynchi</i>)	FT	Occurs in vernal pools, clear to tea-colored water in grass or mud-bottomed swales, and basalt depression pools.	Absent. Suitable habitat is absent from the project site.
Blunt-nosed Leopard Lizard (BNLL) (<i>Gambelia sila</i>)	FE, CE, FP	Frequents grasslands, alkali meadows and chenopod scrub of the San Joaquin Valley. Prefers flat areas with open space for running. Takes cover under large shrubs and in small mammal burrows.	Unlikely. There are several occurrences within 10 miles of the project site, but none within 5 miles. Furthermore, suitable habitat is marginal to absent on the project site.
Tricolored blackbird (<i>Agelaius tricolor</i>)	CT	Breeds near fresh water, primarily emergent wetlands, with tall thickets. Forages in many open habitats.	Possible. A tricolored blackbird was recorded on the project site in 2014 and there are 15 total sightings within a ten mile radius of the project site (CNDDDB, 2023). Suitable breeding habitat is absent from the project site and vicinity. It is common for blackbirds to forage at commercial dairy facilities, and this species could potentially occur on site to forage from time to time.
Swainson's Hawk (<i>Buteo swainsoni</i>)	CT	This breeding migrant to California nests in mature trees in riparian areas and oak savannah, and occasionally in lone trees at the margins of agricultural fields. Requires adjacent suitable foraging areas such as grasslands or alfalfa fields supporting rodent populations.	Likely. A Swainson's hawk was spotted approximately 8 miles from the project site on October 11, 2023. The CNDDDB database reports 23 sightings within a 10 mile radius of the project site (CNDDDB, 2023). Suitable foraging habitat is present. However, the site does not provide suitable nesting habitat for Swainson's hawk
Western Snowy Plover (<i>Charadrius alexandrinus nivosus</i>)	FT, CSC	Breeds on barren to sparsely vegetated ground at alkaline or saline lakes, reservoirs, ponds, and riverine sand bars.	Unlikely. While there are 5 occurrences of western snowy plover within 10 miles of the project site, the closest one being a mere 2.8 miles southeast, the most recent sighting is from 1987. Furthermore, suitable habitat is absent from the project site.
Tipton Kangaroo Rat (<i>Dipodomys nitratooides nitratooides</i>)	FE, CE	This nocturnal rodent occupies underground burrows in valley saltbush scrub and valley sink scrub habitats in the southern San Joaquin Valley east of the California Aqueduct.	Absent. There are three occurrences within 5 miles of the project site. However, suitable habitat is absent from the project site.



TABLE 1. LIST OF SPECIAL STATUS SPECIES POTENTIALLY OCCURRING IN THE PROJECT VICINITY

ANIMALS (adapted from CDFW 2023)

Species Listed as Threatened or Endangered under the State and/or Federal Endangered Species Act (cont.)

Species	Status	Habitat	*Occurrence within the Project Site
Nelson's Antelope Squirrel (<i>Ammospermophilus nelson</i>)	CT	Occurs in the San Joaquin Valley in broken terrain with small gullies and washes. Suitable habitats include widely spaced alkali scrub and annual grassland. Occupies modified kangaroo rat burrows or self-constructed burrows.	Absent. There is one occurrence of this species 10 miles southeast of the project site from 1991. However, suitable habitat is absent from the project site.
San Joaquin Kit Fox (SJKF) (<i>Vulpes macrotis mutica</i>)	FE, CT	Frequents desert alkali scrub and annual grasslands and may forage in adjacent agricultural habitats. Utilizes enlarged (5 to 8 inches in diameter) ground squirrel burrows as denning habitat.	Possible. SJKF may occasionally move through the project site but are unlikely to den or forage in the site's intensively maintained and frequently disturbed habitats. There are 12 occurrences of this species within 10 miles of the project site, including one approximately 5 miles south. However, the most recent occurrence is from 2002 and the remaining occurrences are at minimum 35 years old.

State Species of Special Concern

Western Spadefoot (<i>Spea hammondi</i>)	CSC	Occurs in grasslands of San Joaquin Valley, where it breeds in vernal pools or other seasonal wetlands and aestivates in underground refugia such as rodent burrows. Baumberger et al. (2019) recorded a maximum distance of around 890 feet between breeding and aestivation sites.	Unlikely. The closest occurrence is approximately 7 miles northeast of the project site. Breeding habitat adjacent to the project site in the form of canals is marginal at best. No suitable habitat is present on the project site.
San Joaquin Coachwhip (<i>Coluber flagellum ruddocki</i>)	CSC	Occurs in open, dry areas including grassland and saltbush scrub. Takes refuge in rodent burrows and under shaded vegetation.	Absent. The intensively maintained habitats of the project site are marginal to unsuitable for this species, and there are no known occurrences within 10 miles of the site.
Coast Horned Lizard (<i>Phrynosoma blainvillii</i>)	CSC	Occurs in the lower Sierra foothills and throughout the central and southern California coast in relatively open areas. In the early morning, may be found basking on the ground or on rocks or boulders. Escapes heat by burying itself in loose soil. During periods of inactivity and winter hibernation, lives underground in small mammal burrows or crevices, or under rocks or logs.	Absent. The intensively maintained habitats of the project site are marginal to unsuitable for this species, and there are no known occurrences within 10 miles of the site.
Burrowing Owl (<i>Athene cunicularia</i>)	CSC	Frequents open, dry annual or perennial grasslands, deserts, and scrublands characterized by low growing vegetation. Dependent upon burrowing mammals, most notably the California ground squirrel, for nest burrows.	Possible. There are 3 known occurrences of this species within 3 miles of the project site and a total of 15 known occurrences within 10 miles.. The closest of these was documented approximately 2 miles northeast of the site. Burrowing owls may forage over the site's agricultural fields from time to time and may nest or roost in the site's ruderal habitats where ground squirrel burrows are present.
Golden Eagle (<i>Aquila chrysaetos</i>)	FP	Typically frequents rolling foothills, mountain areas, sage-juniper flats and desert.	Possible. There is one known occurrence of this species approximately 2.8 miles northeast of the project site. There is no available nesting habitat present on the project site. Foraging habitat for this species is marginal.



TABLE 1. LIST OF SPECIAL STATUS SPECIES POTENTIALLY OCCURRING IN THE PROJECT VICINITY

ANIMALS (adapted from CDFW 2023)

State Species of Special Concern (cont.)

Species	Status	Habitat	*Occurrence within the Project Site
Mountain Plover (<i>Charadrius montanus</i>)	CSC	Forages in short grasslands and freshly plowed fields of the Central Valley. This species does not breed in California.	Possible. Mountain plovers have the potential to forage in the site's agricultural fields. The closest known occurrence of this species is approximately 4 miles southeast of the project site.
Fulvous Whistling Duck (<i>Dendrocygna bicolor</i>)	CSC	Occurs mainly as summer breeding resident from mid-April to early October in areas in the San Joaquin Valley and Imperial Valley. Will nest in fresh water and coastal marshes, rice fields infested with weeds, tall grassy areas flooded with water. Will wander long distances.	Absent. There are no known occurrences within a 10 mile radius of the project site. Suitable habitat is absent from the project site.
Tulare Grasshopper Mouse (<i>Onychomys torridus tularensis</i>)	CSC	This nocturnal rodent occurs in hot, arid grassland and scrub desert associations in the southern San Joaquin Valley. Little is known about this species' life history; however, data from other <i>O. torridus</i> subspecies suggests it inhabits burrows that are either self-constructed or abandoned by other rodents.	Absent. There is only one known occurrence of this species within ten miles of the project site. The site's intensively maintained habitats are marginal to unsuitable for the Tulare grasshopper mouse.
American Badger (<i>Taxidea taxus</i>)	CSC	Found in drier open stages of most shrub, forest, and herbaceous habitats with friable soils.	Absent. The closest known occurrence of this species is located approximately 9.75 miles southeast of the project site. The intensively maintained habitats of the project site are marginal to unsuitable for the American badger.

* Explanation of Occurrence, Designations, and Status Codes

Present: Species observed on the site at time of field surveys or during recent past.

Likely: Species not observed on the site, but it may reasonably be expected to occur there on a regular basis.

Possible: Species not observed on the site, but it could occur there from time to time.

Unlikely: Species not observed on the site, and would not be expected to occur there except, perhaps, as a transient

Absent: Species not observed on the Site and precluded from occurring there because habitat requirements not met.

STATUS CODES

FE Federally Endangered

FT Federally Threatened

FPT Federally Proposed Threatened

FC Federal Candidate

FPD Federally (Proposed) Delisted

CE California Endangered

CT California Threatened

CSC California Species of Special Concern

CRPR California Rare Plant Ranking

CFP California Fully Protected

CCE California Candidate Endangered



2.5 JURISDICTIONAL WATERS

Jurisdictional waters are those rivers, creeks, drainages, lakes, ponds, reservoirs, and wetlands that are subject to the authority of the USACE, CDFW, and/or the RWQCB. In general, the USACE regulates navigable waters, tributaries to navigable waters, and wetlands adjacent to these waters, where wetlands are defined by the presence of hydric soils, hydrophytic vegetation, and wetland hydrology. The CDFW asserts jurisdiction over waters in California that have a defined bed and bank, and the RWQCB has jurisdiction over California surface water and groundwater. The regulation of jurisdictional waters is discussed in more detail in Section 3.10.

The project site does not contain jurisdictional waters or wetlands within the project boundary. The tributary canals of Homeland and Main canal are adjacent to the project site but outside the project area.

2.6 DESIGNATED CRITICAL HABITAT

USFWS often designates areas of “critical habitat” when it lists species as threatened or endangered. Critical habitat is a specific geographic area(s) that contains features essential for the conservation of a threatened or endangered species and that may require special management and protection.

Designated critical habitat is absent from the project site and surrounding lands (USFWS 2023).

2.7 SENSITIVE NATURAL COMMUNITIES

Sensitive natural communities are those that are of limited distribution, distinguished by significant biological diversity, home to special status species, etc. CDFW is responsible for the classification and mapping of all natural communities in California. Natural communities are assigned state and global ranks according to their degree of imperilment. Any natural community with a state rank of 3 (S3) or lower (on a 1 to 5 scale) is considered sensitive. Natural communities with ranks of S1-S3 are considered sensitive natural communities to be addressed in the environmental review processes of CEQA and its equivalents. Examples of sensitive natural communities in the vicinity of the project area include Northern Basalt Flow Vernal Pool and various types of Central Valley Drainage Streams (Sawyer, Keeler-Wolf and Evens 2009).



The project site does not support sensitive natural communities.

2.8 WILDLIFE MOVEMENT CORRIDORS

Wildlife movement corridors are routes that animals regularly and predictably follow during seasonal migration, dispersal from native ranges, daily travel within home ranges, and inter-population movements. Movement corridors in California are typically associated with valleys, ridgelines, and rivers and creeks supporting riparian vegetation.

The project site contains no regular or predictable wildlife movement corridors.



3.0 RELEVANT GOALS, POLICIES, AND LAWS

3.1 CALIFORNIA ENVIRONMENTAL QUALITY ACT

In California, any project carried out or approved by a public agency that will result in a direct or reasonably foreseeable indirect physical change in the environment must comply with CEQA. The purpose of CEQA is to ensure that a project's potential impacts on the environment are evaluated, and methods for avoiding or reducing these impacts are considered before the project is allowed to move forward. A secondary aim of CEQA is to provide justification to the public for the approval of any projects involving significant impacts on the environment.

According to Section 15382 of the CEQA Guidelines, a significant effect on the environment means a “substantial, or potentially substantial, adverse change in any of the physical conditions within the area affected by the project, including land, air, water, minerals, flora, fauna, ambient noise, and objects of historic or aesthetic interest.” Although the lead agency may set its own CEQA significance thresholds, project impacts to biological resources are generally considered to be significant if they would meet any of the following criteria established in Appendix G of the CEQA Guidelines:

- 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 CDFW or USFWS.
- Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, or regulations or by CDFW or USFWS.
- 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.
- 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 site.
- Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance.
- Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan.



Furthermore, CEQA Guidelines Section 15065(a) requires the lead agency to make “mandatory findings of significance” if there is substantial evidence that a project may:

- 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, or substantially reduce the number or restrict the range of an endangered, rare or threatened species.
- Achieve short-term environmental goals to the detriment of long-term environmental goals.
- Produce environmental effects that are individually limited but cumulatively considerable, meaning that the incremental effects of the project are significant when viewed in connection with the effects of past projects, other current projects, and probable future projects.

3.2 KINGS COUNTY GENERAL PLAN

In compliance with CEQA, the lead agency must consider whether the project conforms with applicable goals and policies of the Kings County General Plan.

Relevant biological resources policies in the Kings County General Plan include:

- To provide for the long-term protection of habitats, wildlife, and, in particular, special status species and sensitive habitats in Kings County (and reduce the likelihood of additional special status species being designated), while allowing for the orderly development and continued economic growth in the county.
- To ensure that county land use planning, development review, land use permitting, and public works development comply with the state and federal laws and regulations protecting special status species and sensitive habitats.
- To minimize significant adverse impacts to special status species and sensitive habitats due to new developments, particularly through the use of long-term habitat-based conservation plans.
- To seek cooperative efforts with the private development community, conservation groups, and state and federal land management agencies to protect special status species and sensitive habitats.
- To facilitate more timely and cost-effective methods to evaluate impacts on special status species and sensitive habitats and to develop appropriate, timely, and equitable avoidance measures and mitigation.
- To increase public awareness of the special status species and sensitive habitat issues in the county and the need for non-governmental entities to assist in the long-term conservation of such resources in the county.



- To cooperate with local, state, and federal agencies with land management responsibilities in Kings County in their efforts to protect special status species and sensitive habitats under their jurisdiction.
- To establish a “no net loss” policy for wetland (including, but not limited to riparian, marsh, and vernal pool) habitat in the county. Inherent in this goal is the intent to maintain riparian habitat as continuous corridors since this is consistent with the corridor nature of this habitat and the needs of its resident wildlife.

3.3 HABITAT CONSERVATION PLANS AND NATURAL COMMUNITY CONSERVATION PLANS

Section 10 of the federal Endangered Species Act establishes a process by which non-federal projects can obtain authorization to incidentally take listed species, provided take is minimized and thoroughly mitigated. A Habitat Conservation Plan (HCP) developed by the project applicant in collaboration with the USFWS and/or National Marine Fisheries Service (NMFS) ensures that such minimization and mitigation will occur and is a prerequisite to the issuance of a federal incidental take permit. Similarly, a Natural Community Conservation Plan (NCCP) developed by the project applicant in collaboration with CDFW, provides for the conservation of biodiversity within a project area, and permits limited incidental take of state-listed species.

3.4 THREATENED AND ENDANGERED SPECIES

In California, imperiled plants and animals may be afforded special legal protections under the California Endangered Species Act (CESA) and/or Federal Endangered Species Act (FESA). Species may be listed as “threatened” or “endangered” under one or both Acts, and/or as “rare” under CESA. Under both Acts, “endangered” means a species is in danger of extinction throughout all or a significant portion of its range, and “threatened” means a species is likely to become endangered within the foreseeable future. Under CESA, “rare” means a species may become endangered if their present environment worsens. Both Acts prohibit “take” of listed species, defined under CESA as “to hunt, pursue, catch, capture, or kill, or attempt to hunt, pursue, catch, capture or kill” (California Fish and Game Code, Section 86), and more broadly defined under FESA to include “harm” (16 USC, Section 1532(19), 50 CFR, Section 17.3).

When state and federally listed species have the potential to be impacted by a project, the USFWS and CDFW must be included in the CEQA process. These agencies review the environmental



document to determine the adequacy of its treatment of endangered species issues and to make project-specific recommendations for the protection of listed species. Projects that may result in the “take” of listed species must generally enter into consultation with the USFWS and/or CDFW pursuant to FESA and CESA, respectively. In some cases, incidental take authorization(s) from these agencies may be required before the project can be implemented.

3.5 CALIFORNIA FULLY PROTECTED SPECIES

The classification of certain animal species as “fully protected” was the State of California’s initial effort in the 1960s, prior to the passage of the California Endangered Species Act, to identify and provide additional protection to those species that were rare or faced possible extinction. Following CESA enactment in 1970, many fully protected species were also listed as California threatened or endangered. The list of fully protected species are identified, and their protections stipulated, in California Fish and Game Code Sections 3511 (birds), 4700 (mammals), 5050 (reptiles and amphibians), and fish (5515). Fully protected species may not be taken or possessed at any time and no licenses or permits may be issued for their take, except in conjunction with necessary scientific research and protection of livestock.

3.6 MIGRATORY BIRDS

The Federal Migratory Bird Treaty Act (FMBTA: 16 USC 703-712) prohibits killing, possessing, or trading in any bird species covered in one of four international conventions to which the United States is a party, except in accordance with regulations prescribed by the Secretary of the Interior. The name of the act is misleading, as it actually covers almost all birds native to the United States, even those that are non-migratory. The FMBTA encompasses whole birds, parts of birds, and bird nests and eggs.

Native birds are also protected under California state law. The California Fish and Game Code makes it unlawful to take or possess any non-game bird covered by the FMBTA (Section 3513), as well as any other native non-game bird (Section 3800), even if incidental to lawful activities.



3.7 BIRDS OF PREY

Birds of prey are protected in California under provisions of the Fish and Game Code (Section 3503.5), which states that it is unlawful to take, possess, or destroy any birds in the order Falconiformes (hawks and eagles) or Strigiformes (owls), as well as their nests and eggs. The bald eagle and golden eagle are afforded additional protection under the federal Bald and Golden Eagle Protection Act (16 USC 668), which makes it unlawful to kill birds or their eggs.

3.8 NESTING BIRDS

In California, protection is afforded to the nests and eggs of all birds. California Fish and Game Code (Section 3503) states that it is “unlawful to take, possess, or needlessly destroy the nest or eggs of any bird except as otherwise provided by this code or any regulation adopted pursuant thereto.” Breeding-season disturbance that causes nest abandonment and/or loss of reproductive effort is considered a form of “take” by the CDFW.

3.9 WETLANDS AND OTHER JURISDICTIONAL WATERS

Section 404 of the federal Clean Water Act (CWA) regulates the discharge of dredged or fill material into “navigable waters” (33 U.S.C. §1344), defined in the CWA as “the waters of the United States, including the territorial seas” (33 U.S.C. §1362(7)). The CWA does not supply a definition for waters of the U.S., and that has been the subject of considerable debate since the CWA’s passage in 1972. A variety of regulatory definitions have been promulgated by the two federal agencies responsible for implementing the CWA, the Environmental Protection Agency (EPA) and USACE. These definitions have been interpreted, and in some cases, invalidated, by federal courts.

Waters of the U.S. are presently defined by the EPA and USACE’s joint 2023 Revised Definition of ‘Waters of the U.S.’ Rule (2023 WOTUS Rule), issued in January 2023 and amended in August 2023. Generally speaking, waters of the U.S. include:

- Waters which are currently used, or were used in the past, or may be susceptible to use in interstate or foreign commerce, including all waters which are subject to the ebb and flow of the tide.
- The territorial seas.



- Interstate waters.
- Impoundments of waters otherwise defined as waters of the United States under the definition.
- Tributaries to other waters of the U.S. that are relatively permanent, standing or continuously flowing bodies of water.
- Wetlands adjacent to other waters of the U.S. that have a continuous surface connection to those waters.

The 2023 WOTUS Rule also defines a number of exclusions from the definition of waters of the U.S., many of which are longstanding exclusions from earlier regulatory regimes. These generally include:

- Waste treatment systems
- Prior converted cropland
- Ditches excavated wholly in and draining only dry land that do not carry a relatively permanent flow of water
- Certain artificial features, e.g. irrigation basins, swimming pools, borrow pits, and artificially irrigated areas
- Swales and erosional features characterized by low volume, infrequent, or short duration flow

All activities that involve the discharge of dredge or fill material into waters of the U.S. are subject to the permit requirements of the USACE. Such permits are typically issued on the condition that the applicant agrees to provide mitigation that result in no net loss of wetland functions or values.

Under the Porter-Cologne Water Quality Control Act of 1969, the State Water Resources Control Board (SWRCB) has regulatory authority to protect the water quality of all surface water and groundwater in the State of California (“waters of the State”). Nine RWQCBs oversee water quality at the local and regional level. The RWQCB for a given region regulates discharges of fill or pollutants into waters of the State through the issuance of various permits and orders. Discharges into waters of the State that are also waters of the U.S. require a Section 401 Water Quality Certification from the RWQCB as a prerequisite to obtaining a Section 404 Clean Water



Act permit. Discharges into waters of the State that are not also waters of the U.S. require Waste Discharge Requirements (WDRs), or waivers of WDRs, from the RWQCB.

The SWRCB and RWQCBs also administer the federal National Pollution Discharge Elimination System (NPDES) program, which is concerned with the discharge of stormwater and other pollutants into water bodies. Projects that disturb one or more acres of soil must obtain coverage under the SWRCB's current NPDES Construction Stormwater General Permit. A prerequisite for permit coverage is the development of a Storm Water Pollution Prevention Plan (SWPPP) by a certified Qualified SWPPP Developer. Other types of pollutant discharges into waters of the U.S., such as wastewater, may require coverage under a different NPDES general permit, and in some cases an individual permit.

CDFW has jurisdiction over the bed and bank of natural drainages and lakes according to provisions of Section 1601 and 1602 of the California Fish and Game Code. Activities that may substantially modify such waters through the diversion or obstruction of their natural flow, change or use of any material from their bed or bank, or the deposition of debris require a Notification of Lake or Streambed Alteration. If CDFW determines that the activity may adversely affect fish and wildlife resources, a Lake or Streambed Alteration Agreement will be prepared. Such an agreement typically stipulates that certain measures will be implemented to protect the habitat values of the lake or drainage in question.



4.0 IMPACTS AND MITIGATIONS

The project considered in the evaluation of impacts to biological resources is the construction of a nearly 20-million gallon anaerobic digester with associated biogas infrastructure, including 2.5 miles of pipeline on approximately 16.2 acres of active dairy and agricultural lands in Kings County, California. Potential project impacts to biological resources and mitigation measures are discussed below.

4.1 POTENTIALLY SIGNIFICANT PROJECT IMPACTS/MITIGATION

4.1.1 Disturbance to Active Raptor and Other Migratory Bird Nests from Construction Activities During Site Development

Potential Impacts. The project site has the potential to be used for nesting by several native avian species protected by the Migratory Bird Treaty Act and related state laws. Additionally, Swainson's hawks have a potential to nest within the vicinity of the project site in mature trees of adjacent farm residences. If future site development takes place during the nesting season (generally February 1-August 31), birds nesting on the site could be injured or killed by construction activities or disturbed such that they would abandon their nests. Significant construction-related disturbance is also a possibility for birds nesting adjacent to the project site. Construction-related injury, mortality, or disturbance of nesting birds that results in nest abandonment are potentially significant adverse environmental effects of the project. Moreover, such incidents would violate the Migratory Bird Treaty Act, California Fish and Game Code, and, in the case of the Swainson's hawk, the California Endangered Species Act.

Swainson's hawks are not expected to be adversely affected by project-related loss of habitat. Project buildout will eliminate less than 8 acres of agricultural land that could potentially be used by foraging Swainson's hawks, while the balance of the project area will continue to provide the same foraging opportunities after project completion. Following project development, considerable alternative foraging habitat for this species will remain available in the larger project vicinity, including vast amounts of agricultural lands.



Mitigation. To avoid and minimize the potential for construction-related mortality/disturbance of nesting raptors and migratory birds, including Swainson's hawk, the following measures will be implemented:

Measure 4.1.1a (Construction Timing). If feasible, the project will be implemented outside of the avian nesting season, typically defined as February 1 to August 31.

Measure 4.1.1b (Pre-construction Surveys). If construction is to occur between February 1 and August 31, a qualified biologist will conduct pre-construction surveys for active bird nests within 10 days prior to the start of construction. The survey area will encompass the site and accessible surrounding lands within 250 feet for nesting migratory birds, 500 feet for raptors, ½ mile for Swainson's hawks.

Measure 4.1.1c (Avoidance of Active Nests). Should any active nests be discovered, the biologist will identify a suitable construction-free buffer around the nest. This buffer will be identified on the ground with flagging or fencing and will be maintained until the biologist has determined that the young have fledged and are capable of foraging independently.

Implementation of the above measures will reduce potential effects of future project development on nesting raptors and migratory birds to a less than significant level under CEQA and will ensure compliance with state and federal laws protecting nesting birds.

4.1.2 Potential Project Impacts to Burrowing Owls

Potential Impacts. There are 3 known occurrences of burrowing owls within 3 miles of the project site and 15 total known occurrences within 10 miles of the project site. Potential foraging habitat in the form of short, weedy and/or grassy areas exist within ruderal/developed areas of the project site. Suitable nesting habitat in the form of ground squirrel burrows are scattered across the site.

If one or more owls are present at the time of construction, individuals would be at risk of construction-related injury or mortality. These small raptors are protected under the FMBTA and



California Fish and Game Code. Mortality of individual burrowing owls would be a violation of state and federal law and would constitute a significant impact of the project under CEQA.

The project will temporarily or permanently disturb less than 16 acres of potential burrowing owl foraging habitat. This loss is not considered significant due to the many square miles of similar to higher quality habitat that will remain in the vicinity after project completion.

Mitigation. The following measures will be implemented for the protection of the burrowing owl.

Mitigation Measure 4.2.1a (Take Avoidance Survey). A pre-construction “take avoidance” survey will be conducted by a qualified biologist for burrowing owl no less than 14 days prior to the onset of construction in the APE according to the methods described in the *Staff Report on Burrowing Owl Mitigation* (CDFW 2012). The survey area will include all suitable habitat on and within 200 meters of the project impact area, where accessible.

Mitigation Measure 4.2.1b (Avoidance of Active Nests). If project activities are undertaken during the breeding season (February 1- August 31) and active nest burrows are identified on or within the APE, a 200-meter disturbance-free buffer will be established around these burrows. The buffers will be enclosed with temporary fencing or flagging to prevent construction equipment and workers from entering the setback area. Buffers will remain in place for the duration of the breeding season unless otherwise arranged with CDFW. After breeding season has ended and all young have left the nest, passive relocation of any remaining owls may take place as described below.

Mitigation Measure 4.2.1c (Avoidance or Passive Relocation of Resident Owls). During the non-breeding season (September 1- January 31), resident owls occupying burrows in project impact areas may either be avoided or passively relocated to alternative habitat. If the Applicant chooses to avoid active owl burrows within the APE during the non-breeding season, a 50-meter disturbance free buffer will be established around these burrows or alternative measures as determined by a qualified biologist. These buffers will be enclosed with temporary fencing or flagging and will remain in place until a qualified biologist determines that the burrows are no longer active. If the Applicant chooses to passively relocate owls during the non-breeding season, this activity will be conducted in accordance with a relocation plan prepared by a qualified biologist.

Compliance with the above mitigation measures will reduce project impacts to burrowing owl individuals or regional populations to a less than significant level under CEQA and that the project is in compliance with state and federal laws protecting this species.



4.2 LESS THAN SIGNIFICANT PROJECT IMPACTS

4.2.1 Special Status Animal Species that May Occur on the Project Site as Occasional or Regular Foragers but Breed Elsewhere

Potential Impacts. Five special status animals; the tricolored blackbird (*Agelaius tricolor*), Swainson's hawk, golden eagle (*Aquila chrysaetos*), mountain plover (*Charadrius montanus*) and San Joaquin kit fox (*Vulpes macrotis mutica*), have the potential to forage on the site from time to time but do not have suitable breeding habitat on site. Potential foraging habitat on the project site is not uniquely important for these species and similar or higher quality foraging habitat is abundant in the vicinity.

These species would not be vulnerable to construction-related injury or mortality while foraging as they would simply move away from any construction activity on site. Even if one or more individuals were to occur on the site during construction, their high level of mobility would allow them to easily evade any construction activity. For these reasons, project impacts to the special status species that may occur on the site as occasional or regular foragers are considered less than significant under CEQA.

Mitigation. Mitigation is not warranted.

4.2.2 Project Impacts to Special Status Plant Species

Potential Impacts. Twelve (12) special status plant species are known to occur in the region (see Table 1). All twelve of these species are considered to be absent from the project site and vicinity due to the absence of any suitable habitat and/or the site being situated outside the species' known geographic or elevational range. These species include San Joaquin woollythreads (*Monolopia congdonii*), earlimart orache (*Atriplex cordulata* var. *erecticaulis*), lost hills crownscale (*Atriplex coronate vallicola*), brittlescale (*Atriplex depressa*), lesser saltscale (*Atriplex minuscula*), Horn's milk vetch (*Astragalus hornii* var. *hotnii*), slough thistle (*Cirsium crassicaule*), recurved larkspur (*Delphinium recurvatum*), alkali-sink goldfields (*Lasthenia chrysantha*), Coulter's goldfields (*Lasthenia glabrata* spp. *coulteri*), Merced phacelia (*Phacelia ciliate* var. *opaca*) and California alkali-grass (*Puccinellia simplex*). The project site consists of ruderal/developed land use with a high level of historic and current human disturbance. It would not presently support any of these



special status plants. The proposed project is not expected to affect these species and impacts would be less than significant under CEQA.

Mitigation. Mitigation measures are not warranted.

4.2.3 Project Impacts to Special Status Animal Species Absent from or Unlikely to Occur on Site

Potential Impacts. Of the seventeen (17) special status animal species known from the regional vicinity, eleven (11) are considered absent or unlikely to occur on the project site due to the absence of suitable habitat, the site's ongoing commercial agricultural operations, and/or the site being situated outside of the species' distributional range. These species include the vernal pool fairy shrimp (*Branchienecta lynchi*), blunt nosed leopard lizard (*Gambelia sila*), western snowy plover (*Charadrius alexandrinus nivosus*), Tipton kangaroo rat (*Dipodomys nitratooides nitratooides*), Nelson's antelope squirrel (*Ammospermophilus nelson*), western spadefoot (*Spea hammondi*), San Joaquin coachwhip (*Coluber flagellum ruddocki*), coast horned lizard (*Phrynosoma blainvillii*), fulvous whistling duck (*Dendrocygna bicolor*), Tulare grasshopper mouse (*Onychomys torridus tularensis*), and American badger (*Taxidea taxus*) (see Table 1). Since there is little to no likelihood for these species to occur on site, they have no appreciable potential to be affected through construction-related injury or mortality or loss of habitat. Project impacts to these species are considered less than significant.

Mitigation. Mitigation measures are not warranted.

4.2.4 Project Impact to Sensitive Natural Communities and Designated Critical Habitat

No Impacts. Designated critical habitat and sensitive natural communities are absent from the project site. The project is expected to have no impact on sensitive natural communities or designated critical habitat.

Mitigation. No mitigation is warranted.



4.2.5 Project Impact to Wildlife Movement Corridors

No Impacts. The site does not contain or adjoin features likely to support regular and predictable wildlife movement. The project would not affect wildlife movement corridors, and impacts are considered less than significant under CEQA.

Mitigation. No mitigation is warranted.

4.2.6 Project Impacts to Jurisdictional Waters

No Impacts. The project site does not contain wetlands or any other type of jurisdictional waters. The project would not affect these resources, and impacts are considered less than significant under CEQA.

Mitigation. No mitigation is warranted.

4.2.7 Local Policies or Habitat Conservation Plans

No Impacts. The project appears to be consistent with those goals and policies of the Kings County General Plan that pertain to biological resources. There are no known HCPs or NCCPs in effect for the project vicinity.

Mitigation. No mitigation is required.

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APPENDIX A: SITE PLAN

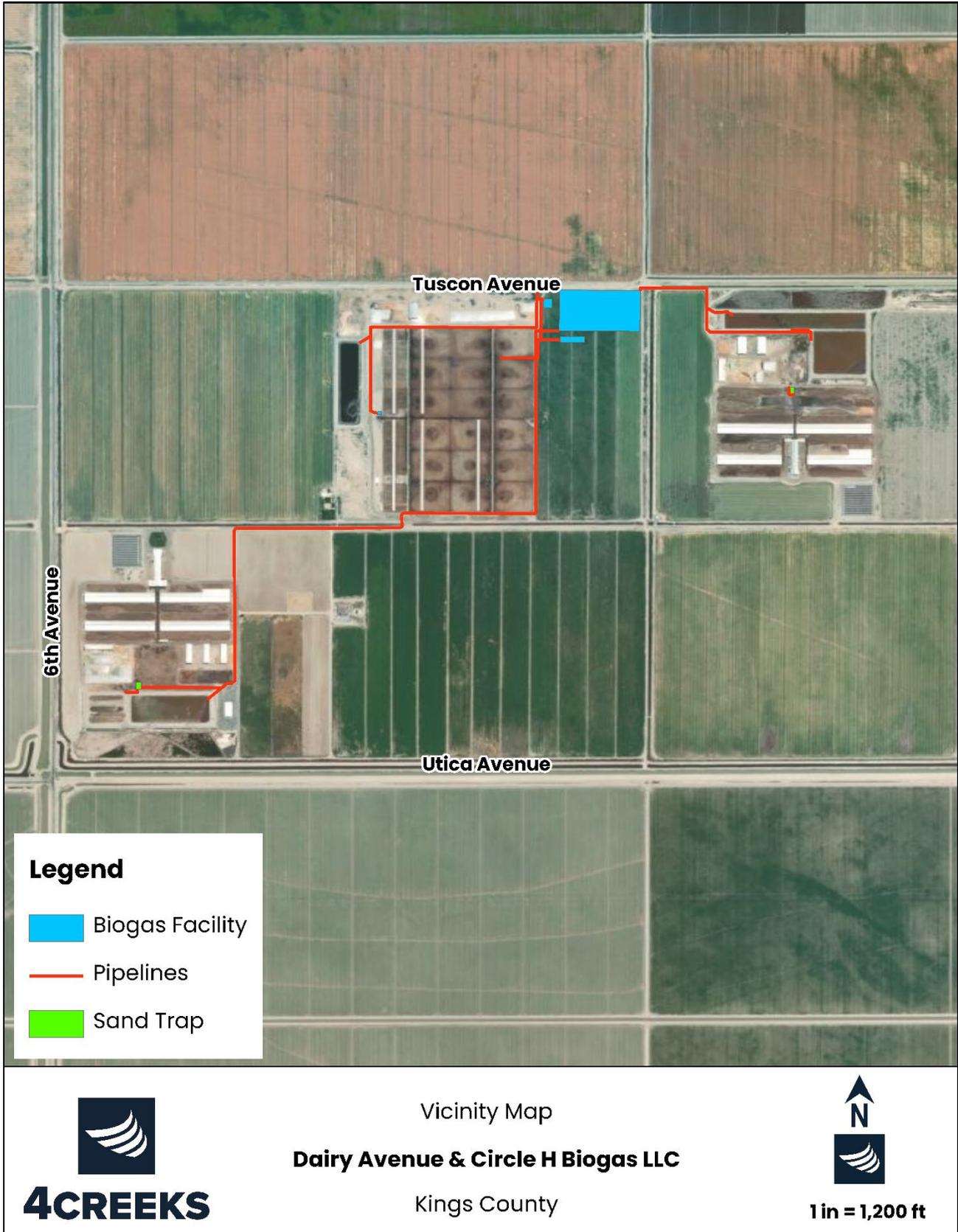


Figure 2-2. Vicinity Map



APPENDIX B: VASCULAR PLANTS OF THE PROJECT SITE



VASCULAR PLANTS OF THE PROJECT SITE

The plant species listed below were observed on the project site during a survey conducted by Live Oak Associates, Inc. on October 11, 2023. The U.S. Fish and Wildlife Service wetland indicator status of each plant has been shown following its common name.

OBL - Obligate
FACW - Facultative Wetland
FAC - Facultative
FACU - Facultative Upland
UPL - Upland
+/- - Higher/lower end of category
NR - No review
NA - No agreement
NI - No investigation

AIZOACEAE – Ice Plant Family

<i>Sesuvium verrucosum</i>	Western sea-purslane	FACW
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AMARANTHACEAE – Amaranth Family

<i>Amaranthus blitoides</i>	Prostrate pigweed	FACU
<i>Amaranthus retroflexus</i>	Red-root amaranth	FACU
<i>Atriplex semibaccata</i>	Berry saltbrush	FAC
<i>Chenopodium album</i>	Lambsquarters	FACU
<i>Chenopodium murale</i>	Nettle-leaf Goosefoot	FACU
<i>Sonchus oleraceus</i>	Common sow thistle	UPL

ASTERACEAE – Daisy Family

<i>Erigeron bonariensis</i>	Flax-leaf fleabane	FACU
<i>Erigeron canadensis</i>	Canada horseweed	FACU
<i>Lactuca serriola</i>	Prickly lettuce	FACU

BORAGINACEAE – Borage Family

<i>Heliotropium curassavicum</i>	Seaside heliotrope	FACU
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CONVOLVULACEAE – Morning Glory Family

<i>Cressa truxillensis</i>	Alkali weed	FACW
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MALVACEAE – Mallow Family

<i>Malvella leprosa</i>	Alkali mallow	FACU
<i>Malva parviflora</i>	Cheeseweed	UPL

POACEAE – Grass Family

<i>Cynodon dactylon</i>	Bermuda grass	FACU
<i>Digitaria</i> sp.	Crabgrass	FACU
<i>Echinochloa crus-galli</i>	Barnyard grass	FACW
<i>Festuca</i> spp.	Rye grass	FACU
<i>Hordeum vulgare</i>	Barley	
<i>Leptochloa fusca</i>	Bearded sprangle top	FACW
<i>Pennisetum clandestinum</i>	Kikuyu Grass	FACU
<i>Polypogon monspeliensis</i>	Rabbitfoot grass	FACW



Poa sp.

Cultivated lawn grass

TAMARICACEAE – Tamarisk Family

Tamarix spp.

Tamarisk tree

FAC



APPENDIX C: TERRESTRIAL VERTEBRATES OF THE PROJECT SITE



TERRESTRIAL VERTEBRATES OF THE PROJECT SITE

The species listed below are those that may reasonably be expected to use the habitats of the project site routinely or from time to time. The list was not intended to include birds that are vagrants or occasional transients. Terrestrial vertebrate species observed in or adjacent to the project site during the October 11, 2023 survey has been noted with an asterisk.

CLASS: REPTILIA

ORDER: SQUAMATA (Lizards and Snakes)

SUBORDER: SAURIA (Lizards)

FAMILY: PHRYNOSOMATIDAE (Spiny, Side-blotched, Horned, and relatives)

San Joaquin Fence Lizard (*Sceloporus occidentalis biseriatus*)

Western Side-blotched Lizard (*Uta stansburiana elegans*)

SUBORDER: SERPENTES (Snakes)

FAMILY: COLUBRIDAE (Colubrids)

California Kingsnake (*Lampropeltis californiae*)

Pacific Gopher Snake (*Pituophis catenifer catenifer*)

CLASS: AVES

ORDER: PELICANIFORMES (Pelicans, Boobies, Cormorants, and Frigatebirds)

FAMILY: ARDEIDAE (Hérons)

*Great Egret (*Ardea alba*)

*Cattle Egret (*Bubulcus ibis*)

*Snowy Egret (*Egretta thula*)

FAMILY: THRESKIORNITHIDAE (Ibises and Spoonbills)

*White-faced Ibis (*Plegadis chihi*)

ORDER: APODIFORMES (Swifts and Hummingbirds)

FAMILY: TROCHILIDAE (Hummingbirds)

Anna's Hummingbird (*Calypte anna*)

Rufous Hummingbird (*Selasphorus rufus*)

Allen's Hummingbird (*Selasphorus sasin*)

ORDER: CHARADRIIFORMES (Shorebirds and Allies)

FAMILY: CHARADRIIDAE (Plovers and relatives)

*Killdeer (*Charadrius vociferus*)

FAMILY: RECURVIROSTRIDAE (Stilts and Avocets)

*Black-Necked Stilt (*Himantopus mexicanus*)

ORDER: COLUMBIFORMES (Pigeons and Doves)

FAMILY: COLUMBIDAE (Pigeons and Doves)

*Rock Pigeon (*Columba livia*)

*Eurasian Collared-dove (*Streptopelia decaocto*)

*Mourning Dove (*Zenaida macroura*)

ORDER: FALCONIFORMES (Vultures, Hawks, and Falcons)

FAMILY: CATHARTIDAE (American Vultures)



*Turkey Vulture (*Cathartes aura*)

FAMILY: ACCIPITRIDAE (Hawks, Eagles, and Kites)

Cooper's Hawk (*Accipiter cooperii*)

*Red-tailed Hawk (*Buteo jamaicensis*)

Swainson's Hawk (*Buteo swainsonii*)

FAMILY: FALCONIDAE (Caracaras and Falcons)

American Kestrel (*Falco sparverius*)

ORDER: PICIFORMES (Woodpeckers and Relatives)

FAMILY: PICIDAE (Woodpeckers and Wrynecks)

Acorn Woodpecker (*Melanerpes formicivorus*)

ORDER: STRIGIFORMES (Owls)

FAMILY: TYTONIDAE (Barn Owls)

Barn Owl (*Tyto alba*)

FAMILY: STRIGIDAE (Typical Owls)

Great Horned Owl (*Bubo virginianus*)

ORDER: PASSERIFORMES (Perching Birds)

FAMILY: ALAUDIDAE

California Horned Lark (*Eremophila alpestris actia*)

FAMILY: CORVIDAE (Jays, Magpies, and Crows)

*American Crow (*Corvus brachyrhynchos*)

*Common Raven (*Corvus corax*)

FAMILY: FRINGILLIDAE (Finches)

*House Finch (*Carpodacus mexicanus*)

Lesser Goldfinch (*Carduelis psaltria*)

American Goldfinch (*Spinus tristis*)

FAMILY: ICTERIDAE (Blackbirds, Orioles and Allies)

Red-winged Blackbird (*Agelaius phoeniceus*)

*Brewer's Blackbird (*Euphagus cyanocephalus*)

*Bullock's Oriole (*Icterus bullockii*)

*Brown-headed Cowbird (*Molothrus ater*)

FAMILY: MIMIDAE (Mockingbirds and Thrashers)

Northern Mockingbird (*Mimus polyglottos*)

FAMILY: MOTACILLIDAE (Wagtails, Longclaws and Pipits)

*American Pipit (*Anthus rubescens*)

FAMILY: PARULIDAE (New World Warblers)

Yellow-rumped Warbler (*Setophaga coronata*)

FAMILY: PASSERELLIDAE (New World Sparrows)

*Lincoln's Sparrow (*Melospiza lincolnii*)

Dark-eyed Junco (*Junco hyemalis*)

*Song Sparrow (*Melospiza melodia*)

House Sparrow (*Passer domesticus*)

Savannah Sparrow (*Passerculus sandwichensis*)

*White-crowned Sparrow (*Zonotrichia leucophrys*)

FAMILY: STURNIDAE (Starlings)

*European Starling (*Sturnus vulgaris*)

FAMILY: TYRANNIDAE (Tyrant Flycatchers)



Black Phoebe (*Sayornis nigricans*)
Say's Phoebe (*Sayornis saya*)
Western Kingbird (*Tyrannus verticalis*)

CLASS: MAMMALIA

ORDER: ARTIODACTYLA (Even-toed Ungulate)

FAMILY: BOVIDAE (Cattle, Buffalo and Allies)

*Domesticated Cow (*Bos taurus*)

ORDER: CARNIVORA (Carnivores)

FAMILY: CANIDAE (Foxes, Wolves, and Relatives)

Coyote (*Canis latrans*)

*Domestic/Feral Dog (*Canis lupus*)

Red Fox (*Vulpes vulpes*)

FAMILY: PROCYONIDAE (Raccoons and Relatives)

Raccoon (*Procyon lotor*)

FAMILY: MUSTELIDAE (Weasels, Badgers, and Relatives)

Striped Skunk (*Mephitis mephitis*)

FAMILY: FELIDAE (Cats)

Domestic/Feral Cat (*Felis catus*)

ORDER: CHIROPTERA (Bats)

FAMILY: MOLOSSIDAE (Free-tailed Bat)

Brazilian Free-tailed Bat (*Tadarida brasiliensis*)

FAMILY: VESPERTILIONIDAE (Vespertilionid Bats)

Big Brown Bat (*Eptesicus fuscus*)

Yuma Myotis (*Myotis yumanensis*)

Long-eared Myotis (*Myotis evotis*)

Fringed Myotis (*Myotis thysanodes*)

Long-legged Myotis (*Myotis volans*)

California Myotis (*Myotis californicus*)

Small-footed Myotis (*Myotis leibii*)

Western Pipistrelle (*Pipistrellus hesperus*)

ORDER: INSECTIVORA (Shrews and Moles)

FAMILY: SORCIDAE (Shrews)

Ornate shrew (*Sorex ornatus*)

FAMILY: TALPIDAE (Moles)

Broad-footed Mole (*Scapanus latimanus*)

ORDER: MARSUPIALIA (Opossums, Kangaroos, and Relatives)

FAMILY: DIDELPHIDAE (Opossums)

Virginia Opossum (*Didelphis virginiana*)

ORDER: RODENTIA (Squirrels, Rats, Mice, and Relatives)

FAMILY: CRICETIDAE (Deer Mice, Voles, and Relatives)

California Vole (*Microtus californicus*)

Deer Mouse (*Peromyscus maniculatus*)

Western Harvest Mouse (*Reithrodontomys megalotis*)

FAMILY: HETEROMYIDAE (Kangaroo Rats and Pocket Mice)



*Heerman's Kangaroo Rat (*Dipodomys heermanni*)

FAMILY: GEOMYIDAE (Pocket Gophers)

*Botta's Pocket Gopher (*Thomomys bottae*)

FAMILY: MURIDAE (Old World Rats and Mice)

Norway Rat (*Rattus norvegicus*)

House Mouse (*Mus musculus*)

FAMILY: SCIURIDAE (Squirrels, Chipmunks, and Marmots)

*California Ground Squirrel (*Otospermophilus beecheyi*)



APPENDIX D: SELECTED PHOTOGRAPHS OF THE PROJECT SITE



Photo 1. Proposed wastewater line location in the northeast section of the project site. Burrows line the berm.



Photo 2. Proposed wastewater line location near wastewater pond in the northeast section of the project site. Burrow in bottom of photo.



Photo 3. Looking north at the proposed site for the sand trap.



Photo 4. Approximate location of the anaerobic digester and associated infrastructure. Looking east.



Photo 5. Overview of site of anaerobic digester with associated infrastructure (grassy field) and wastewater lines (road) featuring a canal tributary on the right of the photo. Looking west.



Photo 6. Proposed location of flush system supplied by Circle H Dairy.



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Photo 8. Site of proposed flush system supplied by Dairy Ave LLC.



Photo 9. Representative photo of proposed wastewater line area featuring a canal tributary. Southwest of proposed flush system supplied by Dairy Ave LLC, looking east.



Photo 10. View of proposed location of sand trap on Dairy Ave, wastewater lines, and proposed tie in to existing flush system.



Photo 11. Representative photo of tamarisk trees along the edge of the proposed location of a wastewater line on Dairy Ave.



Photo 12. Representative photo of a location for wastewater lines on north Dairy Ave.



Photo 13. Example of burrows along a proposed wastewater line location.



Photo 14. Another example of burrows along a proposed wastewater line location.

Appendix C

Cultural Resources Assessment

Cultural Resources Assessment for the Dairy Avenue and Circle H Biogas LLC Project, Kings County, California

Consuelo Y. Sauls

Prepared By



Taylored Archaeology
6083 N. Figarden Dr., Ste 616
Fresno, CA 93722

Prepared For

4Creeks, Inc.
324 S. Santa Fe St., Suite A
Visalia, CA 93292

December 2023

USGS Hacienda Ranch NE 7.5' topographic quadrangle;
16.2 total project acres; 16.2 acres surveyed
Keywords: Negative findings

MANAGEMENT SUMMARY

Taylored Archaeology completed a cultural resources assessment for the Dairy Avenue and Circle H Biogas LLC Project in Kings County, California. The purpose of this assessment is to identify potential cultural resources on the ground surface in the Project boundary. The Project proposes to construct and operate a biogas facility at three existing dairy and livestock facilities near Utica Avenue and 6th Avenue in southeast Kings County. It will include construction of approximately 2.5 miles of linear biogas pipeline and approximately 16.2 acres of a biogas facility. The Project is subject to evaluation under the California Environmental Quality Act (CEQA).

This report discusses the methods and results of the Phase I cultural resources assessment of the Project area. Taylored Archaeology conducted the assessment to determine whether prehistoric and historic resources will be affected by the Project. The investigation included: (1) literature review and a records search; (2) a request of the Native American Heritage Commission (NAHC) Sacred Lands File (SLF) including the Native American tribal representatives' contact information, and tribal outreach; (3) archival research; (4) and an archaeological pedestrian survey.

A cultural resources records search and results letter was provided by the Southern San Joaquin Valley Information Center. The results letter indicated that there have been two previous cultural resources investigations conducted within the Project area. The records search identified no known cultural resources within the Project area nor within a 0.5-mile radius of the surrounding area.

As part of background research, Taylored Archaeology requested a search of the SLF from NAHC. The NAHC's Sacred Lands File search results were negative, and the NAHC recommended contacting Native American representatives on the contact list provided by the NAHC to find out if they have additional information about the Project area. Taylored Archaeology contacted the listed Native American representatives on November 15, 2023. One response was received on November 28, 2023, from Samantha McCarty, Cultural Specialist II, of the Santa Rosa Rancheria Tachi Yokut Tribe. In her email, Samantha McCarty stated the Tachi Tribe was working on a response. No other responses were received by contacted representatives as of December 3, 2023.

The archaeological pedestrian survey was conducted on October 14, 2023. The survey resulted in negative findings of archaeological resources on the ground surface.

Taylored Archaeology makes the following management recommendations:

In the event that previously unidentified archaeological remains are encountered during development or ground-moving activities, all work should be halted until a qualified archaeologist can identify the discovery and assess its significance. In the event of accidental discovery of unidentified archaeological remains during development or ground-moving activities within the Project boundary, all work shall be halted in the immediate vicinity (within a

100-foot radius) until a qualified archaeologist can identify the discovery and assess its significance.

If human remains are uncovered during construction, work shall be halted, and the Kings County Coroner is to be notified to investigate the remains and arrange proper treatment and disposition. If the remains are identified on the basis of archaeological context, age, cultural associations, or biological traits to be those of a Native American, California Health and Safety Code 7050.5 and California Public Resources Code 5097.98 require that the coroner notify the Native American Heritage Commission (NAHC) within 24 hours of discovery. The NAHC will then identify the Most Likely Descendent.

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1 INTRODUCTION

Taylored Archaeology performed a Phase I cultural resource assessment for the Dairy Avenue and Circle H Biogas LLC Project (Project) in Kings County, California (Figure 1). 4Creeks, Inc. contracted Taylored Archaeology to conduct the cultural resources assessment for the Project. As part of the development approval process, Kings County as the lead agency must comply with the California Environmental Quality Act (CEQA). California Public Resources Code (PRC) 21000 (g) mandates that government agencies identify and mitigate the impacts of a project on the environment, including cultural resources.

1.1 PROJECT DESCRIPTION AND LOCATION

The Project proposes to construct and operate a biogas facility at three existing dairy and livestock facilities near Utica Avenue and 6th Avenue in southeast Kings County. The Project site consists of approximately 2.5 miles of linear biogas pipeline and approximately 16.2 acres of a biogas facility on King's County Assessor's Parcel Numbers 044-280-012, 044-280-005, 044-280-013. The biogas pipeline will be approximately 10 inches in diameter and will be located at least 72 inches below ground surface. The pipeline is proposed to be installed through trenching and under roads and canals by a jack-and-bore method.

The Project is located 10 miles south of Corcoran, California, and approximately six miles west of Highway 43 at the northeast corner of 6th Avenue and Utica Avenue in southeast Kings County. The proposed Project is within Sections 11 and 12 of Township 23 South, Range 22 East, Mount Diablo Base Line and Meridian of Hacienda Ranch NE, California 7.5- minute USGS quadrangle.

1.2 REGULATORY SETTING

In this report "cultural resources" are defined as prehistoric or historical archaeological sites as well as historical objects, buildings, or structures. In accordance with 36 Code of Federal Regulations (CFR) §60.4, "historical" in this report applies to cultural resources which are at least 50 years old. The significance or importance of a cultural resource is dependent upon whether the resource qualifies for inclusion at the local level in a local register of historical resources, at the state level in the California Register of Historical Resources (CRHR), or at the federal level in the National Register of Historic Places (NRHP). Cultural resources that are determined to be eligible for inclusion in the CRHR are called "historical resources" (California Code of Regulations [CCR] 15064.5[a]). Under this statute the determination of eligibility is partially based on the consideration of the criteria of significance as defined in 14 CCR 15064.5(a)(3). Cultural resources eligible for inclusion in the NRHP are deemed "historic properties".

1.2.1 CALIFORNIA ENVIRONMENTAL QUALITY ACT

Pursuant to CEQA, a historical resource is a resource listed in, or determined to be eligible for listing in, the CRHR. Historical resources may include, but are not limited to, “any object, building, structure, site, area, place, record, or manuscript which a lead agency determines to be historically or archaeologically significant” (PRC §5020.1[j]). In addition, a resource included in a local register of historical resources or identified as significant in a local survey conducted in accordance with the state guidelines are also considered historic resources under California Public Resources Code (PRC) Section 5020.1.

CEQA details appropriate measures for the evaluation and protection of cultural resources in §15064.5 of the CEQA Guidelines. According to CEQA guidelines §15064.5 (a)(3), criteria for listing on the CRHR includes the following:

- (A) Is associated with events that have made a significant contribution to the broad patterns of California’s history and cultural heritage.*
- (B) Is associated with the lives of persons important in our past.*
- (C) 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.*
- (D) Has yielded, or may be likely to yield, information important in prehistory or history.*

According to CEQA guidelines §21074 (a)(1), criteria for tribal cultural resources includes the following:

- (1) Sites, features, places, cultural landscapes, sacred places, and objects with cultural value to a California Native American tribe that are either of the following:*
 - (A) included or determined to be eligible for inclusion in the California Register of Historical Resources.*
 - (B) included in a local register of historical resources as defined in subdivision (k) of Section 5020.1.*

Protection of cultural resources within California is additionally regulated by PRC §5097.5, which prohibits destruction, defacing, or removal of any historic or prehistoric cultural features on land under the jurisdiction of State or local authorities.

1.3 PROFESSIONAL QUALIFICATIONS

Archaeologist Consuelo Y. Sauls (M.A.), a Registered Professional Archaeologist (RPA 41591505), managed the assessment and authored this report for the Project. Ms. Sauls also conducted the records search and literature review, requested Sacred Lands File, and performed the pedestrian field survey of the Project site. Ms. Sauls meets the Secretary of the Interior’s Standards for Professional Qualifications in Archaeology. Statement of Qualifications for key personnel is provided in Appendix A.



Figure 1-1 Project vicinity in Kings County, California.

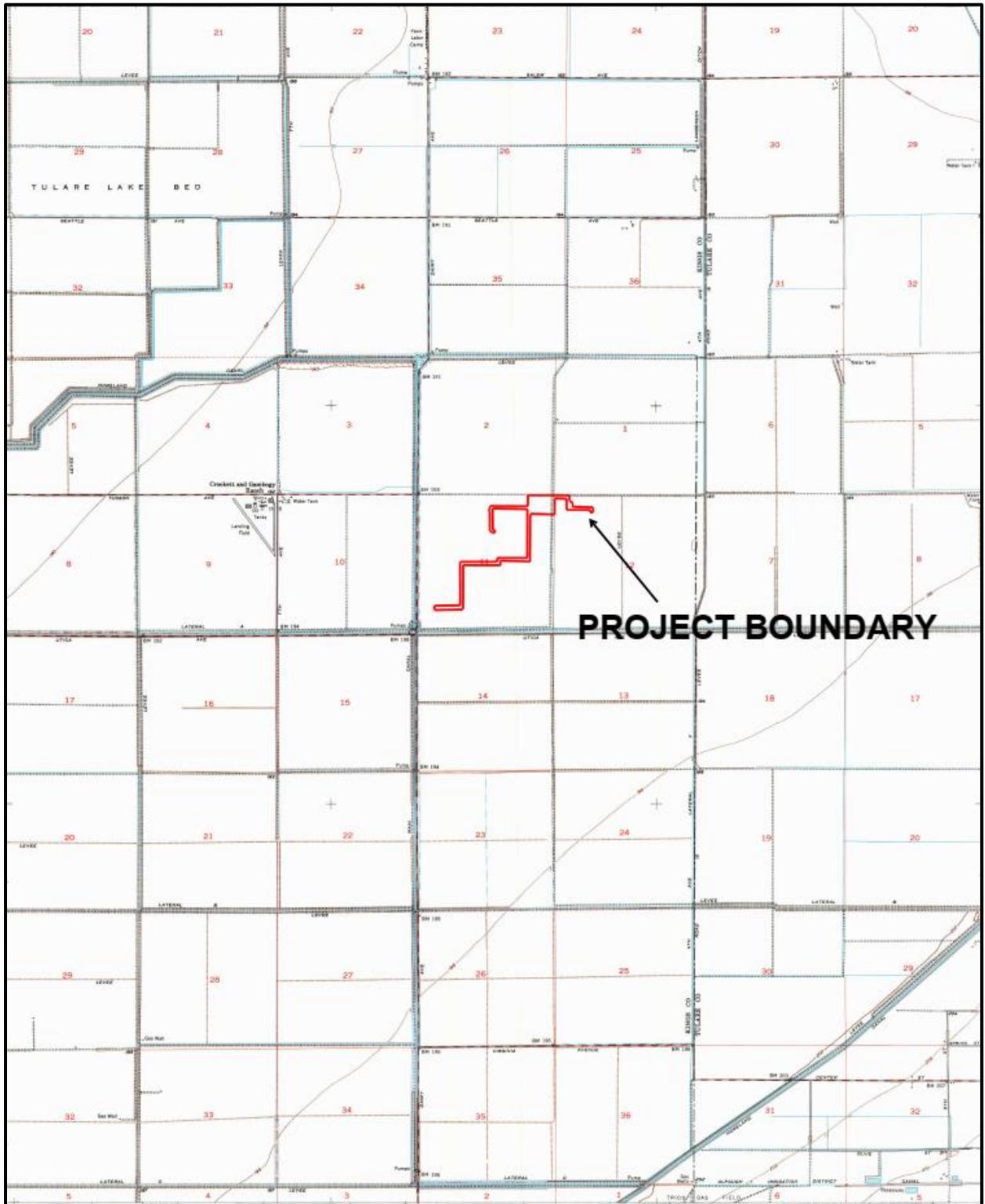


Figure 1-2 Project location on the USGS Hacienda Ranch NE, CA 7.5-minute quadrangle.

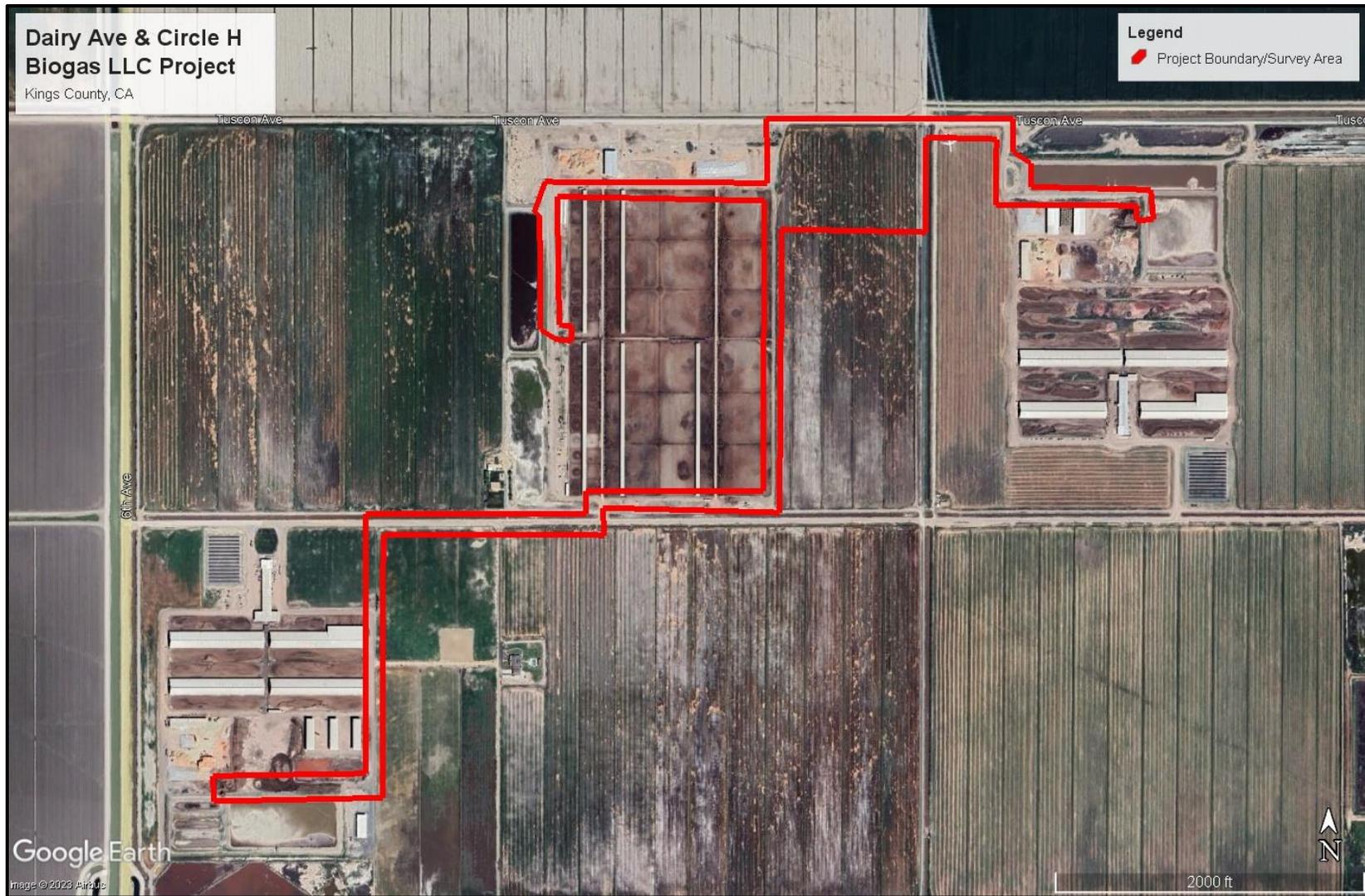


Figure 1-3 Aerial view of the Project boundary showing survey coverage.

1.4 REPORT ORGANIZATION

This report documents the results of a cultural resource assessment of the proposed Project area. In order to assess potential project impacts to archaeological and historical resources pursuant to CCR §15064.5, the following specific tasks were completed: (1) requesting a records search from the Southern San Joaquin Information Center (SSJVIC) of the California Historical Resources Information System (CHRIS), at California State University, Bakersfield; (2) requesting a Sacred Lands File Search and list of interested parties from the Native American Heritage Commission (NAHC) and initiating outreach to local Native American individuals and tribal representatives; (3) conducting an archaeological pedestrian survey and (4) preparing this technical report.

Taylor Archaeology prepared this report following the California Office of Historic Preservation standards in the 1990 Archaeological Resources Management Report Recommended Contents and Format. Chapter 1 describes the introduction of the Project and its location, the state regulations and identifies the key personnel involved in this report. Chapter 2 is a literature review that summarizes the Project setting, including the natural, prehistoric ethnography, and historic background for the Project area and surrounding area. Chapter 3 details the methods used for cultural records searches, local Native American outreach, archaeological pedestrian survey, and built environment survey. Chapter 4 summarizes the results of the cultural resource investigation. Chapter 5 discusses the Project findings and offers management recommendations. Chapter 6 is a bibliography of references cited within this report. The report also contains the following appendices: qualifications of key personnel (Appendix A), the CHRIS records search results (Appendix B), and Taylor Archaeology's nongovernmental Native American outreach (Appendix C).

PROJECT SETTING

2.1 NATURAL ENVIRONMENT

The Project site lies in the Central Valley of California, which is approximately 450 miles from north to south, and ranges in width east to west from 40 to sixty miles (Prothero 2017). The Central Valley is divided into two subunits, the Sacramento Valley in the north and the San Joaquin Valley in the south, which are each named after the primary rivers within each valley (Madden 2020). The Project is located approximately 225 feet above sea level on the open flat plains of the Southern San Joaquin Valley. Climate within the San Joaquin valley is classified as a 'hot Mediterranean climate', with hot and dry summers, and cool damp winters characterized by periods of dense fog known as 'tule fog' (Prothero 2017).

The San Joaquin Valley is a comprised of a structural trough created approximately 65 million years ago and is filled with nearly 6 miles of sediment (Bull 1964). The San Joaquin Valley ranges from Stockton and the San Joaquin-Sacramento River Delta in the north to Wheeler Ridge to the south, ranging nearly sixty miles wide at its widest (Zack 2017). It is split by late Pleistocene alluvial fans between the San Joaquin River hydrologic area in the north and the Tulare Lake Drainage Basin in the south (Rosenthal et al 2007). The Project site is located within the latter of the two hydrologic units. The Kaweah, Tule, Kern, and Kings rivers flowed into large inland lakes with no outflow except in high flood events, in which the lakes would flow from through the Fresno Slough into the San Joaquin River. The largest of these inland lakes was the Tulare Lake, which occupied a vast area of Tulare and Kings Counties and was the largest freshwater lake west of the Mississippi. These four tributary rivers accounted for more than 95 percent of water discharged into Tulare Lake, with the remaining five percent sourced from small drainages originating in the Coast Ranges to the west (Adams et al. 2015).

The Project is located in southern Kings County on the valley floor of the San Joaquin Valley on the lakebed of the former Tulare Lake (Hammond 1885). Before the appearance of agriculture in the nineteenth century, the Project location would have been comprised of the lake or tule marshes depending on the lake level (Preston 1981). Riparian environments would also have been present along various waterways, including drainages and marshes.

The valley floor of the region was largely dominated by marshlands, lakes, and annual grasslands. Historically, these habitats provided a lush environment for large animals, including various migratory birds and other waterfowl, grizzly bear (*Ursus arctos californicus*), tule elk (*Cervus* sp.), pronghorn (*Antilocapra americana*), mule deer (*Odocoileus hemionus*), black bear (*Ursus americanus*), and mountain lion (*Puma concolor*) (Preston 1981). Native trees and plants observed in the Project vicinity include various blue, live, and white oaks (*Quercus* sp.), cottonwood (*Populus aegiros*), and willow (*Salix* sp.). The introduction of agriculture to region resulted in large animals being forced out of their habitat. Common land mammals now include valley coyote (*Canis latrans*), bobcat (*Lynx rufus*), gray fox, kit fox (*Vulpes macrotis*), and rabbits (Leporidae). Rivers and lakes throughout the valley provide habitat for freshwater fish, including

rainbow trout (*Oncorhynchus mykiss*), Sacramento sucker (*Catostomidae* sp.), and Sacramento perch (*Archoplites interruptus*), (Preston 1981).

2.2 PREHISTORIC SETTING

Archaeologists develop models of prehistoric resource chronologies and descriptions of lifestyles based on data collected at archaeological sites they investigate to better understand the past. Models of prehistoric life patterns are developed from both archaeological and ethnographic research. Archaeological studies in the San Joaquin Valley began in the early 1900s with several archaeological investigations (Rosenthal et al. 2007). The Southern San Joaquin Valley is one of the least understood areas within California due to a lack of well-grounded chronologies for large segments of the valley (Rosenthal et al. 2007). This is largely due to the valley floor being filled with thick alluvial deposits, and from human activity largely disturbing much of the valley floor due to a century and a half of agricultural use (Dillon 2002; Siefken 1999). Mound sites may have occurred as frequently as one every two or three miles along major waterways but studying such mounded occupations sites is difficult as most surface sites have been destroyed (Schenk and Dawson 1929). Much of the early to middle Holocene archaeological sites may be buried as deep as 10 meters due to millennia of erosion and alluvial deposits from the western Sierras (Moratto 1984).

Mass agricultural development has heavily disturbed and changed the landscape of the Southern San Joaquin Valley, from the draining of marshes and the vanishing of the extensive Tulare Lake, to grading nearly the entire valley for agricultural operations (Garone 2011). These activities have impacted or scattered much of the shallow surface deposits and mounds throughout the valley (Rosenthal et al 2007). Some researchers have suggested that potentially as much as 90 percent of all Central California archaeological sites have been destroyed from these activities (Riddell 2002).

The cultural traits and chronologies which are summarized below are largely based upon information discussed in multiple sources, including Bennyhoff and Fredrickson (1994) and Fredrickson (1973, 1974), Garfinkel (2015), McGuire and Garfinkel (1980), Moratto (1984), and Rosenthal et al. (2007). The most recent comprehensive approach to compiling a chronology of the Southern San Joaquin Valley prehistory is by Garfinkel in 2015, which builds off Rosenthal's 2007 previous work. Both Garfinkel's and Rosenthal's chronologies are calculated in years B.C. In the interest of maintaining cohesiveness with modern anthropological research, the dates of these chronologies have been adapted into years before present (B.P.).

The Paleo-Indian Period (13,500-10,600 cal B.P.) was largely represented by ephemeral lake sites which were characterized by atlatl and spear projectile points. Around 14,000 years ago, California was largely a cooler and wetter place, but with the retreat of continental Pleistocene glaciers, California largely experienced a warming and drying period. Lakes filled with glacial meltwater were located in the valley floor and used by populations of now extinct large game animals. A few prehistoric sites were discovered near the southwestern shore of Tulare Lake (Garfinkel 2015). Foragers appear to have operated in small groups which migrated on a regular basis.

During the Lower Archaic Period (10,500-7450 cal B.P.), climate change created a largely different environment which led to the creation of larger alluvial fans and flood plains. Most of the archaeological records of the prior period wound up being buried by geological processes. During this time, cultural patterns appear to have emerged between the foothill and valley populations of the local people. The foothill sites were often categorized by dense flaked and ground stone assemblages, while the valley sites were instead characterized by a predominance of crescents and stemmed projectile points. Occupation within the area is represented mostly by isolated discoveries, and along the former shoreline of Tulare Lake finds are typically characterized by chipped stone crescents, stemmed points, and other distinctive flakes stone artifacts (Rosenthal et al. 2007). Variations in consumption patterns emerged as well, with the valley sites more marked by consumption of waterfowl, mussels, and freshwater fish, while the foothills sites saw an increase in nuts, seeds, and a more narrowly focused diet than the valley sites.

The Middle Archaic (7450-2500 cal B.P.) saw an increase in semi-permanent villages along river and creek settings, with more permanent sites located along lakes with a more stable supply of water and wildlife. Due to the warmer and drier weather of this period, many lakes within the valley dramatically reduced in size, while some vanished completely (Garone 2011). Cultural patterns during this time saw an increase in stone tools, while a growth in shell beads, ornaments, and obsidian evidence an extensive and ever-growing long-distance trade network. Little is known of cultural patterns in the valley during the Upper Archaic (2500-850 B.P.), but large village structures appeared to be more common around local rivers. An overall reduction of projectile point size suggests changing bow and arrow technologies. Finally, the Emergent Period (850 cal B.P. - Historic Era) was generally marked by an ever-increasing specialization in tools, and the bow and arrow generally replaced the dominance of the dart and atlatl. Cultural traditions ancestral to those recorded during ethnographic research in the early 1900s are identifiable.

2.3 ETHNOGRAPHY

The Project area is in the Southern Valley Yokuts ethnographic territory of the San Joaquin Valley and located in the lakebed of the former Tulare Lake. The Yokuts were generally divided into three major groups, the Northern Valley Yokuts, the Southern Valley Yokuts, and the Foothill Yokuts. The Yokuts are a sub-group of the Penutian language that covers much of coastal and central California and Oregon (Callaghan 1958). The Yokuts language contained multiple dialects spoken throughout the region, though many of them were mutually understandable (Merriam 1904).

The Yokuts have been extensively researched and recorded by ethnographers, including Powers (1877), Kroeber (1925), Gifford and Schenck (1926, 1929), Gayton (1945), Driver (1937), Harrington (1957), Latta (1977), and Wallace (1978). Much of the research from these ethnographers focuses on the central Yokuts tribes due to the northernmost tribes being impacted by Euro-Americans during the California Gold Rush of the mid 1800s, and by the southernmost tribes often being removed and relocated by the Spanish to various Bay Area or coastal missions. The central Yokuts tribes, and especially the western Sierra Nevada foothill tribes, were the most intact at the time of ethnographic study.

The most detailed ethnographic information gathered regarding Native American group territories in Central California is located within maps prepared by Kroeber. Based upon Kroeber's map of Southern and Central Yokuts (1925: Plate 47), the Project area is within the Wowol Yokuts territory, who occupied the southern shore of Tulare Lake in modern-day southern Kings County (Kroeber 1925; Latta 1977). The closest village in this area was *Sukwutnu* which was located near the tule marshes surrounding the southeastern shore of Tulare Lake and Poso Creek approximately 15 miles southeast the Project site (Kroeber 1925).

Primary Yokuts villages were typically located along lakeshores and major stream courses, with scattered secondary or temporary camps and settlements located near gathering areas in the foothills. Yokuts were organized into groups originally designated as tribelets by Kroeber, with one or more linked villages and smaller settlements within a territory (Kroeber 1925).

Designation of these units as 'tribelets' is often viewed as pejorative by many Native Americans, and for the remainder of this report will be referred to as 'local tribes' instead. Each local tribe was a land-owning group that was organized around a central village and shared common territory and ancestry. Most local tribe populations ranged from 150 to 500 people (Kroeber 1925). These local tribes were often led by a chief, who was often advised by a variety of assistants including the winatum, who served as a messenger and assistant chief (Gayton 1945). Early studies by Kroeber (1925), Gifford and Schenck (1926), and Gayton (1945) concluded that social and political authority within local tribes was derived from male lineage and patriarchy. However, more recent reexaminations (Dick-Bissonnette 1998) argue that this assumption of patriarchal organization was based on male bias by early 20th century researchers, and instead Yokuts sociopolitical authority was matriarchal in nature and centered around matrilineal use-rights and women's work groups.

Due to the abundance of natural resources within the greater Tulare Lake area, the Yokuts maintained some of the largest populations in North America west of the continental divide (Cook 1955a). According to the Native American Heritage Commission, the Native American tribal group that is currently associated with the Project area is the Santa Rosa Rancheria Tachi Yokut Tribe.

2.4 HISTORIC SETTING

2.4.1 California History

European contact in modern-day California first occurred in 1542 with the arrival of a Spanish expedition lead by Juan Rodríguez Cabrillo into San Diego Bay (Engstrand 1997). Expeditions along the California coast continued throughout the sixteenth century and primarily focused on finding favorable harbors for further expansion and trade across the Pacific. However, rocky shorelines, unfavorable currents, and wind conditions made traveling north from New Spain to the upper California coast a difficult and time-consuming journey (Eifler 2017). The topography

of California, with high mountains, large deserts, and few natural harbors lead to European expansion into California only starting in the 1760s. As British and Russian expansion through fur trading encroached on California from the north, Spain established a system of presidios, pueblos, and missions along the California coast to defend its claim, starting with Mission San Diego de Alcalá in 1769 (Engstrand 1997).

2.4.2 Central California History

The San Joaquin Valley did not experience contact with Europeans until the late 1700s (Starr 2007). Life at the California missions was hard and brutal for Native Americans, with many dying of disease, poor conditions, and many fleeing to areas not under direct Spanish control (Jackson and Castillo 1995). The earliest exploration of the San Joaquin Valley by Europeans was likely by the Spaniards when in the fall of 1772 a group known as the Catalonian Volunteers entered into the valley through Tejon Pass in search of deserters from the Southern California Missions (Zack 2017). However, the group only made it as far north as Buena Vista Lake in modern day Kern County before turning around due to the extensive swamps. Additional excursions to the valley were for exploration such as those led by Lieutenant Bariel Moraga in 1806, but also to find sites for suitable mission sites and to track down Native Americans fleeing the coastal missions (Cook 1958).

Subsequent expeditions were also sent to pursue outlaws from the coast who would often flee to the valley for safety. One of the subsequent explorations was an expedition in 1814 to 1815 with Sargent Juan Ortega and Father Juan Cabot, who left the Mission San Miguel with a company of approximately 30 Spanish soldiers and explored the San Joaquin Valley (Smith 2004). This expedition passed through the Kaweah Delta and modern-day Visalia and made a recommendation to establish a mission near modern-day Visalia. However, with European contact also came European disease. Malaria and other new diseases were brought by Europeans, and in 1833 an epidemic of unknown origin traveled throughout the Central Valley. Some estimates place the Native American mortality of the epidemic as high as 75 percent (Cook 1955b). Combined with the rapid expansion of Americans into California in 1848 during the Gold Rush, Native American populations within the valley never fully recovered (Eifler 2017).

Initial settlement within the valley by Europeans in the 1830s was largely either by trappers like Jedediah Smith or horse thieves like Pegleg Smith (Clough and Secrest 1984). In fact, horse and other livestock theft was so rampant that ranching operations on the Rancho Laguna de Tache by the Kings River and Rancho del San Joaquin Rancho along the San Joaquin River could not be properly established (Cook 1962). With the end of the Mexican American War and the beginning of the gold rush in 1848, the San Joaquin Valley became more populated with ranchers and prospectors. Most prospectors traveled by sea to San Francisco and used rivers ranging from the Sacramento River to the San Joaquin River to access the California interior (Eifler 2017). Most areas south of the San Joaquin River were less settled simply because those rivers did not connect to the San Francisco Bay area except in wet flood years. By 1850, California became a state, Tulare County was established in 1853, and Kings County was formed out of the western half of Tulare County in 1893.

2.4.3 Local History

The arrival of rail lines in the late 1800s brought an increase in agriculture and farms that clashed with existing ranching operations in the local area. One such conflict was the Mussel Slough Tragedy of 1880, in which seven locals died in a fight over land use between ranchers and the Southern Pacific Railroad (Clough and Seacrest 1984). Escalating conflicts and livestock disputes between ranchers and farmers led to the “No Fence Law” in 1874, which forced ranchers to pay for crop and property damage caused by their cattle (Ludeke 1980). With the passage of this law and the expansion of irrigation systems, predominant land use in the 1870s switched from grazing to farming (Mitchell 1974). This led to the beginning of the vast change of the San Joaquin Valley from native vegetation and grasslands to irrigated crops (Varner and Stuart 1975). During this time, small farming towns were established throughout the valley floor (Clough and Seacrest 1984).

Because water rights within California originally arose from the first come first serve policy of the Gold Rush era, diverting surface water to farms became big business, but a convoluted mess of customs, traditions, and conflicting claims (Zack 2017). To solve this mess, the Wright Act of 1887 was passed that allowed residents to petition a local county board of supervisors to create irrigation districts that had the power to issue bonds, and tax land within the district boundaries to pay for the creation and maintenance of canals and ditches for irrigation purposes.

At the same time, an important step forward was made in ditch-digging technology that allowed irrigation systems to be built at a faster pace. From the 1840s to 1890s, farm ditches and canals were largely constructed through the use of buckboards and slip-scoops, which involved the use of a board pulled by horses in an upright position in order to level ground (Bulls 2010). Between 1883 and 1885, Scottish immigrant James Porteous had moved to Fresno and made significant improvements to the buckboard style scraper that allowed the new scraper to be pulled by two horses and scrape and move soil while dumping it at a controlled depth. This new design was patented and sold as the “Fresno Scraper”, which led to an explosion of ditch digging efforts within the San Joaquin Valley (Zack 2017).

The cumulative effect of this explosion of water diversion from the Kings, Kern, Kaweah, and Tule Rivers, which supplied 95 percent of the water, had a devastating effect on Tulare Lake (Adams et al. 2015). Between 1876 and 1885, the northern shoreline of Tulare Lake near the Lower Kings River had receded southwards by five miles (Baker 1876; Hammond 1885). By 1898, the lake had completely dried up (Figure 2-1).

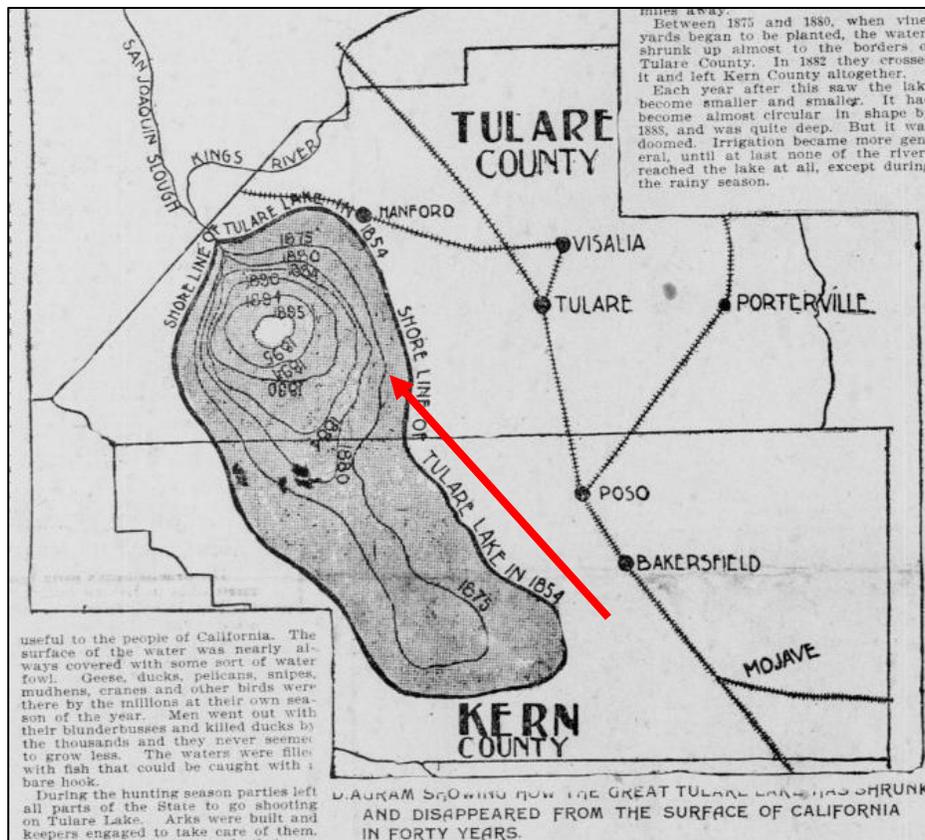


Figure 2-1 Map of Tulare Lake with receding shoreline, 1854 to 1898. Red arrow shows approximate Project location (Lee 1898).

The former lakebed was turned into agricultural lands, with water provided by the new canals and ditches. The destruction of the lake was another major impact to the Native American populations of the region. In 1934, the Santa Rosa Rancheria was established on 40 acres of desolate farmland approximately 5 miles southwest of present-day Lemoore and consisted of 40 members (Tachi Yokut Tribe 2021). Diversion of the water from the former lakebed was never fully permanent however, with heavy rains leading to the reemergence of Tulare Lake in 1937, 1952, 1969, 1983, 1997, and most recently in 2023 (Garrison et al. 2023).

3 METHODS

3.1 RECORDS SEARCH

On September 25, 2023, Taylored Archaeology requested a cultural resource records search from the SSJVIC of the CHRIS at California State University in Bakersfield, California. The purpose of this request was to identify any prehistoric or historical resources on or near the Project site that had been previously recorded within the Project boundary and a 0.5-mile radius of the Project area; and review of prior cultural studies completed in or near the Project boundary including recorded cultural resources such as historic and prehistoric archaeological sites, lithic debitage, buildings, or canals. SSJVIC staff researched historical United States Geological Survey (USGS) topographic maps, reports of previous cultural resource investigations, archaeological site and survey base maps, cultural resource records (DPR forms) as well as listings of the Historic Properties Directory of the Office of Historic Preservation, General Land Office Maps, Archaeological Resources Directory, and the California Inventory of Historic Resources (Appendix B).

3.2 ARCHIVAL RESEARCH

Archival research was conducted to investigate the historical background for any potential historical natural water sources, potential historic structures, buildings and historical deposits that may exist, and land use within the Project boundary. Historical maps, historical aerial photographs, historical USGS topographic maps, Google Earth aerial photographs, Google Street View photos, books, scholarly articles, and other records were used to better understand the prehistory and history of the Project area. The results of this research are presented in Chapter 4.

3.3 NATIVE AMERICAN OUTREACH

On September 25, 2023, Taylored Archaeology sent a request to the Native American Heritage Commission (NAHC) for a Sacred Lands File (SLF) search, to identify any known places of religious, sacred activity or traditional use or gathering areas are present in or near the Project area. The NAHC responded on November 14, 2023, with a letter, including contact information for local Native American tribal representatives who may have knowledge or interest in sharing information of resources in the Project area and surrounding area. Each Native American representative listed was sent a nongovernmental outreach letter and a map notifying them of the Project and asking if they had any knowledge of the Project area or surrounding vicinity. Follow-up communication was performed via email as appropriate. The SLF results are in Chapter 4.

3.4 ARCHAEOLOGICAL PEDESTRIAN SURVEY

A pedestrian survey was conducted by Consuelo Sauls on October 14, 2023, along the entire length of the Project boundary. Ms. Sauls walked a 5 meter transect within the linear survey area and systematic survey using transects spaced 10 meters apart in the open field in the central portion of the Project site along Tuscon Avenue. The whole area in the Project boundary was accessible and surveyed to identify any archaeological deposits that may be present on the ground surface. Ms. Sauls used a plan map, visible landmarks, and Gaia GPS application for navigation to locate and survey the Project area. She also photographed the survey area using an iPhone 11 Pro digital camera. Ms. Sauls recorded her observations on a Survey Field Record and compiled a Photographic Record.

4 RESULTS

4.1 RECORDS SEARCH

On October 9, 2023, the SSJVIC responded to Taylored Archaeology’s records search request and provided the results of previous cultural studies conducted, and cultural resources recorded, within the Project boundary and within a 0.5-mile radius of the Project (Records Search File No. 23-407; Appendix B). The results of the records search indicate no cultural resources were previously recorded within the Project boundary nor within the 0.5-mile search radius.

The records search indicated two prior cultural studies were conducted within the Project boundary. One cultural study (KI-00238) is a region wide geoarchaeological review of archaeological sensitivity within the Southern San Joaquin Valley. KI-00238 did not conduct any surveys within or near the Project site. The second cultural study (KI-00269) is an archaeological desktop review with no associated surveys.

Table 1
Previous Cultural Resource Investigation Reports within the Project Area

Report Number	Author(s)	Date	Report Title	Study
KI-00238	Meyer, Jack, Young, Craig D. and Rosenthal, Jeffrey S.	2010	Volume I: A Geoarchaeological Overview and Assessment of Caltrans Districts 6 and 9	Cultural Resources Inventory of Rural Road Segments
KI-00269	Schiffman, Robert A.	Unknown, Evidence suggests between 1968 and 1987	Archaeological Evaluation of Areas Selected for Possible Nuclear Power Plants	Archaeological Desktop Review of Nuclear Power Plant Sites

4.2 ARCHIVAL RESEARCH

The Project site and the surrounding area were mostly agricultural use. Historical map coverage of the Project site dates back to 1929. A review of USGS maps shows the project utilized for agricultural uses for nearly one hundred years (NETROnline 2023). Historic aerial photograph coverage of the Project site dates back to 1956. A review of historic aerial photographs shows the Project site utilized for row crops from at least 1956 to 2006 (NETROnline 2023, Google 2023). Starting in 2009 the Project site appears similar to its current configuration with the two dairy sites (Google 2023).

4.3 NATIVE AMERICAN OUTREACH

On November 14, 2023, the NAHC responded to Taylored Archaeology's request, and stated that its Sacred Lands File results were negative for the presence of cultural resources within the Project area (see Appendix C). The NAHC recommended to contact the Native American tribal representatives culturally affiliated with the Project area on a list they provided.

The following Native American organizations/individuals were contacted from the list provided by NAHC below:

- Cultural Specialist I Nichole Escalon of the Santa Rosa Rancheria Tachi Yokut Tribe;
- THPO Shana Powers of the Santa Rosa Rancheria Tachi Yokut Tribe;
- Cultural Specialist II Samantha McCarty of the Santa Rosa Rancheria Tachi Yokut Tribe;
- Chairperson Neil Peyron of the Tule River Indian Tribe;
- Environmental Department Kerri Vera of the Tule River Tribe;
- Tribal Archaeologist Joey Garfield of the Tule River Indian Tribe; and
- Chairperson Kenneth Woodrow of the Wuksache Indian Tribe/Eshom Valley Band.

The outreach letters were sent via email on November 15, 2023, to all the Native American representatives on the contact list. The letters included a description of the proposed Project and a location map. Follow up emails were sent on November 28, 2023. One response was received on November 28, 2023, from Samantha McCarty, Cultural Specialist II, of the Santa Rosa Rancheria Tachi Yokut Tribe. In her email, Samantha McCarty stated the Tachi Tribe was working on a response. There have been no other responses from the representatives to date (Appendix C).

4.4 ARCHAEOLOGICAL PEDESTRIAN SURVEY RESULTS

A pedestrian survey was conducted on October 14, 2023, by Consuelo Sauls. The survey consisted of walking transects, visually inspecting, and photographing the exposed ground surface of the Project site. Ms. Sauls surveyed all portions of the Project boundary that were not obstructed by buildings and structures, large piles of compost or cattle feed, enclosed livestock pens, and heavy equipment (Figures 4-1 and 4-2).

The natural topography of the area has been altered by historical and modern agricultural practices and much of the land on the Project site has been graded, and plowed, which has caused additional disturbance to the soil. The Project site consists of flat land of existing dairy with livestock pens and commercial buildings. A majority of the linear portion of the entire Project area consisted of heavily compacted dirt roads (Figure 4-3). Approximately 16 acres of the central Project area consisted of an agricultural field (Figure 4-4). Ground visibility ranged from 100 percent within the dirt roads to 5 percent within the agricultural field. Rodent burrows and any related soil piles were closely examined for lithic scatters or for indications of buried deposits.

No archaeological sites, isolated artifacts, or features were identified during the pedestrian survey.

While past agricultural activities may have potentially destroyed or obscured ground surface evidence of archaeological resources within the Project boundary, intact archaeological resources related to prior occupation of the area may potentially exist below the ground surface.



Figure 4-1 Southwestern portion of Project site, facing north.



Figure 4-2 Cattle in central portion of Project site, facing west.



Figure 4-3 Western portion of Project site, facing east.



Figure 4-4 Agricultural field in northern portion of Project site, facing east.

5

CONCLUSIONS AND RECOMMENDATIONS

Taylored Archaeology performed a Phase I Cultural Resources Assessment for the Dairy Avenue and Circle H Biogas Facility Project in Kings County, California. The purpose of this assessment is to identify potential cultural resources on the ground surface in the Project boundary. Taylored Archaeology conducted background research and pedestrian survey of the Project boundary to determine whether prehistoric and historic resources will be affected by the Project. The investigation included: (1) a records search at the SSJVIC; (2) a request of the NAHC Sacred Lands File including the Native American representatives' contact information, and nongovernmental tribal outreach; (3) archival research; and (4) a pedestrian survey within the Project boundary.

The SSJVIC records search results indicated that there have been two previous cultural resources investigations conducted and no archaeological resources were recorded within the Project area. The SSJVIC also reported that there were no previous cultural resources investigations conducted within a 0.5-mile radius of the surrounding area and no cultural resources recorded.

The NAHC's Sacred Lands File search results were negative, and the NAHC recommended contacting Native American representatives on the contact list provided by the NAHC. Taylored Archaeology contacted the listed Native American representatives on November 15, 2023. One response was received on November 28, 2023, from Samantha McCarty, Cultural Specialist II, of the Santa Rosa Rancheria Tachi Yokut Tribe. In her email, Samantha McCarty stated the Tachi Tribe was working on a response. No other responses were received by contacted representatives as of December 3, 2023.

No archaeological resources were identified during the pedestrian survey of the Project site.

Based on the results of this investigation, Taylored Archaeology recommends the following:

In the event of accidental discovery of unidentified archaeological remains during development or ground disturbing activities in the Project area, all work shall be halted in the immediate vicinity (within a 100-foot radius) until a qualified archaeologist can identify the discovery and assess its significance.

If human remains are uncovered during construction, work shall be halted, and the Kings County Coroner is to be notified to investigate the remains and arrange proper treatment and disposition. If the remains are identified on the basis of archaeological context, age, cultural associations, or biological traits to be those of a Native American, California Health and Safety Code 7050.5 and California Public Resources Code 5097.98 require that the coroner notify the Native American Heritage Commission (NAHC) within 24 hours of discovery. The NAHC will then identify the Most Likely Descendent who will make recommendations regarding the treatment and disposition of the remains.

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APPENDIX A

Personnel Qualifications

Areas of Expertise

- Cultural Resource Management
- CEQA and Federal regulations
- Prehistoric Archaeology
- Laboratory Management
- Technical Writing
- Phase I Assessments

Years of Experience

- 14

Education

- M.A., Archaeology, University of Durham, 2014
- B.A., Anthropology, California State University, Fresno, 2009

Registrations/Certifications

- Registered Professional Archaeologist 41591505

Professional Affiliations

- Coalition for Diversity in California Archaeology
- Society for American Archaeology
- Society for California Archaeology
- Society of Black Archaeologists

Professional Experience

- 2019 – Present Principal Investigator, Taylored Archaeology, Fresno, California
- 2018 – 2019 Staff Archaeologist, Applied EarthWorks, Inc., Fresno, California
- 2016 – 2018 Principal Investigator, Soar Environmental Consulting, Inc., Fresno, California
- 2015 Archivist/Database Technician, Development and Conservation Management, Inc., Laguna Beach, California
- 2013 Laboratory Research Assistant, Durham University Archaeology Department and Archaeology Museum, Durham, England, UK
- 2011 – 2012 Laboratory Technician, University of Pennsylvania Museum of Archaeology and Anthropology, Philadelphia, Pennsylvania
- 2008 – 2009 Laboratory Technician, California State University, Fresno
- 2008 Field School, California State University, Fresno

Technical Qualifications

Ms. Sauls meets the Secretary of the Interior's Professional Qualification Standards as an archaeologist. She has conducted pedestrian surveys, supervised Extended Phase I survey, authored technical reports, and completed the Section 106 process with the State Historic Preservation Officer and Tribal Historic Preservation Officer. Her experience includes data recovery excavation at Western Mono sites and processing recovered artifacts in the laboratory as well as conducting archival research about prehistory and ethnography of Central California. Ms. Sauls has authored and contributed to technical and letter reports in compliance with of the National Historical Preservation Act (NHPA) Section 106 and the California Environmental Quality Act (CEQA). She also has supported NHPA tribal consultation and responded to Assembly Bill 52 tribal comments. Ms. Sauls also has an extensive background supervising laboratory processing, cataloging, and conservation of prehistoric and historical archaeological collections. In addition, she worked with the Rock Art Heritage Group in the management, preservation, and presentation of rock art in museums throughout England, including a thorough analysis of the British Museum's rock art collections. At Durham University Archaeology Museum, Ms. Sauls processed the excavated skeletal remains of 30 individuals from the seventeenth century.

APPENDIX B

Records Search Results



10/9/2023

Consuelo Sauls
Taylored Archaeology
6083 N. Figarden Dr. Ste. 616
Fresno, CA 93722

Re: Dairy Avenue and Circle Project
Records Search File No.: 23-407

The Southern San Joaquin Valley Information Center received your record search request for the project area referenced above, located on the Hacienda Ranch NE USGS 7.5' quad. The following reflects the results of the records search for the project area and the 0.5 mile radius:

As indicated on the data request form, the locations of archaeological resources and reports are provided in the following format: custom GIS maps GIS data

Archaeological resources within project area:	None
Archaeological resources within 0.5 mile radius:	None
Reports within project area:	KI-00238, 00269
Reports within 0.5 mile radius:	None

Resource Database Printout (list): enclosed not requested nothing listed

Resource Database Printout (details): enclosed not requested nothing listed

Resource Digital Database Records: enclosed not requested nothing listed

Report Database Printout (list): enclosed not requested nothing listed

Report Database Printout (details): enclosed not requested nothing listed

Report Digital Database Records: enclosed not requested nothing listed

Resource Record Copies: enclosed not requested nothing listed

Report Copies: enclosed not requested nothing listed

OHP Built Environment Resources Directory: enclosed not requested nothing listed

Archaeological Determinations of Eligibility: enclosed not requested nothing listed

CA Inventory of Historic Resources (1976): enclosed not requested nothing listed

Caltrans Bridge Survey:

Not available at SSJVIC; please see <https://dot.ca.gov/programs/environmental-analysis/cultural-studies/california-historical-bridges-tunnels>

Ethnographic Information:

Not available at SSJVIC

Historical Literature:

Not available at SSJVIC

Historical Maps:

Not available at SSJVIC; please see

<http://historicalmaps.arcgis.com/usgs/>

Local Inventories:

Not available at SSJVIC

GLO and/or Rancho Plat Maps:

Not available at SSJVIC; please see

<http://www.glorerecords.blm.gov/search/default.asp?searchTabIndex=0&searchByTypeIndex=1 and/or>

<http://www.oac.cdlib.org/view?docId=hb8489p15p;developer=local;style=oac4;doc.view=items>

Shipwreck Inventory:

Not available at SSJVIC; please see

<https://www.slc.ca.gov/shipwrecks/>

Soil Survey Maps:

Not available at SSJVIC; please see

<http://websoilsurvey.nrcs.usda.gov/app/WebSoilSurvey.aspx>

Please forward a copy of any resulting reports from this project to the office as soon as possible. Due to the sensitive nature of archaeological site location data, we ask that you do not include resource location maps and resource location descriptions in your report if the report is for public distribution. If you have any questions regarding the results presented herein, please contact the office at the phone number listed above.

The provision of CHRIS Data via this records search response does not in any way constitute public disclosure of records otherwise exempt from disclosure under the California Public Records Act or any other law, including, but not limited to, records related to archeological site information maintained by or on behalf of, or in the possession of, the State of California, Department of Parks and Recreation, State Historic Preservation Officer, Office of Historic Preservation, or the State Historical Resources Commission.

Due to processing delays and other factors, not all of the historical resource reports and resource records that have been submitted to the Office of Historic Preservation 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. Additionally, Native American tribes have historical resource information not in the CHRIS Inventory, and you should contact the California Native American Heritage Commission for information on local/regional tribal contacts.

Should you require any additional information for the above referenced project, reference the record search number listed above when making inquiries. Invoices for Information Center services will be sent under separate cover from the California State University, Bakersfield Accounting Office.

Thank you for using the California Historical Resources Information System (CHRIS).

Sincerely,



Jeremy E David
Assistant Coordinator

APPENDIX C

Native American Outreach

NATIVE AMERICAN HERITAGE COMMISSION

November 14, 2023

Consuelo Sauls
Taylored Archaeology

Via Email to: csaulsarchaeo@gmail.com

Re: Dairy Avenue and Circle Project, Kings County

Dear Mr. Sauls:

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



CHAIRPERSON
Reginald Pagaling
Chumash

VICE-CHAIRPERSON
Buffy McQuillen
Yokayo Pomo, Yuki,
Nomlaki

SECRETARY
Sara Dutschke
Miwok

PARLIAMENTARIAN
Wayne Nelson
Luiseño

COMMISSIONER
Isaac Bojorquez
Ohlone-Costanoan

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Reid Milanovich
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Vacant

EXECUTIVE SECRETARY
**Raymond C.
Hitchcock**
Miwok, Nisenan

NAHC HEADQUARTERS
1550 Harbor Boulevard
Suite 100
West Sacramento,
California 95691
(916) 373-3710
nahc@nahc.ca.gov
NAHC.ca.gov

**Native American Heritage Commission
Native American Contact List
Kings County
11/14/2023**

County	Tribe Name	Fed (F) Non-Fed (N)	Contact Person	Contact Address	Phone #	Fax #	Email Address	Cultural Affiliation	Counties	Last Updated
Kings	Santa Rosa Rancheria Tachi Yokut Tribe	F	Nichole Escalon, Cultural Specialist I	P.O. Box 8 Lemoore, CA, 93245	(559) 924-1278		nescalone@tachi-yokut-nsn.gov	Southern Valley Yokut	Fresno,Kern,Kings,Merced,Monterey,San Benito,San Luis Obispo,Tulare	10/3/2023
	Santa Rosa Rancheria Tachi Yokut Tribe	F	Shana Powers, THPO	P.O. Box 8 Lemoore, CA, 93245	(559) 423-3900		spowers@tachi-yokut-nsn.gov	Southern Valley Yokut	Fresno,Kern,Kings,Merced,Monterey,San Benito,San Luis Obispo,Tulare	10/3/2023
	Santa Rosa Rancheria Tachi Yokut Tribe	F	Samantha McCarty, Cultural Specialist II	P.O. Box 8 Lemoore, CA, 93245	(559) 633-3440		smccarty@tachi-yokut-nsn.gov	Southern Valley Yokut	Fresno,Kern,Kings,Merced,Monterey,San Benito,San Luis Obispo,Tulare	10/3/2023
	Tule River Indian Tribe	F	Neil Peyron, Chairperson	P.O. Box 589 Porterville, CA, 93258	(559) 781-4271	(559) 781-4610	neil.peyron@tulerivertribe-nsn.gov	Yokut	Alameda,Amador,Calaveras,Contra Costa,Fresno,Inyo,Kern,Kings,Madera,Mariposa.Merced.Monterev.Sacramento	
	Tule River Indian Tribe	F	Joey Garfield, Tribal Archaeologist	P. O. Box 589 Porterville, CA, 93258	(559) 783-8892	(559) 783-8932	joey.garfield@tulerivertribe-nsn.gov	Yokut	Alameda,Amador,Calaveras,Contra Costa,Fresno,Inyo,Kern,Kings,Madera,Mariposa.Merced.Monterev.Sacramento	7/22/2016
	Tule River Indian Tribe	F	Kerri Vera, Environmental Department	P. O. Box 589 Porterville, CA, 93258	(559) 783-8892	(559) 783-8932	kerri.vera@tulerivertribe-nsn.gov	Yokut	Alameda,Amador,Calaveras,Contra Costa,Fresno,Inyo,Kern,Kings,Madera,Mariposa.Merced.Monterev.Sacramento	7/22/2016
	Wuksachi Indian Tribe/Eshom Valley Band	N	Kenneth Woodrow, Chairperson	1179 Rock Haven Ct. Salinas, CA, 93906	(831) 443-9702		kwood8934@aol.com	Foothill Yokut Mono	Alameda,Calaveras,Contra Costa,Fresno,Inyo,Kings,Madera,Mariposa.Merced.Mono.Monterev.Sa	6/19/2023

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.

Record: PROJ-2023-005358
Report Type: List of Tribes
Counties: Kings
NAHC Group: All

This list is only applicable for contacting local Native Americans with regard to cultural resources assessment for the proposed Dairy Avenue and Circle Project, Kings County.

Native American Outreach Log

Dairy Avenue and Circle Project, Kings County, California

Organization	Name	Position	Address	Phone Number	Email Address	Letter	E-Mail	Summary of Contact
Native American Heritage Commission	Cameron Vela	Cultrtral Resources Analyst	1550 Harbor Boulevard Suite 100 West Sacramento, California 95691	(916) 373-3710	nahc@nahc.ca.gov		9/25/2023	In a letter dated November 14, 2023, the NAHC stated that the results were negative and suggested to contact the local Native American representatives on the list provided.
Santa Rosa Rancheria Tachi Yokut Tribe	Nicole Escalon	Cultural Specialist I	P.O. Box 8 Lemoore, CA 93245	(559) 924-1278	nescalone@tachi-yokut-nsn.gov	11/15/2023	11/28/2023	No response
Santa Rosa Rancheria Tachi Yokut Tribe	Shana Powers	Tribal Historic Preservation Officer	P.O. Box 8 Lemoore, CA 93245	(559) 423-3900	spowers@tachi-yokut-nsn.gov	11/15/2023	11/28/2023	No response
Santa Rosa Rancheria Tachi Yokut Tribe	Samantha McCarty	Cultural Specialist II	P.O. Box 8 Lemoore, CA 93245	(559) 633-3440	smccarty@tachi-yokut-nsn.gov	11/15/2023	11/28/2023	Replied via email on November 28, 2023 stating the Tribe was preparing a respopnse. No further correspondance was received.
Tule River Indian Tribe	Neil Peyron	Chairperson	P.O. Box 589 Porterville, CA 93258	(559) 781-4271	neil.peyron@tulrivertribe-nsn.gov	11/15/2023	11/28/2023	No response
Tule River Indian Tribe	Kerri Vera	Environmental Department	P.O. Box 589 Porterville, CA 93258	(559) 783-8892	kerri.vera@tulrivertribe-nsn.gov	11/15/2023	11/28/2023	No response
Tule River Indian Tribe	Joey Garfield	Tribal Archaeologist	P.O. Box 589 Porterville, CA 93258	(559) 783-8932	joey.garfield@tulrivertribe-nsn.gov	11/15/2023	11/28/2023	No response
Wuksache Indian Tribe/Eshom Valley Band	Kenneth Woodrow	Chairperson	1179 Rock Haven Ct. Salinas, CA 93906	(831) 443-9702	kwood8934@aol.com	11/15/2023	11/28/2023	No response



Consuelo Sauls <csaulsarchaeo@gmail.com>

Native American Outreach Letter-Dairy Avenue and Circle Project, Kings County

Samantha McCarty <SMcCarty@tachi-yokut-nsn.gov>

Tue, Nov 28, 2023 at 10:00 AM

To: Consuelo Sauls <csaulsarchaeo@gmail.com>

Cc: Nichole Escalon <nescalon@tachi-yokut-nsn.gov>, Shana Powers <SPowers@tachi-yokut-nsn.gov>

Good Morning Consuelo,

Thank you for following up with us. We are currently working on our response right now and will have it sent over to you as soon as possible. Please let me know if you have any questions or concerns in the meantime. Thank you.

Sincerely,

Samantha McCarty

Santa Rosa Rancheria Tachi-Yokut Tribe

Cultural Specialist II

SMcCarty@tachi-yokut-nsn.gov

Cell: (559) 633-6640

Direct Line: (559) 925-2591

Office: (559) 924-1278 x 4091

***PLEASE KEEP ALL CULTURAL STAFF IN EMAILS UNLESS STATED OTHERWISE**

*Santa Rosa Rancheria Government Offices will be closed on November 23rd and 24th and will reopen November 27th. SRR will also be closed from December 23rd to January 1st for the holiday season. Please keep in mind that this means that no one from the Cultural Department will be in office and no monitors will be available for any projects. If you have any questions, comments, and/or concerns please send us an email and we will get back to you as soon as we can once we return from holiday. If it is an urgent matter please call Cultural Department Director/Tribal Historic Preservation Officer Shana Powers at Cell: (559)423-3900.

From: Consuelo Sauls <csaulsarchaeo@gmail.com>

Sent: Tuesday, November 28, 2023 9:29 AM

To: Samantha McCarty <SMcCarty@tachi-yokut-nsn.gov>

Cc: Shana Powers <SPowers@tachi-yokut-nsn.gov>

Subject: Re: Native American Outreach Letter-Dairy Avenue and Circle Project, Kings County

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Appendix D

Energy Calculations

Construction Equipment Energy Use

Phase Name	Off Road Equipment Type	Off Road Equipment Unit Amount ¹	Usage Hours Per Day ¹	Horse Power (lbs/sec) ¹	Load Factor ¹	Total Operational Hours	BSFC ²	Fuel Used (gallons) ³	MBTU ⁴
Site Preparation	Air Compressors	2	5	78	0.48	1150	0.408	2471.07	343.478952
Site Preparation	Generator Sets	4	10	84	0.74	4600	0.408	16410.45	2281.05253
Site Preparation	Other Construction	2	10	172	0.42	2300	0.367	8577.55	1192.27908
Site Preparation	Plate Compactors	4	10	8	0.43	4600	0.408	908.17	126.235854
Site Preparation	Excavators	2	10	97	0.37	2300	0.408	4737.54	658.518141
Site Preparation	Tractors/Loaders/Backhoes	2	10	247	0.4	2300	0.367	11731.20	1630.63639
Grading	Air Compressors	2	5	247	0.4	1150	0.367	5865.60	815.318197
Grading	Excavators	2	10	158	0.38	2300	0.367	7128.96	990.925193
Grading	Generator Sets	4	10	187	0.41	4600	0.367	18207.10	2530.78729
Grading	Tractors/Loaders/Backhoes	2	10	97	0.37	2300	0.408	4737.54	658.518141
Grading	Plate Compactors	4	10	367	0.48	4600	0.367	41833.35	5814.83617
Grading	Other Construction	2	10	172	0.42	2300	0.367	8577.55	1192.27908
Building Construction	Forklifts	2	5	89	0.2	1530	0.408	1563.01	217.259053
Building Construction	Welders	2	10	46	0.45	3060	0.408	3635.33	505.310382
Trenching	Other Construction	2	10	172	0.42	2300	0.367	8577.55	1192.27908
Trenching	Excavators	3	10	158	0.38	3450	0.367	10693.44	1486.38779
Trenching	Generator Sets	4	10	84	0.74	4600	0.408	16410.45	2281.05253
Trenching	Plate Compactors	4	10	8	0.43	4600	0.408	908.17	126.235854
Trenching	Tractors/Loaders/Backhoes	6	8	97	0.37	5520	0.408	11370.10	1580.44354
Trenching	Air Compressors	2	5	78	0.48	1150	0.408	2471.07	343.478952
Total								186815.20	25967.31

Construction Phases

PhaseNumber	Phase Name	Phase Type	Phase Start Date ¹	Phase End Date ¹	Num Days Week ¹	Total Number of Days ¹
1	Site Preparation	Site Preparation	3/1/2024	8/8/2024	5	115
2	Grading	Grading	3/1/2024	8/8/2024	5	115
3	Building Construction	Building Constru	3/1/2024	10/1/2024	5	153
4	Trenching	Trenching	3/1/2024	8/8/2024	5	115
5		5	5	5	5	0

Notes

1. Project Specific Values Used
2. BSFC - Brake Specific Fuel Consumption (pounds per horsepower-hour) – If less than 100 Horsepower = 0.408, if greater than 100 Horsepower = 0.367
3. Fuel Used = Load Factor x Horsepower x Total Operational Hours x BSFC / Unit Conversion
4. MBTU calculated for comparison purposes. Assumed 1 gallon of diesel = 0.139 MBTU

Mobile Energy Use (Construction)

Worker Trips

	Daily Worker Trips ¹	Worker Trip Length ²	VMT/Day	MPG Factor (EMFAC2017)	Gallons of Gas/Day	# of Days	Total Gallons of Gas	MBTU ³
Site Preparation	24	16.8	403.2	24.93	16.2	115	1859.9	215.919
Grading	24	16.8	403.2	24.93	16.2	115	1859.9	215.919
Building Construction	24	16.8	403.2	24.93	16.2	153	2474.5	287.2662
Trenching	24	16.8	403.2	24.93	16.2	115	1859.9	215.919
Total	N/A	N/A	N/A	N/A	N/A	498	6194.4	719.1042

Vendor Trips

	Daily Vendor Trips	Vendor Trip Length	VMT/Day	MPG Factor	Gallons of Diesel/Day	# of Days	Total Gallons of Diesel	MBTU
Building Construction	2	6.6	13.2	7.41	1.8	230	409.7165992	56.95061

Fleet Characteristics

	Vehicle Class	Fleet Mix	2024 MPG Factor (EMFAC2017)	Average MPG Factor
Assumed Vehicle Fleet for Workers	LDA	33%	28.46	24.93
	LDT1	33%	23.44	
	LDT2	33%	22.89	
Assumed Vehicle Fleet for Vendor Trips	MHD	50%	8.73	7.41
	HHD	50%	6.09	

Notes

1. Project specific construction values used.
2. CalEEMod Default values used
3. MBTU calculated for comparison purposes. Assumed 1 gallon of gasoline = 0.11609 MBTU

Summary of Energy Use (Construction)

	Off-Road Equipment Fuel (Diesel)		On-Road Vehicle Fuel				Total MBTU
			Diesel		Gasoline		
	Gallons	MMBTU	Gallons	MMBTU	Gallons	MMBTU	
Biogas Plant	186815	25967	409	57	6194	719	26743
Total Construction Energy Use							26743
Average Annual Construction Energy Use							17829

Mobile Energy Use (Operations)

Total Annual VMT from Project (CalEEMod)	45,908
--	--------

Fleet Mix & Fuel Calculations

Vehicle Class	Proportion of Fleet Mix ¹	Annual VMT by Vehicle Class	Proportion of vehicle class using gas or diesel (EMFAC2017) ²		Annual VMT by Vehicle Class and Fuel Type		Fuel Efficiency (MPG) by Vehicle Class and Fuel Type (EMFAC2017)		Annual Fuel Use from Project (gallons)		MBTU/Year ³
			Gas	Diesel	Gas	Diesel	Gas	Diesel	Gas	Diesel	
LDA	0.22000000	10099.8	100%	0%	10079.64	20.12	28.46	42.24	354.2	0.5	41.2
LDT1	0.22000000	10099.8	100%	0%	10095.64	4.12	23.44	24.68	430.7	0.2	50.0
LDT2	0.22000000	10099.8	100%	0%	10068.23	31.53	22.89	32.12	439.8	1.0	51.2
MDV	0.00000000	0.0	98%	2%	0.00	0.00	0.00	18.54	23.57	0.0	0.0
LHD1	0.00000000	0.0	49%	51%	0.00	0.00	9.48	15.74	0.0	0.0	0.0
LHD2	0.00000000	0.0	27%	73%	0.00	0.00	8.48	13.09	0.0	0.0	0.0
MHD	0.00000000	0.0	18%	82%	0.00	0.00	4.74	8.73	0.0	0.0	0.0
HHD	0.34000000	15608.7	0%	100%	4.07	15604.65	3.35	6.09	1.2	2561.8	356.2
OBUS	0.00000000	0.0	65%	35%	0.00	0.00	4.75	6.90	0.0	0.0	0.0
UBUS	0.00000000	0.0	76%	24%	0.00	0.00	8.41	11.19	0.0	0.0	0.0
MCY	0.00000000	0.0	100%	0%	0.00	0.00	40.30	NA	0.0	0.0	0.0
SBUS	0.00000000	0.0	37%	63%	0.00	0.00	9.78	8.08	0.0	0.0	0.0
MH	0.00000000	0.0	66%	34%	0.00	0.00	4.41	9.41	0.0	0.0	0.0
Total	100.000000%	45908.0			30247.58	15660.42			1225.9	2563.4	498.6

Usage Type	MBTU ⁴
Electricity Use	
Natural Gas Use	

Fleet Characteristics

Source: EMFAC2017 (v1.0.3) Emissions Inventory
 Region Type: County
 Region: Kings
 Calendar Year: 2024
 Season: Annual
 Vehicle Classification: EMFAC2007 Categories
 Units: miles/year for VMT, trips/year for Trips, tons/year for Emissions, 1000 gallons/year for Fuel Consumption

GASOLINE

Region	Calendar Year	Vehicle Category	Model Year	Speed	Fuel	Population	VMT (Annual)	Trips (Annual)	Fuel Consumption (1000 gal/year)	Annual Fuel Consumption (gallons)	MPG
Kings	2024	HHDT	Aggregate	Aggregate	Gasoline	2	69595	5642	20.78	20779	3.35
Kings	2024	LDA	Aggregate	Aggregate	Gasoline	62891	943007371	325924543	33135.62	33135624	28.46
Kings	2024	LDT1	Aggregate	Aggregate	Gasoline	5722	69123876	31894273	2948.74	2948739	23.44
Kings	2024	LDT2	Aggregate	Aggregate	Gasoline	28214	404757831	105810710	17680.41	17680411	22.89
Kings	2024	LHD1	Aggregate	Aggregate	Gasoline	2719	36105174	26803634	3808.07	3808070	9.48
Kings	2024	LHD2	Aggregate	Aggregate	Gasoline	342	4509950	4406586	531.73	531729	8.48
Kings	2024	MCY	Aggregate	Aggregate	Gasoline	3376	7016638	6611059	174.10	174104	40.30
Kings	2024	MDV	Aggregate	Aggregate	Gasoline	27960	365147479	106279450	19692.36	19692364	18.54
Kings	2024	MH	Aggregate	Aggregate	Gasoline	376	1225178	30111	277.79	277794	4.41
Kings	2024	MHDT	Aggregate	Aggregate	Gasoline	180	3968196	2764314	837.27	837267	4.74
Kings	2024	OBUS	Aggregate	Aggregate	Gasoline	79	1536311	922982	323.76	323761	4.75
Kings	2024	SBUS	Aggregate	Aggregate	Gasoline	27	630591	109782	64.45	64451	9.78
Tulare	2024	UBUS	Aggregate	Aggregate	Gasoline	12	179850	99041	21.38	21382	8.41

DIESEL

Region	Calendar Year	Vehicle Category	Model Year	Speed	Fuel	Population	VMT (annual)	Trips (annual)	Fuel Consumption (1000 gal/year)	Annual Fuel Consumption (gallons)	MPG
Kings	2024	HHDT	Aggregate	Aggregate	Diesel	4739	267105141	31416840	43849.95	43849950	6.09
Kings	2024	LDA	Aggregate	Aggregate	Diesel	171	1882225	258942	44.56	44562	42.24
Kings	2024	LDT1	Aggregate	Aggregate	Diesel	5	28221	4875	1.14	1143	24.68
Kings	2024	LDT2	Aggregate	Aggregate	Diesel	83	1267427	144618	39.45	39453	32.12
Kings	2024	LHD1	Aggregate	Aggregate	Diesel	2824	37104296	12964762	2356.84	2356840	15.74
Kings	2024	LHD2	Aggregate	Aggregate	Diesel	872	12071416	4005740	922.40	922395	13.09
Kings	2024	MDV	Aggregate	Aggregate	Diesel	427	5972717	720591	253.42	253418	23.57
Kings	2024	MH	Aggregate	Aggregate	Diesel	198	632909	7237	67.27	67268	9.41
Kings	2024	MHDT	Aggregate	Aggregate	Diesel	1032	17869402	4406023	2046.25	2046248	8.73
Kings	2024	OBUS	Aggregate	Aggregate	Diesel	31	813109	137029	117.92	117916	6.90
Kings	2024	SBUS	Aggregate	Aggregate	Diesel	136	1058776	719558	130.99	130986	8.08
Kings	2024	UBUS	Aggregate	Aggregate	Diesel	2	56096	3518	5.01	5012	11.19

Notes

- Used project-specific vehicle fleet mix
- Proportion of diesel vs. gasoline vehicles calculated based on total annual VMT for each vehicle class
- MBTU Calculated for comparison purposes. Assumed 1 gallon of gasoline = 0.116090 MBTU and 1 gallon of diesel = 0.139 MBTU
- MBTU Calculated for comparison purposes. Assumed 1 kWh = 0.0034095 MBTU and 1 kBtu = 0.001 MBTU

Summary of Energy Use (Operation)

Mobile Fuel Use		
	Gal/Year	MMBTU
Biogas Plant (Gasoline)	1225	147
Biogas (Diesel)	2563	352
Electricity Use		
	kWh/Year*	MMBTU
Biogas Plant	350,400	1196
Natural Gas Use		
	kBTU/Year	MMBTU
Biogas Plant	35300	35
Total Operational Energy Use		1730

*Based on project specific energy usage.

Appendix E

VMT Memorandum

Vehicle Miles Traveled (VMT) Memorandum

1.1 Project Description

This document is a Trip Generation and Vehicle Miles Traveled (VMT) Technical Memorandum (Memo) for the Dairy Avenue & Circle H Biogas Project (the 'Project') in an unincorporated portion of southeastern Kings County ('the County'). The project will be located on the south side of Tuscon Avenue, and on the northeast corner of Utica Avenue and 6th Avenue.

The proposed biogas facility would affect approximately 16.2 acres within parcels 044-280-012, 044-280-005, and 044-280-013. The site currently contains three livestock facilities, two of which are dairy farms (Dairy Avenue & Circle H) and the other is a calf and heifer raising facility (Homeland Cattle Company). The purpose of this project is to reduce methane emissions from livestock waste by producing raw biogas via an anaerobic digester system, which will be upgraded on site and then deposited at a nearby natural gas system to provide a sustainable form of vehicle fuel. Figure 1 illustrates the conceptual site plan for the Project.

The objective of this Memo are as follows:

- To determine whether a detailed VMT analysis will be required for the project.

1.2 VMT Analysis

On December 28, 2018, the California Office of Administrative Law cleared the revised California Environmental Quality Act (CEQA) Guidelines for use. Among the changes to the guidelines was the removal of the vehicle delay and level of service as the sole basis of determining CEQA impacts. With the implementation of the adopted guidelines, transportation impacts are to be evaluated based on a project's effect on VMT. The County is yet to adopt their own VMT Guidelines. Therefore, the VMT Analysis conducted pursuant to the Governor's Office of Planning and Research (OPR) Technical Advisory on Evaluating Transportation Impacts under CEQA (TA), dated December 2018.

Project Screening Criteria

Under the VMT methodology, screening is used to determine if a project will require a detailed VMT analysis. Certain types of projects have been identified in the Office of Planning and Research Guidelines as having a less than significant impact, which can effectively screen

projects from project-level assessment. The following project types may have a less than significant impact if there is no substantial evidence that states otherwise:

- Local-serving retail uses less than 50,000 square feet
- Other local serving uses as approved by City staff
- Projects generating less than 110 daily vehicle trips

VMT and Trip Generation for Project Facilities

The Project will contain several facilities, all having the same hours of operation, number of trips, and number of employees. The facilities include an anaerobic digester, a biogas conditioning plant (upgrading facility), and a truck trailer loading station. The number of people on-site during peak activity will remain consistent with existing operations/conditions. Currently, milk is produced by the two dairy facilities (Dairy Ave & Circle H) and picked up twice each day. In addition, the feedlot (Homeland Cattle) operates with frequent hauling of animals to and from the site. These existing operations have already been permitted, so these operations will be excluded from the VMT analysis.

The operational hours for the biogas facility will be 24 hours a day, 7 days per week, 365 days per year. Operational hours for employees will be 6 a.m. to 6 p.m., seven days a week. The truck trailer loading station estimates having one daily outbound and one daily inbound truck trip per day, for delivery of treated biogas to a local SoCalGas transmission line approximately 22.9 miles away in Tulare, CA. The biogas delivery truck will operate year-round and will have an average of four (4) additional tractor-trailer trips per week, with a maximum of seven (7) round trips per week.

Assuming a uniform rate of arrival throughout the daily operational hours (between 6:00 a.m. and 6:00 p.m.), it was estimated that one delivery trip (i.e., one outbound and one inbound trip) will occur each day. As a conservative estimate, the delivery truck is projected to produce 2 vehicle trips per day, considering both inbound and outbound travel.

Employee VMT and Trip Generation

Based on the project description, the project proposes having an average of one (1) round trip passenger vehicle trip per day, and a maximum of two (2) passenger round trips per day once the anaerobic digester and upgrading facility are operational. Therefore, it could be estimated that the project will be generating 4 daily employee trips (inbound and outbound combined). As a conservative estimate, these trips could be estimated as peak hour trips,

with 2 inbound trips occurring during a.m. peak hour, and 2 outbound trips occurring during the p.m. peak hour. All these trips are estimated to be passenger vehicle trips.

Table A summarizes the project trip generation as described above and shows that after considering all these trip purposes, the proposed project is anticipated to produce 6 vehicle trips per day including employee and service and delivery purposes during the operational phase of the proposed Project.

Table A. Vehicle Trip and VMT Generation for the Biogas Facility

	Vehicle Trips per Day	VMT per Day¹
Natural Gas Hauling	2	46
Employee Trips	4	80
Total	6	120

1.3 Conclusion

The OPR states that small projects generating less than 110 daily trips are estimated to have minimal effect on VMT and are eligible to be screened out from a detailed VMT analysis. As shown in Table A, the project is anticipated to generate 6 total daily trips, which is significantly lower than the 110 daily trip threshold for screening projects from a detailed VMT analysis. Therefore, the project is anticipated to have a less than significant VMT impact and could be screened out from a detailed VMT analysis.

¹ VMT per day was calculated using CalEEMod methodology; trip mileage multiplied by the number of trips to calculate total vehicle miles traveled.



References

1. [Revised Proposal on Updates to the CEQA Guidelines on Evaluating Transportation Impacts in CEQA \(ca.gov\)](#)
2. [City of Hanford VMT Thresholds and Implementation Guidelines - 11-10-2022](#)
3. [CalEEMod Appendix A](#)
4. [City of Anaheim VMT Technical Memorandum \(2021\)](#)



Attachments

Figure 1: Regional Location Map

Figure 2: Project Vicinity Map

Figure 3: Conceptual Site Plan

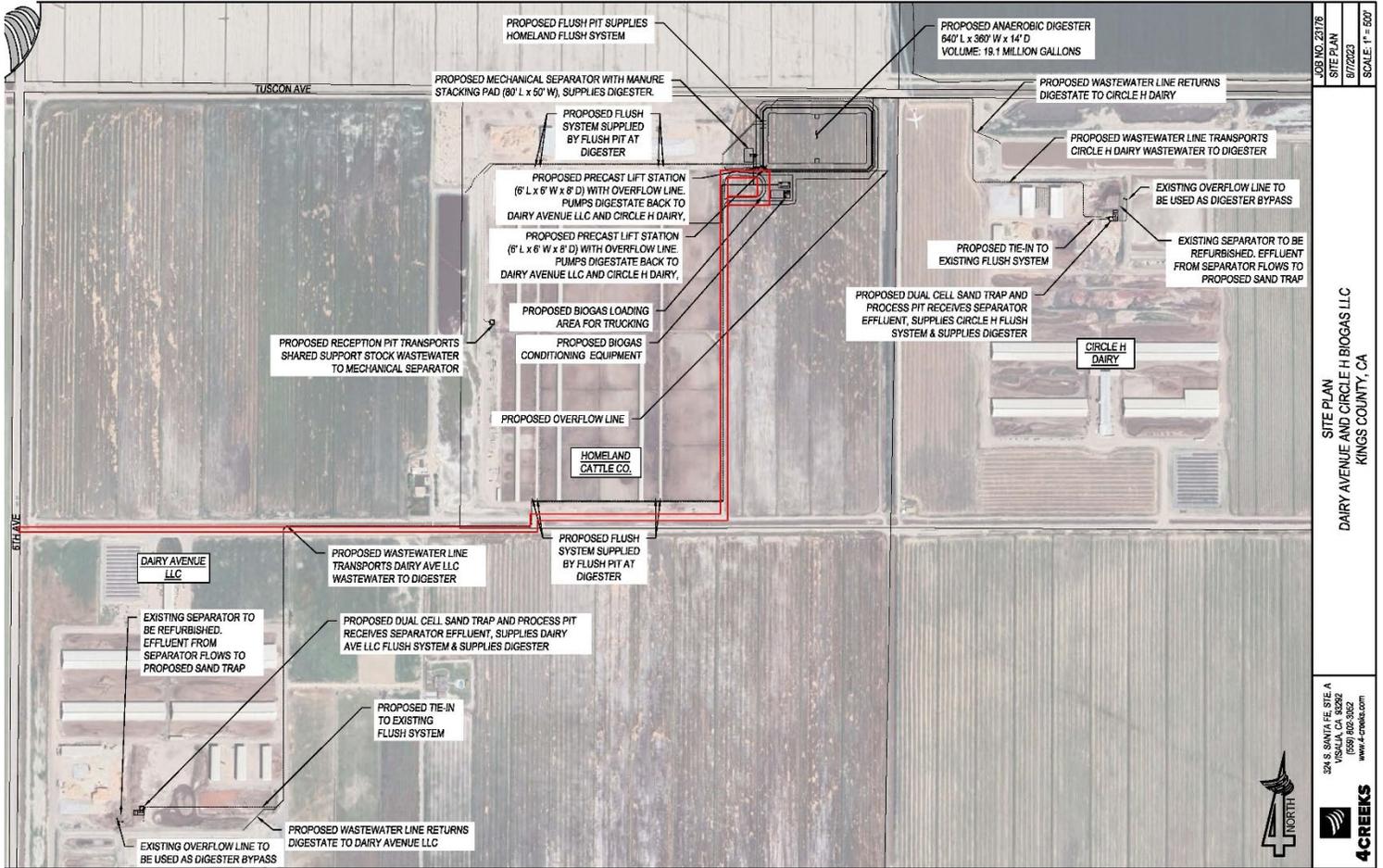


Figures

1-3



Figure 2. Project Site Vicinity Map.



JOB NO. 23176
SITE PLAN
8/7/2023
SCALE: 1" = 50'

SITE PLAN
DAIRY AVENUE AND CIRCLE H BIOGAS LLC
KINGS COUNTY, CA

324 S. DAVENUE, STE. A
KESWICK, CA 95952
(916) 802-3002
www.4creeks.com



Figure 3. Site Plan for the Biogas Facility.