

**CONDITIONAL USE PERMIT NO. 17-14
DRAFT INITIAL STUDY AND
MITIGATED NEGATIVE DECLARATION**

**HANFORD-LAKESIDE DAIRY DIGESTER
CLUSTER PROJECT**



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Notice of Completion & Environmental Document Transmittal

Mail to: State Clearinghouse, P.O. Box 3044, Sacramento, CA 95812-3044 (916) 445-0613
 For Hand Delivery/Street Address: 1400 Tenth Street, Sacramento, CA 95814

SCH #

Project Title: Hanford-Lakeside Dairy Digester Cluster project; Lakeside Pipeline, LLC. Conditional Use Permit No. 17-14

Lead Agency: Kings County Community Development Agency

Contact Person: Chuck Kinney, Deputy Director - P

Mailing Address: 1400 West Lacey Boulevard, Building #6

Phone: 559-852-2674

City: Hanford

Zip: 93230

County: Kings

Project Location: County: Kings

City/Nearest Community: Hanford

Cross Streets: 7th Avenue and Jersey Avenue

Zip Code: 93230

Longitude/Latitude (degrees, minutes and seconds): 36 ° 14 ' 44.22" N / 119 ° 35 ' 3.02 " W Total Acres: _____

Assessor's Parcel No.: 028-080-016

Section: 28

Twp.: 19S

Range: 22E

Base: MDB&M

Within 2 Miles: State Hwy #: 43

Waterways: Cross Creek

Airports: NA

Railways: BNSF

Schools: Lakeside Elementary

Document Type:

CEQA: ☐ NOP

☐ Early Cons

☐ Neg Dec

☒ Mit Neg Dec

☐ Draft EIR

☐ Supplement/Subsequent EIR

(Prior SCH No.) _____

Other: _____

NEPA: ☐ NOI

☐ EA

☐ Draft EIS

☐ FONSI

Other: ☐ Joint Document

☐ Final Document

☐ Other: _____

Local Action Type:

☐ General Plan Update

☐ General Plan Amendment

☐ General Plan Element

☐ Community Plan

☐ Specific Plan

☐ Master Plan

☐ Planned Unit Development

☐ Site Plan

☐ Rezone

☐ Prezone

☒ Use Permit

☐ Land Division (Subdivision, etc.)

☐ Annexation

☐ Redevelopment

☐ Coastal Permit

☐ Other: _____

Development Type:

☐ Residential: Units _____ Acres _____

☐ Office: Sq.ft. _____ Acres _____

☐ Commercial: Sq.ft. _____ Acres _____

☐ Industrial: Sq.ft. _____ Acres _____

☐ Educational: _____

☐ Recreational: _____

☐ Water Facilities: Type _____

Acres _____

Employees _____

Acres _____

Employees _____

Acres _____

Employees _____

☐ Transportation: Type _____

☐ Mining: Mineral _____

☐ Power: Type _____ MW _____

☐ Waste Treatment: Type _____ MGD _____

☐ Hazardous Waste: Type _____

☒ Other: Biogas

Project Issues Discussed in Document:

☒ Aesthetic/Visual

☒ Agricultural Land

☒ Air Quality

☒ Archeological/Historical

☒ Biological Resources

☐ Coastal Zone

☒ Drainage/Absorption

☐ Economic/Jobs

☐ Fiscal

☒ Flood Plain/Flooding

☒ Forest Land/Fire Hazard

☒ Geologic/Seismic

☒ Minerals

☒ Noise

☒ Population/Housing Balance

☒ Public Services/Facilities

☒ Recreation/Parks

☐ Schools/Universities

☐ Septic Systems

☐ Sewer Capacity

☒ Soil Erosion/Compaction/Grading

☐ Solid Waste

☒ Toxic/Hazardous

☒ Traffic/Circulation

☒ Vegetation

☒ Water Quality

☒ Water Supply/Groundwater

☒ Wetland/Riparian

☐ Growth Inducement

☒ Land Use

☐ Cumulative Effects

☒ Other: Energy, Wildfire, tri

Present Land Use/Zoning/General Plan Designation:**Project Description:** (please use a separate page if necessary)

The Hanford-Lakeside Dairy Digester Cluster Project is a dairy biogas collection & biomethane injection project. The biogas collected by this project will come from individual dairy digesters located on up to 18 nearby dairy farms. Each of these digesters will be separately permitted as part of the farming operation. The project proposes to install a biogas upgrading facility on an approximately 62,235 square foot (1.43 acre) portion of a 3.3-acre parcel (APN #028-080-016), which will host the biogas upgrading & metering equipment (for delivery into the adjacent Southern California Gas Company (SCG) transmission pipeline. In addition to the project site, the application covers approximately 37 miles of buried biogas gathering lines connecting to the dairies and installed on a variety of parcels that may include private land or public ROWs.

Note: The State Clearinghouse will assign identification numbers for all new projects. If a SCH number already exists for a project (e.g. Notice of Preparation or previous draft document) please fill in.

Reviewing Agencies Checklist

Lead Agencies may recommend State Clearinghouse distribution by marking agencies below with and "X".
If you have already sent your document to the agency please denote that with an "S".

| | |
|---|--|
| <input checked="" type="checkbox"/> Air Resources Board | <input type="checkbox"/> Office of Historic Preservation |
| <input type="checkbox"/> Boating & Waterways, Department of | <input type="checkbox"/> Office of Public School Construction |
| <input type="checkbox"/> California Emergency Management Agency | <input type="checkbox"/> Parks & Recreation, Department of |
| <input type="checkbox"/> California Highway Patrol | <input type="checkbox"/> Pesticide Regulation, Department of |
| <input checked="" type="checkbox"/> Caltrans District #6 | <input type="checkbox"/> Public Utilities Commission |
| <input type="checkbox"/> Caltrans Division of Aeronautics | <input checked="" type="checkbox"/> Regional WQCB #Cent |
| <input type="checkbox"/> Caltrans Planning | <input type="checkbox"/> Resources Agency |
| <input type="checkbox"/> Central Valley Flood Protection Board | <input type="checkbox"/> Resources Recycling and Recovery, Department of |
| <input type="checkbox"/> Coachella Valley Mtns. Conservancy | <input type="checkbox"/> S.F. Bay Conservation & Development Comm. |
| <input type="checkbox"/> Coastal Commission | <input type="checkbox"/> San Gabriel & Lower L.A. Rivers & Mtns. Conservancy |
| <input type="checkbox"/> Colorado River Board | <input type="checkbox"/> San Joaquin River Conservancy |
| <input type="checkbox"/> Conservation, Department of | <input type="checkbox"/> Santa Monica Mtns. Conservancy |
| <input type="checkbox"/> Corrections, Department of | <input type="checkbox"/> State Lands Commission |
| <input type="checkbox"/> Delta Protection Commission | <input type="checkbox"/> SWRCB: Clean Water Grants |
| <input type="checkbox"/> Education, Department of | <input checked="" type="checkbox"/> SWRCB: Water Quality |
| <input type="checkbox"/> Energy Commission | <input type="checkbox"/> SWRCB: Water Rights |
| <input checked="" type="checkbox"/> Fish & Game Region # | <input type="checkbox"/> Tahoe Regional Planning Agency |
| <input type="checkbox"/> Food & Agriculture, Department of | <input checked="" type="checkbox"/> Toxic Substances Control, Department of |
| <input type="checkbox"/> Forestry and Fire Protection, Department of | <input checked="" type="checkbox"/> Water Resources, Department of |
| <input type="checkbox"/> General Services, Department of | <input type="checkbox"/> Other: SJVAPCD |
| <input type="checkbox"/> Health Services, Department of | <input type="checkbox"/> Other: _____ |
| <input type="checkbox"/> Housing & Community Development | |
| <input checked="" type="checkbox"/> Native American Heritage Commission | |

Local Public Review Period (to be filled in by lead agency)

Starting Date July 9, 2019 Ending Date August 9, 2019

Lead Agency (Complete if applicable):

| | |
|------------------------|-----------------------|
| Consulting Firm: _____ | Applicant: _____ |
| Address: _____ | Address: _____ |
| City/State/Zip: _____ | City/State/Zip: _____ |
| Contact: _____ | Phone: _____ |
| Phone: _____ | |

Signature of Lead Agency Representative: Chuck King Date: 7-1-19

Authority cited: Section 21083, Public Resources Code. Reference: Section 21161, Public Resources Code.

**CONDITIONAL USE PERMIT NO. 17-14
DRAFT INITIAL STUDY AND
MITIGATED NEGATIVE DECLARATION**

**HANFORD-LAKESIDE DAIRY DIGESTER
CLUSTER PROJECT HANFORD-LAKESIDE
DAIRY DIGESTER CLUSTER PROJECT**

Prepared for:

Kings County Community Development Agency
1400 West Lacey Boulevard, Building #6
Hanford, California 93230
Contact Person: Chuck Kinney, Deputy Director - Planning
Phone: (559) 852-2674

Consultant:



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Bakersfield, CA 93309
Contact: Jaymie Brauer
Phone: (661) 616-2600

July 2019

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Project Name

Conditional Use Permit No. 17-14 for the proposed Hanford-Lakeside Dairy Digester Cluster Project; Lakeside Pipeline, LLC

Project Location

The Hanford-Lakeside Dairy Digester Cluster project (project) is to be located at 15664 7th Avenue, in the unincorporated area of Kings County, California; approximately 3.5 miles southeast of the City of Hanford and approximately 12 miles west of the City of Tulare (APN #028-080-016). The project also includes approximately 37 miles of buried biogas gathering pipelines (Figure 2-3) connecting to the dairies and installed on a variety of parcels that may include private land or public rights of way (ROW) and bisect several existing drainages.

The project facility is located within the Waukena, California USGS 7.5-minute topographic quadrangle map in the NE $\frac{1}{4}$ of SE $\frac{1}{4}$ of Section 28 Township 19 South, Range 22 East, of the Mount Diablo Base and Meridian (MDB&M). The pipelines run within the Guernsey, Hanford, Remnoy, Goshen and Paige USGS quad maps. Elevation of the site is 218 feet above mean sea level (AMSL).

Project Description

The project proposes to install a biogas upgrading facility on an approximately 62,235 square foot portion (461 square feet by 135 square feet) of a 3.3-acre parcel (APN 028-080-016). The upgrading facility will consist of moisture removal, hydrogen sulfide (H₂S) scrubbing, carbon dioxide (CO₂) stripping, and biomethane compressors. Approximately 37 miles of low-pressure High-density polyethylene (HDPE) biogas gathering lines will also be installed. These pipelines will connect the upgrading and injection point with each dairy digester that is participating in the project, which may consist of up to 18 dairies. An interconnection and injection point will be connected to the existing Southern California Gas (SCG) pipeline SL 38-523. The equipment necessary for this is referred to as the meter set assembly (MSA). The MSA includes gas quality monitoring, odorization, measurement, and control equipment. The facility will require upgraded or new electrical service from Pacific Gas and Electric (PG&E) to power the equipment. All the equipment will be designed specifically for this use.

The proposed footprint of the biogas facility is approximately 461 feet by 135 feet and will encompass approximately 1.43 acres. Staging areas will be located on the site.

Work will be conducted during the dry season, but irrigation flows are anticipated to be in the irrigation canal and will be diverted during construction. The project also includes approximately 37 miles of low-pressure biogas gathering lines, located along existing road rights of way or in private property (Figure 2-3).

For the environmental analysis, the biogas upgrade facility and the approximately 37 miles of gathering pipelines will be referred to as the “project.”

The document and documents referenced in the Initial Study/Mitigated Negative Declaration are available for review at the Kings County Community Development Agency located at 1400 W. Lacey Blvd., Engineering Building No. 6, Hanford, CA 93230.

As mandated by the California Environmental Quality Act (CEQA), the public review period for this document was 30 days (CEQA Section 15073[b]). The public review period began on Tuesday July 9, 2019 and ended on Friday, August 9, 2019. For further information, please contact Chuck Kinney at 559-852-2674.

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MITIGATED NEGATIVE DECLARATION

As Lead Agency under the California Environmental Quality Act (CEQA), the Kings County Community Development Agency (Kings County) reviewed the project described below to determine whether it could have a significant effect on the environment because of its development. In accordance with CEQA Guidelines Section 15382, “[s]ignificant 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 significance.

Project Name

Conditional Use Permit No. 17-14 for the proposed Hanford-Lakeside Dairy Digester Cluster Project; Lakeside Pipeline, LLC

Project Location

The Hanford-Lakeside Dairy Digester Cluster project (project) is to be located at 15664 7th Avenue, in the unincorporated area of Kings County, California; approximately 3.5 miles southeast of the City of Hanford and approximately 12 miles west of the City of Tulare (APN #028-080-016). The project also includes approximately 37 miles of buried biogas gathering pipelines (Figure 2-3) connecting to the dairies and installed on a variety of parcels that may include private land or public rights of way (ROW) and bisect several existing drainages.

The project facility is located within the Waukena, California USGS 7.5-minute topographic quadrangle map in the NE $\frac{1}{4}$ of SE $\frac{1}{4}$ of Section 28 Township 19 South, Range 22 East, of the Mount Diablo Base and Meridian (MDB&M). The pipelines run within the Guernsey, Hanford, Remnoy, Goshen and Paige USGS quad maps. Elevation of the site is 218 feet above mean sea level (AMSL).

Project Description

The Hanford-Lakeside Dairy Digester Cluster project is a dairy biogas collection and biomethane injection project. The biogas collected by this project will come from individual dairy digesters located on up to 18 nearby dairy farms. Each of these digesters will be separately permitted as part of the farming operation and are out of the scope of this application. The project proposes to install a biogas upgrading facility on an approximately 62,235 square foot (1.43 acre) portion of a 3.3-acre parcel (APN #028-080-016), which will host the biogas upgrading and metering equipment (for delivery into the adjacent Southern California Gas Company (SCG) transmission pipeline. References to the project includes both the biogas facility site and the pipeline route.

In addition to the project site, the application covers approximately 37 miles of buried biogas gathering lines (Figure 2-3) connecting to the dairies and installed on a variety of parcels that may include private land or public ROWs. The pipeline route will also bisect several

County roads and drainages. Either a jack-and-bore method underneath the roads and drainages or an open cutting of the roads and drainages will be employed in order to install the pipe across these features. All work within the County ROW would be subject to obtaining an encroachment permit or franchise agreement through County Public Works Department.

For this environmental analysis, unless specifically differentiated, the biogas upgrade facility and the approximately 37 miles of gathering pipelines will be referred to as the “project” or “project area.”

Dairy Facility

At each of the 18 dairy facilities, the project proposes to install a small blower and scrubbing facility. The total footprint of this facility will be no larger than 40 feet x 40 feet. It may contain a 30-foot x 30-foot steel building for the equipment, or just a concrete slab and gravel for the equipment area.

Upgrading Facility

The project proposes to install the biogas upgrading facility on APN 028-080-016. The upgrading facility will consist of moisture removal, CO₂ stripping, and biomethane compressors. The facility will require upgraded or new electrical service from Pacific Gas and Electric (PG&E) to power the equipment. All the equipment will be designed specifically for this use and sourced from experienced vendors. The proposed footprint is 461 feet x 135 feet (62,235 square feet or 1.43 acres). Access would be taken from a private drive approach from 7th Avenue. An emergency entrance from 7th Avenue with a crash-gate will provide secondary access to the facility.

Interconnection and Injection Point (MSA) and Product Gas Compression

The project proposes to install an interconnection and injection point with SCG pipeline SL 38-523. The equipment necessary for this is referred to by SCG as the meter set assembly (MSA). The MSA includes gas quality monitoring, odorization, measurement, and control equipment. The interconnection point is shown in the attached facility layout.

In addition to metering and other control equipment described above, the MSA/PGMU will include a primary and backup product gas compressor installed and operated by SCG to compress the newly cleaned biogas to the pressure needed (275 PSI) to inject into to the SCG pipeline.

All portions of the project will comply with Pipeline and Hazardous Materials Safety Administration (PHMSA) guidelines, 49 CFR Part 192, and with the CPUC’s Safety Enforcement Division (SED) purview, CPUC General Order 112-F.

Gathering Lines

The project proposes to install about 37 miles of low-pressure HDPE biogas gathering lines. Gathering pipeline system is considered a Class 1 pipeline (due to the low population density within which it traverses) and is classified as non-jurisdictional gathering per the PHMSA regulations. These pipelines will connect the upgrading and injection point with each dairy digester that is participating in the project. Pipelines will be run in private property or in some cases parallel or crossing Kings County ROWs and several existing drainages. All work within the County ROW would be subject to obtaining an encroachment permit or franchise agreement through County Public Works Department.

CONSTRUCTION

Construction is anticipated to take approximately 9-10 months to complete. Based on an average 20 workdays a month, the construction would take approximately 200 days to complete.

During construction, an anticipated 15 to 20 employees will be onsite. Traffic to the project site is anticipated to be approximately 20 round trips per day. Approximately four additional diesel trucks with construction equipment and materials would occur on a daily basis.

Staging areas are proposed to be located on the site. The facility will require upgraded or new electrical service from PG&E to power the equipment.

Construction Equipment

It is anticipated that the following pieces of equipment would be used during construction activities:

- Mini excavator
- Scraper
- Self-propelled compactor
- Grader
- Loader
- Service truck
- Air compressor
- Trencher
- Mobile generator
- HDPE welding machine

Water Usage

An estimated 100,000 gallons/day is anticipated during approximately 25 days of construction activities, and approximately 1,000 gallons/day for the remaining 125 days. Construction would require a total 8.0 AF of water (100,000 gallons x 25 days = 2.5 million gallons; 1,000 gallons x 125 days = 125,000 for a total 2.625 million gallons).

OPERATIONS

Dairy Facility

The biogas is produced by the digester at ambient temperature and just slightly above atmospheric pressure. From the digester, it's piped through a biogas filter and condensation trap to remove any particulates and condensation. Next, it's pulled through a condenser to lower the temperature of the gas to condense out additional moisture and dry the gas for sending down the gathering pipelines. After condensation, the biogas blower pressurizes the gas to no more than 20 pounds per square inch (PSI) and sends it through a media-based hydrogen sulfide (H₂S) scrubber to lower the H₂S below levels hazardous to human health. After the scrubber, the gas is sent down the gathering pipelines to the cleanup facility. Each blower will be controlled by a central supervisory control and data acquisition (SCADA) system that is overseen by operators on a 24/7 basis. Additionally, flow meters will be installed at each digester site and at the upgrading facility to monitor biogas flows.

Upgrading Facility

The upgrading facility removes impurities, moisture, and gas constituents that are not suitable for injection into the SCG pipeline. The biogas first enters a moisture condensation trap, is then compressed and sent through a CO₂ stripper. This process transforms biogas to biomethane, which is indistinguishable from conventional natural gas. The final step is a compressor to reach the injection pressure needed to enter the SCG pipeline.

The facility will create up to 400 gallons per day of biogas condensate and oil/water mix from the biogas condensation unit and the compressor oil and water separators. This liquid waste will be composed primarily of water nonhazardous and will be handled only by trained personnel. This liquid waste will be stored in a marked tank at the facility and disposed of in accordance with State, local, and federal regulations.

The facility will also create up to 250 gallons per quarter of waste compressor oil. This will be stored onsite in a marked tank and disposed of in accordance with State, local, and federal regulations.

Interconnection and Injection Point (MSA) and Product Gas Compression

The MSA measures, odorizes, and controls the biomethane gas flow into the SCG pipeline. This equipment will be controlled by SCG via SCADA. SCG will monitor gas quality on a 24 hour/7 days a week basis using this equipment. If at any point the biomethane is not within the SCG Rule 30 Standards, the equipment automatically closes the injection valve and the biomethane is not injected into the pipeline. There is an emergency stop button at each dairy site and the central hub that will immediately shut down the blowers if depressed. If the blowers aren't operating, nothing flows into the pipeline

Gathering Lines

The gathering lines move biogas from each participating dairy to the central upgrading facility. As noted previously, gathering pipeline system are considered a Class 1 pipeline and is classified as non-jurisdictional gathering per the PHMSA regulations. The lines will range in size from four inches to 20 inches and will be constructed of SDR-21 HDPE. The lines will be buried at least 36 inches below grade and will be marked with tracer wire. Each dairy will have a blower to push gas from that dairy into the gathering lines at pressure of less than 20 psi. Each blower will be controlled by a central SCADA system that is overseen by operators on a 24 hour/7 days a week basis. When a blower increases in speed, more biogas is pushed to the upgrading facility, and when it decreases, less biogas is sent.

The blowers are rated to a maximum 20 PSI and will not exceed that pressure. The gathering lines will be pressure monitored via SCADA equipment in real time to detect leaks or major failures. Flow meters at each site and the upgrading facility will monitor flows. As noted above, if a leak is detected or if there is an issue with the biogas quality, there is an emergency stop button. In the case of a blower failure, the transportation of biogas from the associated digester will not be possible. Other digesters may still be able to deliver their biogas to the central cleanup facility.

For the associated digester, prolonged downtime will result in a build-up of biogas under the digester cover. If digester pressures increase significantly, the digester will be vented to prevent damage to the cover and uncontrolled release of biogas.

Operational Equipment – Dairy Facility

| Description | Motor Size | Type | Oper BHP | Oper Factor | Oper kW |
|---------------------------|------------|------|----------|-------------|---------|
| Chiller | 30 hp | VFD | 30 | 80% | 17.76 |
| Biogas Blower | 40 hp | VFD | 40 | 70% | 20.72 |
| Hydrogen Sulfide Scrubber | N/A | | | | |
| SCADA Controls | N/A | | | | |
| Total Kw | | | | | 38 |

SCADA = Supervisory Control and Data Acquisition

Operational Equipment – Upgrading Facility

| Description | Motor Size | Type | Oper BHP | Oper Factor | Oper kW |
|---------------------------|------------|------|----------|-------------|---------|
| BG Compressor | 800 hp | VFD | 719 | 100% | 536 |
| BG Compressor | 800 hp | VFD | 719 | 100% | 536 |
| BG Compressor | 800 hp | VFD | 719 | 100% | 536 |
| Hydrogen Sulfide Polisher | NA | | | | 0 |
| BG Comp Gas Cooler Fan | 10 hp | VFD | 9 | 100% | 7 |
| BG Comp Oil Cooler Fans | 3 x 10 hp | VFD | 27 | 100% | 20 |
| Chiller Compressor | 150 | SS | 115 | 100% | 86 |
| Chiller Condenser Fan | 15 | VFD | 13 | 100% | 10 |

| Description | Motor Size | Type | Oper BHP | Oper Factor | Oper kW |
|---------------------------------|------------|------|----------|-------------|---------|
| Product Gas Compressor | 150 | VFD | 137 | 100% | 102 |
| Product Gas Comp Gas Cooler Fan | 5 | VFD | 4 | 100% | 3 |
| Plant Air Compressor No. 1 | 15 | ATL | 13 | 80% | 8 |
| Plant Air Compressor No. 2 | 15 | ATL | 13 | 0% | 0 |
| 1 st Stage Membrane | NA | | | | 0 |
| 2 nd Stage Membrane | NA | | | | 0 |
| Transfer Pump | 15 | ATL | 13 | 10% | 1 |
| Total Kw | | | | | 1,845 |

BG Compressor= Biogas Compressor; VFD = Variable Frequency Drive SS = Soft Start; ATL = Across the Line

Operational Equipment – MSA and Product Gas Compression

| Description | Motor Size | Type | Nameplate kW | Oper Factor | Oper kW |
|---|------------|------|--------------|-------------|---------|
| Compressor #1 Main Motor | 100 hp | VFD | 74.6 | 80% | 70.20 |
| Compressor #1 Fan Motor | 10 hp | VFD | 7.5 | 80% | 7.00 |
| Compressor #1 Pre-lube | .5 hp | SS | 0.4 | 80% | 0.40 |
| Heat Exchanger Fan Motor | 25 hp | SS | 18.7 | 80% | 17.60 |
| Skid Utility Loads (lights, controller) | N/A | N/A | 15 | 80% | 12.00 |
| Compressor #2 Main Motor | 100 hp | VFD | 74.6 | 80% | - |
| Compressor #2 fan motor | 10 hp | VFD | 7.5 | 80% | - |
| COMPRESSOR #2 Pre-lube | .5 hp | SS | 30 | 80% | - |
| Meter Set (MSA) | N/A | SS | 25 | 80% | 20.00 |
| Site Misc. Load (AC/Yard lighting) | N/A | SS | 50 | 80% | 40.00 |
| TOTAL KW | | | | | 167.20 |

VFD = Variable Frequency Drive SS = Soft Start

Parking

Parking will be accessible directly to the south of the project facility. This area already exists as a flat dirt parking area for farm equipment. Parking areas will be constructed to comply with Kings County Improvement Standards Section 303.G, as applicable.

Hours of Operation

The facility will be operational 24 hours/7 days a week but will not be open to public visitors without prior permission.

Staffing and Traffic

Once operational, there will be one-two staff at the facility approximately eight hours on a daily basis. Routine maintenance and operations activities will be conducted by one-two staff who will make daily checks on equipment, for a total of two daily round trips. Staff work a regular five-day a week schedule.

Deliveries are expected no more than once a week. In addition to those deliveries, there may be one-two monthly deliveries of compressor oil, carbon media, replacement parts, other mechanical equipment and liquid nutrients via the same diesel trucks, for a total of approximately six roundtrips a month.

Water Usage

Operational water usage is estimated to be approximately 1,000 gallons a day (1,000 gallons x 365/year = approximately 365,000 gallons) or 1.1 AF annually. Bottled water for employees will be brought to the project site as well.

Additional information is included in Section 2.4 of this document.

Mailing Address and Phone Number of Contact Persons

Chuck Kinney
Deputy Director- Planning
Kings County Community Development Agency
1400 West Lacey Boulevard, Building #6
Hanford, California 93230
(559) 584-8989

Findings

As Lead Agency, the Kings County Community Development Agency (Kings County) finds that the project will not have a significant effect on the environment. The Environmental Checklist (CEQA Guidelines Appendix G) or Initial Study (IS) (see *Section 3 - Environmental Checklist*) identified one or more potentially significant effects on the environment, but revisions to the project have been made before the release of this Mitigated Negative Declaration (MND) or mitigation measures would be implemented that reduce all potentially significant impacts to less-than-significant levels. The Lead Agency further finds that there is no substantial evidence that this project would have a significant effect on the environment.

Mitigation Measures Included in the Project to Avoid Potentially Significant Effects

MM AQ-1: During project construction the following measures shall be implemented:

- 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.
- When exposure to dust is unavoidable for workers who will be disturbing the top two-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 “Preventing Work-Related Coccidioidomycosis (Valley Fever).”
- Identify a health care provider for occupational injuries and illnesses who is knowledgeable about the diagnosis and treatment of Valley Fever.
- Train workers and supervisors about the risk of Valley Fever, the work activities that may increase the risk, and the measures used onsite to reduce exposure. Also train on how to recognize Valley Fever symptoms.
- Encourage workers to report Valley Fever symptoms promptly to a supervisor. Not associating these symptoms with workplace exposures can lead to a delay in appropriate diagnosis and treatment.

MM BIO-1: Prior to ground-disturbing activities, a qualified wildlife biologist shall conduct a biological clearance survey no more than 30 calendar days prior to the onset of construction. The clearance survey shall include walking transects to identify presence of San Joaquin kit fox, Tipton kangaroo rat, San Joaquin kangaroo rat, burrowing owl, other special-status species or signs of, and sensitive natural communities. The pre-construction survey shall be walked by no greater than 30-foot transects for 100 percent coverage of the project site and the 50-foot buffer, where feasible.

Exclusion zones for kit fox shall be placed in accordance with U.S. Fish and Wildlife Service (USFWS) Recommendations using the following:

| | |
|---|---|
| Potential Den | 50-foot radius |
| Known Den | 100-foot radius |
| Natal/Pupping Den (Occupied and Unoccupied) | Contact U.S. Fish and Wildlife Service for guidance |
| Atypical Den | 50-foot radius |

Buffer zones shall be considered Environmentally Sensitive Areas (ESAs) and no ground-disturbing activities shall be allowed within a buffer area. The United States Fish and Wildlife Service (USFWS) and California Department of Fish and Wildlife (CDFW) shall be contacted upon the discovery of any natal or pupping dens.

Potential kit fox dens may be excavated provided that the following conditions are satisfied: (1) the den has been monitored for at least five consecutive days and is deemed unoccupied by a qualified biologist; (2) the excavation is conducted by or under the direct supervision of a qualified biologist. Den monitoring and excavation should be conducted in accordance with the *Standardized Recommendations for Protection of the Endangered San Joaquin Kit Fox Prior to or During Ground Disturbance* (United States Fish and Wildlife Service, 2011).

MM BIO-2: Species awareness training shall be conducted for all employees, contractors, or other personnel involved with the project prior to the commencement of ground-disturbing activities. The training shall consist of a brief presentation by a qualified biologist and include the following: a description of special-status species with the potential to occur in the project area and their habitat needs, a report of occurrence of special-status species in the project area, an explanation of the listing status of said species, a list of avoidance and minimization measures to be implemented, and violations associated with the federal and State endangered species acts. A fact sheet conveying this information should be available to all personnel upon entering the project site and a sign-in sheet shall be maintained and made available to the district, USFWS, and CDFW.

MM BIO-3: During all construction-related activities, the following mitigation shall apply:

- All food-related trash items such as wrappers, cans, bottles, and food scraps shall be disposed of in securely closed containers. All food-related trash items such as wrappers, cans, bottles, and food scraps shall be disposed of in securely closed containers and removed at least once a week from the construction or project site.
- Construction-related vehicle traffic shall be restricted to established roads and predetermined ingress and egress corridors, staging, and parking areas. Vehicle speeds should not exceed 20 miles per hour (mph) within the project site.
- To prevent inadvertent entrapment of kit fox or other animals during construction, the contractor shall cover all excavated, steep-walled holes or trenches more than two-feet deep at the close of each workday with plywood or similar materials. If holes or trenches cannot be covered, one or more escape ramps constructed of earthen fill or wooden planks shall be installed in the trench. Before such holes or trenches are filled, the contractor shall thoroughly inspect them for entrapped animals. All construction-related pipes, culverts, or similar structures with a diameter of four inches or greater that are stored on the project site shall be thoroughly inspected for wildlife before the pipe is subsequently buried, capped, or otherwise used or moved in anyway. If at any time an entrapped or injured kit fox is discovered, work in the immediate area shall be temporarily halted and USFWS and CDFW shall be consulted.
- Kit foxes are attracted to den-like structures such as pipes and may enter stored pipes and become trapped or injured. All construction pipes, culverts, or similar structures with a diameter of four inches or greater that are stored at a construction site for one or more overnight periods shall be thoroughly inspected for kit foxes before the pipe is subsequently buried, capped, or otherwise used or moved in any way. If a kit fox is discovered inside a pipe, that section of pipe shall not be moved until the USFWS has been consulted. If necessary, and under the direct supervision of the biologist, the pipe may be moved only once to remove it from the path of construction activity, until the fox has escaped.
- No pets, such as dogs or cats, shall be permitted on the project sites to prevent harassment, mortality of kit foxes, or destruction of dens.
- Use of anti-coagulant rodenticides and herbicides in project areas shall be restricted. This is necessary to prevent primary or secondary poisoning of kit foxes and the depletion of prey populations on which they depend. All uses of such compounds shall

observe label and other restrictions mandated by the U.S. Environmental Protection Agency, California Department of Food and Agriculture, and other State and federal legislation, as well as additional project-related restrictions deemed necessary by the USFWS. If rodent control must be conducted, zinc phosphide shall be used because of the proven lower risk to kit foxes.

- A representative shall be appointed by the project proponent who will be the contact source for any employee or contractor who might inadvertently kill or injure a kit fox or who finds a dead, injured or entrapped kit fox. The representative shall be identified during the employee education program and their name and telephone number shall be provided to the USFWS.
- The Sacramento Fish and Wildlife Office of USFWS and CDFW shall be notified in writing within three working days of the accidental death or injury to a San Joaquin kit fox during project-related activities. Notification must include the date, time, and location of the incident or of the finding of a dead or injured animal and any other pertinent information. The USFWS contact is the Chief of the Division of Endangered Species, at the addresses and telephone numbers below. The CDFW contact can be reached at 1701 Nimbus Road, Suite A, Rancho Cordova, California 95670, (530) 934-9309.
- All sightings of the San Joaquin kit fox shall be reported to the California Natural Diversity Database (CNDDB). A copy of the reporting form and a topographic map clearly marked with the location of where the kit fox was observed shall also be provided to the USFWS at the address below.
- Any project-related information required by the USFWS or questions concerning the above conditions, or their implementation may be directed in writing to the U.S. Fish and Wildlife Service at: Endangered Species Division, 2800 Cottage Way, Suite W 2605, Sacramento, California 95825-1846, phone (916) 414-6620 or (916) 414-6600.

MM BIO-4: All fencing constructed on the project site shall be wildlife friendly. In order to allow wildlife safe passage, fencing shall have a five to seven-inch continuous gap with the bottom mesh material knuckled back along the bottom of the fence.

MM BIO-5: If initial grading activities are planned during the potential nesting season for migratory birds/raptors that may nest on or near the project sites, the preconstruction survey shall evaluate the sites and accessible lands within an adequate buffer for active nests of migratory birds/raptors. If any nesting birds/raptors are observed, a qualified biologist in coordination with the California Department of Fish and Wildlife shall determine buffer distances and/or the timing of project activities so that the proposed project does not cause nest abandonment or destruction of eggs or young. This measure shall be implemented so that the proposed project remains in compliance with the Migratory Bird Treaty Act and applicable State regulations.

MM BIO-6: If construction of the project occurs during Swainson's hawk breeding season (February 1 through September 15), no more than 10 days prior to the commencement of construction, the following shall be implemented:

- Protocol nesting surveys for Swainson's hawk shall be conducted by a qualified biologist within 0.5 miles of the project site and pipeline route. The survey methodology shall be consistent with the *Recommended Timing and Methodology for Swainson's Hawk Nesting Surveys in California's Central Valley* (Swainson's Hawk Technical Advisory Committee, 2000). At a minimum, two sets of surveys shall be conducted between March 20 and April 20. If no nests are observed, no further action is necessary.
- If active Swainson's hawk nests are observed within 0.5 miles of the project, appropriate avoidance and minimization measures shall be implemented under direction of a qualified biologist in coordination with the California Department of Fish and Wildlife. A copy of the survey results shall be submitted to the Kings County Community Development Agency.

MM BIO-7: If any burrowing owl burrows are observed during the preconstruction survey, avoidance measures shall be consistent with those included in the California Department of Fish and Game Staff Report on Burrowing Owl Mitigation (CDFG 2012). If occupied burrowing owl burrows are observed outside of the breeding season (September 1 through January 31) and within 500 feet of proposed construction activities, a passive relocation effort may be instituted in accordance with the guidelines established by the California Burrowing Owl Consortium (1993) and the California Department of Fish and Game (2012). During the breeding season (February 1 through August 31), a 250-foot (minimum) buffer zone shall be maintained unless a qualified biologist verifies through noninvasive methods that either the birds have not begun egg laying and incubation or that juveniles from the occupied burrows are foraging independently and are capable of independent survival.

MM BIO-8: The measures listed below shall be implemented prior to and during construction at the project site, to protect the Tipton and San Joaquin kangaroo rat and other special-status small mammals:

- All construction activity shall occur during daylight when kangaroo rats are less active;
- A biologist shall inspect areas with a potential for kangaroo rat burrows within 14 days prior to construction. If potential burrows are found in construction areas, trapping shall be conducted for a minimum of three nights with at least one trap per active burrow. If Tipton kangaroo rats are captured, consultation with California Department of Fish and Wildlife is required; and
- During operations, no small mammal burrows shall be removed without first being inspected by a qualified biologist. If it is essential to move a burrow, trapping shall occur for three consecutive nights. If Tipton or San Joaquin kangaroo rats are observed, consultation with California Department of Fish and Wildlife shall occur to determine subsequent actions.

MM BIO-9: Prior to the issuance of building permits, if Cross Creek cannot be avoided, specific impacts on the features shall be quantified by an aquatic resources delineation prepared by a qualified biologist. A Central Valley Regional Water Quality Control Board Section 401 Water Quality Certification, a Section 404 ACOE Permit and Section 1602 California

Department of Fish and Wildlife Streambed Alteration Agreement shall be obtained, or confirmation received from these agencies that regulatory permits are not required.

MM CR-1: 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) 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) 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) 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 site work within the area of discovery shall not be allowed until the preceding steps have been taken.
- e) 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 construction. Tribal participation would be dependent upon the availability and interest of the Tribe.

- f) Upon coordination with the Kings County Community Development Agency, any pre-historic 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.

MM CR-2 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 Hanford Lakeside Dairy Digester 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 in the vicinity of the find and the Kings County Coroner shall be notified immediately. 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). 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(e) 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.

MM GEO-1 Prior to final design and issuance of building permits, a geotechnical study shall be prepared for the project site and recommendations of the study shall be incorporated into final design of the project. A copy of the report shall be submitted to the Kings County Community Development Agency for review.

MM GEO-2: During grading and site preparation activities, if paleontological resources are encountered, all work within 50 feet of the find shall halt until a qualified paleontologist, in accordance with Society of Vertebrate Paleontology Standards can evaluate the find and make recommendations. Paleontological resource materials may include resources such as fossils, plant impressions, or animal tracks preserved in rock. If the qualified paleontologist determines that the discovery represents a potentially significant paleontological resource,

additional investigations and fossil recovery may be required to mitigate adverse impacts from project implementation. The paleontologist shall notify the Kings County Community Development Agency, who shall coordinate with the paleontologist as to any necessary investigation of the find. If the find is determined to be significant under CEQA, the County shall implement mitigation measures, which may include avoidance, preservation in place, or other appropriate measures, as outlined in PRC Section 21083.2.

MM HAZ-1: Prior to operation, the project proponent shall submit to Kings County Department of Environmental Health Services, a Hazardous Materials Business Plan (HMBP) pursuant to Health and Safety Code Chapter 6.95, Sections 25500 to 25520. The HMBP shall outline the types and quantities of hazardous materials used onsite and indicate onsite safety measures to ensure such materials are properly handled and stored. A copy of the approved HMBP shall be submitted to the Kings County Community Development Agency.

MM HAZ-2: Prior to operation, the project proponent shall submit to Kings County Department of Environmental Health Services, a Spill Prevention and Management Plan for review and approval.

MM HYD-1: Prior to ground-disturbing activities, the project proponent shall prepare and implement a Stormwater Pollution Prevention Plan (SWPPP) that specifies best management practices, with the intent of keeping all products of erosion from moving offsite. The SWPPP shall include a site map that shows the construction site perimeter, existing and proposed manmade facilities, stormwater collection and discharge points, general topography both before and after construction, and drainage patterns across the project site. Additionally, the SWPPP shall contain a visual monitoring program and a chemical monitoring program for non-visible pollutants to be implemented (if there is a failure of best management practices). The requirements of the SWPPP shall be incorporated into design specifications and construction contracts. Recommended best management practices for the construction phase may include the following:

- Stockpiling and disposing of demolition debris, concrete, and soil properly;
- Protecting any existing storm drain inlets and stabilizing disturbed areas;
- Implementing erosion controls;
- Properly managing construction materials; and
- Managing waste, aggressively controlling litter, and implementing sediment controls.

A copy of the approved SWPPP shall be submitted to the Kings County Community Development Agency.

MM TRANS-1: A detectable underground warning tape will be installed above the pipeline where the pipeline crosses public ROW to notify anyone digging in the area of the deeper pipe. Signage will also be provided along the pipeline at half mile intervals to provide notice of the buried pipe.

MM TRANS-2: An Operations and Maintenance Program will be developed and followed to inspect and pressure-test the pipeline. Monitoring will occur during construction and on an annual basis during project operations.

SECTION 1 - INTRODUCTION

1.1 - Overview

The project proponent is requesting approval of Conditional Use Permit No. 17-14 to allow for the construction and operation of a biogas upgrading facility. The facility will consist of moisture removal, H₂S scrubbing, CO₂ stripping, and biomethane compressors. Approximately 37 miles of low-pressure HDPE biogas gathering lines will also be installed to connect with up to 18 dairy digesters. An interconnection and injection point will be connected to the existing SCG pipeline SL 38-523. An MSA will monitor gas quality, odorization using measurement and control equipment. The facility will require upgraded or new electrical service from Pacific Gas and Electric (PG&E) to power the equipment. All the equipment will be designed specifically for this use.

1.2 - California Environmental Quality Act

Kings County is the Lead Agency for this project pursuant to the CEQA Guidelines (Public Resources Code Section 15000 et seq.). The Environmental Checklist (CEQA Guidelines Appendix G) or Initial Study (IS) (see *Section 3 – Initial Study*) provides analysis that examines the potential environmental effects of the construction and operation of the project. Section 15063 of the CEQA Guidelines requires the Lead Agency to prepare an IS to determine whether a discretionary project will have a significant effect on the environment. A Mitigated Negative Declaration (MND) is appropriate when an IS has been prepared and a determination can be made that no significant environmental effects will occur because revisions to the project have been made or mitigation measures will be implemented that reduce all potentially significant impacts to less-than-significant levels. The content of an MND is the same as a Negative Declaration, with the addition of identified mitigation measures and a Mitigation Monitoring and Reporting Program (MMRP) (see *Appendix D – Mitigation Monitoring and Reporting Program*).

Based on the IS, the Lead Agency has determined that the environmental review for the proposed application can be completed with an MND.

1.3 - Impact Terminology

The following terminology is used to describe the level of significance of impacts.

- A finding of “no impact” is appropriate if the analysis concludes that the project would not affect a topic area in any way.
- An impact is considered “less than significant” if the analysis concludes that it would cause no substantial adverse change to the environment and requires no mitigation.
- An impact is considered “less than significant with mitigation incorporated” if the analysis concludes that it would cause no substantial adverse change to the environment with the inclusion of environmental commitments that have been agreed to by the applicant.

- An impact is considered “potentially significant” if the analysis concludes that it could have a substantial adverse effect on the environment.

1.4 - Document Organization and Contents

The content and format of this IS/MND is designed to meet the requirements of CEQA. The report contains the following sections:

- *Section 1 – Introduction:* This section provides an overview of CEQA requirements, intended uses of the IS/MND, document organization, and a list of regulations that have been incorporated by reference.
- *Section 2– Project Description:* This section describes the project and provides data on the site’s location.
- *Section 3 – Environmental Checklist:* This section contains the evaluation of 18 different environmental resource factors contained in Appendix G of the CEQA Guidelines. Each environmental resource factor is analyzed to determine whether the proposed project would have an impact. One of four findings is made which include: no impact, less-than-significant impact, less than significant with mitigation, or significant and unavoidable. If the evaluation results in a finding of significant and unavoidable for any of the 18 environmental resource factors, then an Environmental Impact Report will be required.
- *Section 4 – List of Preparers:* This section identifies the individuals who prepared the IS/MND.
- *Section 5 – Bibliography:* This section contains a full list of references that were used in the preparation of this IS/MND.
- *Appendix D – Mitigation Monitoring and Reporting Program:* This appendix contains the Mitigation Monitoring and Reporting Program.

1.5 - Incorporated by Reference

The following documents and/or regulations are incorporated into this IS/MND by reference:

- 2035 Kings County General Plan;
- Kings County Development Code; and
- Kings County Airport Land Use Compatibility Plan.

SECTION 2 - PROJECT DESCRIPTION

2.1 - Introduction

The project proponent is requesting approval of Conditional Use Permit No. 17-14 to allow for the construction and operation of a biogas upgrading facility. The facility will consist of moisture removal, H₂S scrubbing, CO₂ stripping, and biomethane compressors. Approximately 37 miles of low-pressure HDPE biogas gathering lines will also be installed to connect with up to 18 dairy digesters. For this environmental analysis, unless specifically differentiated, the biogas upgrading facility and the approximately 37 miles of gathering pipelines will be referred to as the “project.”

2.2 - Project Location

The Hanford-Lakeside Dairy Digester Cluster project (project) is to be located at 15664 7th Avenue, in the unincorporated area of Kings County, California; approximately 3.5 miles southeast of the City of Hanford and approximately 12 miles west of the City of Tulare (APN #028-080-016). The project also includes approximately 37 miles of buried biogas gathering pipelines at an approximate depth of between four and eight feet, depending on topography (Figure 2-3) connecting to the dairies and installed on a variety of parcels that may include private land or public rights of way (ROW) and bisect several existing drainages.

The project facility is located within the Waukena, California USGS 7.5-minute topographic quadrangle map in the NE ¼ of SE ¼ of Section 28 Township 19 South, Range 22 East, of the Mount Diablo Base and Meridian (MDB&M). The pipelines run within the Guernsey, Hanford, Remnoy, Goshen and Paige USGS quad maps. Elevation of the site is 218 feet AMSL.

Kings County is a predominately agricultural region of the San Joaquin Valley (Valley), in Central California (Figure 2-1). The eastern portion of the County is generally flat, with large agricultural areas with generally compact, interspersed towns. The project site is located on the Valley floor, which is very fertile and has been intensively cultivated for many decades. Agriculture and related industries such as agricultural packing and shipping operations, and small and medium sized manufacturing plants, make up the economic base of the Valley region. Many communities are small and rural, surrounded by agricultural uses such as row crops, orchards, and dairies. From several locations on major roads and highways throughout the County, electric towers and telephone poles are noticeable. Mature trees, residential, commercial, and industrial development, utility structures, and other vertical forms are visible in the region because of the flat terrain.

2.3 - Surrounding Land Uses

The project site is located within an agricultural portion of the unincorporated County and is currently under crop cultivation.



The surrounding area is rural in nature, characterized as cultivated cropland, undeveloped lands, dairies and agricultural residences. The three closest agricultural residences are approximately 0.5 miles southeast, 0.5 miles to the southwest, and 0.5 miles north of the project site.

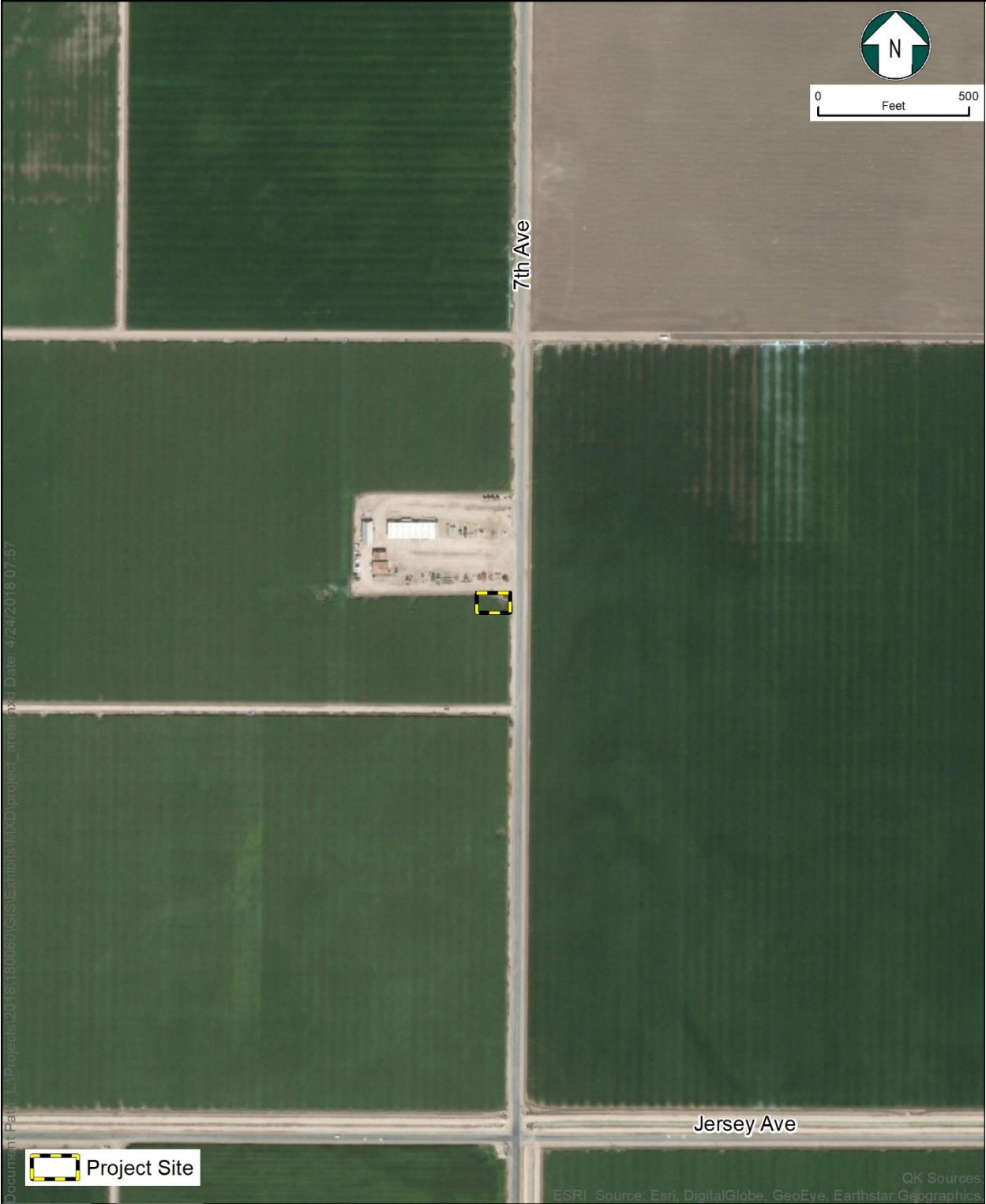
| Location Project Site | Existing Land Use Agriculture | Existing General Plan and Zoning AG-20 (General Agriculture- 20 District) |
|----------------------------------|--|--|
| North | Existing agribusiness | AG (20) |
| East | Cultivated cropland | AG (20) |
| South | Cultivated cropland | AG (20) |
| West | Cultivated cropland | AG (20) |


2.4 - Proposed Project

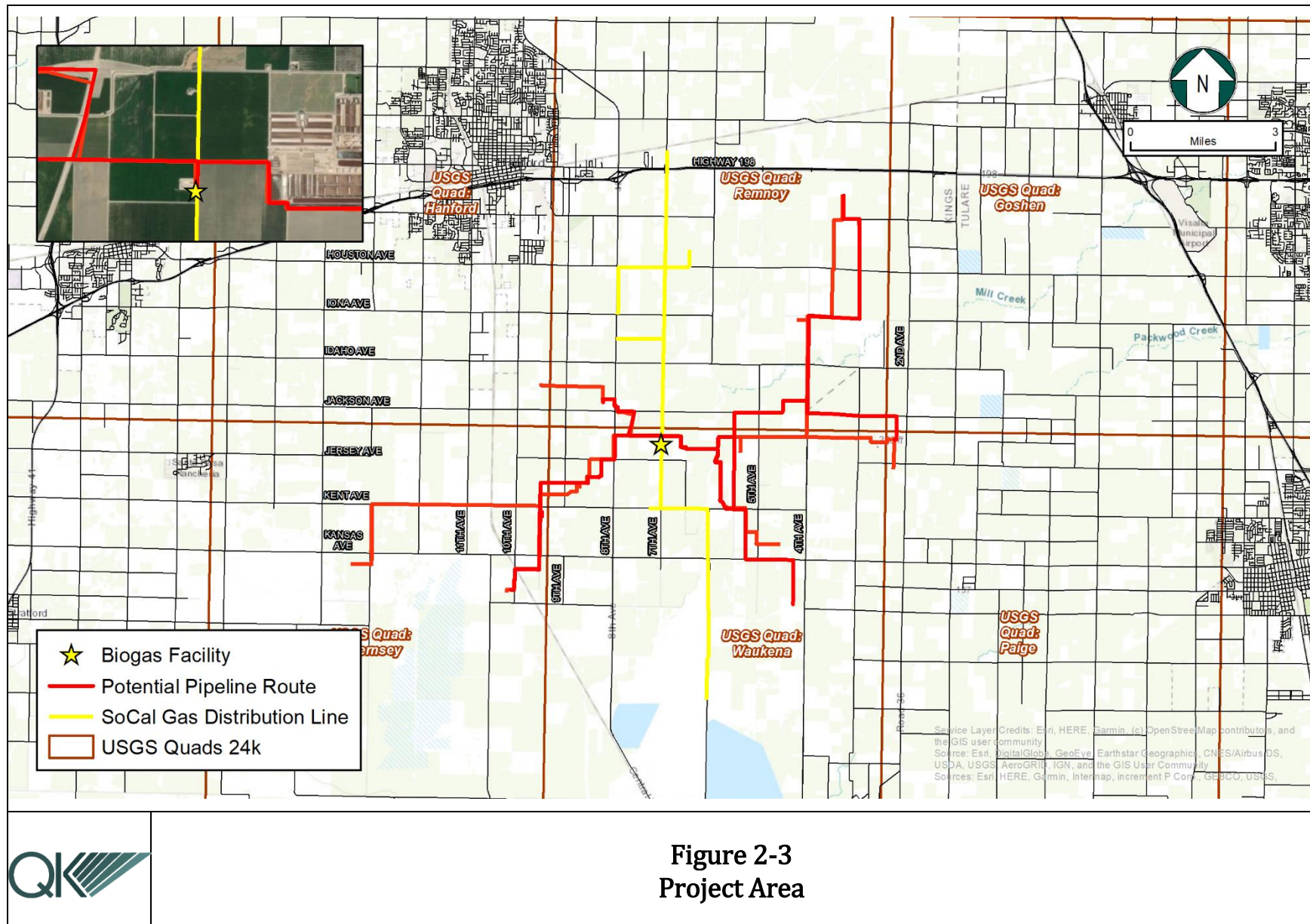
The Hanford-Lakeside Dairy Digester Cluster project proposes to construct a dairy biogas upgrading facility on an approximately 62,235 square foot portion (461 feet by 135 feet) of a 3.3-acre parcel (APN 028-080-016), to be located at 15664 7th Avenue within the unincorporated area of Kings County, California (Figure 2-2). The facility will consist of moisture removal, CO₂ stripping, and biomethane compressors. Gathering lines will move biogas from each participating dairy to the central upgrading facility (project). The lines will be run within private property or Kings County ROW. The four to 20-inch diameter pipes will be constructed of SDR-21 HDPE and will be buried at least 36 inches below grade. A blower controlled by a central SCADA system, at each dairy will push gas from the dairy into the gathering lines that will carry the gas to the biogas facility where impurities, moisture and gas constituents, not suitable for injection in to the SCG pipeline, will be removed. The resulting biomethane will pass to the MSA, which includes gas quality monitoring, odorization, measurement and control equipment controlled via SCADA, at the interconnection and injection point and into the SCG pipeline.

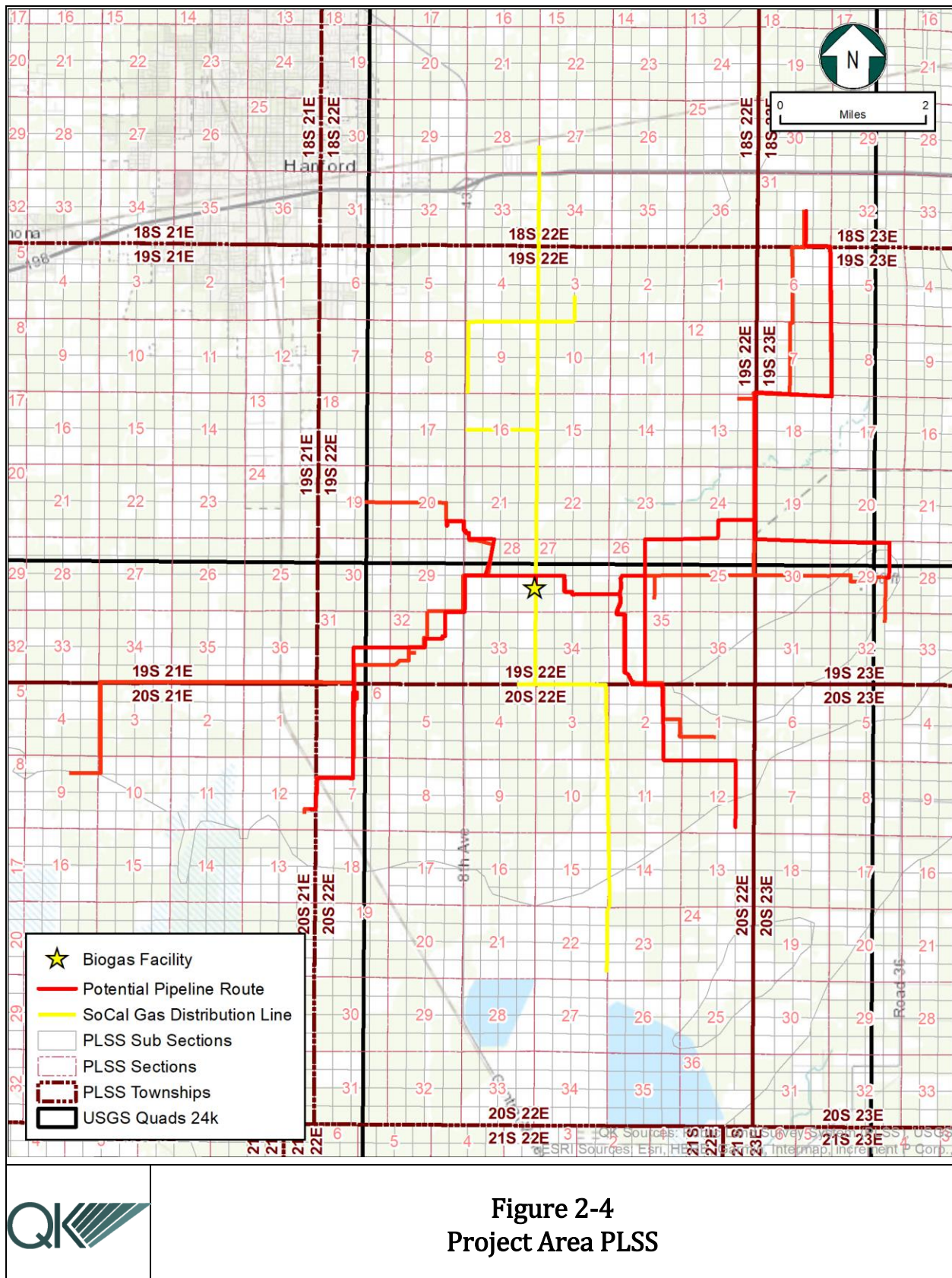
Approximately 37 miles of low-pressure HDPE biogas gathering lines will also be installed. These pipelines will connect the upgrading and injection point with each dairy digester that is participating in the project, which may consist of up to 18 dairies (Figure 2-3). The proposed footprint of the biogas facility is 461 feet x 135 feet and will encompass approximately 1.43 acres (Figure 2-4). Staging areas will be located onsite. The facility will require upgraded or new electrical service from Pacific Gas and Electric to power the equipment.

The proposed project involves the capture of biogas generated via anaerobic digestion of dairy manure at each dairy. Biogas is a naturally occurring mixture of primarily methane and carbon dioxide. Hydrogen sulfide (H₂S) will be scrubbed out of the gas at the dairy. The biomethane will be transported via low-pressure gas pipelines from the digester to the biogas upgrading facility's onsite dewatering equipment and thence to the main gas upgrading equipment. Methane is not toxic, but handling methane can be hazardous. In addition, methane can be flammable. Methane has an ignition temperature of 1,000 degrees Fahrenheit (°F) and is flammable at concentrations between five percent and 15 percent in air.



| | |
|---|------------------------------------|
|  | <p>Figure 2-2 Project Site</p> |
|---|------------------------------------|





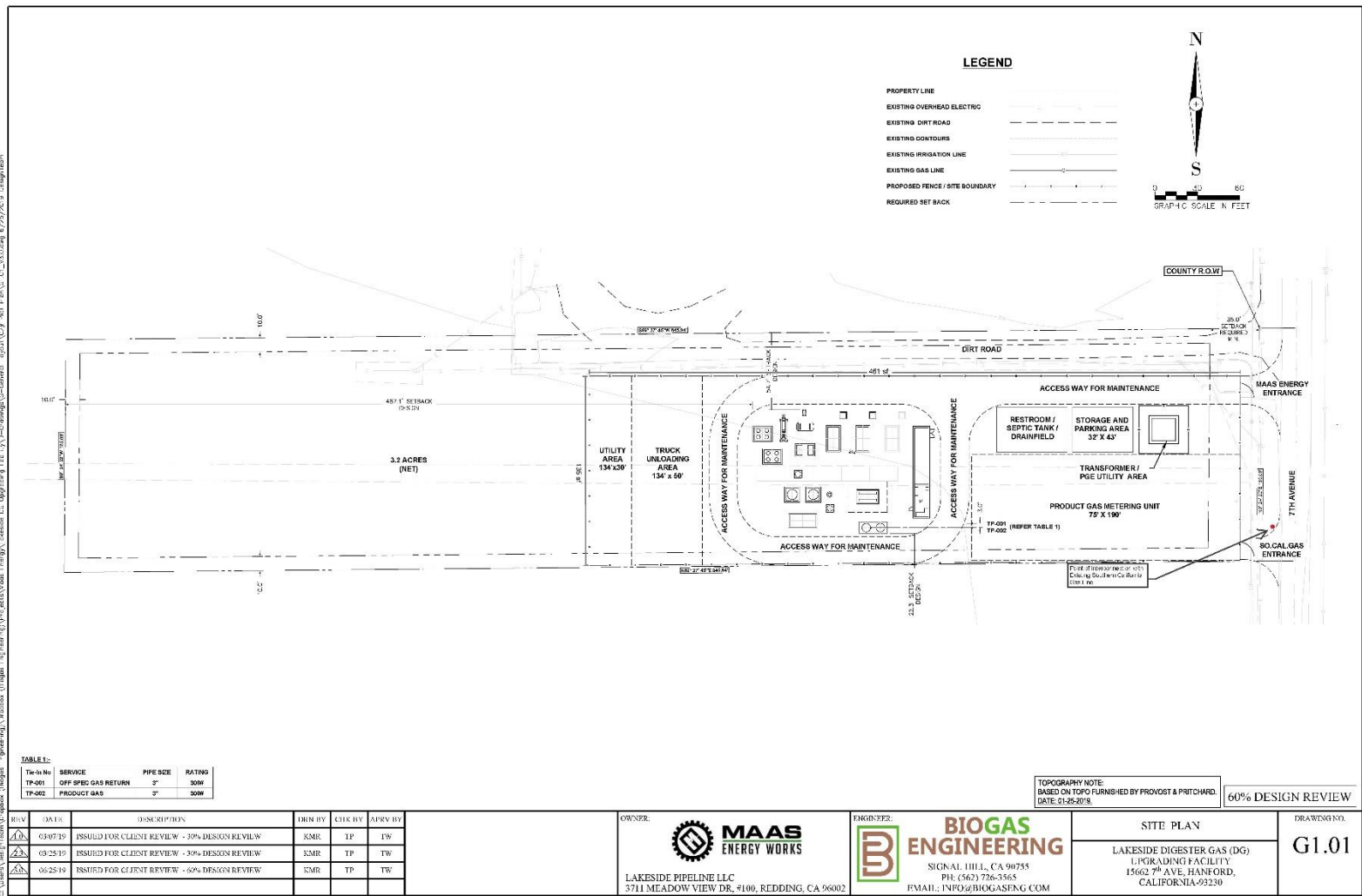


Figure 2-5
Site Plan

Unconfined mixtures of methane in air are not explosive; however, a flammable concentration within an enclosed space in the presence of an ignition source can explode. Methane is buoyant at atmospheric temperatures and disperses rapidly in air. Unintentional releases of biogas from dairy digester facilities or pipelines could pose risks to human health and safety. In the unlikely event that biogas is accidentally released into the atmosphere by a leak or rupture of the digester facility or pipe segments, it is possible that if the gas reaches a combustible mixture and an ignition source is present, a fire or explosion could occur resulting in injury or fatality. In addition, operation and maintenance of the dairy digester facility will involve the transport, use, storage, and disposal of small quantities of hazardous materials such as fuels, lubricants, and hydraulic fluids. Handling of hazardous materials are regulated by federal and State laws, as mentioned earlier, which minimizes worker safety risks from both physical and chemical hazards in the workplace.

With the scrubber facility that is needed for cleaning the biogas to remove hydrogen sulfide, flushing of the scrubbers will produce sulfur biogas scrubber effluent. One potential use of this effluent could be as a soil amendment. As a soil amendment, it would be subject to the California Department of Food and Agriculture Code covering fertilizing materials (Food and Agricultural Code Division 7, Chapter 5). Compliance with existing safety regulations and widely accepted industry standards will minimize the hazard to the public and the environment.

Dairy Facility

At each of the 18 dairy facilities, the project proposes to install a small blower and scrubbing facility. The total footprint of this facility will be no larger than 40 feet x 40 feet. It may contain a 30-foot x 30-foot steel building for the equipment, or just a concrete slab and gravel for the equipment area.

Upgrading Facility

The project proposes to install the biogas upgrading facility at 15664 7th Avenue, Hanford, APN 028-080-016. The upgrading facility will consist of moisture removal, H₂S scrubbing, CO₂ stripping, and biomethane compressors. The facility will require upgraded or new electrical service from PG&E to power the equipment. All the equipment will be designed specifically for this use and sourced from experienced vendors. The proposed footprint is 461 feet x 135 feet (62,235 square feet). Access would be taken from a private drive approach from 7th Avenue. An emergency entrance with a crash-gate located along 7th Avenue will provide secondary access to the facility.

Interconnection and Injection Point and Product Gas Compression

The project proposes to install an interconnection and injection point with SCG pipeline SL 38-523. The equipment necessary for this is referred to by SCG as the MSA or the Product Gas Metering Unit (PGMU). The MSA includes gas quality monitoring, odorization, measurement, and control equipment. The interconnection point is shown in the attached facility layout. In addition to metering and other control equipment described above, the

MSA/PGMU will include a primary and backup product gas compressor installed and operated by SCG to compress the newly cleaned biogas to the pressure needed (275 PSI) to inject into to the SCG pipeline.

All portions of the project will comply with Pipeline and Hazardous Materials Safety Administration (PHMSA) guidelines, 49 CFR Part 192, and with the CPUC's Safety Enforcement Division (SED) purview, CPUC General Order 112-F.

Gathering Lines

The project proposes to install about 37 miles of low-pressure HDPE biogas gathering lines. The gathering pipeline system is considered as a Class 1 pipeline (due to the low population density within which it traverses) and is classified as non-jurisdictional gathering per the PHMSA regulations. These pipelines will connect the upgrading and injection point with each dairy digester that is participating in the project. Pipelines will be run in private property or in some cases parallel or crossing Kings County ROWs and several existing drainages. Details of the route are included in Appendix E.

2.4.2 - CONSTRUCTION

Construction is anticipated to take approximately 10 months to complete

During construction, an anticipated 15 to 20 employees will be onsite and up to 10 deliveries daily. Traffic to the project site is anticipated to be less than 20 round trips per day.

Staging areas are proposed to be located on the site. The facility will require upgraded or new electrical service from Pacific Gas and Electric to power the equipment.

Construction Equipment

It is anticipated that the following pieces of equipment would be used during construction activities:

- Mini excavator
- Excavator
- Loader
- HDPE welding machine
- Water truck
- Scraper
- Self-propelled compactor
- Grader
- Mobile generator
- Service truck
- Air compressor
- Trencher

Water Usage

An estimated 5,000 gallons/day is anticipated during construction activities. Based on an average 20 workdays a month, approximately three AF would be required (5,000 gallons x 200 days = one million gallons).

2.4.3 - OPERATIONS

Dairy Facility

The biogas is produced by the digester at ambient temperature and just slightly above atmospheric pressure. From the digester, it's piped through a biogas filter and condensation trap to remove any particulates and condensation. Next, it's pulled through a condenser to lower the temperature of the gas to condense out additional moisture and dry the gas for sending down the gathering pipelines. After condensation, the biogas blower pressurizes the gas to no more than 20 PSI and sends it through a media-based scrubber to lower the H₂S below levels hazardous to human health. After the scrubber, the gas is sent down the gathering pipelines to the cleanup facility. Each blower will be controlled by a central SCADA system that is overseen by operators on a 24/7 basis. Additionally, flow meters will be installed at each digester site and at the upgrading facility to monitor biogas flows.

Upgrading Facility

The upgrading facility removes impurities, moisture, and gas constituents that are not suitable for injection into the SCG pipeline. The biogas first enters a moisture condensation trap and is then compressed and sent through a CO₂ stripper. This process transforms biogas to biomethane, which is indistinguishable from conventional natural gas. The final step is a compressor to reach the injection pressure needed to enter the SCG pipeline.

The facility will create up to 400 gallons per day of biogas condensate and oil/water mix from the biogas condensation unit and the compressor oil and water separators. This liquid waste will be composed primarily of water nonhazardous and will be handled only by trained personnel. This liquid waste will be stored in a marked tank at the facility and disposed of in accordance with State, local, and federal regulations.

The facility will also create up to 250 gallons per quarter of waste compressor oil. This will be stored onsite in a marked tank and disposed of in accordance with State, local, and federal regulations.

Interconnection and Injection Point (MSA) and Product Gas Compression

The MSA measures, odorizes, and controls the biomethane gas flow into the SCG pipeline. This equipment will be controlled by SCG via SCADA. SCG will monitor gas quality on a 24/7 basis using this equipment. If at any point the biomethane is not within the SCG Rule 30 Standards, the equipment automatically closes the injection valve and the biomethane is not injected into the pipeline. There is an emergency stop button at each dairy site and the

central hub that will immediately shut down the blowers if depressed. If the blowers aren't operating, nothing flows into the pipeline.

In addition to metering and other control equipment described above, the MSA/PGMU will include a product gas compressor installed and operated by SCG to compress the newly cleaned biogas to the pressure needed (275 PSI) to inject into the SCG pipeline.

Gathering Lines

The gathering lines move biogas from each participating dairy to the central upgrading facility. The lines will range in size from four inches to 20 inches and will be constructed of SDR-21 HDPE. The lines will be buried at least 36 inches below grade and will be marked with tracer wire. Each dairy will have a blower to push gas from that dairy into the gathering lines at pressure of less than 20 psi. Each blower will be controlled by a central SCADA system that is overseen by operators on 24 hour/7 days a week basis. When a blower increases in speed, more biogas is pushed to the upgrading facility, and when it decreases, less biogas is sent. The gathering lines will be pressure monitored via SCADA equipment in real time to detect leaks or major failures. Flow meters at each site and the upgrading facility will monitor flows. Flow meters at each site and the upgrading facility will monitor flows. As noted above, if a leak is detected or if there is an issue with the biogas quality, there is an emergency stop button.

Operational Equipment – Dairy Facility

| Description | Motor Size | Type | Oper BHP | Oper Factor | Oper kW |
|---------------------------|------------|------|----------|-------------|---------|
| Chiller | 30 hp | VFD | 30 | 80% | 17.76 |
| Biogas Blower | 40 hp | VFD | 40 | 70% | 20.72 |
| Hydrogen Sulfide Scrubber | N/A | | | | |
| SCADA Controls | N/A | | | | |
| Total Kw | | | | | 38 |

SCADA = Supervisory Control and Data Acquisition

Operational Equipment – Upgrading Facility

| Description | Motor Size | Type | Oper BHP | Oper Factor | Oper kW |
|---------------------------|------------|------|----------|-------------|---------|
| BG Compressor | 800 hp | VFD | 719 | 100% | 536 |
| BG Compressor | 800 hp | VFD | 719 | 100% | 536 |
| BG Compressor | 800 hp | VFD | 719 | 100% | 536 |
| Hydrogen Sulfide Polisher | NA | | | | 0 |
| BG Comp Gas Cooler Fan | 10 hp | VFD | 9 | 100% | 7 |
| BG Comp Oil Cooler Fans | 3 x 10 hp | VFD | 27 | 100% | 20 |
| Chiller Compressor | 150 | SS | 115 | 100% | 86 |
| Chiller Condenser Fan | 15 | VFD | 13 | 100% | 10 |
| Product Gas Compressor | 150 | VFD | 137 | 100% | 102 |

Project Description

| Description | Motor Size | Type | Oper BHP | Oper Factor | Oper kW |
|---------------------------------|------------|------|----------|-------------|---------|
| Product Gas Comp Gas Cooler Fan | 5 | VFD | 4 | 100% | 3 |
| Plant Air Compressor No. 1 | 15 | ATL | 13 | 80% | 8 |
| Plant Air Compressor No. 2 | 15 | ATL | 13 | 0% | 0 |
| 1 st Stage Membrane | NA | | | | 0 |
| 2 nd Stage Membrane | NA | | | | 0 |
| Transfer Pump | 15 | ATL | 13 | 10% | 1 |
| Total Kw | | | | | 1,845 |

BG Compressor= Biogas Compressor; VFD = Variable Frequency Drive SS = Soft Start; ATL = Across the Line

Operational Equipment – MSA and Product Gas Compression

| Description | Motor Size | Type | Nameplate kW | Oper Factor | Oper kW |
|---|------------|------|--------------|-------------|---------|
| Compressor #1 Main Motor | 100 hp | VFD | 74.6 | 80% | 70.20 |
| Compressor #1 Fan Motor | 10 hp | VFD | 7.5 | 80% | 7.00 |
| Compressor #1 Pre-lube | .5 hp | SS | 0.4 | 80% | 0.40 |
| Heat Exchanger Fan Motor | 25 hp | SS | 18.7 | 80% | 17.60 |
| Skid Utility Loads (lights, controller) | N/A | N/A | 15 | 80% | 12.00 |
| Compressor #2 Main Motor | 100 hp | VFD | 74.6 | 80% | - |
| Compressor #2 fan motor | 10 hp | VFD | 7.5 | 80% | - |
| COMPRESSOR #2 Pre-lube | .5 hp | SS | 30 | 80% | - |
| Meter Set (MSA) | N/A | SS | 25 | 80% | 20.00 |
| Site Misc. Load (AC/Yard lighting) | N/A | SS | 50 | 80% | 40.00 |
| TOTAL KW | | | | | 167.20 |

VFD = Variable Frequency Drive SS = Soft Start

Water Usage

Operational water usage is estimated to be approximately 1,000 gallons a day (1,000 gallons x 365/year = approximately 365,000 gallons) or 1.1 AF annually. Bottled water for employees will be brought to the project site as well.

Parking

Parking will be accessible directly to the south of the project facility. This area already exists as a flat dirt parking area for farm equipment. Parking areas will be constructed to comply with Kings County Improvement Standards Section 303.G, as applicable.

Hours of Operation

The facility will be operational 24 hours/7 days a week but will not open to public visitors without prior permission.

Staffing and Traffic

Once operational, there will one-two permanent staff at the facility who will conduct routine maintenance and operations activities, make daily checks on equipment, for a total of two daily round trips. Staff typically work a five-days a week schedule.

Deliveries are expected no more than once a week. In addition to those deliveries, there may be one-two monthly deliveries of compressor oil, carbon media, replacement parts, other mechanical equipment and liquid nutrients via the same diesel trucks, for a total of approximately six roundtrips a month.

For this environmental analysis, unless specifically differentiated, the biogas upgrading facility and the approximately 37 miles of gathering pipelines will be referred to as the “project” or “project area.”

SECTION 3 - INITIAL STUDY

3.1 - Environmental Checklist

1. Project Title:

Hanford-Lakeside Dairy Digester Cluster Project

2. Lead Agency Name and Address:

Kings County Community Development Agency
1400 West Lacey Boulevard, Building #6
Hanford, California 93230

3. Contact Person and Phone Number:

Chuck Kinney, Deputy Director
(559)852-2674

4. Project Location:

15664 7th Avenue, Hanford, CA 93230

5. Project Sponsor's Name and Address:

Maas Energy Works, Inc.
3711 Meadowview Drive, Space 100
Redding, CA 96002

6. General Plan Designation:

AG 20 (General Agriculture- 20 District)

7. Zoning:

AG 20 (General Agriculture- 20 District)

8. Description of Project:

Please see *Section 2.4 above – Project Description*

9. Surrounding Land Uses and Setting:

Please see *Section 2.3 above – Surrounding Land Uses*

10. Other Public Agencies Whose Approval May be Required:

- California Department of Fish and Wildlife (CDFW)
- San Joaquin Valley Air Pollution Control District
- Regional Water Quality Control Board-- Lahontan (RWQCB)
- State Water Resource Control Board (SWRCB)
- US Army Corps of Engineers (ACOE)

11. Have California Native American tribes traditionally and culturally affiliated with the project area requested consultation pursuant to Public Resources Code section 21080.3.1? If so, has consultation begun?

California Native American tribes traditionally and culturally affiliated with the project area have provided their contact information to the County (Lead Agency) requesting consultation of proposed projects pursuant to AB 52, Public Resources Code (PRC) Section 21080.3.1.

NOTE: Conducting consultation early in the CEQA process allows tribal governments, lead agencies, and project proponents to discuss the level of environmental review, identify and address potential adverse impacts to tribal cultural resources, and reduce the potential for delay and conflict in the environmental review process. (See Public Resources Code section 21083.3.2.) Information may also be available from the California Native American Heritage Commission's Sacred Lands File per Public Resources Code section 5097.96 and the California Historical Resources Information System administered by the California Office of Historic Preservation. Please also note that Public Resources Code section 21082.3(c) contains provisions specific to confidentiality.

3.2 - 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 onsite, cumulative as well as project-level, indirect as well as direct, and construction as well as operational impacts.
3. Once the lead agency has determined that a particular physical impact may occur, then the checklist answers must indicate whether the impact is potentially significant, less than significant with mitigation, or less than significant. "Potentially Significant Impact"

is appropriate if there is substantial evidence that an effect may be significant. If there are one or more "Potentially Significant Impact" entries when the determination is made, an EIR is required.

4. "Negative Declaration: Less Than Significant With Mitigation Incorporated" applies where the incorporation of mitigation measures has reduced an effect from "Potentially Significant Impact" to a "Less Than Significant Impact." The lead agency must describe the mitigation measures, and briefly explain how they reduce the effect to a less than significant level (mitigation measures from "Earlier Analyses," as described in (5) below, may be cross-referenced).
5. Earlier analyses may be used where, pursuant to the tiering, program EIR, or other CEQA process, an effect has been adequately analyzed in an earlier EIR or negative declaration. Section 15063(c)(3)(D). In this case, a brief discussion should identify the following:
 - a. Earlier Analysis Used. Identify and state where they are available for review.
 - b. Impacts Adequately Addressed. Identify which effects from the above checklist were within the scope of and adequately analyzed in an earlier document pursuant to applicable legal standards, and state whether such effects were addressed by mitigation measures based on the earlier analysis.
 - c. Mitigation Measures. For effects that are "Less than Significant with Mitigation Measures Incorporated," describe the mitigation measures which were incorporated or refined from the earlier document and the extent to which they address site-specific conditions for the project.
6. Lead agencies are encouraged to incorporate into the checklist references to information sources for potential impacts (e.g., general plans, zoning ordinances). Reference to a previously prepared or outside document should, where appropriate, include a reference to the page or pages where the statement is substantiated.
7. Supporting Information Sources: A source list should be attached, and other sources used or individuals contacted should be cited in the discussion.
8. This is only a suggested form, and lead agencies are free to use different formats; however, lead agencies should normally address the questions from this checklist that are relevant to a project's environmental effects in whatever format is selected.
9. The explanation of each issue should identify:
 - a. the significance criteria or threshold, if any, used to evaluate each question; and
 - b. the mitigation measure identified, if any, to reduce the impact to less than significance.

3.3 - 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.

- | | | |
|---|---|--|
| <input type="checkbox"/> Aesthetics | <input type="checkbox"/> Agriculture and Forestry Resources | <input checked="" type="checkbox"/> Air Quality |
| <input checked="" type="checkbox"/> Biological Resources | <input checked="" type="checkbox"/> Cultural Resources | <input type="checkbox"/> Energy |
| <input checked="" type="checkbox"/> Geology and Soils | <input type="checkbox"/> Greenhouse Gas Emissions | <input checked="" type="checkbox"/> Hazards and Hazardous Materials |
| <input checked="" type="checkbox"/> Hydrology and Water Quality | <input type="checkbox"/> Land Use and Planning | <input type="checkbox"/> Mineral Resources |
| <input type="checkbox"/> Noise | <input type="checkbox"/> Population and Housing | <input type="checkbox"/> Public Services |
| <input type="checkbox"/> Recreation | <input checked="" type="checkbox"/> Transportation | <input checked="" type="checkbox"/> Tribal Cultural Resources |
| <input checked="" type="checkbox"/> Utilities and Service Systems | <input checked="" type="checkbox"/> Wildfires | <input checked="" type="checkbox"/> Mandatory Findings of Significance |

3.4 - Determination

On the basis of this initial evaluation:

- ☐ I find that the proposed project COULD NOT have a significant effect on the environment, and a NEGATIVE DECLARATION will be prepared.
- ☒ I find that although the proposed project could have a significant effect on the environment, there will not be a significant effect in this case because revisions in the project have been made 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 (a) has been adequately analyzed in an earlier document pursuant to applicable legal standards, and (b) has been addressed by mitigation measures based on the earlier analysis as described on attached sheets. An ENVIRONMENT IMPACT REPORT is required, but it must analyze only the effects that remain to be addressed.

- ☐ I find that although the proposed project could have a significant effect on the environment, because all potentially significant effects (a) have been analyzed adequately in an earlier EIR or NEGATIVE DECLARATION pursuant to applicable standards, and (b) have been avoided or mitigated pursuant to that earlier EIR or NEGATIVE DECLARATION, including revisions or mitigation measures that are imposed upon the proposed project, nothing further is required.



Signature

7-2-19

Date

Chuck Kinney, Deputy Director
Printed Name

For

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| | Potentially Significant Impact | Less than Significant with Mitigation Incorporated | Less-than- Significant Impact | No Impact |
|--|--------------------------------------|--|-------------------------------------|--------------|
|--|--------------------------------------|--|-------------------------------------|--------------|

3.4.1 - AESTHETICS

Except as provided in Public Resources Code Section 21099, would the project:

- | | | | | | |
|----|--|--------------------------|--------------------------|-------------------------------------|--------------------------|
| 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 a state scenic highway? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| c. | In non-urbanized areas, substantially degrade the existing visual character or quality of public views of the site and its surroundings? (Public views are those that are experienced from publicly accessible vantage point). If the project is in an urbanized area, would the project conflict with applicable zoning and other regulations governing scenic quality? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| d. | Create a new source of substantial light or glare that would adversely affect day or nighttime views in the area? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |

Discussion

Impact #3.4.1a – Would the project have a substantial adverse effect on a scenic vista?

The County of Kings 2035 General Plan identifies three scenic vistas within the County: The Kings River, Cross Creek, and the foothill and mountain terrain in the southwest portion of the County. Cross Creek is the closest scenic resource to the project site, located approximately one mile to the east. The visual characteristics of the project site and the surrounding areas include primarily agricultural, dairy and rural residential land uses.

The project site itself would not impact scenic views of Cross Creek, due to the distance from the creek and the relatively low-profile of the proposed structures. The gathering pipeline will traverse Cross Creek, however the pipeline will be underground and therefore not be visible or impact the scenic vista once constructed. The project consists of the biogas facility, pipelines and tanks that are similar in visual character to the adjacent agricultural equipment storage yard, other large agricultural operations in the vicinity and is not unique to the surrounding visual setting. Neither the project area nor any surrounding land use

contains features typically associated with scenic vistas (e.g., ridgelines, peaks, overlooks). Therefore, the project's activities will not obscure or impact views of any scenic vistas.

MITIGATION MEASURE(S)

No mitigation is required.

LEVEL OF SIGNIFICANCE

Impacts would be *less than significant*.

Impact #3.4.1b – Would the project substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?

The project site is in a generally rural, undeveloped area of eastern Kings County, approximately three miles southeast of the City of Hanford and approximately 11 miles west of the City of Tulare. The area is predominantly characterized as having cultivated and undeveloped farmland, agriculturally related commercial businesses, dairies and sparse agricultural dwellings.

There are no State designated scenic highways within the immediate proximity of the project site (California Department of Transportation, 2011). In addition, no scenic highways or roadways are listed within the project area in the County of Kings 2035 General Plan. Based on the National Register of Historic Places (NRHP), the California Register of Historical Resources (CRHR) and Kings County General Plan, no historic buildings exist on the project site; the nearest buildings on the NRHP and CRHR are over six miles northwest of the project in the City of Hanford. Construction of the project would not require removal of any existing trees or rock outcroppings. Minor grading is anticipated but will not substantially change the topography or change the current visual character of the project location. Therefore, the project would not substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a State scenic highway.

MITIGATION MEASURE(S)

No mitigation is required.

LEVEL OF SIGNIFICANCE

Impacts would be *less than significant*.

Impact #3.4.1c – In non-urbanized areas, substantially degrade the existing visual character or quality of public views of the site and its surroundings? (Public views are those that are experienced from publicly accessible vantage point). If the project is in an urbanized area, would the project conflict with applicable zoning and other regulations governing scenic quality?

The proposed project will consist of the biogas facility, underground pipelines, and tanks. These features are similar in visual character to the agricultural equipment storage yard directly north of the project and surrounding dairy operations, so the facility will not be unique from the surrounding visual setting. The facility's appearance would not change or degrade the visual character of the project site. The pipelines will not be visible. Therefore, the project would not result in a substantial impact to the visual quality of the area.

MITIGATION MEASURE(S)

No mitigation is required.

LEVEL OF SIGNIFICANCE

Impacts would be *less than significant*.

Impact #3.4.1d – Would the project create a new source of substantial light or glare that would adversely affect day or nighttime views in the area?

Construction of the proposed project would generally occur during daytime hours, typically from 7:00 a.m. to 6:00 p.m. All lighting would be directed downward and shielded to focus illumination on the desired work areas only and prevent light spillage onto adjacent properties. Because lighting used to illuminate work areas would be shielded, focused downward, and turned off by 6:00 p.m., the potential for lighting to affect anyone adversely is minimal.

The biogas facility will function 24 hours a day and all lighting associated with this project will be directed downward and shielded to focus illumination on the project site only and prevent light spillage onto adjacent properties. The biogas transmission pipelines will be underground and not present a glare issue. Aboveground connection lines and tanks will be constructed out of materials that would not induce glare. Routine facility maintenance and repair activities will be conducted during daylight hours. Construction would occur during daylight hours only, so no overnight construction lighting would be necessary. Construction lighting would only be used for twilight hours, ending at 6:00 p.m. each day. Therefore, the project would not create a new source of substantial light or glare that would adversely affect day or nighttime views in the area.

MITIGATION MEASURE(S)

No mitigation is required.

LEVEL OF SIGNIFICANCE

Impacts would be *less than significant*.

| Potentially Significant Impact | Less than Significant with Mitigation Incorporated | Less-than- Significant Impact | No Impact |
|--------------------------------------|--|-------------------------------------|--------------|
|--------------------------------------|--|-------------------------------------|--------------|

3.4.2 - AGRICULTURE AND FORESTRY RESOURCES

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

| | | | | |
|--|--------------------------|--------------------------|-------------------------------------|-------------------------------------|
| 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 nonagricultural use? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input 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 forest land 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 forest land to non-forest use? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |

Discussion

Impact #3.4.2a – 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 nonagricultural use?

The project site is designated as Farmland of Statewide Importance by the Department of Conservation's (DOC) Farmland Mapping and Monitoring Program (FMMP) (CA Department of Conservation, 2016). Therefore, the project would permanently convert 1.32 acres of actively cultivated agricultural land that has been designated as Farmland of Statewide Importance to accommodate the development of the proposed facility. During construction of the underground pipeline, there would be a temporary suspension of farming activities. However, once installed, farming activities would continue. There would be no permanent conversion of farmland from the installation and operation of the underground pipelines. According to the California Farmland Conversion Report (CA Department of Conservation, 2015), there were approximately 376,869 acres of Farmland of Statewide Importance inventoried in Kings County. The loss of less than an acre of farmland represents a loss of 0.0002% of designated farmland. Therefore, the impact of the project would be considered less than significant.

MITIGATION MEASURE(S)

No mitigation measures are required.

LEVEL OF SIGNIFICANCE

Impacts would be *less than significant*.

Impact #3.4.2b – Would the Project conflict with existing zoning for agricultural use or a Williamson Act Contract?

The project site is located in the AG-20 zone district. However, the proposed project 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 of 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-20) 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 biogas facility site itself is not subject to a Williamson Act contract. However, the gathering pipeline route goes through several properties owned by the participating dairies, and several of these are subject to a land use 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 operation of dairies as a Commercial Agricultural Use. In addition, Section A.3.g. of the Uniform Rules for Agricultural Preserves in Kings County lists accessory structures and uses incidental to the operation of dairies as a Commercial Agricultural Use. The project would not conflict with the existing zoning for agricultural land use or a Williamson Act contract and future expansion of the

proposed pipeline to other dairies would not result in conflict with existing zoning for agricultural land use or a Williamson Act contract. There is no impact.

MITIGATION MEASURE(S)

No mitigation measures are required.

LEVEL OF SIGNIFICANCE

There would be *no impact*.

Impact #3.4.2c – 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))?

There is no forest or timberland on the project site or surrounding area, and the project site and surrounding area is zoned General Agricultural-20 District (AG-20). The project will have no impact on land designated for forest land use.

MITIGATION MEASURE(S)

No mitigation measures are required.

LEVEL OF SIGNIFICANCE

There would be *no impact*.

Impact #3.4.2d – Would the project result in the loss of forest land or conversion of forest land to non-forest use?

As noted in Impact #3.4.2c, above, there is no designated forest or timberland on the project site or surrounding area, and the project site and surrounding area is zoned General Agricultural-20 (AG-20). The project will not convert land designated for forest land use.

MITIGATION MEASURE(S)

No mitigation measures are required.

LEVEL OF SIGNIFICANCE

There would be *no impact*.

Impact #3.4.2e – 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 forest land to non-forest use?

The project site and surrounding area is zoned General Agricultural-20 (AG-20). As noted in Impact #3.4.2a, the project will convert land a small amount of farmland to a non-agricultural use. However, this use is directly related to existing agricultural dairy operations and permitted in the AG-20 zone district with approval of a CUP. There is no evidence to indicate that the project would result in the conversion of surrounding agricultural lands to a non-agricultural use.

MITIGATION MEASURE(S)

No mitigation measures are required.

LEVEL OF SIGNIFICANCE

Impacts would be *less than significant*.

| | Potentially Significant Impact | Less than Significant with Mitigation Incorporated | Less-than- Significant Impact | No Impact |
|--|--------------------------------------|--|-------------------------------------|--------------|
|--|--------------------------------------|--|-------------------------------------|--------------|

3.4.3 - AIR QUALITY

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

| | | | | | |
|----|--|--------------------------|-------------------------------------|-------------------------------------|--------------------------|
| 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"/> |

The following analysis is based primarily on the *Air Quality Impact Analysis* (AQIA) pursuant to the San Joaquin Valley Air Pollution Control District (SJVAPCD) *Guidance for Assessing and Mitigating Air Quality Impacts* (GAMAQI), and the California Environmental Quality Act (CEQA) Statute and Guidelines for this project by Insight Environmental Consultants (Insight Environmental, 2018), Appendix A in this document. The Project area is located within the San Joaquin Valley Air Basin (SJVAB) in Kings County and is included among the eight counties that comprise the SJVAPCD. The SJVAPCD acts as the regulatory agency for air pollution control in the basin and is the local agency empowered to regulate air pollutant emissions for the plan area.

Discussion

The project proposes to install an approximately 461 feet x 135 feet (62,235 feet) biogas upgrading facility and approximately 37 miles of buried biogas gathering lines connecting to up to 18 dairies. During construction, an anticipated 15 to 20 employees will be onsite. Traffic to the project site is anticipated to be approximately 20 round trips per day. Approximately four additional diesel trucks with construction equipment and materials would occur on a daily basis. Once operational, there will be one-two staff at the facility approximately eight hours on a daily basis. Routine maintenance and operations activities will be conducted by one-two staff who will make daily checks on equipment, for a total of two daily round trips. Staff work a regular five-day a week schedule.

Deliveries are expected no more than once a week. In addition to those deliveries, there may be one-two monthly deliveries of compressor oil, carbon media, replacement parts, other mechanical equipment and liquid nutrients via the same diesel trucks, for a total of approximately six roundtrips a month.

The construction and operation of the proposed project would be subject to SJVAPCD rules and requirements, including any applicable permitting requirements. These rules and regulations may include compliance with the SJVAPCD's Regulation VIII (Fugitive PM₁₀ Prohibitions), Rule 2010 (Permits Required), Rule 2201 (New and Modified Stationary Source Review), Rule 4002 (National Emissions Standards for Hazardous Air Pollutants), Rule 4102 (Nuisance), Rule 4570 (Confined Animal Facilities), Rule 4601 (Architectural Coatings), and Rule 4641 (Cutback, Slow Cure, and Emulsified Asphalt, Paving and Maintenance Operations), and other applicable regulations.

The SJVAPCD GAMAQI thresholds are designed to implement the general criteria for air quality emissions as required in the CEQA Guidelines, Appendix G, Paragraph III (Title 14 of the California Code of Regulations §15064.7) and CEQA (California Public Resources Code §21000 et. al). SJVAPCD's specific CEQA air quality thresholds are presented in Table 3.4.3-1.

Table 3.4.3-1
SJVAPCD Pollutant Thresholds of Significance

| Criteria Pollutant | Significance Level | |
|--------------------|--------------------------|-------------------------|
| | Construction (tons/year) | Operational (tons/year) |
| CO | 100 tons/yr | 100 |
| NO _x | 10 | 10 |
| ROG | 10 | 10 |
| SO _x | 27 | 27 |
| PM ₁₀ | 15 | 15 |
| PM _{2.5} | 15 | 15 |

Source: Insight Environmental 2018

Impact #3.4.3a – Would the Project conflict with or obstruct implementation of the applicable air quality plan?

The SJVAB is designated nonattainment of State and federal health-based air quality standards for ozone and PM_{2.5}. The SJVAB is designated nonattainment of State PM₁₀. To meet Federal Clean Air Act (CAA) requirements, the SJVAPCD has multiple Air Quality Attainment Plan (AQAP) documents, including:

- 2016 Ozone Plan;
- 2007 PM₁₀ Maintenance Plan and Request for Redesignation; and
- 2016 PM_{2.5} Plan.

Air quality impacts from proposed projects within Kings County are controlled through policies and provisions of the SJVAPCD and the 2035 Kings County General Plan (County of Kings, 2010). In order to demonstrate that a proposed project would not cause further air quality degradation in either of the SJVAPCD's plan to improve air quality within the air basin or federal requirements to meet certain air quality compliance goals, each project should also demonstrate consistency with the SJVAPCD's adopted Air Quality Attainment Plans (AQAP) for O₃ and PM₁₀. The California Clean Air Act (CCAA) requires air pollution control districts with severe or extreme air quality problems to provide for a five percent reduction in non-attainment emissions per year.

The Kings County Association of Governments (KCAG) Air Quality Conformity Analysis demonstrates that the 2017 Federal Transportation Improvement Program (2017 FTIP) and 2014 Regional Transportation Plan (2014 RTP) in the Kings County would not hinder the efforts set out in the CARB's SIP for each area's non-attainment pollutants (CO, O₃, PM₁₀ and PM_{2.5}). The analysis uses the San Joaquin Valley Demographic Forecasts 2010 to 2050. (Insight Environmental, 2018).

The KCAG Air Quality Conformity Analysis considers General Plan Amendments (GPA) and zone changes that were enacted at the time of the analysis as projected growth within the area based on land use designations incorporated within the Kings County General Plan. Land use designations that are altered based on subsequent GPAs that were not included in the Air Quality Conformity Analysis were not incorporated into the KCAG analysis. Consequently, if a proposed project is not included in the regional growth forecast using the latest planning assumptions, it may not be said to conform to the regional growth forecast. Under the current Kings County zoning, the project site is designated as "AG20" and a change in zone district is not proposed.

Under current policies, only after a General Plan Amendment (GPA) is approved, can housing and employment assumptions be updated to reflect the capacity changes. Since the proposed development does not require a GPA and zone change, the existing growth forecast will not be modified to reflect these changes. In order to determine whether the forecasted growth for the project area is sufficient to account for the projected increases in employment, an analysis based on KCAG regional forecast was conducted. Employment forecast for the analysis area appear to be sufficient to account for 100 percent of the planned employment growth attributed to the proposed project. In order to be considered "consistent" and, therefore, in conformance with the AQAP, these increases would need to occur over the same time as the adopted growth forecast. According to Table 2-2 of KCAG's Air Quality Conformity Analysis there is a projected employee increase of 7,988 in Kings County between 2010 and 2020 (Insight Environmental, 2018). The proposed project would result in approximately one-two employees to perform daily maintenance and operations tasks. These employees are currently employees by the project proponent, and therefore would not be considered new employees.

The CCAA and AQAP identify transportation control measures as methods to further reduce emissions from mobile sources. Strategies identified to reduce vehicular emissions such as reductions in vehicle trips, vehicle use, vehicle miles traveled, vehicle idling, and traffic

congestion, in order to reduce vehicular emissions, can be implemented as control measures under the CCAA as well. Additional measures may also be implemented through the building process such as providing electrical outlets on exterior walls of structures to encourage use of electrical landscape maintenance equipment or measures such as electrical outlets for electrical systems on diesel trucks to reduce or eliminate idling time. The proposed project is not anticipated to exceed SJVAPCD thresholds for criteria pollutants during construction or operations and impacts are considered less than significant (see Impact #3.4.3b).

As the growth represented by the proposed project was anticipated by the Kings County General Plan and incorporated into the AQAP, conclusions may be drawn from the following criteria:

- The findings of the analysis show that the project's minimal employment increases are planned for the project and the project area; and
- That, by definition, the proposed emissions from the project are below the SJVAPCD's established emissions impact thresholds.

Based on the above analysis presented, the project is anticipated to be consistent with the AQAP, RTP, and KCAG Air Quality Conformity Analysis.

Project emissions were estimated for the following project development stages:

- Short-term (Construction and Demolition) – Construction emissions of the proposed project and pipeline were estimated in CalEEMod using applicant assumptions for equipment and construction schedule for the development of the project on 3.3 net acres.
- Long-term (Operations) – Long-term emissions were also estimated using EMFAC2014 and stationary source emission factors.

The proposed project's construction and operations would include the following criteria pollutant emissions: reactive organic gases (ROG), carbon monoxide (CO), nitrogen dioxide (NO₂), sulfur dioxide (SO₂), and suspended particulate matter (PM₁₀ and PM_{2.5}). Project operations would generate air pollutant emissions from mobile sources (automobile activity from employees) and area sources (incidental activities related to facility maintenance). Project construction and operational activities would also generate greenhouse gas (GHG) emissions. Criteria and GHG emissions were estimated using the California Emissions Estimator Model (CalEEMod) version 2016.3.2 (Insight Environmental, 2018). The project's construction emissions were based on the equipment list outlined in *Section 3.4 Project Description*, and accordingly for the proposed project's land use type and development intensity.

Short-term Emissions

SJVAPCD's required measures for all projects were also applied:

- Water exposed area three times per day; and

- Reduce vehicle speed to less than 15 miles per hour

Table 3.4.3-2, below presents the project's short-term emissions based on the anticipated construction period.

**Table 3.4.3-2
Short-Term Project Emissions**

| Emissions Source | Pollutant (tons/year) | | | | | |
|---|-----------------------|-----------------|------|-----------------|------------------|-------------------|
| | ROG | NO _x | CO | SO ₂ | PM ₁₀ | PM _{2.5} |
| Unmitigated | | | | | | |
| 2019 | 0.48 | 4.79 | 3.36 | 0.006 | 0.32 | 0.27 |
| Mitigated | | | | | | |
| 2019 | 0.48 | 4.79 | 3.36 | 0.006 | 0.29 | 0.25 |
| Significance Threshold | 10 | 10 | 100 | 27 | 15 | 15 |
| Is Threshold Exceeded for a Single Year After Mitigation? | NO | NO | NO | NO | NO | NO |

Source: Insight Environmental 2018

As calculated with CalEEMod, the estimated short-term construction-related emissions would not exceed SJVAPCD significance threshold levels during a given year and would therefore be less than significant.

Mobile and stationary sources have been analyzed and reported in the AQIA. Stationary sources will be part of the process and the analysis of these sources is typically part of the permitting process whereby the project proponent must meet all permitting and emissions control standards established within the air pollution control district that the equipment will be located. Stationary source emissions are anticipated to be negligible based on similar projects that have been constructed and permitted within the SJVAPCD. Stationary source emissions from the project would consist of VOC emissions vented to the atmosphere from the biogas upgrade process. The commenter's concern about sulfur dioxide is noted, however, according to information provided by the applicant the process will include SO₂ controls (such as an H₂S scrubber) and will not include any combustion onsite.

Long-term Emissions

Long-term emissions are caused by operational mobile, area, and stationary sources. Long-term emissions would consist of the following components.

- Fugitive Dust Emissions

Operation of the project site at full build-out is not expected to present a substantial source of fugitive dust (PM₁₀) emissions. The main source of PM₁₀ emissions would be from vehicular traffic associated with the project site.

PM₁₀ on its own as well as in combination with other pollutants creates a health hazard. The SJVAPCD's Regulation VIII establishes required controls to reduce and minimizing fugitive dust emissions. The following SJVAPCD Rules and Regulations apply to the proposed project:

- Rule 4102 – Nuisance;
- Regulation VIII – Fugitive PM₁₀ Prohibitions;
- Rule 8011 - General Requirements;
- Rule 8021 - Construction, Demolition, Excavation, Extraction, and Other Earthmoving Activities;
- Rule 8041 - Carryout and Trackout;
- Rule 8051 - Open Areas;
- The project design complies with applicable standards set forth in Title 24 of the Uniform Building Code to minimize total consumption of energy;
- Applicants will be required to comply with applicable mitigation measures in the AQAP, SJVAPCD Rules, Traffic Control Measures, Regulation VIII, and Indirect Source Rules for the SJVAPCD;
- The developer shall comply with the provisions of SJVAPCD Rule 4601 - Architectural Coatings during the construction of all buildings and facilities. Application of architectural coatings shall be completed in a manner that poses the least emissions impacts whenever such application is deemed proficient;
- The applicant shall comply with the provisions of SJVAPCD Rule 4641 during the construction and pavement of all roads and parking areas within the project area. Specifically, the applicant shall not allow the use of:
 - Rapid cure cutback asphalt;
 - Medium cure cutback asphalt;
 - Slow cure cutback asphalt (as specified in SJVAPCD Rule 4641, Section 5.1.3); or Emulsified asphalt (as specified in SJVAPCD Rule 4641, §5.1.4); and
- The developer shall comply with applicable provisions of SJVAPCD Rule 9510 (Indirect Source Review).

The project would comply with applicable SJVAPCD rules and regulations, local municipal codes, policies and measures.

- Exhaust Emissions

Project-related transportation activities from employees and maintenance would generate mobile source ROG, NO_x, SO_x, CO, PM₁₀ and PM_{2.5} exhaust emissions. Exhaust emissions would vary substantially from day to day but would average out over the course of an operational year. The variables factored into estimating total project emissions include: level of activity, site characteristics, weather conditions, and number of employees. As the project is not expected to generate an adverse change in current activity levels, substantial emissions are not anticipated.

- Stationary Source Emissions

As noted in Tables 3.4.3-2 and 3.4.3-3, stationary source emissions are anticipated to be negligible based on similar projects that have been constructed and permitted within the SJVAPCD. Stationary source emissions from the project would consist of VOC emissions vented to the atmosphere from the biogas upgrade process.

Projected Emissions

The proposed project is expected to have long-term air quality impacts as shown in Table 3.4.3-3. Emission calculations are available in Appendix A.

**Table 3.4.3-3
Long-term Operational Emissions**

| Emissions Source | Pollutant (tons/year) | | | | | |
|---|-----------------------|-----------------|--------|-----------------|------------------|-------------------|
| | ROG | NO _x | CO | SO _x | PM ₁₀ | PM _{2.5} |
| Mobile Source Emissions | 0.0020 | 0.0522 | 0.0255 | 0.0002 | 0.0018 | 0.0010 |
| Stationary Source Emissions | 0.0001 | - | - | - | - | - |
| SJVAPCD Threshold | 10 | 10 | 100 | 27 | 15 | 15 |
| Is Threshold Exceeded After Mitigation? | NO | NO | NO | NO | NO | NO |

Source: Insight Environmental 2018

As shown in Table 3.4.3-3, long-term operations-related emissions would not exceed the SJVAPCD significant threshold levels and impacts from the proposed project would be less than significant, no specific mitigation measures would be required.

MITIGATION MEASURE(S)

No mitigation is required.

LEVEL OF SIGNIFICANCE

Impacts would be *less than significant*.

Impact #3.4.3b – 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?

The nonattainment pollutants for the SJVAPCD are O₃, PM₁₀ and PM_{2.5}. Therefore, the pollutants of concern for this impact are ozone precursors, regional PM₁₀, and PM_{2.5}. As discussed above, the thresholds of significance used for determination of emission significance are shown in Tables 3.4.3-2 and 3.4.3-3, above, emissions from the project are well below the SJVAPCD's thresholds.

The most recent, certified SJVAB emission inventory data available from the SJVAPCD is based on data gathered for the 2015 annual inventory. This data will be used to assist the

SJVAPCD in demonstrating attainment of federal 1-hour O₃ standards. Table 3.4.3-4 provides a comparative look at the impacts proposed by the proposed project to the SJVAB emissions inventory.

Table 3.4.3-4
Comparative Analysis of Project on SJVAB 2015 Inventory

| Emissions Inventory Source | Pollutant (tons/year) | | | | | |
|----------------------------------|-----------------------|-----------------|---------------|-----------------|------------------|-------------------|
| | ROG | NO _x | CO | SO _x | PM ₁₀ | PM _{2.5} |
| Kings County - 2015 ¹ | 7,775 | 5,110 | 10,622 | 73 | 8,541 | 1,789 |
| SJVAB - 2015 ¹ | 119,063 | 123,808 | 245,390 | 3,103 | 96,616 | 23,214 |
| Proposed Project | 0.0021 | 0.0522 | 0.0255 | 0.0002 | 0.0018 | 0.0010 |
| Proposed Project's % of Kings | 0.000027 | 0.00102 | 0.00024 | 0.00027 | 0.000021 | 0.000056 |
| Proposed Project's % of SJVAB | 0.000002 | 0.00004 | 0.00001 | 0.00001 | 0.000002 | 0.000004 |

Notes:

¹ This is the latest inventory available as of June 2018, excluding natural sources.

Source: Insight Environmental 2018

Tables 3.4.3-5 and 3.4.3-6 provide CARB emissions inventory projections for the year 2020 for both the SJVAB and Kings County. Looking at the SJVAB emissions predicted by the CARB year 2020 emissions inventory, the Kings County portion of the air basin is a moderate source of the emissions. The proposed project produces a small portion of the total emissions in both Kings County and the entire SJVAB (Insight Environmental, 2018).

Table 3.4.3-5
Emissions Inventory Kings County 2020 Estimated Projection (tons/year)

| | ROG | NO _x | PM ₁₀ |
|-----------------------------------|---------|-----------------|------------------|
| Total Emissions | 108,113 | 74,204 | 96,652 |
| Percent Stationary Sources | 30.8% | 14.1% | 5.6% |
| Percent Area-Wide Sources | 51.6% | 3.9% | 89.4% |
| Percent Mobile Sources | 17.6% | 82.0% | 4.9% |
| Total Stationary Source Emissions | 33,325 | 10,439 | 5,439 |
| Total Area-Wide Source Emissions | 55,772 | 2,884 | 86,432 |
| Total Mobile Source Emissions | 18,980 | 60,882 | 4,782 |

Source: Insight Environmental 2018 Note: Total may not add due to rounding.

Table 3.4.3-6
2020 Emissions Projections- Proposed Project, Kings County & SJVAB

| | ROG | NO _x | PM ₁₀ |
|-----------------------------------|-------|-----------------|------------------|
| Total Emissions | 7,884 | 4,745 | 8,286 |
| Percent Stationary Sources | 16.2% | 6.9% | 3.5% |
| Percent Area-Wide Sources | 58.8% | 1.5% | 88.1% |
| Percent Mobile Sources | 25.0% | 91.5% | 8.8% |
| Total Stationary Source Emissions | 1,278 | 329 | 292 |
| Total Area-Wide Source Emissions | 4,636 | 73 | 7,300 |
| Total Mobile Source Emissions | 1,971 | 4,344 | 730 |

Source: Insight Environmental 2018 Note: Total may not add due to rounding.

A search of the Kings County Community Development Agency's GIS viewer and records identified no other projects within a one-mile radius of the proposed project (Insight Environmental, 2018). The number or size of cumulative projects is of no particular significance since no "cumulative" emissions thresholds have been established by the SJVAPCD, or the Kings County Community Development Agency. Because the proposed project would generate less-than-significant project-related operational impacts to criteria air pollutants, the project's contribution to cumulative air quality impacts would not be cumulatively considerable

As shown above, the proposed project would pose no impact on regional O₃ and PM₁₀ formation. Because the regional contribution to these cumulative impacts would be negligible, the project would not be considered cumulatively considerable in its contribution to regional O₃ and PM₁₀ impacts.

Based on the analysis above, the proposed project does not pose a substantial increase to air basin emissions, as such air basin emissions would be essentially the same if the project is approved. Therefore, the proposed project would not result in a cumulatively considerable net increase of any criteria pollutant. Impacts would be less than significant.

MITIGATION MEASURE(S)

No mitigation is required.

LEVEL OF SIGNIFICANCE

Impacts would be *less than significant*.

Impact #3.4.3c – Would the project expose sensitive receptors to substantial pollutant concentrations?

Sensitive receptors are defined as locations where young children, chronically ill individuals, the elderly, or people who are more sensitive than the general population reside, such as schools, hospitals, nursing homes, residential uses and daycare centers. As noted in *Section*

3.4-12- Noise, the nearest sensitive receptors (residence and school) to the proposed project site is approximately 0.5 miles to the southeast.

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

This proposed project would result in the construction of an approximately 62,235 square feet biogas facility and the associated 37 miles of pipeline. Construction of the proposed project would result in short-term, minor increases in traffic for the surrounding road network by generating an estimated 20 roundtrips per construction day during the construction period and 2.5 additional daily trips during the operational period. Project will implement a dust control plan to minimize fugitive dust during construction as required by the air district. The minor increase in trips would not substantially lower the LOS. Therefore, the project would not generate, or substantially contribute to, additional traffic that would exceed State or federal CO standards.

GAMAQI recommends that lead agencies consider situations wherein a new or modified source of hazardous air pollutants (HAPs) is proposed for a location near an existing residential area or other sensitive receptor when evaluating potential impacts related to HAPs. Typical sources of HAPs include diesel trucks or permitted sources such as engines, boilers or storage tanks. The Hanford-Lakeside Dairy Digester Cluster project will be located near scattered agricultural residences. The three closest agricultural residences are approximately 0.5 miles southeast, 0.5 miles to the southwest, and 0.5 miles north of the project site.

Since there will be a negligible amount of HAPs emitted from the project and only occasional diesel truck travel onsite, a prioritization score was determined for the facility to determine if a health risk assessment (HRA) would be required. An HRA is not required for a project with a total facility prioritization score of less than or equal to one. The project's prioritization score was 0.09, which indicates that an HRA is not warranted (Insight Environmental, 2018). Therefore, no further analysis is required to determine the HAPs impacts from this project and potential risk to the population attributable to emissions of HAPs from the proposed project would be less than significant

Airborne Fungus (Valley Fever)

Coccidioidomycosis, often referred to as San Joaquin Valley Fever or Valley Fever, is one of the most studied and oldest known fungal infections. Valley Fever most commonly affects people who live in hot dry areas with alkaline soil and varies with the season. This disease, which affects both humans and animals, is caused by inhalation of arthroconidia (spores) of the fungus *Coccidioides immitis* (CI). CI spores are found in the top few inches of soil and the existence of the fungus in most soil areas is temporary. The cocci fungus lives as a saprophyte in dry, alkaline soil. Agricultural workers, construction workers, and other people who work outdoors and who are exposed to wind and dust are more likely to contract Valley Fever.

The proposed project has the potential to generate fugitive dust and suspend Valley Fever spores with the dust that could then reach nearby sensitive receptors. It is possible that onsite workers could be exposed to Valley Fever as fugitive dust is generated during construction. Mitigation Measure MM AQ-1 would provide training and personal protective respiratory equipment to construction workers and provide information to all construction personnel and visitors about Valley Fever. Therefore, the exposure to Valley Fever would be minimized. With the implementation of the mitigation measures, dust from the construction of the proposed project would not add significantly to the existing exposure level of people to this fungus, including construction workers, and impacts would be reduced to less-than-significant levels.

MITIGATION MEASURE(S)

MM AQ-1: During project construction the following measures shall be implemented:

- 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.
- When exposure to dust is unavoidable for workers who will be disturbing the top two-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 “Preventing Work-Related Coccidioidomycosis (Valley Fever).”
- Identify a health care provider for occupational injuries and illnesses who is knowledgeable about the diagnosis and treatment of Valley Fever.
- Train workers and supervisors about the risk of Valley Fever, the work activities that may increase the risk, and the measures used onsite to reduce exposure. Also train on how to recognize Valley Fever symptoms.
- Encourage workers to report Valley Fever symptoms promptly to a supervisor. Not associating these symptoms with workplace exposures can lead to a delay in appropriate diagnosis and treatment.

LEVEL OF SIGNIFICANCE

Impacts would be *less than significant impact with mitigation incorporated*.

Impact #3.4.3d – Would the project result in other emissions (such as those leading to odors) adversely affecting a substantial number of people?

SJVAPCD identifies some common types of facilities that have been known to produce odors in the SJVAB (Insight Environmental, 2018). These can be used as a screening tool to qualitatively assess a project’s potential to adversely affect area receptors.

The project is a closed system; the digesters are completely sealed and specifically designed to avoid gas leakage. The biogas is collected under the digester cover, sent through an air-tight blower system and into the sealed pipeline. The biogas upgrade facility is also sealed

from odors except for emergency of venting events. CO₂ and O₂ are periodically vented, but these gases do not contain odorous substances. Because the operations of the project are not expected to cause a public nuisance due to odor and the anticipated project site is not listed in the GAMAQI as a source that would create objectionable odors, the project is not expected to be a source of objectionable odors.

Based on the provisions of the GAMAQI, the proposed project would not exceed any screening trigger levels to be considered a source of objectionable odors or odorous compounds. CO₂ and CH₄ will be vented, but they are odorless substances. The H₂S is being removed from the biogas before leaving the dairies through the pipeline. By capturing methane within the covered digester lagoon, the project would decrease the existing baseline odors being generated at the dairies. Furthermore, there does not appear to be any significant source of objectionable odors in close proximity that may adversely impact the project site when it is in operation. Additionally, the project emission estimates indicate that the proposed project would not be expected to adversely impact surrounding receptors. As such, the proposed project would not be a source of any odorous compounds nor would it likely be impacted by any odorous source

MITIGATION MEASURE(S)

No mitigation is required.

LEVEL OF SIGNIFICANCE

Impacts would be *less than significant*.

| | Potentially Significant Impact | Less than Significant with Mitigation Incorporated | Less-than- Significant Impact | No Impact |
|--|--------------------------------------|--|-------------------------------------|--------------|
|--|--------------------------------------|--|-------------------------------------|--------------|

3.4.4 - BIOLOGICAL RESOURCES

Would the project:

| | | | | | |
|----|--|--------------------------|-------------------------------------|-------------------------------------|-------------------------------------|
| a. | Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special-status species in local or regional plans, policies, or regulations or by the California Department of Fish and Wildlife 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 Wildlife or U.S. Fish and Wildlife Service? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input 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 checked="" type="checkbox"/> | <input type="checkbox"/> | <input 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 checked="" type="checkbox"/> | <input type="checkbox"/> | <input 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 checked="" type="checkbox"/> | <input 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

A biological reconnaissance survey was conducted to determine whether there are sensitive biological resources that might be adversely affected by the proposed project. The evaluation is based upon existing site conditions, the potential for sensitive biological resources to occur

on and in the vicinity of the project site, and any respective impacts that could potentially occur.

In addition to providing an evaluation of the project's impacts to biological resources, the report includes a detailed description of the regulatory environment as it relates to biological resources.

A literature search of the California Department of Fish and Wildlife's California Natural Diversity Database (CNDDDB) (CNDDDB 2018), California Native Plant Society (CNPS 2018), and United States Fish and Wildlife Service Endangered Species List (USFWS 2018) was conducted to identify special-status plant and wildlife species with the potential to occur within the project site and vicinity (the surrounding nine quads and a 10-mile radius). The results of the database inquiry were subsequently reviewed to evaluate the potential for occurrence of special-status species on or near the project site prior to conducting the biological reconnaissance survey.

On Friday April 13, 2018, QK biologists conducted a biological reconnaissance survey of the project site and pipeline route with a 50-foot buffer area, where feasible. An additional survey was conducted on June 28th along a portion of the pipeline route. The purpose of the surveys was to determine the locations and extent of potential plant communities and sensitive habitats, and the potential for occurrence of special-status plant and animal species within the project site and surrounding buffer area. The entire project site and pipeline route was surveyed including the 50-foot buffer area, where feasible. Survey methodologies included walking or driving around the proposed project site, which was under cultivation, and driving along the pipeline routes while scanning for any potential sensitive plant communities, plant species or wildlife species. Photographs were taken to document the existing landscape of the project site and adjacent land uses, detailed notes on observed plant and wildlife species and site conditions were taken while conducting the survey.

As noted, the project site was under cultivation at the time of the survey. The surrounding properties to the east, south and west of the Project site were also under crop cultivation and included highly disturbed dirt access roads. The pipeline route is either within existing County ROW, or on land used by the existing dairies under cultivation. The property to the north includes an existing agribusiness facility that is highly disturbed with various large farm equipment and several small tanks. No small mammal burrows, potential dens, or nests were observed on the project site, the dirt access roads near or in the vicinity of the site or pipeline.

Impact #3.4.4a – 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 and Wildlife or U.S. Fish and Wildlife Service?

The literature search determined that there is a potential for several special-status species to be present on the project site. An evaluation of each of the potential special-status species, which included habitat requirements, likelihood of required habitat to occur within the

project site, and a comparison to the CNDDDB records was conducted. The results of this evaluation concluded that no special-status plant species are anticipated to occur on or near the project site and four wildlife species have a reasonable potential to occur on or near the project site.

General Wildlife and Plant

Most of the project site has experience significant historical and ongoing ground disturbance from agricultural uses and dairy farm development surrounding the project site. The wildlife species inhabiting the project site and immediate surrounding area include those typically found in moderate to heavily disturbed habitats associated with urban development zone of the San Joaquin Valley.

A total of 20 bird species, seven mammal species, and one amphibian species, or sign of, were identified during the survey. A total of 18 plant species were identified during the survey. Illustrates the observed species while conducting the reconnaissance level survey.

Table 3.4.4-1
List of Plant and Wildlife Species Observed on the Project

| Scientific Name | Common Name |
|--------------------------------|----------------------|
| Wildlife | |
| <i>Agelaius phoeniceus</i> | red-winged blackbird |
| <i>Anas platyrhynchos</i> | mallard |
| <i>Ardea alba</i> | great egret |
| <i>Ardea herodias</i> | great blue heron |
| <i>Bos taurus</i> | domestic cow |
| <i>Bubo virginianus</i> | great horned owl |
| <i>Buteo jamaicensis</i> | red-tailed hawk |
| <i>Buteo swainsoni</i> | Swainson's hawk |
| <i>Canis lupus familiaris</i> | domestic dog |
| <i>Capra aegagrus hircus</i> | domestic goat |
| <i>Charadrius vociferus</i> | killdeer |
| <i>Corvus brachyrhynchos</i> | American crow |
| <i>Corvus corax</i> | common raven |
| <i>Equus asinus</i> | domestic donkey |
| <i>Falco mexicanus</i> | prairie falcon |
| <i>Falco sparverius</i> | American kestrel |
| <i>Felis catus</i> | domestic cat |
| <i>Fulica americana</i> | American coot |
| Geomyidae | gopher* |
| <i>Himantopus mexicanus</i> | black-necked stilt |
| <i>Lithobates catesbeianus</i> | bull frog |
| <i>Melospiza melodia</i> | song sparrow |
| <i>Numenius americanus</i> | long-billed curlew |

| Scientific Name | Common Name |
|--------------------------------------|----------------------------|
| <i>Otospermophilus beecheyi</i> | California ground squirrel |
| <i>Plegadis chihi</i> | white faced ibis |
| <i>Tyrannus verticalis</i> | western kingbird |
| <i>Xanthocephalus xanthocephalus</i> | yellow-headed blackbird |
| <i>Zenaida macroura</i> | mourning dove |
| Plants | |
| <i>Amsinckia menziesii</i> | fiddleneck |
| <i>Avena fatua</i> | wild oat |
| <i>Brassica nigra</i> | black mustard |
| <i>Bromus rubens</i> | red brome |
| <i>Cynodon dactylon</i> | Bermuda grass |
| <i>Equisetum sp.</i> | Horsetail reed |
| <i>Erodium cicutarium</i> | red-stem filaree |
| <i>Eucalyptus globulus</i> | eucalyptus |
| <i>Hordeium murinum</i> | hare barley |
| <i>Medicago sativa</i> | alfalfa |
| <i>Phoenix dactylifera</i> | date palm |
| <i>Phoenix dactylifera</i> | pistachio |
| <i>Pinus sp.</i> | Pine tree |
| <i>Populus sp.</i> | Cottonwood |
| <i>Sisymbrium irio</i> | London rocket |
| <i>Solanaceae</i> | nightshade |
| <i>Triticum sp.</i> | Wheat |
| <i>Vitis vinifera</i> | grape |
| <i>Washingtonia robusta</i> | queen palm |

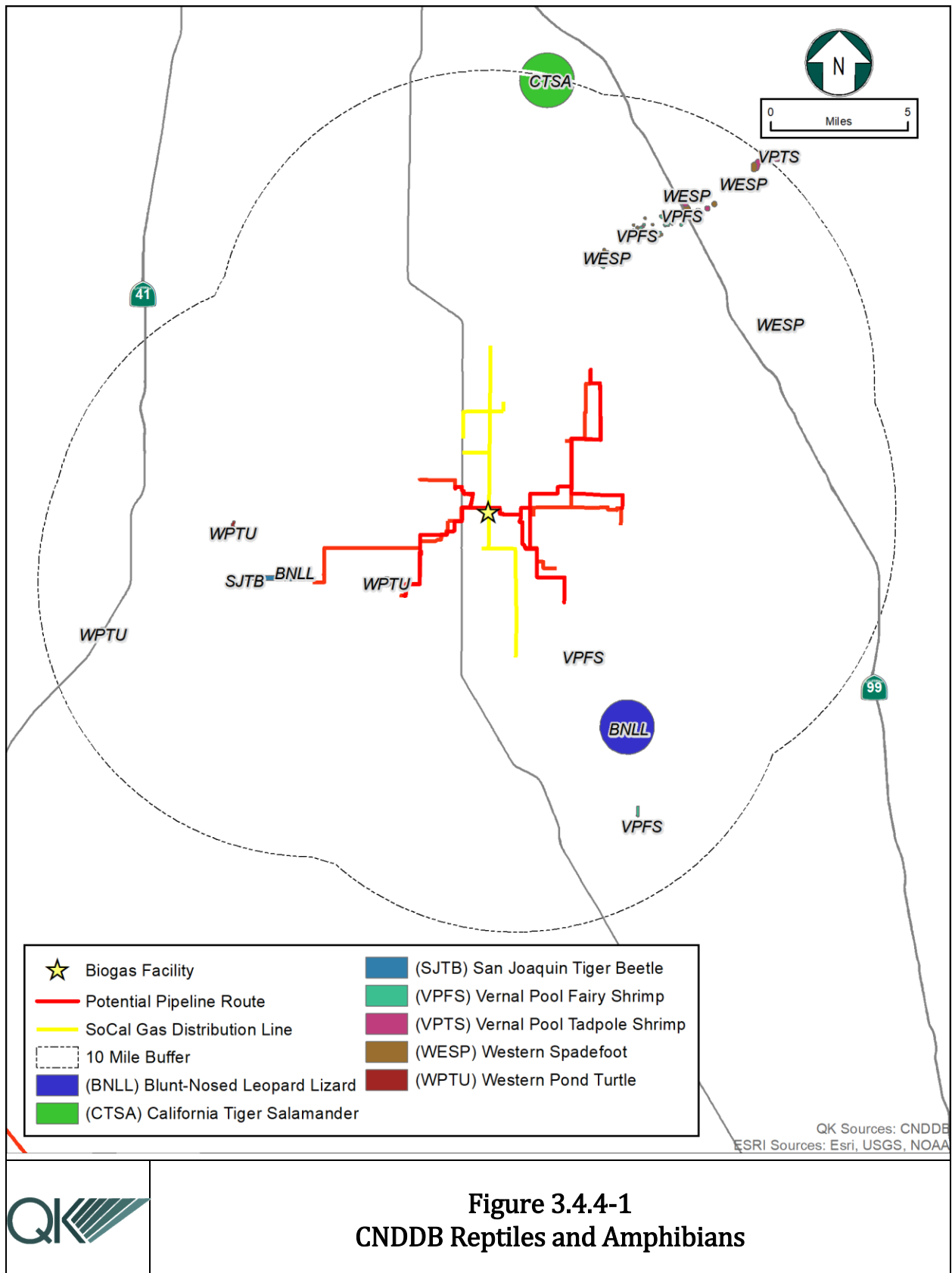
*Indicates that only sign (scat, tracks, prey remains, dens, etc) were observed

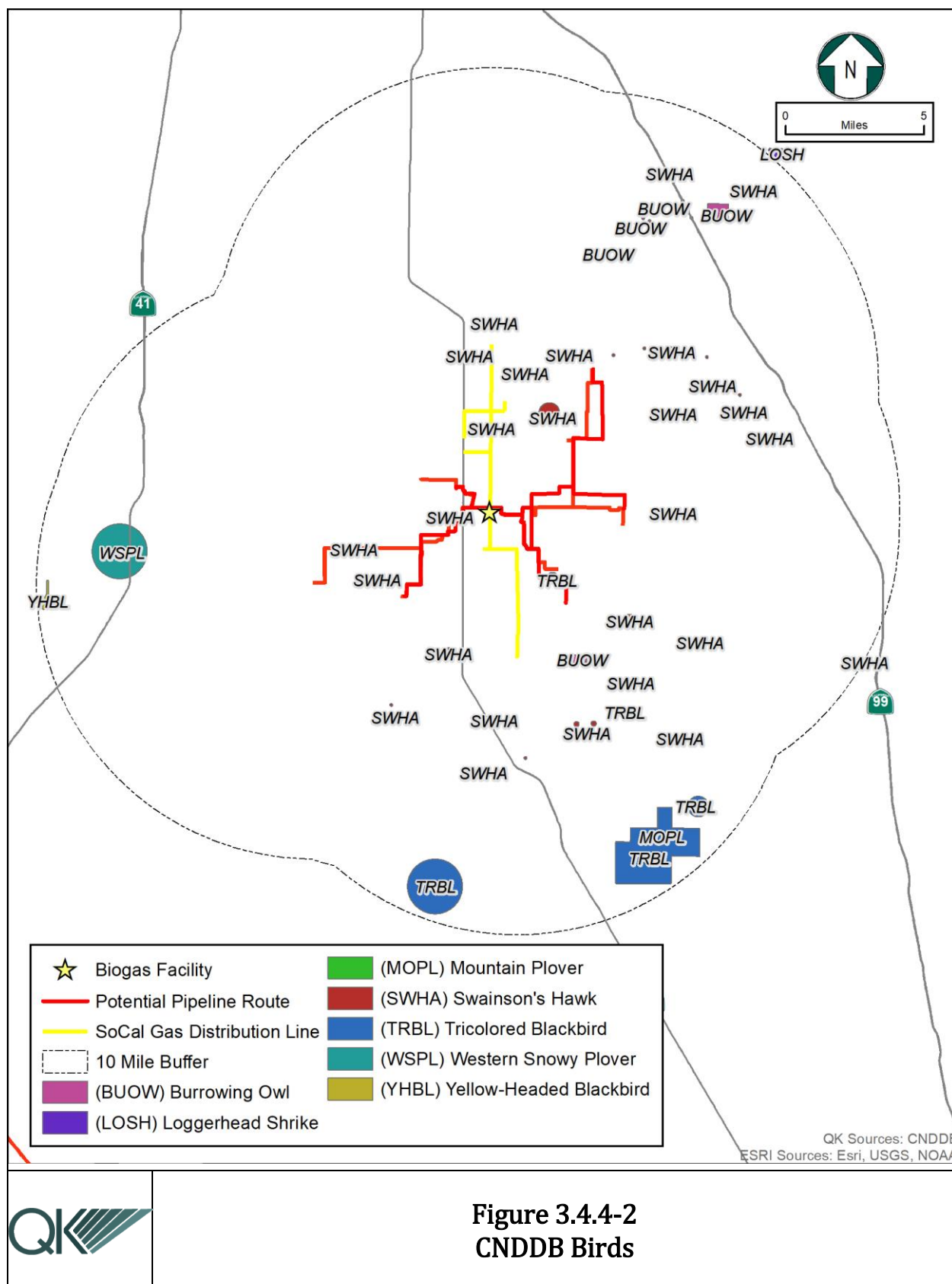
Sensitive Habitats and Special-Status Species

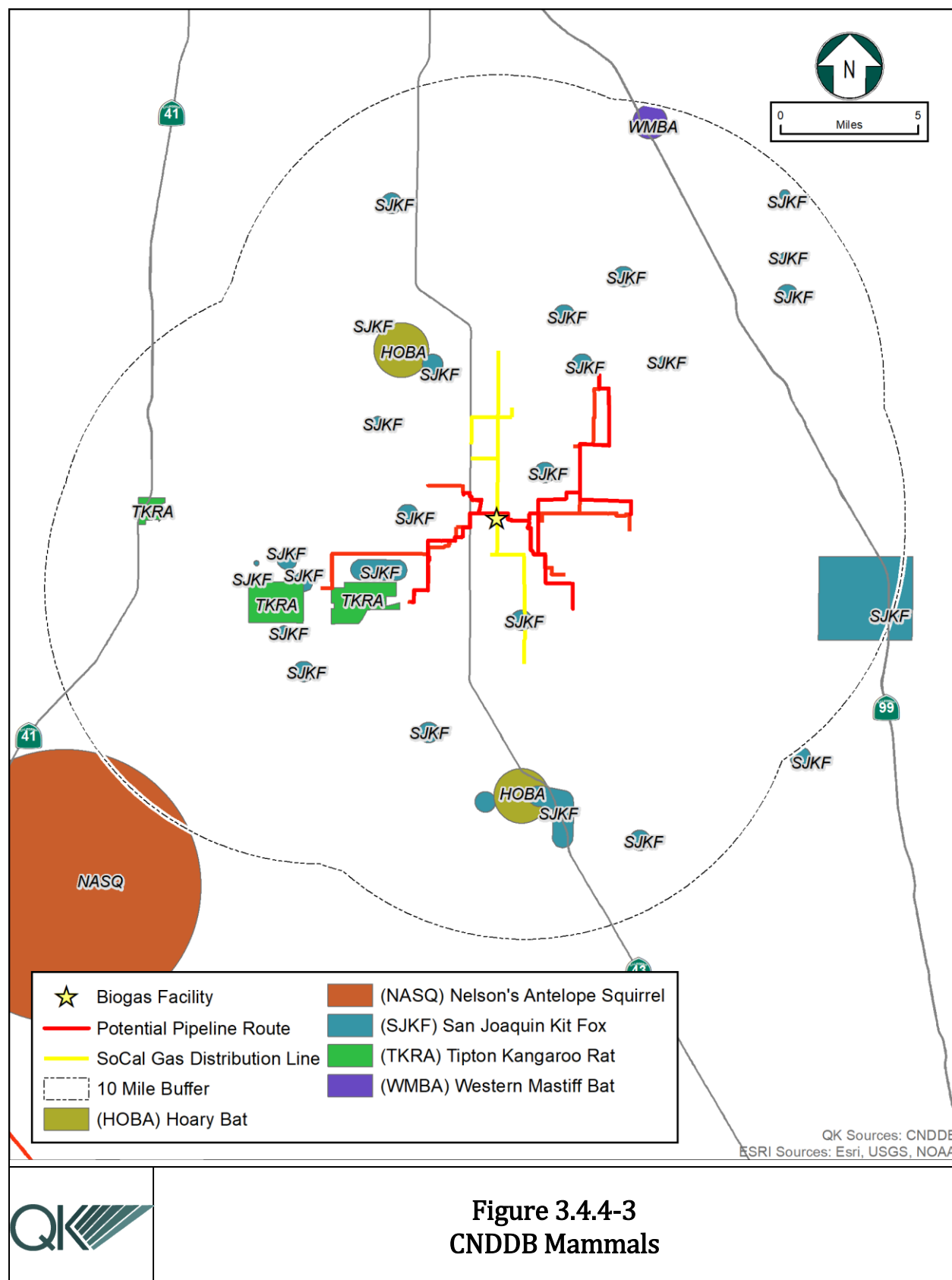
SPECIAL-STATUS WILDLIFE

Protocol survey for specific special-status wildlife species were not conducted for this report as it was determined by the consulting biologist that such surveys were not warranted due to the condition of the project site.

Based on the survey there are 31 special-status wildlife species that have the potential to occur within the five subject quadrangle and 13 surrounding quadrangles. Table 3.4.4-1 shows that there are 19 wildlife species found in the CNDDDB that are found within a 10-mile buffer of the project site. Of the 19 species, a total of 15 can be eliminated from consideration due to the lack of suitable habitat within the project site. The remaining four species have a low, moderate, or high potential to occur within the project site and vicinity. There is one species with a low potential (i.e. San Joaquin kit fox) to occur on the project site, one species (i.e. tricolored blackbird) have a moderate potential to occur, and two species (i.e. Swainson's hawk and yellow-headed blackbird) are present on the project site.







San Joaquin Kit Fox

San Joaquin kit fox (*Vulpes macrotis mutica*) has a low potential to occur within the project site and immediate surrounding area. The nearest historical CNDDDB record (1975) for SJKF observation occurred in close proximity of the project site. There is a low potential for SJKF to reside or forage in the agricultural fields surrounding the project site due to the lack of suitable habitat. There were no potential dens observed within the project area. No San Joaquin kit fox or sign were observed at the time of the survey. However, the species is known to occur in the vicinity of the project and could potentially be present from time to time as transients.

Tricolored Blackbird

The tricolored blackbird (*Agelaius tricolor*) has a moderate potential to occur within the project and immediate surrounding area. The nearest historical CNDDDB record (2014) for tricolored blackbird observation occurred in close proximity of the project site. Tricolored blackbird is known to inhabit or forage in cattail or tule marshes, or open habitats such as farm fields, pastures, or cattle pens. There is a moderate potential for tricolored blackbird to reside or forage in the agricultural fields surrounding the project site to the north, south, east, and west. No tricolored blackbird was observed at the time of the survey.

Yellow-Headed Blackbird

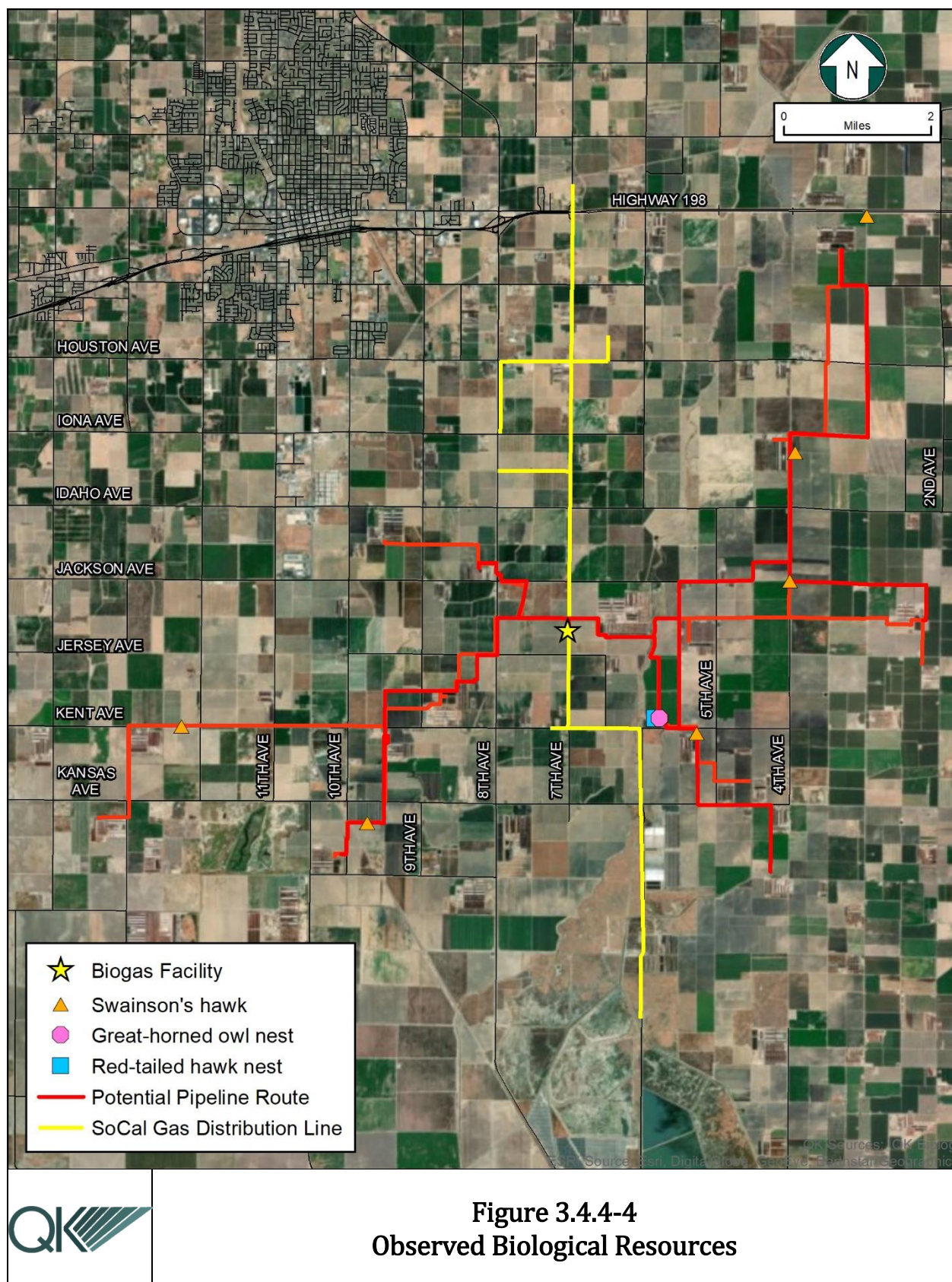
Yellow-headed blackbird (*Xanthocephalus xanthocephalus*) are known to occur in both freshwater and wetlands areas and in nearby farm fields. The area surrounding the project site is currently and has historically been used for agricultural production. One yellow-headed blackbird was observed at the time of the survey. No nesting yellow-headed blackbird was observed during the reconnaissance survey.

Swainson's Hawk

Swainson's hawk (*Buteo swainsoni*) are known to forage in open agricultural fields, such as hay or alfalfa. The area surrounding the project site is currently and has historically been used for such agricultural production. Several Swainson's hawks were observed at the time of survey in several locations (Figure 3.4.4-4). No nesting Swainson's hawk was observed during the reconnaissance survey; however, Swainson's hawk observed were foraging on or near the project site.

Burrowing owl

Burrowing owl (*Athene cunicularia*) are known to forage in open landscapes including grasslands, rangelands, agricultural areas, deserts, or open areas with low vegetation. The area surrounding the project site is currently and has historically been used for agriculturally purposes. No burrowing owls or its sign (i.e. burrows, whitewash, scat, tracks) were observed at the time of the reconnaissance survey. There is moderate potential for the burrowing owl to reside or forage in the agricultural fields surrounding the project site to the south, east, and west.



Tipton kangaroo rat

Tipton kangaroo rat (*Dipodomys nitratoides nitratoides*) are limited to the arid landscape found on the Valley floor of the Tulare Basin. They are typically found in areas of scattered woody shrubs and ground cover of typically non-native or native annual grasses and forbs. They predominately feed on seeds with some herbaceous vegetation and insects. No Tipton kangaroo rat or its sign (i.e. burrows, scat, or tracks) were observed at the time of the reconnaissance survey. Due to the lack of suitable foraging habitat, there is low potential for the Tipton kangaroo rat to reside or forage in the agricultural fields surrounding the project site.

San Joaquin kangaroo rat

San Joaquin kangaroo rat or Fresno kangaroo rat (*Dipodomys nitratoides*) historically were known to occur within the San Joaquin Valley floor but are now currently only found in Fresno, Madera, and Merced Counties. Typically, inhabiting areas that are uncultivated grasslands, alkali sink shrubland, or sometimes seasonally flooded wetland areas. No San Joaquin kangaroo rat or its sign (i.e. burrows, scat, or tracks) were observed at the time of the reconnaissance survey. Due to the lack of suitable foraging habitat, there is low potential for the San Joaquin kangaroo rat to reside or forage in the vicinity of the project site.

Blunt nosed leopard lizard

Blunt-nosed leopard lizard (*Gambelia sila*) inhabit open, with sparsely vegetated areas within the San Joaquin Valley at lower elevations. They predominately feed on insects (i.e. grasshoppers, and crickets) and other lizards. No blunt-nosed leopard lizard or its sign (i.e. burrows, scat, or tracks) were observed at the time of the reconnaissance survey. Due to the lack of suitable foraging habitat, there is low potential for the blunt-nosed leopard lizard to reside or forage in the vicinity of the project site.

Conclusion

With the exception of the Swainson's hawk and yellow-headed blackbird, no special-status species or sign were observed during the reconnaissance survey.

SPECIAL-STATUS PLANTS

There are nine plant species and three plant communities identified by the CNDDDB that are found within a 10-mile buffer of the project site. However, based on the survey, there are no special-status plant species that have the potential to occur within the five subject quadrangles and 13 surrounding quadrangles.

The project site and surrounding area has been disturbed for years due to ongoing agriculture crop cultivation and dairy farm operations. The project site and vicinity does not provide suitable habitat for any of these special-status plant species.

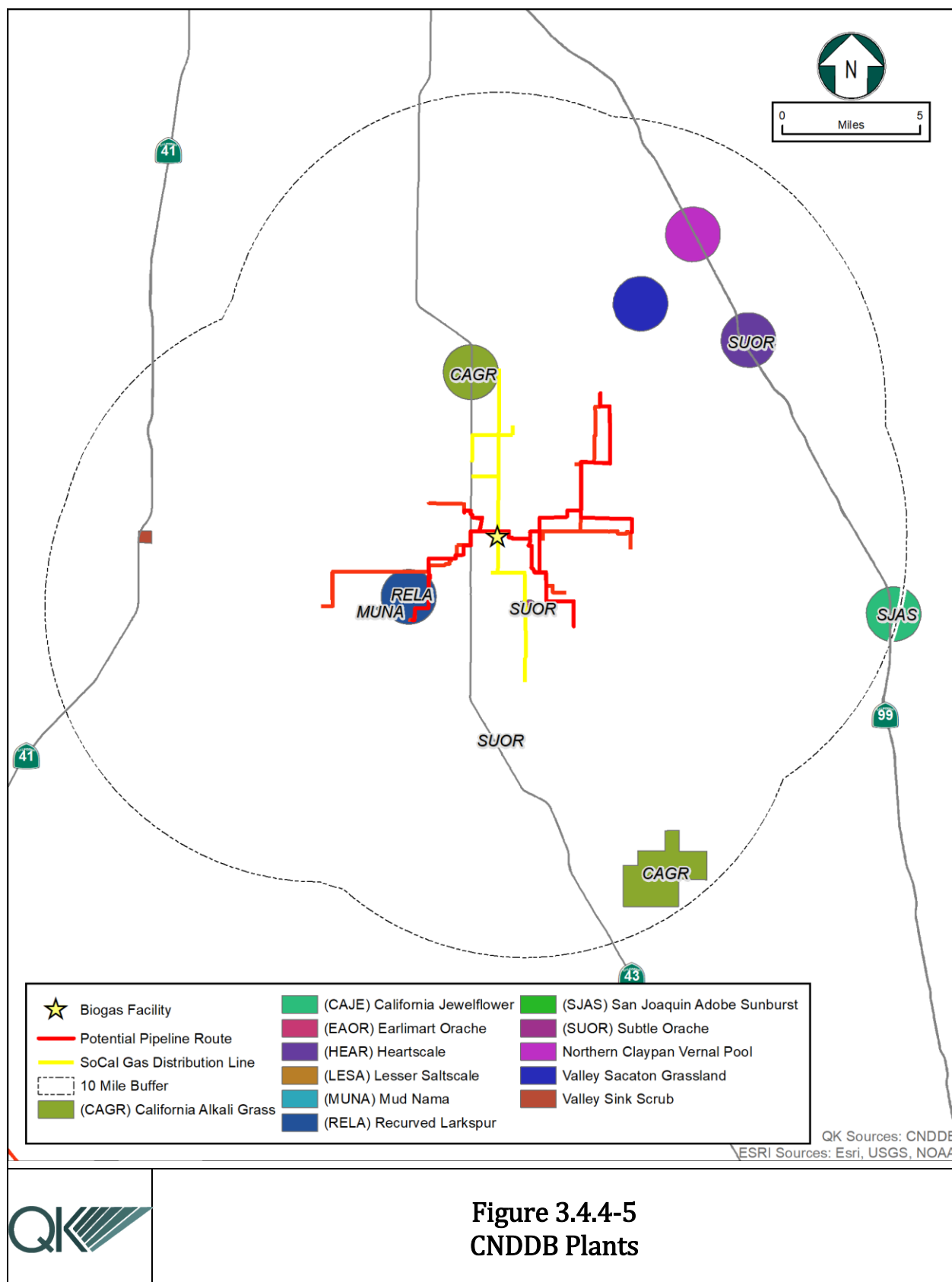


Figure 3.4.4-5
CNDDDB Plants

No special-status plant species were identified during the biological reconnaissance survey. A total of 18 plant species were observed during the survey of the project site (Table 3.4.4-1). Although protocol level botanical surveys were not conducted and the reconnaissance survey did not coincide with optimum blooming periods for all plant species, it is not anticipated that special-status plant species will be encountered on the project site.

Through implementation of mitigation measures listed below, impacts of the proposed project would not have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special-status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service. Therefore, the project will have a less-than-significant impact with incorporation of mitigation measures.

MITIGATION MEASURE(S)

MM BIO-1: Prior to ground-disturbing activities, a qualified wildlife biologist shall conduct a biological clearance survey no more than 30 calendar days prior to the onset of construction. The clearance survey shall include walking transects to identify presence of San Joaquin kit fox, Tipton kangaroo rat, San Joaquin kangaroo rat, burrowing owl, other special-status species or signs of, and sensitive natural communities. The pre-construction survey shall be walked by no greater than 30-foot transects for 100 percent coverage of the project site and the 50-foot buffer, where feasible.

Exclusion zones for kit fox shall be placed in accordance with U.S. Fish and Wildlife Service (USFWS) Recommendations using the following:

| | |
|---|---|
| Potential Den | 50-foot radius |
| Known Den | 100-foot radius |
| Natal/Pupping Den (Occupied and Unoccupied) | Contact U.S. Fish and Wildlife Service for guidance |
| Atypical Den | 50-foot radius |

Buffer zones shall be considered Environmentally Sensitive Areas (ESAs) and no ground-disturbing activities shall be allowed within a buffer area. The United States Fish and Wildlife Service (USFWS) and California Department of Fish and Wildlife (CDFW) shall be contacted upon the discovery of any natal or pupping dens.

Potential kit fox dens may be excavated provided that the following conditions are satisfied: (1) the den has been monitored for at least five consecutive days and is deemed unoccupied by a qualified biologist; (2) the excavation is conducted by or under the direct supervision of a qualified biologist. Den monitoring and excavation should be conducted in accordance with the *Standardized Recommendations for Protection of the Endangered San Joaquin Kit Fox Prior to or During Ground Disturbance* (United States Fish and Wildlife Service, 2011).

MM BIO-2: Species awareness training shall be conducted for all employees, contractors, or other personnel involved with the project prior to the commencement of ground-disturbing

activities. The training shall consist of a brief presentation by a qualified biologist and include the following: a description of special-status species with the potential to occur in the project area and their habitat needs, a report of occurrence of special-status species in the project area, an explanation of the listing status of said species, a list of avoidance and minimization measures to be implemented, and violations associated with the federal and State endangered species acts. A fact sheet conveying this information should be available to all personnel upon entering the project site and a sign-in sheet shall be maintained and made available to the district, USFWS, and CDFW.

MM BIO-3: During all construction-related activities, the following mitigation shall apply:

- All food-related trash items such as wrappers, cans, bottles, and food scraps shall be disposed of in securely closed containers. All food-related trash items such as wrappers, cans, bottles, and food scraps shall be disposed of in securely closed containers and removed at least once a week from the construction or project site.
- Construction-related vehicle traffic shall be restricted to established roads and predetermined ingress and egress corridors, staging, and parking areas. Vehicle speeds should not exceed 20 miles per hour (mph) within the project site.
- To prevent inadvertent entrapment of kit fox or other animals during construction, the contractor shall cover all excavated, steep-walled holes or trenches more than two-feet deep at the close of each workday with plywood or similar materials. If holes or trenches cannot be covered, one or more escape ramps constructed of earthen fill or wooden planks shall be installed in the trench. Before such holes or trenches are filled, the contractor shall thoroughly inspect them for entrapped animals. All construction-related pipes, culverts, or similar structures with a diameter of four inches or greater that are stored on the project site shall be thoroughly inspected for wildlife before the pipe is subsequently buried, capped, or otherwise used or moved in anyway. If at any time an entrapped or injured kit fox is discovered, work in the immediate area shall be temporarily halted and USFWS and CDFW shall be consulted.
- Kit foxes are attracted to den-like structures such as pipes and may enter stored pipes and become trapped or injured. All construction pipes, culverts, or similar structures with a diameter of four inches or greater that are stored at a construction site for one or more overnight periods shall be thoroughly inspected for kit foxes before the pipe is subsequently buried, capped, or otherwise used or moved in any way. If a kit fox is discovered inside a pipe, that section of pipe shall not be moved until the USFWS has been consulted. If necessary, and under the direct supervision of the biologist, the pipe may be moved only once to remove it from the path of construction activity, until the fox has escaped.
- No pets, such as dogs or cats, shall be permitted on the project sites to prevent harassment, mortality of kit foxes, or destruction of dens.
- Use of anti-coagulant rodenticides and herbicides in project areas shall be restricted. This is necessary to prevent primary or secondary poisoning of kit foxes and the depletion of prey populations on which they depend. All uses of such compounds shall observe label and other restrictions mandated by the U.S. Environmental Protection Agency, California Department of Food and Agriculture, and other State and federal

legislation, as well as additional project-related restrictions deemed necessary by the USFWS. If rodent control must be conducted, zinc phosphide shall be used because of the proven lower risk to kit foxes.

- A representative shall be appointed by the project proponent who will be the contact source for any employee or contractor who might inadvertently kill or injure a kit fox or who finds a dead, injured or entrapped kit fox. The representative shall be identified during the employee education program and their name and telephone number shall be provided to the USFWS.
- The Sacramento Fish and Wildlife Office of USFWS and CDFW shall be notified in writing within three working days of the accidental death or injury to a San Joaquin kit fox during project-related activities. Notification must include the date, time, and location of the incident or of the finding of a dead or injured animal and any other pertinent information. The USFWS contact is the Chief of the Division of Endangered Species, at the addresses and telephone numbers below. The CDFW contact can be reached at 1701 Nimbus Road, Suite A, Rancho Cordova, California 95670, (530) 934-9309.
- All sightings of the San Joaquin kit fox shall be reported to the California Natural Diversity Database (CNDDDB). A copy of the reporting form and a topographic map clearly marked with the location of where the kit fox was observed shall also be provided to the USFWS at the address below.
- Any project-related information required by the USFWS or questions concerning the above conditions, or their implementation may be directed in writing to the U.S. Fish and Wildlife Service at: Endangered Species Division, 2800 Cottage Way, Suite W 2605, Sacramento, California 95825-1846, phone (916) 414-6620 or (916) 414-6600.

MM BIO-4: All fencing constructed on the project site shall be wildlife friendly. In order to allow wildlife safe passage, fencing shall have a five to seven-inch continuous gap with the bottom mesh material knuckled back along the bottom of the fence.

MM BIO-5: If initial grading activities are planned during the potential nesting season for migratory birds/raptors that may nest on or near the project sites, the preconstruction survey shall evaluate the sites and accessible lands within an adequate buffer for active nests of migratory birds/raptors. If any nesting birds/raptors are observed, a qualified biologist in coordination with the California Department of Fish and Wildlife shall determine buffer distances and/or the timing of project activities so that the proposed project does not cause nest abandonment or destruction of eggs or young. This measure shall be implemented so that the proposed project remains in compliance with the Migratory Bird Treaty Act and applicable State regulations.

MM BIO-6: If construction of the project occurs during Swainson's hawk breeding season (February 1 through September 15), no more than 10 days prior to the commencement of construction, the following shall be implemented:

- Protocol nesting surveys for Swainson's hawk shall be conducted by a qualified biologist within 0.5 miles of the project site and pipeline route. The survey methodology shall be consistent with the *Recommended Timing and Methodology for Swainson's Hawk Nesting Surveys in California's Central Valley* (Swainson's Hawk Technical Advisory Committee, 2000). At a minimum, two sets of surveys shall be conducted between March 20 and April 20. If no nests are observed, no further action is necessary.
- If active Swainson's hawk nests are observed within 0.5 miles of the project, appropriate avoidance and minimization measures shall be implemented under direction of a qualified biologist in coordination with the California Department of Fish and Wildlife. A copy of the survey results shall be submitted to the Kings County Community Development Agency.

MM BIO-7: If any burrowing owl burrows are observed during the preconstruction survey, avoidance measures shall be consistent with those included in the California Department of Fish and Game Staff Report on Burrowing Owl Mitigation (CDFG 2012). If occupied burrowing owl burrows are observed outside of the breeding season (September 1 through January 31) and within 500 feet of proposed construction activities, a passive relocation effort may be instituted in accordance with the guidelines established by the California Burrowing Owl Consortium (1993) and the California Department of Fish and Game (2012). During the breeding season (February 1 through August 31), a 250-foot (minimum) buffer zone shall be maintained unless a qualified biologist verifies through noninvasive methods that either the birds have not begun egg laying and incubation or that juveniles from the occupied burrows are foraging independently and are capable of independent survival.

MM BIO-8: The measures listed below shall be implemented prior to and during construction at the project site, to protect the Tipton and San Joaquin kangaroo rat and other special-status small mammals:

- All construction activity shall occur during daylight when kangaroo rats are less active;
- A biologist shall inspect areas with a potential for kangaroo rat burrows within 14 days prior to construction. If potential burrows are found in construction areas, trapping shall be conducted for a minimum of three nights with at least one trap per active burrow. If Tipton kangaroo rats are captured, consultation with California Department of Fish and Wildlife is required; and
- During operations, no small mammal burrows shall be removed without first being inspected by a qualified biologist. If it is essential to move a burrow, trapping shall occur for three consecutive nights. If Tipton or San Joaquin kangaroo rats are observed, consultation with California Department of Fish and Wildlife shall occur to determine subsequent actions.

LEVEL OF SIGNIFICANCE

Impacts would be *less than significant with mitigation incorporated*.

Impact #3.4.4b – 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 Wildlife or U.S. Fish and Wildlife Service?

There are three sensitive natural communities; including Northern Claypan Vernal Pool, Valley Sacaton Grassland, and Valley Sink Scrub, with the potential to occur within 10-miles of the project site. The project site is highly disturbed, surrounded by disturbed cultivated land and does not provide habitat to maintain these communities. No sensitive natural communities were identified within the project site, the buffer area or the pipeline route during the biological reconnaissance survey. Although protocol-level botanical surveys were not conducted, it is unlikely that these habitat communities exist in the project area due to heavy disturbance of the project site and surrounding vicinity. There are no anticipated impacts to sensitive natural communities as a result of the proposed project. The project site covers an area of approximately 30,000 square feet and approximately 37 miles of low-pressure HDPE biogas gathering lines.

Riparian habitat is defined as lands that are influenced by a river, specifically the land area that encompasses the river channel and its current or potential floodplain. With respect to sensitive natural communities, due to the extensive agricultural development that has occurred, there are no identified sensitive natural communities located within or in close proximity to the project site. The proposed project would not have a substantial adverse effect on any riparian habitat or other sensitive natural community. Therefore, the project's impacts would be less than significant.

MITIGATION MEASURE(S)

No mitigation is required.

LEVEL OF SIGNIFICANCE

Impacts would be *less than significant*.

Impact #3.4.4c – 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?

The United States Army Corps of Engineers (USACE) has regulatory authority over the Clean Water Act (CWA), as provided for by the EPA. The USACE has established specific criteria for the determination of wetlands based upon the presence of wetland hydrology, hydric soils, and hydrophilic vegetation. There are no federally protected wetlands or vernal pools that occur within the project site.

Wetlands, streams, reservoirs, sloughs, and ponds typically meet the criteria for federal jurisdiction under Section 404 of the CWA and State jurisdiction under the Porter-Cologne Water Quality Control Act. Streams and ponds typically meet the criteria for State jurisdiction under Section 1602 of the California Fish and Game Code. There are no features on the project site that would meet the criteria for either federal or State jurisdiction. No waters of the U.S., including wetlands, or waters of the State were observed on the project

site. Therefore, the project would not have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the CWA.

Accordingly, there are no wetlands or Waters of the U.S. occurring on the project site. There would be no impact to federally protected wetlands or waterways as a result of the proposed project. Therefore, impacts would be considered less than significant

However, the gathering lines will cross several existing irrigation drainages or canals, as well as Cross Creek. Cross Creek may be considered Waters of the U.S. or Waters of the State. As proposed, the pipeline will be installed using either a jack and bore method under the drainages or an open cut method to traverse the drainages and Cross Creek. If the jack and bore method is used, there would be no disturbance of the drainage bed and bank, and therefore impacts would be considered less than significant. If the open cut method is used, as required by MM BIO-9, prior to commencement of gathering pipeline construction, a delineation of the Cross Creek would be conducted by a qualified biologist to determine if the drainage was considered Waters of the U.S. or Waters of the State, identify the bed and bank, and determine the amount of disturbance area that would be required. Applications for the appropriate permits such as a 401 Water Quality Certification, a Section 404 Permit or a Section 1602 Permit would be obtained prior to any construction activities. Implementation of MM BIO-9 would reduce impacts to less than significant.

MITIGATION MEASURE(S)

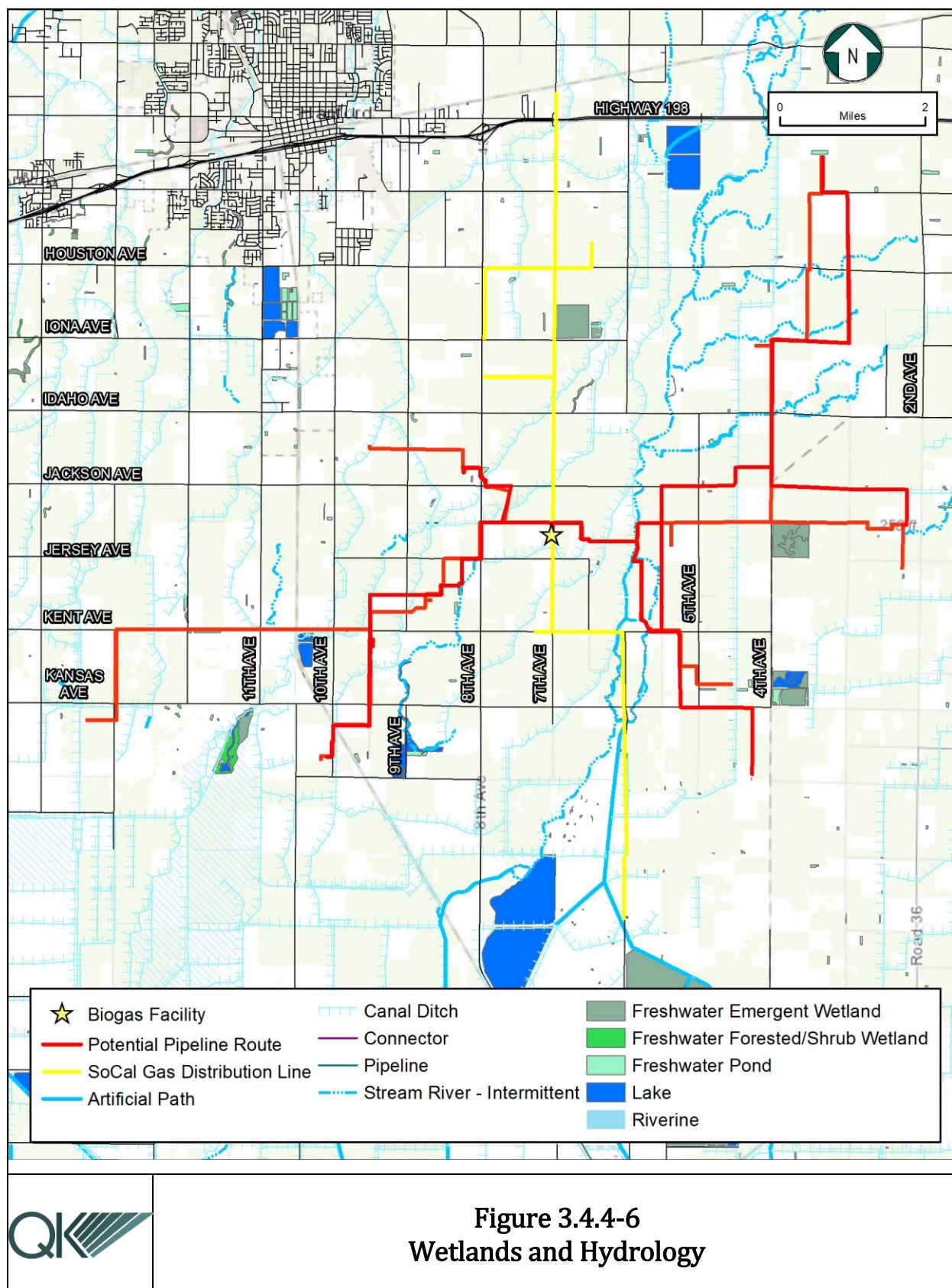
MM BIO-9: Prior to the issuance of building permits, if Cross Creek cannot be avoided, specific impacts on the features shall be quantified by an aquatic resources delineation prepared by a qualified biologist. A Central Valley Regional Water Quality Control Board Section 401 Water Quality Certification, a Section 404 ACOE Permit and Section 1602 California Department of Fish and Wildlife Streambed Alteration Agreement shall be obtained, or confirmation received from these agencies that regulatory permits are not required.

LEVEL OF SIGNIFICANCE

Impacts would be *less than significant with mitigation incorporated.*

Impact #3.4.4d – 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?

Wildlife migratory corridors are described as a narrow stretch of land that connects two open pieces of habitat that would otherwise be unconnected. These routes provide shelter and sufficient food supplies to support wildlife species during migration. Movement corridors generally consist of riparian, woodlands, or forested habitats that span contiguous acres of undisturbed habitat and are important elements of resident species' home ranges.



No significant wildlife movement corridors, core areas, or essential habitat connectivity areas occur on or near the project site. The survey conducted for the project did not result in evidence of a wildlife nursery being present on the project site or immediate surrounding area, and there is no aquatic habitat to support fish species. The various irrigation canals meandering through the project area and dirt roads bisecting the agricultural fields may be utilized by some wildlife species as a migratory corridor. However, there is no native habitat in the vicinity of the project site for wildlife species to inhabit. Additionally, the land surrounding the project site is already under agricultural cultivation that would sever wildlife movement through the site and eliminate any nursery site.

However, there are several nearby trees which could serve as potential nesting for avian species or migrating/roosting bats. The project site and pipeline construction would be of short duration, with minimal ground disturbance or the use of large equipment and completed during daylight hours. Once operational, impacts to biological resources would be considered less than significant. Therefore, it is not anticipated to substantially affect bats or other wildlife. Implementation of MM BIO-1 through MM BIO-9 would reduce any potential impacts to less-than-significant levels.

The proposed project would not interfere 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. Therefore the project's impact would be less than significant.

MITIGATION MEASURE(S)

Implementation of MM BIO-1 through MM BIO-9.

LEVEL OF SIGNIFICANCE

Impacts would be *less than significant with mitigation incorporated*.

Impact #3.4.4e – Would the project conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?

The project site is located within Kings County and must comply with provisions contained in the 2035 Kings County General Plan. The General Plan includes goals, objectives and policies (III. Resource Conservation Policies D and E) to address the protection of special-status wildlife and their habitats (County of Kings, 2010).

Resource Conservation Element Policy D1.1.1 and RC Policy E1.1.1 requires biological evaluations of projects prior to construction. As noted previously in Impact #3.4.4a, mitigation would require a preconstruction clearance survey prior to any ground disturbance. In addition, if any listed species are observed during the clearance survey, specific avoidance and minimization measures such as buffers and consultation with wildlife agencies will be applied to avoid impacts to biological resources. With the implementation

of MM BIO-1 through MM BIO-9, impacts to biological resources would be less than significant.

The project would not conflict with any local policies or ordinances protecting biological resources. Implementation of the proposed project would have no impact related to policies or ordinances protecting biological resources.

MITIGATION MEASURE(S)

Implementation of MM BIO-1 through MM BIO-9.

LEVEL OF SIGNIFICANCE

Impacts would be *less than significant with mitigation incorporated*.

Impact #3.4.4f – 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?

There are no adopted Habitat Conservation Plans or Natural Community Conservation Plans that would apply to this project site. The project site is not located within the boundaries of any adopted Habitat Conservation Plan (HCP), Natural Community Conservation Plan or any other local, regional, or State conservation plan. Therefore, implementation of the proposed project would have no conflict related to an adopted Habitat Conservation Plan or Natural Community Conservation Plan.

MITIGATION MEASURE(S)

No mitigation is required.

LEVEL OF SIGNIFICANCE

There would be *no impact*.

| | Potentially Significant Impact | Less than Significant with Mitigation Incorporated | Less-than- Significant Impact | No Impact |
|--|--------------------------------------|--|-------------------------------------|--------------|
|--|--------------------------------------|--|-------------------------------------|--------------|

3.4.5 - CULTURAL RESOURCES

Would the project:

- | | | | | | |
|----|---|--------------------------|-------------------------------------|--------------------------|--------------------------|
| a. | Cause a substantial adverse change in the significance of a historical resource as defined in CEQA Guidelines 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 CEQA Guidelines 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 formal cemeteries? | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |

Discussion

The analysis presented in this section is based on a cultural resources records (RS# 18-158) search conducted for the proposed project by QK archeologist Robert Parr, MA, RPA at the Southern San Joaquin Valley Information Center (SSJVIC), a part of the California Historical Resources Information System (see Appendix B). The Lead Agency requested a records search of the Sacred Land File (SLF) by the Native American Heritage Commission.

Impact #3.4.5a – Would the project cause a substantial adverse change in the significance of a historical resource as defined in CEQA Guidelines Section 15064.5?

The 2035 Kings County General Plan Resource Conservation Element states that the County has a number of historical sites, four of which are included on the National Register of Historic Places, three are designated as California Historical Landmarks, and the remaining are identified as being historic sites of local importance (Kings County, 2010). The proposed project is located within a predominantly agricultural area and does not contain any listed historic resources, nor is it located within an identified historic district. The project would have no impact on registered historic resources.

The records search covered an area within 0.25 miles of the pipeline route and included a review of the National Register of Historic Places (NRHP), California Points of Historical Interest, California Registry of Historic Resources (CRHR), California Historical Landmarks, California State Historic Resources Inventory, and a review of cultural resource reports on file.

The records search indicated that three linear cultural resource surveys cross the alignment at right, or at near-right, angles at three separate points. Four additional surveys were conducted immediately adjacent to, although not on, for approximately two miles of the

alignment. No further cultural resource surveys have been performed within 0.25 miles of the proposed pipeline alignment.

Three cultural resource properties have been recorded on or within 0.25 miles of the proposed pipeline. These include the routes of the historic Burlington Northern and Santa Fe Railway (P-16-120) and Highline Canal (P-16-253). Combined, they cross the pipeline route at four separate points.

The railroad previously was evaluated for significance and found to be ineligible for inclusion in the NRHP due to lack of historical integrity (Love et al. 2001). The Highline Canal (ca. 1930) has been evaluated and found to be ineligible for inclusion in the NRHP or the CRHR (JRP Historical Consulting 1997).

One additional resource close to the alignment is the PG&E Guernsey Substation (P-16-352) at the NW corner of Kent and 11th Avenues. The facility was built by the San Joaquin Light and Power Corporation in 1930. The site has previously been evaluated and found ineligible for listing in the NRH Places or California Register of Historic Resources and does not meet the criteria to be a historical resource for the purposes of CEQA. No further cultural resources have been recorded within 0.25 miles.

Although considered unlikely, since there is no recorded evidence or surface evidence of historical or archaeological resources within the project area or temporary staging area, there is the potential for project-related excavation and construction to potentially damage or destroy previously undiscovered cultural resources. Cultural resource materials may include prehistoric resources such as flaked and ground stone tools and debris, shell, bone, ceramics, and fire-affected rock as well as historic resources such as glass, metal, wood, brick, or structural remnants. This is considered a potentially significant impact. Mitigation is proposed requiring implementation of standard inadvertent discovery procedures to reduce impacts to previously undiscovered subsurface historical resources.

The Santa Rosa Rancheria Tachi Yokut Tribe requested consultation with the Lead Agency regarding the proposed project pursuant to AB 52, Public Resources Code (PRC) Section 21080.3.1. Consultation was conducted and the agreed upon mitigation measures outlined will reduce potential impacts of the proposed project to less than significant levels.

MITIGATION MEASURE(S)

MM CR-1: The following measures shall be implemented, as necessary, in conjunction with the construction of the project

- a) The project proponent shall note on any plans that require ground disturbing excavation that there is a potential for exposing buried cultural resources.
- b) 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) 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) 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 site work within the area of discovery shall not be allowed until the preceding steps have been taken.
- e) 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 construction. Tribal participation would be dependent upon the availability and interest of the Tribe.
- f) Upon coordination with the Kings County Community Development Agency, any pre-historic 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.

MM CR-2 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 Hanford Lakeside Dairy Digester Project>

- c) 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 in the vicinity of the find and

the Kings County Coroner shall be notified immediately. 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). 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(e) 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."

- d) 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.

LEVEL OF SIGNIFICANCE

Impacts would be *less than significant with mitigation incorporated*.

Impact #3.4.5b – Would the project cause a substantial adverse change in the significance of an archaeological resource pursuant to CEQA Guidelines Section 15064.5?

See discussion in Impact #3.3.5a, above. Although considered unlikely since there is no indication of any prehistoric resources on the project site, subsurface construction activities associated with the proposed project could potentially damage or destroy previously undiscovered archaeological resources. Mitigation is proposed requiring implementation of standard inadvertent discovery procedures to reduce potential impacts to previously undiscovered subsurface historic and archaeological resources.

MITIGATION MEASURE(S)

Implement Mitigation Measure MM CR-1 and MM CR-2.

LEVEL OF SIGNIFICANCE

Impacts would be *less than significant impact with mitigation incorporated*.

Impact #3.4.5c – Would the project disturb any human remains, including those interred outside of formal cemeteries?

As previously noted, a search of the California NAHC Sacred Lands File search revealed no records of known sensitive cultural resources in the vicinity of the project area. Human remains are not known to exist within the project area. However, construction would involve earth-disturbing activities, and it is still possible that human remains may be discovered, possibly in association with archaeological sites. Mitigation Measure MM CR-2 has been included in the unlikely event that human remains are found during ground-disturbing activities. Implementation of MM CR-1 and MM CR-2 would reduce impacts to cultural resources. Impacts would be less than significant with implementation of mitigation.

MITIGATION MEASURE(S)

Implementation of MM CR-1 and MM CR-2.

LEVEL OF SIGNIFICANCE

Impacts would be *less than significant impact with mitigation incorporated.*

| Potentially Significant Impact | Less than Significant with Mitigation Incorporated | Less-than- Significant Impact | No Impact |
|--------------------------------------|--|-------------------------------------|--------------|
|--------------------------------------|--|-------------------------------------|--------------|

3.4.6 - ENERGY

Would the project:

- | | | | | |
|---|--------------------------|--------------------------|-------------------------------------|--------------------------|
| a. Result in potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of natural resources, during project construction? | <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 checked="" type="checkbox"/> | <input type="checkbox"/> |

Discussion

Impact #3.4.6a – Would the project result in potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of natural resources, during project construction?

There are millions of tons of animal waste being produced every year and its disposal is a major problem. A biogas plant connected to anaerobic digesters will provide clean, renewable energy (biogas) by converting organic waste to methane and are a key part of a comprehensive rural energy plan (Agonstini, A. et al, 2016). The project will reduce the greenhouse gas emissions and, furthermore, will improve rural environment conditions. The project is designed to reduce methane emissions from livestock waste while generating renewable energy through a biogas recovery system. The project would involve the construction, installation and operation of a 37-mile pipeline, which will connect up to 18 dairies and anaerobic digesters to the proposed biogas plant.

MITIGATION MEASURE(S)

No mitigation is required.

LEVEL OF SIGNIFICANCE

Impacts would be *less than significant*.

Impact #3.4.6b – Would the project conflict with or obstruct a State or local plan for renewable energy or energy efficiency?

The 2035 Kings County General Plan – Resource Conservation Element identifies the importance in alternative and renewable energy sources for the County's future energy production (County of Kings, 2010). Sources of biomass, or raw material suitable for

conversion to energy, include manure from dairy operations and municipal waste at landfill sites. To improve air quality and achieve greenhouse gas emissions reductions mandated by recent State legislation (AB 32), sustainable and renewable alternative energy sources including wind, solar, hydroelectric and biomass energy can be promoted, and energy conservation measures encouraged. RC Policy G1.2.1 requires the review of biomass energy projects through the conditional use permit (CUP) process to ensure projects meet all air quality requirements. The project is seeking approval of CUP 17-14 and is subject to County review.

As noted in Impact #3.4.8a, the project will not result in the emissions of hydrofluorocarbons (HFCs), perfluorocarbons (PFCs), or sulfur hexafluoride (SF₆), the other gases identified as GHG in AB32. The majority of operational GHG emission increases associated with this project result indirectly from electrical usage (99.5%) delivered from a supplier subject to the Cap-and-Trade regulation.

**Table 3.4.6-1
GHG Emissions**

| Source | CO ₂ | CH ₄ | N ₂ O | CO ₂ e |
|--|-----------------|-----------------|------------------|-------------------|
| <i>Total Project Operational Emissions</i> | <i>3,573</i> | <i>0.570</i> | <i>4.640</i> | <i>3,578</i> |
| <i>Annualized Construction Emissions¹</i> | <i>17.43</i> | <i>0.005</i> | <i>0.000</i> | <i>17.54</i> |
| Project Emissions | 3,590 | 0.574 | 4.640 | 3,596 |

The proposed project will comply with all regulations and standards established by the SJVAPCD that have been designed to ensure that the region meets the goals of AB 32, SB 1078, SB 107 and Executive Order S-14-08.

MITIGATION MEASURE(S)

No mitigation is required.

LEVEL OF SIGNIFICANCE

Impacts would be *less than significant*.

| Potentially Significant Impact | Less than Significant with Mitigation Incorporated | Less-than- Significant Impact | No Impact |
|--------------------------------------|--|-------------------------------------|--------------|
|--------------------------------------|--|-------------------------------------|--------------|

3.4.7 - GEOLOGY AND SOILS

Would the project:

- a. Directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving:
 - i. Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault? Refer to Division of Mines and Geology Special Publication 42.
 - ii. Strong seismic ground shaking?
 - iii. Seismic-related ground failure, including liquefaction?
 - iv. Landslides?
- b. Result in substantial soil erosion or the loss of topsoil?
- c. Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or offsite landslide, lateral spreading, subsidence, liquefaction, or collapse?
- d. Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial direct or indirect risks to life or property?
- e. Have soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems in areas where sewers are not available for the disposal of wastewater?

| | | | |
|--------------------------|-------------------------------------|-------------------------------------|-------------------------------------|
| <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |

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

Discussion

Impact #3.4.7a(i) – Would the Project expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault? Refer to Division of Mines and Geology Special Publication 42.

The project site is not located within an Alquist-Priolo Earthquake Fault Zone. Per the Department of Conservation, California Geologic Survey Regulatory Maps (Department of Conservation, 2015), the nearest fault is the Nunez Fault, which lies in the Alcalde Hills 7.5-minute quadrangle, northwest of Coalinga in Fresno County. 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 Andres Fault, which is located approximately 50 miles west of project (Kings County, 2010). The distance from the nearest active faults precludes the possibility of fault rupture on the project site. Therefore, there would be no impact.

MITIGATION MEASURE(S)

No mitigation is required.

LEVEL OF SIGNIFICANCE

There would be *no impact*.

Impact #3.4.7a(ii) – Would the project expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving strong seismic ground shaking?

The project site is located within an area designated as Zone V1 or Valley Zone 1, which is identified as the area of least expected seismic shaking (see Figure HS-2 on page HS-10 of the Health and Safety Element of the 2035 Kings County General Plan). The potential for ground shaking is discussed in terms of the percent probability of exceeding peak ground acceleration (% g) in the next 50 years (Kings County, 2010). The project site's exceedance probability in the next 50 years is between 20-30 percent, which is the 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 Health and Safety Element of the 2035 Kings County General Plan. Therefore, a less-than-significant impact would occur.

MITIGATION MEASURE(S)

No mitigation is required.

LEVEL OF SIGNIFICANCE

Impacts would be *less than significant*.

Impact #3.4.7a(iii) – Would the project expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving seismically related ground failure, including liquefaction?

Liquefaction could result in local areas during a strong earthquake or seismic ground shaking where unconsolidated sediments and a high-water table coincide. The project site is noted in Figure HS-2 Seismic Safety Map of the 2035 Kings County General Plan as an area not subject to potential liquefaction. The project would not expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving seismic-related ground failure including liquefaction. Structures constructed as part of the project would be required by State law to be constructed in accordance with all applicable International Building Code (IBC) and California Building Code (CBC) Earthquake Construction Standards, including those relating to soil characteristics. Adherence to all applicable regulations would avoid any potential impacts to structures resulting from liquefaction at the project site. Therefore, impacts would be less than significant.

MITIGATION MEASURE(S)

No mitigation is required.

LEVEL OF SIGNIFICANCE

Impacts would be *less than significant*.

Impact #3.4.7a(iv) – Would the project expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving landslides?

The project site currently undeveloped and is essentially flat. Similarly, the surrounding area is predominately cultivated or uncultivated cropland, which experiences frequent discing. The site's topography would not change substantially as a result of project development. The project site is located in an area as having "low" (less than 1.5 percent of area involved) landslide incidents (see Figure HS-3 California Landslide Hazards Map, 2035 Kings County General Plan). Since the site is essentially flat in nature from the existing agricultural activities with no surrounding slopes and it is not considered to be prone to landslides the project would not expose people or structures to potential substantial adverse effects from landslides. Therefore, there would be no impact.

MITIGATION MEASURE(S)

No mitigation is required.

LEVEL OF SIGNIFICANCE

Impacts would be *less than significant*.

Impact #3.4.7b – Would the project result in substantial soil erosion or the loss of topsoil?

The project site contains Lakeside clay loam substratum, which is characterized as being somewhat poorly drained; very slow runoff; moderately slow permeability. Permeability is slow in the soils with clay strata. The Lakeside loam is deep, somewhat poorly drained soils that formed in alluvium from igneous and sedimentary rocks. Lakeside soils are on basin rims and alluvial plains and have slopes of zero to one percent (US Department of Agriculture, 2018).

The project involves the construction of a biogas facility and low-pressure gas pipelines that will be installed within existing road rights of way or private land. The development of the proposed facilities is not expected to subject the site to any extreme erosion problems. As is noted in Impact #3.4.9a, the State Water Resources Control Board's (SWRCB) National Pollutant Discharge Elimination System (NPDES) General Permit (No. 2012-0006-DWQ) for stormwater discharges associated with construction and land disturbance activities, the project proponent must develop and implement a Stormwater Pollution Prevision Plan (SWPPP) that specifies best management practices (BMPs) to prevent construction pollutants, including erosion of soils (such as topsoil), from moving offsite. MM HYD-1 below requires the preparation and implementation of a SWPPP to comply with the Construction General Permit requirements. Therefore, with implementation of MM HYD-1, the project would have a less-than-significant impact on soil erosion and loss of topsoil.

MITIGATION MEASURE(S)

Implement MM HYD-1.

LEVEL OF SIGNIFICANCE

The project would have a *less-than-significant impact with mitigation incorporated*.

Impact #3.4.7d – Would the project 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?

Expansive clay soils are subject to shrinking and swelling due to changes in moisture content over the seasons. These changes can cause damage or failure of foundations, utilities, and pavements. During periods of high moisture content, expansive soils under foundations can heave and result in structures lifting. In dry periods, the same soils can collapse and result in settlement of structures. According to the 2035 Kings County General Plan Health and Safety

Element (see Figure HS-4), the biogas facility site is located on Kimberlina fine sandy loam and Lakeside clay loam. The site is outside of the area identified as having expansive soil (County of Kings, 2010). In addition, Table 15 – Physical and Chemical Properties of the Soils in the USDA Kings County Soil Survey, the onsite soil is considered to have low shrink-swell or expansion potential (United States Department of Agriculture, 1986).

The gathering pipeline stretches approximately 37 miles, and is in contact with several soil types, including Grangeville fine sandy loam, Kimberlina fine sandy loam, Kimberlina saline alkali-Garces complex, Lakeside clay loam, Pico clay, and Westcamp loam. As noted in Table 3.4.7-1, a very limited portion of the project is considered to be in area of expansive soils as defined by the Kings County General Plan. However, the proposed project would not intensify shrink-swell behavior and the potential for expansive soil conditions would be accounted for in the design and construction practices of the project. Expansive soil conditions would also be accounted for in the design and construction of the pipeline. Compliance with the policies of the Kings County General Plan, Development Code, and the CBC would reduce potential site-specific impacts to less-than-significant levels.

**Table 3.4.7-1
Soils Types and Properties**

| | |
|--|---|
| Grangeville Fine Sandy Loam | found in alluvial fans and is a very deep and well-drained soil with moderately rapid permeability. Runoff for this soil type is slow and the hazard of water erosion is slight |
| Kimberlina Fine Sandy Loam Kimberlina Fine Sandy Loam | Found in alluvial fans and is a very deep and well-drained soil with moderately rapid permeability. Runoff for this soil type is slow and the hazard of water erosion is slight. |
| Kimberlina Saline Alkali Garces Complex | Soils are very deep and well drained soils found in alluvial fans. Component shows moderately slow permeability while the Garces Loam component shows very slow permeability. Runoff in this unit is very slow and the possibility of erosion is slight |
| Lakeside Clay Loam Lakeside Clay Loam | Drained soils are saline-alkali soils and show moderately slow permeability. Runoff on these soils is very slow and the hazard of water erosion is slight |
| Lakeside Loam | Soils are very deep, saline alkali soils found in basin rims and alluvial plains. Lakeside Loam, partially drained soils generally have a fine-loamy texture and are somewhat poorly drained. |
| Pitco Clay | Soil is a very deep, saline-alkali soil found in basin rims and flood plains. The soil is somewhat poorly drained with slow permeability and high shrink-swell potential |
| Westcamp Loam | Partially drained soil is a very deep, salkine alkali soil found in basin rims and flood plains. The soil is somewhat poorly drained with very slow permeability. |

Source: USGS SURGO Soil SurveyUSGS SURGO Soil Survey

MITIGATION MEASURE(S)

MM GEO-1 Prior to final design and issuance of building permits, a geotechnical study shall be prepared for the project site and recommendations of the study shall be incorporated into final design of the project. A copy of the report shall be submitted to the Kings County Community Development Agency for review.

LEVEL OF SIGNIFICANCE

The project would have a *less-than-significant impact with mitigation incorporated*.

LEVEL OF SIGNIFICANCE

Impacts would be *less than significant*.

Impact #3.4.7e - Would the project have soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems in areas where sewers are not available for the disposal of wastewater?

The project includes the installation or use of a septic system at the upgrading facility. Portable toilets will be provided to construction crews during construction activities. Once operational, maintenance staff will come from other existing facilities to do routine maintenance activities. Soils within the project site are similar to those in the area and are adequate to support the installation of a septic system. The nearby dairy and the existing agribusiness both utilize a septic system, the system will be installed to meet the requirements of the Kings County Building Department pursuant to Chapter 5, Article VI. Plumbing Code of the Kings County Building Ordinance. Therefore, impacts would be less than significant.

MITIGATION MEASURE(S)

No mitigation is required.

LEVEL OF SIGNIFICANCE

There would be *no impact*.

Impact #3.4.7f – Would the project directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?

There are no unique geological features or known fossil-bearing sediments in the vicinity of the project site. The only known paleontological resource noted in the 2035 Kings County General Plan (Kings County, 2010) is the Kettleman Hills fossil beds, which are approximately 21.5 miles southwest of the project.

However, there remains the possibility for previously unknown, buried paleontological resources or unique geological sites to be uncovered during subsurface construction

activities. Therefore, this would be a potentially significant impact. Mitigation is proposed requiring standard inadvertent discovery procedures to be implemented to reduce this impact to a level of less than significant.

MITIGATION MEASURE(S)

MM GEO-2: During grading and site preparation activities, if paleontological resources are encountered, all work within 50 feet of the find shall halt until a qualified paleontologist, in accordance with Society of Vertebrate Paleontology Standards can evaluate the find and make recommendations. Paleontological resource materials may include resources such as fossils, plant impressions, or animal tracks preserved in rock. If the qualified paleontologist determines that the discovery represents a potentially significant paleontological resource, additional investigations and fossil recovery may be required to mitigate adverse impacts from project implementation. The paleontologist shall notify the Kings County Community Development Agency, who shall coordinate with the paleontologist as to any necessary investigation of the find. If the find is determined to be significant under CEQA, the County shall implement mitigation measures, which may include avoidance, preservation in place, or other appropriate measures, as outlined in PRC Section 21083.2.

LEVEL OF SIGNIFICANCE

Impacts would be *less than significant with mitigation incorporated*.

| | Potentially Significant Impact | Less than Significant with Mitigation Incorporated | Less-than- Significant Impact | No Impact |
|--|--------------------------------------|--|-------------------------------------|--------------|
|--|--------------------------------------|--|-------------------------------------|--------------|

3.4.8 - GREENHOUSE GAS EMISSIONS

Would the project:

- | | | | | | |
|----|---|--------------------------|--------------------------|-------------------------------------|--------------------------|
| 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 checked="" type="checkbox"/> | <input type="checkbox"/> |
| b. | Conflict with any applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of greenhouse gases? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |

Discussion

There have been significant legislative and regulatory activities that directly and indirectly affect climate change and GHGs in California. The primary climate change legislation in California is AB 32, the California Global Warming Solutions Act of 2006. AB 32 focuses on reducing GHG emissions in California. GHGs, as defined under AB 32, include carbon dioxide, methane, nitrous oxide, hydrofluorocarbons, perfluorocarbons, sulfur hexafluoride, and nitrogen trifluoride. AB 32 requires that GHGs emitted in California be reduced to 1990 levels by the year 2020. The California Air Resources Board (ARB) is the State agency charged with monitoring and regulating sources of emissions of GHGs that cause global warming in order to reduce emissions of GHGs. SB 32 was signed by the Governor in 2016, which would require the State Board to ensure that statewide greenhouse gas emissions are reduced to 40 percent below the 1990 level by 2030.

Impact #3.4.8a – Would the project generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?

The proposed project's construction and operational GHG emissions were estimated using the CalEEMod program (version 2016.3.2), EMFAC2014, and the California Climate Action Registry General Reporting Protocol (Version 3.1) (Insight Environmental, 2018). These emissions are summarized in Table 3.4.8-1, below.

SJVAPCD's current guidance for Valley land use agencies in addressing GHG emission impacts for new projects acknowledges the absence of numerical thresholds, and recommendations for a tiered approach to establish GHG impacts. Since the SJVAPCD's guidance for addressing GHG impacts does not use numerical thresholds the County has decided to look at the South Coast Air Quality Management District's (SCAQMD) thresholds to determine impacts. Currently SCAQMD 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. Since SCAQMD is the largest metropolitan area within California, this

threshold is considered a conservative approach for evaluation the significance of GHG emissions in a more rural area.

The project will not result in the emissions of hydrofluorocarbons (HFCs), perfluorocarbons (PFCs), or sulfur hexafluoride (SF₆), the other gases identified as GHG in AB32.

Table 3.4.8-1
Estimated GHG Emissions (MT/year)

| Source | CO ₂ | CH ₄ | N ₂ O | CO ₂ e |
|--|-----------------|-----------------|------------------|-------------------|
| Construction Emissions | | | | |
| 2019 Construction Emissions | 522.78 | 0.137 | 0.000 | 526.21 |
| Operational Emissions | | | | |
| Mobile Emissions | 17.41 | 0.001 | 0.001 | 17.68 |
| Stationary Source Emissions | 0.00015 | 0.0001 | 0.000 | 0.002 |
| Energy Emissions | 3,556 | 0.569 | 4.640 | 3,561 |
| <i>Total Project Operational Emissions</i> | <i>3,573</i> | <i>0.570</i> | <i>4.640</i> | <i>3,578</i> |
| <i>Annualized Construction Emissions¹</i> | <i>17.43</i> | <i>0.005</i> | <i>0.000</i> | <i>17.54</i> |
| Project Emissions | 3,590 | 0.574 | 4.640 | 3,596 |

*Note: 0.00 could represent <0.00 1 Per South Coast AQMD's Methodology

Source: Insight Environmental 2018

MITIGATION MEASURE(S)

No mitigation is required.

LEVEL OF SIGNIFICANCE

Impacts would be *less than significant*.

Impact #3.4.8b – Would the project conflict with any applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of greenhouse gases?

The strategies currently being implemented by CARB may help in reducing the project's GHG emissions and are summarized in Table 3.4.8-2, below.

CEQA Guidelines §15130 notes that sometimes the only feasible mitigation for cumulative impacts may involve the adoption of ordinances or regulations rather than the imposition of conditions on a project-by-project basis. Global climate change is this type of issue. The causes and effects may not be just regional or statewide, they may also be worldwide. Given the uncertainties in identifying, let alone quantifying the impact of any single project on global warming and climate change, and the efforts made to reduce emissions of GHGs from the project through design, in accordance with CEQA Section 15130, any further feasible emissions reductions would be accomplished through CARB regulations adopted pursuant to AB 32. The majority of operational GHG emission increases associated with this project result indirectly from electrical usage (99.5%) delivered from a supplier subject to the Cap-and-Trade regulation.

**Table 3.4.8-2
CARB Strategies**

| Strategy | Description of Strategy |
|--|--|
| Vehicle Climate Change Standards | AB 1493 (Pavley) required the state to develop and adopt regulations that achieve the maximum feasible and cost-effective reduction of climate change emissions emitted by passenger vehicles and light duty trucks. Regulations were adopted by CARB in Sept. 2004. |
| Diesel Anti-Idling | In July 2004, CARB adopted a measure to limit diesel-fueled retail motor vehicle idling. |
| Other Light-Duty Vehicle Technology | New standards would be adopted to phase in beginning in the 2017 model year. |
| Alternative Fuels: Biodiesel Blends | CARB would develop regulations to require the use of 1% to 4% Biodiesel displacement of California diesel fuel. |
| Alternative Fuels: Ethanol | Increased use of ethanol fuel. |
| Heavy-Duty Vehicle Emission Reduction Measures | Increased efficiency in the design of heavy-duty vehicles and an educational program for the heavy-duty vehicle sector. |

The proposed project will comply with all regulations and standards established by the SJVAPCD that have been designed to ensure that the region meets the goals of AB 32, SB 1078, SB 107 and Executive Order S-14-08.

Therefore, consistent with SJVAPCD Policies APR 2005 and APR 2025, the GHG emissions increases associated with this Project would have a less-than-significant individual and cumulative impact on global climate change.

MITIGATION MEASURE(S)

No mitigation is required.

LEVEL OF SIGNIFICANCE

Impacts would be *less than significant*.

| | Potentially Significant Impact | Less than Significant with Mitigation Incorporated | Less-than- Significant Impact | No Impact |
|---|--------------------------------------|--|-------------------------------------|-------------------------------------|
| 3.4.9 - HAZARDS AND HAZARDOUS MATERIALS | | | | |
| Would the project: | | | | |
| 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 involve handling 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 that 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 checked="" type="checkbox"/> | <input type="checkbox"/> |
| g. Expose people or structures, either directly or indirectly, to a significant risk of loss, injury, or death involving wildland fires? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |

Discussion

The analysis presented in this section is based on available data and a Safety Action Plan prepared for this project (see Appendix C).

Impact #3.4.9a – Would the project create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?***Project Construction***

Project construction-related activities may involve the use and transport of hazardous materials. These materials may include fuels, oils, mechanical fluids, and other chemicals used during construction-related activities. As such, these materials are not anticipated to expose human health or the environment to undue risks associated with their use and no significant impacts will occur during construction activities.

Transportation, storage, use, and disposal of hazardous materials during construction activities will be required to comply with applicable federal, State, and local statutes and regulations. Transportation of hazardous materials is regulated by Department of Transportation and Caltrans. Together, federal and State agencies determine driver-training requirements, load labeling procedures, and container specifications designed to minimize the risk of accidental release. In addition, Cal/OSHA is responsible for developing and enforcing workplace safety standards, including the handling and use of hazardous materials. Compliance of applicable federal, State and local regulations would reduce impacts during temporary construction activities to less-than-significant levels.

Project Operation

Biogas is a naturally occurring mixture of primarily methane and carbon dioxide. The biomethane will be transported via low-pressure gas pipelines from the digester to the onsite dewatering equipment and thence to the main gas upgrading biogas site. Methane is not toxic, but handling methane can be hazardous. In addition, methane can be flammable. Methane has an ignition temperature of 1,000 degrees Fahrenheit (°F) and is flammable at concentrations between five percent and 15 percent in air. Unconfined mixtures of methane in air are not explosive; however, a flammable concentration within an enclosed space in the presence of an ignition source can explode. Methane is buoyant at atmospheric temperatures and disperses rapidly in air. Hydrogen sulfide scrubbers will be installed at each dairy to remove that chemical before the gas is moved through the gathering pipeline. Unintentional releases of biogas from dairy digester facilities or pipelines could pose risks to human health and safety.

HYDROGEN SULFIDE (H₂S)

The gathering lines will not contain H₂S in quantities above those listed by OSHA as hazardous to human health. This is a requirement of the SB 1383 pilot project funding, which this project has received. The H₂S will be scrubbed out at each dairy before entering the pipeline. H₂S scrubbers at each dairy will be carbon (or similar) media based. These scrubbers are common, and the spent media is considered non-hazardous and can be transported to a local landfill for disposal.

METHANE (CH₄)

Methane makes up approximately 60-70 percent of the biogas -- the predominant balance of which is non-flammable carbon dioxide. Due to the amount of methane in the raw biogas (processed before injecting into the gathering pipeline) it is flammable only if mixed with air in certain proportions. Methane has an ignition temperature of 1,000 degrees Fahrenheit (°F) and is explosive at concentrations between five percent and 15 percent in air by volume. A mixture of methane and air where the concentration of methane is outside the range specified above are non-explosive; however, it is flammable at higher concentrations -- a leak could result in the gas mixing with atmospheric oxygen and thereby diluting into the range at which it could ignite, if there were an ignition source available, resulting in a flame (but without explosive force since it would no longer be confined. Otherwise, the leaked digester Gas would be expected to disperse rapidly in air.

PIPELINE SIZING AND SAFETY FACTOR

Pipeline sizes will range from four inches to 20 inches for the project. Dimension Ratio (DR) 17 and/or DR 21 pipe will be used, with a wall thickness ranging from 0.24 inches to 1.18 inches depending on the DR and the pipe size. The pipeline will utilize fusion-welded joints, and the pipeline system will be pressure tested during construction to ensure it is installed without leaks. Maximum design pressure in the pipeline system for this project is 20 psi. Maximum working pressure for DR 17 pipe is 100 psi and DR 21 is 80 psi, providing a factor of safety of at least 4.0. The blowers will be equipped with a pressure sensors which will detect the change in pressure during an unlikely event this information will be transmitted to SCADA system and programmable logic controller which will process the information, record and trigger safety (shut down of the raw biogas injection into the pipeline) as necessary to address the risk. The SCADA controlled blowers feeding the biogas from the digesters into the pipeline are designed to inject biogas into the pipeline at a maximum working pressure of 20 psi; therefore, likelihood of over pressurization is minimal. Also, each pipeline trench will be buried with a metallic tape/tracer wire, which will detect the location of the pipe on the surface.

SAFETY MEASURES

The following measures will be implemented in the design process to minimize accidental breaches of the pipeline:

- The pipeline will be registered with the Utility Services Alert (USA) system. All construction projects are required to notify the Utility Service Alert system which will locate the location of the pipeline, so that it can be protected in place during construction;
- Marker posts will be installed at maximum 700-foot intervals warning of the presence of the pipeline and providing contact information of the pipeline operator;
- Copper clad steel tracer will be installed with the pipeline to aid in the future location of the pipeline by the pipeline operator;

- Marker tape will be installed one foot above the pipeline to warn excavators that the pipeline is located below the marker tape; and
- The pipe will be installed with a minimum of four feet of cover, which is below the depth of normal farming activities. In some instances, depending on the topography, the pipeline will be up to eight feet below grade.

In the unlikely event of an accidental breach of the pipeline, the following procedures will minimize risk to the public.

- The blowers that pressurize the pipeline are controlled by the central SCADA system, which can remotely turn off all of the system blowers. All upstream blowers will be turned off, which would stop the flow of biogas into the pipeline;
- High performance butterfly valves are located throughout the pipeline network. The valves near the breached section of pipeline will be closed to isolate the breach from the rest of the system.; and
- Local emergency personnel will be notified to restrict access to the area adjacent to the breach and assist with any required evacuations

A Safety Action Plan (Plan) has been prepared for the project (Appendix C). This plan includes procedures to ensure the safety of digester/dairy personnel and the public. This includes procedures in the unlikely event of blower failure, high gas temperatures or pressure. The plan outlines the management of methane (CH₄) and hydrogen sulfide (H₂S), as well as the procedures to follow should there be a breach in the gathering pipeline system. The plan also provides contact information in case of emergencies.

Operation activities will comply with the California Building Code, local building codes, and gas pipeline regulations. The California Public Utilities Code regulates the safety of gas transmission pipelines. Standard safety measures for anaerobic treatment facilities that will minimize the potential of biogas release. If released to the environment, methane will be dispersed rapidly in air, thus minimizing the hazards of exposure. Biogas transmission pipelines will be designed, constructed, and operated consistent with Pipeline and Hazardous Materials Safety Administration (PHSMA) Standards to minimize the risk of rupture and accidental release. The air district will also review and issue a permit for the facility, which would include measures to reduce impacts if a release event occurred.

The standards that Pipeline and Hazardous Materials Safety Administration (PHSMA) incorporates are parts of standards and specs developed by standard developing organizations such as American Society for Testing and Materials (ASTM) and American Gas Association (AGA). The following professional organizations and the associated standards for pipelines and aerobic digesters include:

Gas Processors Suppliers Association (GPSA)

- GPSA Engineering Data book

American National Standards Institute (ANSI) ANSI GPTC Z380.1 – Guide for Gas Transmission, Distribution, and Gathering Piping Systems

- ANSI Z223.1/NFPA 54 – National Fuel Gas Code
- ANSI/CSA B149.6-15 Code for digester gas, landfill gas, and biogas generation and utilization

American Society of Mechanical Engineers (ASME)

- ASME B31.8 – Gas Transmission and Distribution Piping Systems

National Fire Protection Association (NFPA)

- NFPA 55 – Compressed Gases and Cryogenic Fluids Code
- NFPA 67 – Guide on Explosion Protection for Gaseous Mixtures in Pipe Systems

American Petroleum Institute (API)

- 6D – Specification for Pipeline and Piping Valves

Department of Transportation (DOT)

- DOT 49 CFR Part 192 – Transportation of Natural Gas and Other Gas by Pipeline: Minimum Federal Safety Standards

In addition, the American Society of Agricultural and Biological Engineers has been deemed administrator of the U.S. Technical Advisory Group for ISO/TC 255, Biogas. ISO/TC 255 oversees the development of international standards for anaerobic digesters, processing systems, environmental protection, and specific technical requirements of biogas production. These standards are in the process of being developed and are mentioned for reference.

- ANSI/CSA B149.6 - Significant sections from this standard are provided below. Section 8 is for Digester Gas, which is specific to municipal applications; Section 27 relates to Biogas.
- ANSI/CSA B149.6-15, Section 8.3.2
- ANSI/CSA B149.6-15, Section 8.3.2
- ANSI/CSA B149.6-15, Section 27.1.2

By adhering to the applicable laws, standards and policies related to buildings and materials practices, the operation of the project is not expected to expose human health or the environment to undue risks associated with their use and no significant impacts will occur during operational activities.

H₂S will be captured and absorbed at each dairy, so no excessive releases are possible in the pipeline or cleanup facility. With the scrubber facility that is needed for cleaning the biogas

to remove hydrogen sulfide located at each dairy, flushing of the scrubbers will produce sulfur biogas scrubber effluent. The effluent would be collected and dried, leaving a residue. One potential use of this effluent could be as a soil amendment. As a soil amendment, it would be subject to the California Department of Food and Agriculture Code covering fertilizing materials (Food and Agricultural Code Division 7, Chapter 5). Compliance with existing safety regulations and widely accepted industry standards will minimize the hazard to the public and the environment. As such, mitigation is proposed that would require the project applicant to file a Hazardous Materials Business Plan (HMBP) as a part of the proposed project to address the storage of diesel fuels onsite. With the implementation of MM HAZ-1, the project would have a less-than-significant impact.

MITIGATION MEASURE(S)

MM HAZ-1: Prior to operation, the project proponent shall submit to Kings County Department of Environmental Health Services, a Hazardous Materials Business Plan (HMBP) pursuant to Health and Safety Code Chapter 6.95, Sections 25500 to 25520. The HMBP shall outline the types and quantities of hazardous materials used onsite and indicate onsite safety measures to ensure such materials are properly handled and stored. A copy of the approved HMBP shall be submitted to the Kings County Community Development Agency.

LEVEL OF SIGNIFICANCE

Impacts would be *less than significant with mitigation incorporated*.

Impact #3.4.9b – 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?

Kings County Department of Environmental Health Services is the Certified Unified Program Agency (CUPA) for the County. The CUPA unifies and consolidates the various requirements for businesses handling hazardous materials, generating or treating hazardous wastes, or operating aboveground or underground storage tanks, under one roof. Pursuant to requirements of CUPA, the project proponent will be required to file a Hazardous Material Business Plan. The business plan will consist of the following items: Hazardous Materials Business Plan Certification Form, Business Activities Page, Business Owner/Operator Identification Page, Hazardous Materials Inventory Pages(s), Site Map Form, Emergency Response Plans and Procedures, and Employee Training Program. As previously discussed, the project could involve the transport and use of hazardous materials including fuels, oils, mechanical fluids, and other chemicals such as sanitizers, and disinfectants to be used during the operation of the project site. Hazardous materials including fuel and other motor lubricants would be used during construction and operation. The types and quantities of hazardous materials to be used and stored onsite would not be of a significant amount to create a reasonably foreseeable upset or accident. The handling and transport of all hazardous materials onsite would be performed in accordance with all applicable federal, State, and local laws and regulations.

As noted in Impact #3.4.9a above, the proposed project has prepared a Safety Action Plan, and will also develop a Spill Prevention and Management Plan (SPMP) (see Appendix C). This plan addresses upset conditions related to gas leaks and material spillage onsite. The SPMP outlines design features and actions that would be taken in the unlikely event of a spill. These include double-wall construction of the condensate storage tank to meet secondary containment requirements, a six-inch concrete curb around the tank to contain spills, continuous electronic sensor monitoring and the use of a remote alarm system of liquid levels. Staff would also respond to shut down the equipment and apply absorbent materials should a spill occur. With the implementation MM HAZ-2, the project would have a less-than-significant impact.

Construction and operational activities will also be required to comply with the California fire code to reduce the risk of potential fire hazards. All project plans would comply with State and local codes and regulation. The Kings County Fire Department will be responsible for enforcing provisions of the fire code.

With the implementation of MM HAZ-1 and MM HAZ-2, the proposed project would not 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 and would therefore result in a less-than-significant impact with mitigation incorporated.

MITIGATION MEASURE(S)

MM HAZ-2: Prior to operation, the project proponent shall submit to Kings County Department of Environmental Health Services, a Spill Prevention and Management Plan for review and approval.

LEVEL OF SIGNIFICANCE

Impacts would be *less than significant with mitigation incorporated*.

Impact #3.4.9c – 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?

The project site is not located within 0.25 miles of an existing school. The nearest school to the project site is the Lakeside Elementary School located approximately 1.9 miles west of the project. As previously discussed, all hazardous materials would be properly handled in accordance with applicable standards. The proposed project would not emit hazardous emissions or involve handling hazardous or acutely hazardous materials, substances, or waste within 0.25 miles of an existing or proposed school. Therefore, there would be no impact.

MITIGATION MEASURE(S)

No mitigation is required.

LEVEL OF SIGNIFICANCE

There would be *no impact*.

Impact #3.4.9d – 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?

An online search was conducted on March 5, 2018, of the California Environmental Protection Agency (CAL EPA) website (Cal EPA, n.d.) for Cortese Act locations on or near the project site. The Department of Toxic Substances Control (DTSC) website, Envirostor, indicated that there are no hazardous or toxic sites in the vicinity (within one mile) of the project site and pipeline (Department of Toxic Substances Control, 2015). The State Water Resources Control Board website, GeoTracker, indicated that there are no Permitted Underground Storage Tanks, Leaking Underground Storage Tanks, or any other cleanup sites on or in the vicinity (within one mile) of the project site (California Water Resources Board, n.d.). The project is not located on a site that is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and would not create a significant hazard to the public or the environment. The project site is not within the immediate vicinity of a hazardous materials site and would not impact a listed site. Therefore, there would be no impact.

MITIGATION MEASURE(S)

No mitigation is required.

LEVEL OF SIGNIFICANCE

There would be *no impact*.

Impact #3.4.9e – Would the proposed project be 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 for people residing or working in the project area?

The project site and proposed pipeline route is not located within the Kings County Airport Land Use Compatibility Plan (ALUCP) (County of Kings, 1994), is not within two miles of a public airport or public use airport, and would not result in a safety hazard for people residing or working in the project area. The public airport covered under the ALUCP is the Hanford Municipal Airport, located approximately 5.5 miles northwest of the site. Therefore, there would be no impact.

MITIGATION MEASURE(S)

No mitigation is required.

LEVEL OF SIGNIFICANCE

There would be *no impact*.

MITIGATION MEASURE(S)

No mitigation is required.

LEVEL OF SIGNIFICANCE

There would be *no impact*.

Impact #3.4.9f – Would the project impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?

Kings County has in place an emergency plan to cope with natural disasters that are statewide or happen locally. The County Fire Department and locally stationed California Department of Forestry (CDF) are well prepared to fight fires locally as well as statewide.

According to the Evacuation Routes identified within the Health and Safety Element of the 2035 Kings County General Plan (Figure HS-20, page HS-33), the proposed project is not located along a State Highway or designated arterial, which is used as an emergency evacuation route. The nearest designated evacuation route is SR 43, located approximately one mile west of the project site. The proposed pipeline route runs near emergency routes 6th Avenue and SR 198.

The proposed project does not involve a change to any emergency response plan. Access to the site is via a driveway from the 7th Avenue. The width of new driveway is 20 feet, which is sufficient for fire trucks and other emergency vehicles to enter and exit the site. As noted on the project site plan (Figure 2-5), the proposed project has a secondary access gate that 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. Therefore, no impact would occur.

MITIGATION MEASURE(S)

No mitigation is required.

LEVEL OF SIGNIFICANCE

There would be *no impact*.

Impact #3.4.9g – Would the project expose people or structures to a significant risk of loss, injury or death involving wildland fires?

The proposed project would not expose people or structures to a significant risk of loss, injury, or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands. The project site is not located within the vicinity of wildlands and is in an area classified as having a fire hazard severity zone of non-wildland/non-urban and moderate (Cal Fire, 2012). Therefore, there would be no impact.

MITIGATION MEASURE(S)

No mitigation is required.

LEVEL OF SIGNIFICANCE

There would be *no impact*.

3.4.10 - 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: | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| i. result in substantial erosion or siltation on- or off-site; | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input 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 checked="" type="checkbox"/> | <input 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 zone, 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"/> |

Discussion

Impact #3.4.10a – Would the project violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or ground water quality?

Project construction would cause ground disturbance that could result in soil erosion or siltation and subsequent water quality degradation offsite, which is a potentially significant impact. Construction-related activities would also involve the use of materials such as vehicle fuels, lubricating fluids, solvents, and other materials that could result in polluted runoff, which is also a potentially significant impact. However, the potential consequences of any spill or release of these types of materials are generally small due to the localized, short-term nature of such releases because of construction. The volume of any spills would likely be relatively small because the volume in any single vehicle or container would generally be anticipated to be less than 50 gallons.

As required by the State Water Resources Control Board's (SWRCB) National Pollutant Discharge Elimination System (NPDES) General Permit (No. 2012-0006-DWQ) for stormwater discharges associated with construction and land disturbance activities, the project proponent must develop and implement a Stormwater Pollution Prevention Plan (SWPPP) that specifies best management practices (BMPs) to prevent construction pollutants from contacting stormwater, with the intent of keeping all products of erosion from moving offsite. The project proponent is required to comply with the Construction General Permit because project-related construction activities result in soil disturbances of least one acre of total land area. MM HYD-1 below requires the preparation and implementation of a SWPPP to comply with the Construction General Permit requirements.

With implementation of MM HYD-1, the project would not violate any water quality standards or waste discharge requirements (WDRs) during the construction period, and impacts would be less than significant.

MITIGATION MEASURE(S)

MM HYD-1: Prior to ground-disturbing activities, the project proponent shall prepare and implement a Stormwater Pollution Prevention Plan (SWPPP) that specifies best management practices, with the intent of keeping all products of erosion from moving offsite. The SWPPP shall include a site map that shows the construction site perimeter, existing and proposed manmade facilities, stormwater collection and discharge points, general topography both before and after construction, and drainage patterns across the project site. Additionally, the SWPPP shall contain a visual monitoring program and a chemical monitoring program for non-visible pollutants to be implemented (if there is a failure of best management practices). The requirements of the SWPPP shall be incorporated into design specifications and construction contracts. Recommended best management practices for the construction phase may include the following:

- Stockpiling and disposing of demolition debris, concrete, and soil properly;
- Protecting any existing storm drain inlets and stabilizing disturbed areas;

- Implementing erosion controls;
- Properly managing construction materials; and
- Managing waste, aggressively controlling litter, and implementing sediment controls.

A copy of the approved SWPPP shall be submitted to the Kings County Community Development Agency.

LEVEL OF SIGNIFICANCE

Impacts would be *less than significant with mitigation incorporated*.

Impact #3.4.10b – 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?

Water used during the anticipated 10 months of construction is estimated at approximately 100,000 gallons/day for 25 days and 1,000 gallons/day for 125 days. for a total of eight AF. Operation water usage is estimated at 1,000 gallons a day, or about 1.1 AF annually. Water would come from the site's existing onsite private well system. Typical water usage for crop irrigation on the project site is approximately 1.3 million gallons, four AFY (De Jong, 2019) . Therefore, once operational, the project would generate a significant decrease in water consumption needed for continued crop cultivation on the project site.

SB 610 was enacted to assist water suppliers, cities and counties in integrating water and land use planning. The adopted Guidelines (California Department of Water Resources, 2003) outlines a project that would be subject to the preparation of a Water Supply Assessment under the legislation. As noted in Footnote (5) the threshold is for a proposed industrial, manufacturing, or processing plant, or industrial park planned to house more than 1,000 persons, occupying more than 40 acres of land, or having more than 650,000 square feet of floor area. The proposed biogas facility and approximately 37 miles of underground pipeline does not exceed this threshold, and therefore a Water Supply Assessment is not required.

The Tulare Lake Subasin underlies the project site and it is estimated that 17 million acre-feet of groundwater is found within this subbasin to a depth of 300 feet below ground surface (Department of Water Resources, 2003). This subbasin as identified as being critically overdrafted and subject to Sustainable Groundwater Management Act (SGMA) requirements and the newly formed Groundwater Sustainability Agencies. SGMA consists of three legislative bills and the legislation provides a framework for a long-term sustainable groundwater management across California. Local stakeholders have until 2020 to develop, prepare, and begin to implement the plan. GSAs will then have the responsibility to achieve groundwater sustainability. However, at this time, no additional requirements or implementation measures are applicable since a GSP has not been adopted within the subbasin.

Project construction would require 0.000016 percent of the total available groundwater within the subbasin and operational needs per year would require 0.0011 percent of available water. Given that these percentages of the overall available groundwater in the subbasin needed for the project's construction and operations are nominal, the project's construction and operations would not substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level. Impacts would be less than significant.

MITIGATION MEASURE(S)

No mitigation is required.

LEVEL OF SIGNIFICANCE

Impacts would be *less than significant*.

Impact #3.4.10c(i) – 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 that would result in substantial erosion or siltation onsite or offsite?

The project site is relatively flat and project grading would be minimal and consist of mostly grubbing the site to remove vegetation. The topography of the site would not appreciably change because of grading activities. The site does not contain any blue-line water features, including streams or rivers. The project would not develop significant areas of impervious surfaces that would significantly reduce the rate of percolation at the site or concentrate and accelerate surface runoff in comparison to the baseline condition. Like the existing site, stormwater would generally percolate to ground.

As noted previously, the gathering lines will cross several existing irrigation drainages and/or the Cross Creek canal. As proposed, the pipeline will be installed using either a jack and bore method under the drainages or an open cut method to traverse the drainages. If the jack and bore method is used, there would be no disturbance of the drainage bed and bank, and therefore impacts would be considered less than significant. If the open cut method is used, the project will comply with measures as required by MM BIO-9 and obtain the necessary permits prior to commencement of gathering pipeline construction. Implementation of MM BIO-9 would reduce impacts including the alteration of the course of a stream or river, in a manner that would result in substantial erosion or siltation on- or offsite to less than significant.

MITIGATION MEASURE(S)

Implementation of MM BIO-9.

LEVEL OF SIGNIFICANCE

Impacts would be *less than significant with mitigation incorporated*.

Impact #3.4.10c(ii) – Would the project substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or offsite?

See response #3.4.10c(i), above. The project site is not located within a 100-year floodplain and does not include the development of residences (Figure 3.4.9-1). The project site is within an area of minimal flood hazard as shown on the National Flood Insurance Program, Flood Insurance Rate Map (FIRM), Map Number 06031C0375C (Federal Emergency Management Agency, 2009). There are no development restrictions associated since these are areas determined to be outside the 0.2 percent annual chance floodplain.

The easterly portions of the pipeline route are located within 100-year floodplain (1% annual chance of flood hazard zone). However, the pipeline will be placed underground and would not impede or affect floodwaters. The Project is not anticipated to substantially alter the drainage pattern of the area, and there are no streams or rivers in the project area. With implementation of MM HYD-1, impacts would be less than significant.

MITIGATION MEASURE(S)

Implementation of MM HYD-1.

LEVEL OF SIGNIFICANCE

Impacts would be *less than significant with mitigation incorporated*.

Impact #3.4.10c(iii) – 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 that would 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?

Please see response #3.4.10a above. Therefore, the project would not create or contribute runoff water that would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff. With implementation of MM HYD-1, impacts would be less than significant.

MITIGATION MEASURE(S)

Implementation of MM HYD-1.

LEVEL OF SIGNIFICANCE

Impacts would be *less than significant with mitigation incorporated*.

Impact #3.4.10c(iv) – 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 that would impede or redirect flood flows?

See response #3.4.10c(i), above. The Project is not anticipated to substantially alter the drainage pattern of the area. With implementation of MM HYD-1, impacts would be less than significant.

MITIGATION MEASURE(S)

Implementation of MM HYD-1.

LEVEL OF SIGNIFICANCE

Impacts would be *less than significant with mitigation incorporated*.

Impact #3.4.10d – Would the project, in flood hazard, tsunami, or seiche zones, risk release of pollutants due to project inundation?

The project site is not located near the ocean or a steep topographic feature (i.e., mountain, hill, bluff, etc.). Therefore, there is no potential for the site to be inundated by tsunami or mudflow. Additionally, there is no body of water within the vicinity of the project site. There is no potential for inundation of the project site by seiche¹.

Therefore, the project would not contribute to inundation by seiche, tsunami, or mudflow. There would be no impact.

MITIGATION MEASURE(S)

No mitigation is required.

LEVEL OF SIGNIFICANCE

There would be *no impact*.

Impact #3.4.10e – Would the project conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan?

Please see response #3.4.10(b) above. At this time, a GSP has not been prepared for the Tulare Lake Subbasin so no additional requirements or implementation measures are applicable. There would be no impact.

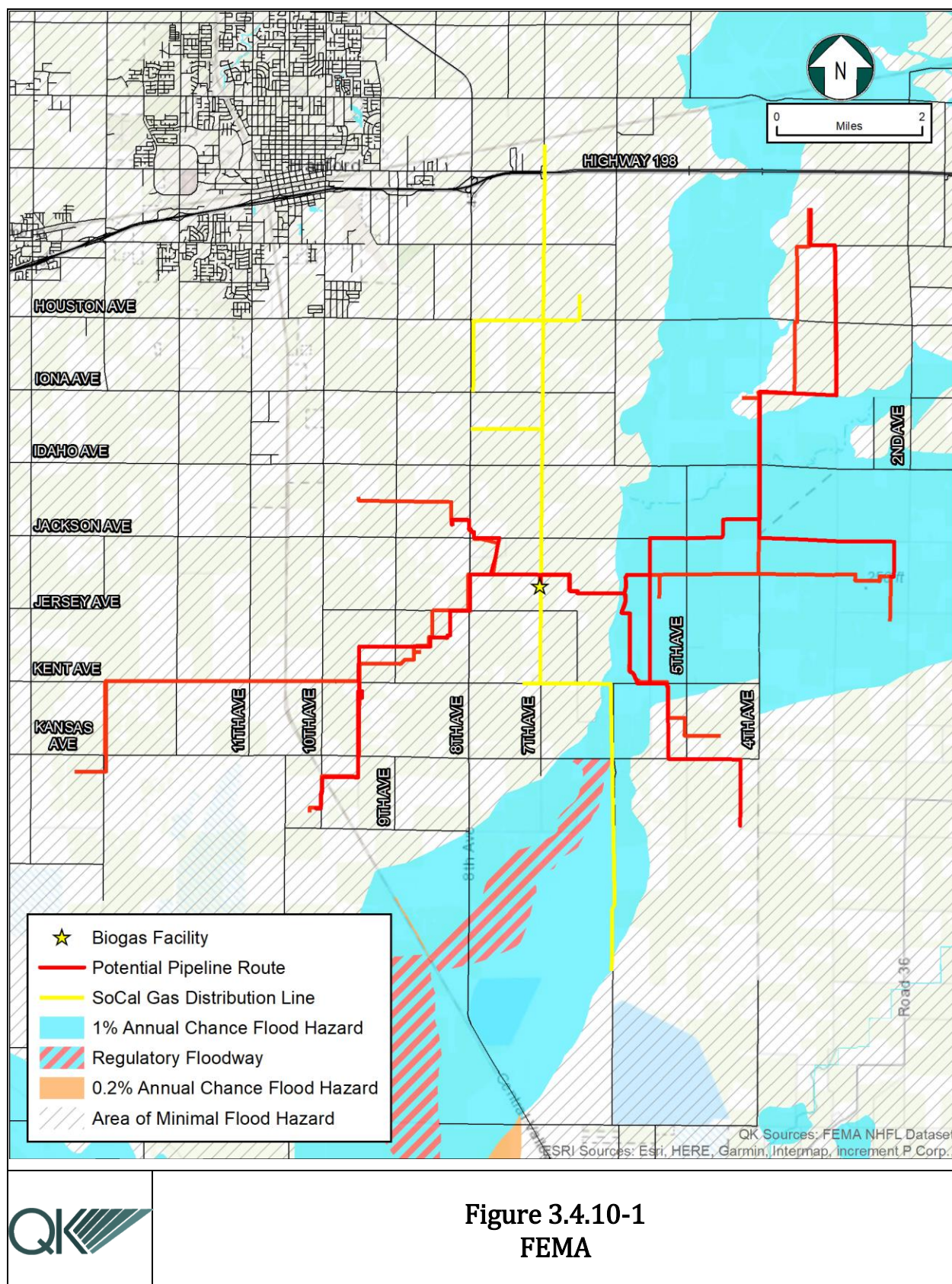
¹ A seiche is a standing wave in an enclosed or partially enclosed body of water that is often generated due to a significant seismic event.

MITIGATION MEASURE(S)

Implementation of MM HYD-1.

LEVEL OF SIGNIFICANCE

There would be *no impact*.



| | Potentially Significant Impact | Less than Significant with Mitigation Incorporated | Less-than- Significant Impact | No Impact |
|--|--------------------------------------|--|-------------------------------------|--------------|
|--|--------------------------------------|--|-------------------------------------|--------------|

3.4.11 - LAND USE AND PLANNING

Would the project:

- | | | | | | |
|----|---|--------------------------|--------------------------|--------------------------|-------------------------------------|
| 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"/> |

Discussion

Impact #3.4.11a – Would the project physically divide an established community?

The project is in a rural area with predominately cultivated fields, large dairies and other agriculturally related operations. The project proposed to construct and operate a biogas facility on a small portion of undeveloped land; gathering pipelines would be constructed within existing County road rights of way with approval of an encroachment permit, or on private property. The project does not include the construction of roads or any other physical barrier that would divide a community. The project would not result in any surrounding land use change; therefore, there would be no impact.

MITIGATION MEASURE(S)

No mitigation is required.

LEVEL OF SIGNIFICANCE

There would be *no impact*.

Impact #3.4.11b – Would the project conflict with any applicable land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect?

The project site and pipeline route have a General Plan land use designation of General Agriculture (AG20) and is zoned General Agriculture-20 district (AG20) The pipeline would be installed underground and would not restrict or inhibit continued agricultural activities. According to Section 407 of the *Kings County Development Code, Land Use Regulations*-Table 4-1 of the Kings County Development Code, biogas facilities are permitted within the AG-20 (General Agriculture-20) zone district with approval of a CUP. Therefore, with approval of a CUP, the facility and pipeline would be consistent with applicable land use

policies and regulations and impacts would be less than significant. The proposed project would not conflict with an applicable land use plan, policy, or regulation of Kings County; therefore, there would be no impact.

MITIGATION MEASURE(S)

No mitigation is required.

LEVEL OF SIGNIFICANCE

There would be *no impact*.

| | Potentially Significant Impact | Less than Significant with Mitigation Incorporated | Less-than- Significant Impact | No Impact |
|--|--------------------------------------|--|-------------------------------------|--------------|
|--|--------------------------------------|--|-------------------------------------|--------------|

3.4.12 - MINERAL RESOURCES

Would the project:

- | | | | | | |
|----|---|--------------------------|--------------------------|--------------------------|-------------------------------------|
| 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"/> |

Discussion

Impact #3.4.12a – 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?

Neither the project site nor the surrounding area is designated as a Mineral Resources Zone by the State Mining and Geology Board (SMGB) of 2035 Kings County General Plan, nor is it currently being utilized for mineral extraction. The project is associated with existing agricultural purposes and the project design does not include mineral extraction. The project would not 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 and would therefore have no impact.

MITIGATION MEASURE(S)

No mitigation is required.

LEVEL OF SIGNIFICANCE

There would be *no impact*.

Impact #3.4.12b – 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 land use plan?

The 2035 Kings County General Plan states that few commercial mining and mineral extraction activities occur in the County and currently, only limited excavation of soil, sand and some gravel is used for commercial purposes (Kings County, 2010). Additionally, the General Plan does not designate the site for mineral and petroleum resources activities. The project site and surrounding lands are zoned for agriculture uses. No mining occurs in the

project area or in the nearby vicinity and there are no anticipated mineral extraction activities to be conducted in the future as a result of the project. The project would not 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 and would therefore have no impact.

MITIGATION MEASURE(S)

No mitigation is required.

LEVEL OF SIGNIFICANCE

There would be *no impact*.

| Potentially Significant Impact | Less than Significant with Mitigation Incorporated | Less-than- Significant Impact | No Impact |
|--------------------------------------|--|-------------------------------------|--------------|
|--------------------------------------|--|-------------------------------------|--------------|

3.4.13 - NOISE

Would the project result in:

- | | | | | | |
|----|--|--------------------------|--------------------------|-------------------------------------|-------------------------------------|
| a. | Generation of a substantial temporary or permanent increase in ambient noise levels in the vicinity of the project in excess of standards established in a 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 groundborne vibration or groundborne noise levels? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| c. | For a project located within the vicinity of a private airstrip or an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |

Discussion

The following analysis is based on data obtained from the certified EIR prepared for the Pixley Biogas Anaerobic Digester Project (Tulare County, 2013). Although the Pixley project included a much larger biogas facility than what is currently being proposed, the equipment analyzed in the Pixley Biogas Noise Impact Assessment would be similar in nature, location within a structure, and overall noise generation characteristics.

It is anticipated that the following pieces of equipment would be used during construction activities:

- | | |
|---|---|
| <ul style="list-style-type: none"> • Mini excavator • Scraper • Excavator • Self-propelled compactor • Grader • Water truck | <ul style="list-style-type: none"> • Mobile generator • Service truck • HDPE welding machine • Air compressor • trencher |
|---|---|

Impact #3.4.13a – 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 a local general plan or noise ordinance or applicable standards of other agencies?

Few sensitive land uses are present within the surrounding project area. Land uses deemed sensitive by the State of California include schools, hospitals, rest homes, and long-term care and mental care facilities, which are considered to be more sensitive to ambient noise levels than others. The nearest sensitive land uses include agricultural residences located approximately 3,015 feet (0.6 miles) north and 2,757 feet (0.5 mile) south of the project site. The project site is near established dairies and agriculturally related businesses and noise generated by these uses are considered baseline. The agricultural residences in the vicinity are most likely utilized by farmers and agricultural workers who are accustomed to agricultural-related noise generated by the existing dairy facilities and agricultural operations.

The proposed project includes the installation and operation of a biogas upgrading facility. The upgrading facility will consist of moisture removal, H₂S scrubbing, CO₂ stripping, and biomethane compressors. Once constructed the facility would operate year-round and would continue to operate 24 hours a day, seven days a week. No full time, onsite staff will be at the facility and no visitors are permitted due to security restrictions. Noise generated by the proposed project would consist of employee traffic, delivery and service vehicles, and general facility operations. Operational activities associated with the project that would generate noise include maintenance vehicle circulation, delivery truck vehicle circulation, and the operation of certain mechanical equipment such as stationary pumps, motors, compressors, fans, heaters, and other equipment. All equipment with moving parts, except the effluent pump and the digester agitators, will be located inside an enclosed control room. Operation of pipelines would not result in any discernible noise.

Unmitigated Operational Noise Levels provided in Table 3.4.13-1 was calculated using the Federal Highway Administration (FHWA) Roadway Construction Noise Model (RCNM) modeling program.

Table 3.4.13-1
Unmitigated Operational Equipment Noise Levels

| Equipment Description | Noise Levels at home on agricultural use ~525 feet from site (dBA) | | Noise Levels at home ~1,555 feet from site (dBA) | |
|-----------------------|--|------|--|------|
| | Lmax | Leq | Lmax | Leq |
| Loader | 58.7 | 54.7 | 54.7 | 54.7 |
| 4 HP Blower | 37.6 | 29.9 | 28.1 | 20.4 |
| Digester Auger | 39.6 | 31.9 | 30.1 | 22.4 |
| Digester Pump | 39.6 | 31.9 | 30.1 | 43.8 |
| Compressor | 57.2 | 53.3 | 30.1 | 43.8 |
| Combined Noise Levels | 57.2 | 57.1 | 49.3 | 47.7 |

Notes: *Reflects a 6 dBA drop in noise level for every doubling of the distance from the source.

Noise levels will be below threshold as noted in Table 3.4.13-1. Additionally, as the closest sensitive receptor is at least 2,700 feet from the site, noise levels during both construction and operation would be lower than shown.

The 2035 Kings County General Plan identifies that there are numerous active agricultural uses within the County protected by the County's Right-to-Farm Ordinance, which recognizes that "...agricultural activities and operations, including, but not limited to, equipment and animal noise...are conducted on a 24-hour a day, seven days a week basis..." in agricultural areas of the County (Kings County, 2010). The General Plan concludes that normal and usual agricultural operation creating elevated sound levels are not normally considered a nuisance. However, the Noise Element of the General Plan focuses on two goals to control fixed-source noise issues. These goals are to prevent the introduction of new noise-producing uses in noise-sensitive areas, and to prevent encroachment of noise-sensitive uses upon existing noise-producing facilities. Table N-8 of the Noise Element provides non-transportation noise standards.

This generated noise is consistent with the County's General Plan Noise Element, Noise Ordinance, and Right-to-Farm Ordinance. Operation of the facility would not generate noise levels above the existing levels in the project area as minimal equipment would be utilized and the project is within an area of similar and compatible agricultural uses.

There are no specific construction noise thresholds established by Kings County. However, the construction of the proposed project would be temporary and would generally occur between 7:00 a.m. to 6:00 p.m., five days a week for approximately four to five months. Additional hours may be necessary to make up schedule deficiencies, or to complete critical construction activities. Construction of the proposed expansion will mostly consist of site preparation, site excavation, grading and equipment installation. No demolition or pile-driving will occur during the construction phase of the project.

Given the existing agricultural nature of surrounding facility operations, noise levels are not anticipated to increase beyond a perceptible level by sensitive receptors. Therefore, these increases in ambient noise are considered less than significant and consistent with applicable standards.

MITIGATION MEASURE(S)

No mitigation is required.

LEVEL OF SIGNIFICANCE

Impacts would be *less than significant*.

Impact #3.4.13b – Would the project result in the generation of excessive groundborne vibration or groundborne noise levels?

The proposed project is expected to create temporary groundborne vibration as a result of the construction activities (during site preparation and grading). According to the U.S. Department of Transportation, Federal Railroad Administration, vibration is sound radiated through the ground. The rumbling sound caused by the vibration is called groundborne noise. The ground motion caused by vibration is measured as particle velocity in inches per second and is referenced as vibration decibels (VdB). The background vibration velocity level in residential areas is usually around 50 VdB. A list of typical vibration-generating equipment is shown in Table 3.4.13-2. However, the project does not propose to use this specific equipment. The table is meant to illustrate typical levels of vibration for various pieces of equipment.

Table 3.4.13-2
Different Levels of Ground-borne Vibration

| Vibration Velocity Level | Equipment Type |
|---------------------------------|-------------------------------|
| 104 VdB | Pile Driver (impact), typical |
| 93 VdB | Pile Driver (sonic), typical |
| 94 VdB | Vibratory roller |
| 87 VdB | Large bulldozer |
| 87 VdB | Caisson drilling |
| 86 VdB | Loaded trucks |
| 79 VdB | Jackhammer |
| 58 VdB | Small bulldozer |

Source: (Federal Transit Administration , 2006)

Note: 25 feet from the corresponding equipment.

The vibration velocity level threshold of perception for humans is approximately 65 VdB. A vibration velocity level of 75 VdB is the approximately dividing line between barely perceptible and distinctly perceptible levels for many people.

Typical outdoor sources of perceptible ground-borne vibration are construction equipment and traffic on rough roads. For example, if a roadway is smooth, the groundborne vibration from traffic is rarely perceptible.

Typically, groundborne vibration generated by construction activity attenuates rapidly with distance from the source of the vibration. Therefore, vibration issues are generally confined to distances of less than 500 feet (U.S. Department of Transportation, 2005). Several residences are located within the surrounding area of the proposed project site. Potential sources of temporary vibration during construction of the proposed project would be minimal and would include transportation of equipment to the site, and operation of equipment during construction of the biogas upgrading facility and gathering pipelines.

Construction activity would include various site preparation, grading, in fabrication, and site cleanup work. Construction would not involve the use of equipment that would cause high ground-borne vibration levels such as pile-driving or blasting. Once constructed, the proposed project would not have any components that would generate high vibration levels.

Thus, construction and operation of the proposed project would not result in any vibration and impacts would be less than significant.

MITIGATION MEASURE(S)

No mitigation is required.

LEVEL OF SIGNIFICANCE

Impacts would be *less than significant*.

Impact #3.4.13c – For a project located within the vicinity of a private airstrip or an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels?

The project site and underground pipeline route is not located within the Kings County Airport Land Use Compatibility Plan, nor within two miles of a public airport or public use airport (County of Kings, 1994). According to the Federal Aviation Administration website (Federal Aviation Administration, 2017), the nearest public airport is the Hanford Municipal Airport located approximately 5.2 miles northwest of the site. Therefore, the project would not expose people residing or working in the project area to excessive noise levels, and there would be no impact.

MITIGATION MEASURE(S)

No mitigation is required.

LEVEL OF SIGNIFICANCE

There would be *no impact*.

| Potentially Significant Impact | Less than Significant with Mitigation Incorporated | Less- than Significant Impact | No Impact |
|--------------------------------------|--|-------------------------------------|--------------|
|--------------------------------------|--|-------------------------------------|--------------|

3.4.14 - POPULATION AND HOUSING

Would the project:

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

Discussion

Impact #3.4.14a – Would the project induce substantial population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure)?

Construction of the project is along existing roadways, private farmland and a small undeveloped portion of property. No demolition of existing structures is required. Construction will be of short duration, and existing local construction staff will be utilized to the extent possible.

During operation, the proposed biogas facility requires one-two permanent onsite staff. However, operations will be handled by staff from the nearby existing biogas facility. No increase in employees is required for the proposed expansion. The project would not induce substantial population growth in the area, either directly or indirectly and would therefore result in a less-than-significant impact.

MITIGATION MEASURE(S)

No mitigation is required.

LEVEL OF SIGNIFICANCE

Impacts would be *less than significant*.

Impact #3.4.14b – Would the project displace substantial numbers of people or housing, necessitating the construction of replacement housing elsewhere?

The proposed project would not displace substantial numbers of people necessitating the construction of replacement housing elsewhere.

As discussed, operations and maintenance would be conducted by existing staff. The project will not require demolition of housing or encourage population growth. The proposed project would not displace substantial numbers of existing housing and would therefore result in no impact.

MITIGATION MEASURE(S)

No mitigation is required.

LEVEL OF SIGNIFICANCE

There would be *no impact*.

| Potentially Significant Impact | Less than Significant with Mitigation Incorporated | Less-than- Significant Impact | No Impact |
|--------------------------------------|--|-------------------------------------|--------------|
|--------------------------------------|--|-------------------------------------|--------------|

3.4.15 - PUBLIC SERVICES

Would the project:

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

| | | | | |
|-----------------------------|--------------------------|--------------------------|-------------------------------------|-------------------------------------|
| i. Fire protection? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| ii. Police protection? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| iii. Schools? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| iv. Parks? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| v. Other public facilities? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |

Discussion

Impact #3.4.15a(i) – Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times, or to other performance objectives for any of the public services – fire protection?

Construction and operation of the proposed project would not be expected to result in an increase in demand of fire protection services leading to the construction of new or physically altered facilities. The Kings County Fire Department handles emergency and fire calls within the unincorporated County. According to the Fiscal Year 2016/2017 Final Budget, during the previous fiscal year (2015/2016), there were 4,784 calls for service, with 403 of those calls being fire-related (8.4 percent of all calls). This was an increase from the 4,663 calls for service received during the 2014/2015 fiscal year (County of Kings, 2016).

The proposed project is located within the unincorporated County and would likely receive service from either Station 2, located off of Excelsior Avenue just north of the city limits of Hanford, or Station 4 located east of the city limits of Hanford. The proposed construction of a biogas facility would be located adjacent to an agriculturally related business that is already served by the Kings County Fire Department.

The proposed use would construct new buildings in an area that would not directly impact the Kings County Fire Department's ability to continue to provide a similar level of protection throughout its service area. New construction will be required to pay impact fees, which aid in the construction of new capital facilities and purchase of equipment for public safety departments. The proposed project would result in a less-than-significant impact related to an increase in fire protection services that would necessitate the alteration or construction of fire stations or other infrastructure to combat fire.

MITIGATION MEASURE(S)

No mitigation is required.

LEVEL OF SIGNIFICANCE

Impacts would be *less than significant*.

Impact #3.4.15a(ii) – Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times, or to other performance objectives for any of the public services – police protection?

Construction and operation of the proposed project would not be expected to increase the demand for sheriff protection services leading to the construction of new or physically altered facilities. The Kings County Sheriff Department provides police protection in the unincorporated areas of Kings County and collaborates with other law enforcement agencies and the District Attorney's office on crime prevention. The Sheriff headquarters is at 1400 West Lacey, in Hanford.

According to the Fiscal Year 2016/2017 Final Budget, during the previous fiscal year (2015/2016), the Communications Division of the Sheriff Department, which handles dispatch responsibilities for numerous agencies throughout the County, received total 59,028 calls for service, of which 31,448 (53.2 percent) were directed to the Sheriff's Department deputies and officers. This was a slight increase from the 31,205 calls for service received during the 2014/2015 fiscal year (County of Kings, 2016).

The proposed project is located within the unincorporated County and would likely receive service from officers operating within the appropriate area. The proposed biogas facility would be located adjacent to an agriculturally related business that is already served by the Kings County Sheriff Department.

The proposed project would not result in a change to the provision of law enforcement protection that would require the County to add personnel, new facilities or alter existing facilities. The proposed project would result in a less-than-significant impact related to an increase in demand for law enforcement services that would necessitate the alteration or construction of new or expanded facilities to maintain adequate service levels.

MITIGATION MEASURE(S)

No mitigation is required.

LEVEL OF SIGNIFICANCE

Impacts would be *less than significant*.

Impact #3.4.15a(iii) – Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times, or to other performance objectives for any of the public services – schools?

The proposed project would not significantly increase the number of residents in the County, since the project does not include residential units, nor does it employ a significant number of people necessitating housing construction. There are 46 schools and 15 school districts located throughout Kings County (Kings County Office of Education, 2019). These districts and schools vary in size and the number of students served countywide enrollment for the 2018 school year totaled 29,203 (Kidsdata.org, 2019). The proposed project lies within the Lakeside Union Elementary School District and the Hanford Joint Union High School District. The proposed construction of biogas facility and gathering pipeline route would not generate impacts to the school districts.

In Kings County, school fees are collected at the time of building permit issuance for any construction in order to ensure that a fair share contribution related to size and scale of the development pays towards education in the county. Since the proposed project would not increase the number of students attending public school, there would be no impact.

MITIGATION MEASURE(S)

No mitigation would be required.

LEVEL OF SIGNIFICANCE

There would be *no impact*.

Impact #3.4.15a(iv) – Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause

significant environmental impacts, in order to maintain acceptable service ratios, response times, or to other performance objectives for any of the public services – parks?

The proposed project would not significantly increase the number of residents in the County, since the project does not include residential units, nor does it employ a significant number of people necessitating housing construction. According to the 2035 Kings County General Plan, 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. Burris Park is located south of Clinton Avenue between 6th and 7th Avenues. Hickey Park is located north of Flint Avenue at 17th Avenue. Kingston Park is located north of Douglas Avenue between 12th Avenue and 13th Avenue. Both Hickey Park and Kingston Park are primarily open space with grass and trees. Burris Park has more recreational amenities and a museum. Hickey and Kingston Parks are within about a five-minute drive from cities and communities located in the north half of the County and Burris Park is about a 15-minute drive from Hanford. The General Plan also identifies natural resources, such as the Kings River, as recreational centers within Kings County (Kings County, 2010).

As such, the proposed project would result in no impacts to these services and no mitigation would be required.

MITIGATION MEASURE(S)

No mitigation would be required.

LEVEL OF SIGNIFICANCE

There would be *no impact*.

Impact #3.4.15a(v) – Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times, or to other performance objectives for any of the public services – Other Public Facilities?

The proposed project would not significantly increase the number of residents in the County, since the project does not include residential units or create a large number of new jobs. Kings County provides a wide range of public services to the public besides those services previously mentioned, above. The County also provides animal control services, refuse pick-up, library facilities, and drainage management. These services are generally funded through the general fund, usage fees, fines and penalties or impact fee collection.

In Kings County, all jurisdictions collect planning and building fees as well as impact fees for new development, as necessary. Since the demand for other public facilities is driven by population, the proposed project would not increase the demand for that service. As such,

the proposed project would result in no impacts to these services and no mitigation would be required.

MITIGATION MEASURE(S)

No mitigation would be required.

LEVEL OF SIGNIFICANCE

There would be *no impact*.

| Potentially Significant Impact | Less than Significant with Mitigation Incorporated | Less-than- Significant Impact | No Impact |
|--------------------------------------|--|-------------------------------------|--------------|
|--------------------------------------|--|-------------------------------------|--------------|

3.4.16 - RECREATION

Would the project:

- | | | | | |
|--|--------------------------|--------------------------|--------------------------|-------------------------------------|
| a. 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. Include recreational facilities or require the construction or expansion of recreational facilities that might have an adverse physical effect on the environment? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |

Discussion

Impact #3.4.16a – 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?

See Impact #3.4.15a(ii) above.

The proposed project expansion and associated improvements would not impact park or recreational facilities within Kings County. The project will utilize existing staff to help operate the facility and therefore would result in no increase in residential population in the County. The proposed project would not 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. Therefore, there would be no impact.

MITIGATION MEASURE(S)

No mitigation is required.

LEVEL OF SIGNIFICANCE

There would be *no impact*.

Impact #3.4.16b – Would the project include recreational facilities or require the construction or expansion of recreational facilities that might have an adverse physical effect on the environment?

The proposed project does not include or require the construction or expansion of recreational facilities. As such, the proposed project would result in no impacts to these services and no mitigation would be required.

MITIGATION MEASURE(S)

No mitigation is required.

LEVEL OF SIGNIFICANCE

There would be *no impact*.

| | Potentially Significant Impact | Less than Significant with Mitigation Incorporated | Less-than- Significant Impact | No Impact |
|--|--------------------------------------|--|-------------------------------------|--------------|
|--|--------------------------------------|--|-------------------------------------|--------------|

3.4.17 - TRANSPORTATION

Would the project:

| | | | | | |
|----|---|--------------------------|-------------------------------------|-------------------------------------|-------------------------------------|
| a. | Conflict with a program, plan, ordinance or policy addressing the circulation system, including transit, roadways, bicycle and pedestrian facilities? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input 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 checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| d. | Result in inadequate emergency access? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |

Discussion

Potential transportation and circulation impacts that may result from the proposed project primarily involves determining whether a net change would occur in traffic generated by personnel commuting to or from the project site and by truck trips related to the expansion of facility operations.

Site access is currently provided by a driveway on 7th Avenue. Semi-trucks are used for large deliveries and exports to and from the site and standard pick-up trucks are used by employees to travel to and from the site. The County's network of interstate and State highways and local roads is relied upon to accommodate existing traffic demands. The roadways surrounding the project site include 7th Avenue and Jersey Avenue.

Impact #3.4.17a – Would the project conflict with a program, plan, ordinance or policy addressing the circulation system, including transit, roadways, bicycle and pedestrian facilities?

The proposed project is located in a rural, sparsely populated area that does not have high traffic volume. As proposed, the project does not include the construction of new intersections, streets, highways and freeways, pedestrian and bicycle paths, or mass transit, nor would the project impact or degrade the existing transit infrastructure of the area.

Projected Trip Generation

CONSTRUCTION

Construction of the proposed project is temporary and would take approximately nine-10 months to complete and would typically be scheduled between 7:00 a.m. and 6:00 p.m., Monday through Friday. The workforce required for construction is expected to be drawn from local or regional labor pools. It is assumed that the average construction workforce would be between approximately 15 to 20 persons.

For this analysis, we have applied a conservative occupancy rate of 2.0 to trips generated by construction personnel. Therefore, we have assumed a maximum of 10 trips are generated in both the a.m. and p.m. periods due to construction personnel. However, as is typical with construction activities, trips are anticipated to be distributed over longer a.m. and p.m. periods and will not necessarily coincide with the traditional commuting peak periods of 7:00 a.m. to 9:00 a.m. or 4:00 p.m. to 6:00 p.m. It is anticipated the trips will be spread over four-hour periods, from 5:00 a.m. to 9:00 a.m. and 2:00 p.m. to 6:00 p.m.

It is also anticipated there will be parts, materials and equipment delivered to the job site throughout construction, made by large heavy-haul transport trucks during the workdays. There is assumed to be one to two trucks per day (10 round trips) during the peak construction period.

OPERATION

Once operational, there will be no permanent staff at the facility. Routine maintenance and operations activities will be conducted by one-two staff, for a total of two daily round trips. Staff are anticipated to work a regular five-day a week schedule.

Diesel trucks will be delivering sodium hydroxide from Fresno or Bakersfield. The deliveries are expected no more than once a week. In addition to those deliveries, there may be one-two monthly deliveries of compressor oil and liquid nutrients via the same diesel trucks, for a total of approximately six roundtrips a month.

Based on the above analysis, it is anticipated that temporary construction traffic generated of 20 trips – 10 construction staff and 10 truck deliveries – the project does not generate significant traffic during any peak hour during construction. Once operational, the project would generate two daily trips, with an additional six-monthly delivery trips.

The Circulation Element of the 2035 Kings County General Plan designates a peak-hour level of service (LOS) of “D” as the threshold for acceptable traffic operations for the Kings County road network (Kings County, 2010). The project site is currently accessed via 7th Avenue. Construction and operational traffic would use 7th Avenue, a two-lane road, and the majority of traffic to the site would use SR 198 and SR 43. According to the Circulation Element Figure C6, SR 43 has an ADT of 10,800 and SR 198 has an ADT of 19,800.

Table C-4 of the Circulation Element does not have a set designation for 7th Avenue and it is considered a local road with no official thresholds or LOS designations. SR 43 where it intersects with SR 198 had a LOS of C in 2006 and is expected to be LOS D by 2035. However, the minimal increase of 20 daily trips anticipated by the proposed project during construction, or the two daily employee trips and up to six monthly delivery trips would not interrupt the flow of traffic or degrade the existing LOS condition.

The proposed project would not conflict with an applicable plan, ordinance or policy establishing measures of effectiveness for the performance of the circulation system, taking into account all modes of transportation including mass transit and non-motorized travel and relevant components of the circulation system. The proposed project is consistent with the Kings County General Plan Circulation Element (County of Kings, 2010) and Kings County Regional Transportation Plan (LSC, 2015); therefore, the proposed project would have a less-than-significant impact.

MITIGATION MEASURE(S)

No mitigation is required.

LEVEL OF SIGNIFICANCE

Impacts would be *less than significant*.

Impact #3.4.17b – Would the project conflict or be inconsistent with CEQA Guidelines Section 15064.3, subdivision (b)?

As discussed in Impact #3.4.17a, the proposed expansion project would not result in degrading the current LOS condition. There would be a slight increase in ADT during short-term construction and a minimal increase in ADT for operations activities. This increase is considered nominal as it would not result in a lower LOS for the surrounding roadway system. The proposed project would not conflict with an applicable congestion management program or other standards established by the county congestion management agency for designated roads or highways. Therefore, the impact would be less than significant.

MITIGATION MEASURE(S)

No mitigation is required.

LEVEL OF SIGNIFICANCE

Impacts would be *less than significant*.

Impact #3.4.17c – 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)?

The project would utilize existing roadways and no new roads are being proposed as part of the project design. The project design does include two new private drive approaches on 7th Avenue to provide access to and from the project site. The drive approaches would be designed according to all applicable County Improvement Standards. Therefore, the project would not substantially increase hazards due to a design feature or incompatible uses and would have a less-than-significant impact.

The pipeline will be buried approximately four to eight feet below grade, which is deeper than what would be turned over during typical agricultural tilling or disking activities. However, if the pipeline encroaches on the public ROW, implementation of TRANS-1 and TRANS-2 would greatly reduce the likelihood of pipeline rupture, thus reducing this impact.

MITIGATION MEASURE(S)

MM TRANS-1: A detectable underground warning tape will be installed above the pipeline where the pipeline crosses public ROW to notify anyone digging in the area of the deeper pipe. Signage will also be provided along the pipeline at half mile intervals to provide notice of the buried pipe.

MM TRANS-2: An Operations and Maintenance Program will be developed and followed to inspect and pressure-test the pipeline. Monitoring will occur during construction and on an annual basis during project operations.

LEVEL OF SIGNIFICANCE

Impacts would be *less than significant with mitigation incorporated*.

Impact #3.4.17d – Would the project result in inadequate emergency access?

Construction and operation of the proposed project would not interfere with emergency access for emergency vehicles or nearby uses as all activities would be conducted on the site and would not interfere with the adjacent street traffic. The project design includes new drive approaches along 7th Avenue, which would allow for improved access to the site. No facilities are proposed as part of the proposed project that would change emergency access to the site or that would affect access to nearby uses. The project would not result in inadequate emergency access and would therefore result in no impact.

MITIGATION MEASURE(S)

No mitigation is required.

LEVEL OF SIGNIFICANCE

There would be *no impact*.

| Potentially Significant Impact | Less than Significant with Mitigation Incorporated | Less-than- Significant Impact | No Impact |
|--------------------------------------|--|-------------------------------------|--------------|
|--------------------------------------|--|-------------------------------------|--------------|

1.1.2 - TRIBAL CULTURAL RESOURCES

Would the project:

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

- i. Listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources as defined in Public Resources Code Section 5020.1(k), or
- ii. A resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of Public Resources Code Section 5024.1. In applying the criteria set forth in subdivision (c) of Public Resource Code Section 5024.1, the lead agency shall consider the significance of the resource to a California Native American tribe.

☐☒☐☐☐☒☐☐

Discussion

Impact #3.4.18a(i) – 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 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)?

Please see response to Impact #3.4.5a above. The Lead Agency has consulted with the Santa Rosa Rancheria tribe regarding potential project impacts to tribal cultural resources. With implementation of Mitigation Measures MM CR-1 and MM CR-2, the project would not cause a substantial adverse change in the significance of a tribal cultural resource that is listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources.

MITIGATION MEASURE(S)

Implementation of MM CR-1 and MM CR-2.

LEVEL OF SIGNIFICANCE

Impact would be *less than significant with mitigation incorporated*.

Impact #3.4.18a(ii) – Would the project cause a substantial adverse change in the significance of a tribal cultural resource, defined in Public Resources Code Section 21074 as either a site, feature, place, cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American tribe, and that is a 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.

Please see response to Impact #3.4.5a above. With implementation of Mitigation Measures MM CR-1 and MM CR-2, the project would not cause a substantial adverse change in the significance of a tribal cultural resource that is 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.

MITIGATION MEASURE(S)

Implementation of MM CR-1 and MM CR-2.

LEVEL OF SIGNIFICANCE

Impact would be *less than significant with mitigation incorporated*.

| | Potentially Significant Impact | Less than Significant with Mitigation Incorporated | Less-than- Significant Impact | No Impact |
|--|--------------------------------------|--|-------------------------------------|--------------|
|--|--------------------------------------|--|-------------------------------------|--------------|

3.4.18 - UTILITIES AND SERVICE SYSTEMS

Would the project:

- | | | | | |
|---|--------------------------|--------------------------|-------------------------------------|--------------------------|
| 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 of existing facilities, the construction or relocation of which could cause significant environmental effects? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input 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 checked="" type="checkbox"/> | <input type="checkbox"/> |
| c. Result in a determination by the wastewater treatment provider that 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 checked="" type="checkbox"/> | <input 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 checked="" type="checkbox"/> | <input 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 checked="" type="checkbox"/> | <input type="checkbox"/> |

Discussion

Impact #3.4.19a – 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 of existing facilities, the construction or relocation of which could cause significant environmental effects?

The project will not cause significant environmental effects impacting or affecting applicable wastewater treatment requirements during construction or operations activities. See also Impact #3.4.10 for a discussion of wastewater disposal and compliance with RWQCB requirements. The project would not necessitate the RWQCB to expand their facilities

because of the project. The project would not exceed wastewater treatment requirements of the applicable RWQCB.

The project will require up to 20 employees during temporary construction-related activities, and one-two maintenance employees will work at the site during day-to-day operations. A bathroom facility with a septic system will be constructed onsite. The septic system will be designed to meet County septic system requirements.

As shown in Table 3.4.19-1, water usage for dust control during construction-related activities will be minimal due to the small footprint and short duration of construction-related activities of the proposed project. Water used in the operational process will be maintained onsite and minimized using best management practices. All applicable local, State, and federal requirements and best management practices will be incorporated into construction-related activities of the project.

Table 3.4.18-1
Proposed Water Demand for Biogas Gather Facility Project

| | Daily Water Demand (gallons) | Period of Performance | Total (AFY) |
|--------------|------------------------------------|--------------------------|----------------|
| Construction | 2.65 million | 10 months | 8 |
| Operation | 365,000 | 1 year | 1.1 |
| Total | | | 9.1 |

Source: Maas Energy Works AFY = acre-feet per year

During construction, temporary, portable toilet facilities will be provided for construction-workers and disposed of at an approved site in compliance with Kings County Environmental Health Department policies. The applicant will contract with a local service provider to dispose of the wastewater at an approved wastewater treatment plant. It is estimated that there would be one portable toilet with a 50-gallon tank at the project site during construction-related activities.

Impacts would be considered less than significant.

MITIGATION MEASURE(S)

No mitigation is required.

LEVEL OF SIGNIFICANCE

Impact would be *less than significant*

Impact #3.4.19b – Would the project have sufficient water supplies available to serve the project and reasonably foreseeable future development during normal, dry and multiple dry years?

The project will obtain its water from an existing onsite private well system. Typical water usage for crop irrigation on the project site is approximately 1.3 million gallons, four AFY (De Jong, 2019) . Therefore, once operational, the project would generate a significant decrease in water consumption needed for continued crop cultivation on the project site.

As noted in Impact #3.4.10b, project construction would require 0.000016 percent of the total available groundwater within the subbasin and operational needs per year would require 0.0011 percent. of available water. Given that these percentages of the overall available groundwater in the subbasin needed for the project's construction and operations are nominal, the project's construction and operations would not substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level. Impacts would be less than significant.

MITIGATION MEASURE(S)

No mitigation is required.

LEVEL OF SIGNIFICANCE

Impact would be *less than significant*

Impact #3.4.18c – Would the project result in a determination by the wastewater treatment provider that 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?

The increase in onsite stormwater runoff from the proposed project will be minimal and is the result of a small increase in impervious surfaces from the equipment room, and the paved driveway. The remainder of the site will be unpaved and therefore allows for water to percolate back into the ground.

The site engineering and design plans for the proposed project would be required to implement BMPs, comply with requirements of the Kings County Code of Building Regulations, as well as with Kings County Development Standards and compliance with the NPDES General Permit. Implementation of MM HYD-1 and MM HAZ-1 would reduce impacts to less than significant.

MITIGATION MEASURE(S)

Implement MM HYD-1 and MM HAZ-1.

LEVEL OF SIGNIFICANCE

Impact would be *less than significant with mitigation incorporated*.

Impact #3.4.18d – 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?

As outlined in the Project Description and Impact #3.4.10, the project would utilize an estimated three AF of water during construction and 2.8 acre-feet per year from the proposed project via an onsite well system. Bottled water for employees will be brought to the project site as well. Project construction would require 0.000016 percent of the total available groundwater within the Tulare Lake Subbasin and operational needs per year would require 0.0011 percent of available water. Impacts would be less than significant.

Water will be obtained from persons with existing entitlements to water, and no new entitlements will be required. No surface water entitlements are needed to service the project as the existing groundwater resources are available and adequate to service the site. Although not anticipated, any wells that would be repaired, replaced or added would be required to be permitted through the health department prior to installation in order to ensure compliance with local and State regulations. Impacts would be less than significant.

MITIGATION MEASURE(S)

No mitigation is required.

LEVEL OF SIGNIFICANCE

Impact would be *less than significant*

Impact #3.4.18e – Would the project comply with federal, State, and local management and reduction statutes and regulations related to solid waste?

The proposed project would generate solid waste during construction and operation, thus requiring the consideration of a waste reduction and recycling measure. The 1989 California Integrated Waste Management Act (AB 939) requires Kings County to attain specific waste diversion goals. In addition, the California Solid Waste Reuse and Recycling Access Act of 1991, as amended, requires expanded or new development projects to incorporate storage areas for recycling bins into the proposed project design. The project would comply with the 1989 California Integrated Waste Management Act, the 1991 California Solid Waste Reuse and Recycling Access of 1991, as amended. As well as the rules of the contracted waste franchise, which is the Kings Waste and Recycling Authority. The project is also subject to Chapter 13 of the Kings County Municipal Code that regulates all solid waste activities from disposal, sorting and recycling of materials.

According to CalRecycle, the implementation of the local requirements has led to Kings County meeting their required diversion and disposal targets. Therefore, the implementation and compliance with the local regulations would lead to a less-than-significant impact for the project (California Department of Resources Recycling and Recovery, 2017). The proposed project would be required to comply with all federal, State,

and local statutes and regulations related to the handling and disposal of solid waste. Therefore, implementation of the proposed project would result in less-than-significant impacts.

MITIGATION MEASURE(S)

No mitigation is required.

LEVEL OF SIGNIFICANCE

Impact would be *less than significant*

| | Potentially Significant Impact | Less than Significant with Mitigation Incorporated | Less than Significant Impact | No Impact |
|--|--------------------------------------|--|------------------------------------|--------------|
|--|--------------------------------------|--|------------------------------------|--------------|

3.4.19 - WILDFIRE

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? | <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"/> |

Discussion

Impact #3.4.20a – If located in or near State responsibility areas or lands classified as very high fire hazard severity zones, would the project substantially impair an adopted emergency response plan or emergency evacuation plan?

See response #3.4.9f. The project is not located in or near State Responsibility Areas or lands classified as very high fire hazard severity zone. Therefore, there would be no impact.

MITIGATION MEASURE(S)

No mitigation is required.

LEVEL OF SIGNIFICANCE

There would be *no impact*.

Impact #3.4.20b – Would the project 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?

The project area is flat, with little topography. The surrounding area is rural, and predominantly under agricultural cultivation or developed with agri-businesses. It is not located in or near State Responsibility Areas or lands classified as very high fire zones. Therefore, there would be *no impact*.

MITIGATION MEASURE(S)

No mitigation is required.

LEVEL OF SIGNIFICANCE

There would be *no impact*.

Impact #3.4.20c – Would the project 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?

The project does not require the installation or maintenance of infrastructure that would result in temporary or permanent impacts to the environment. The 37 miles of gathering pipeline will be installed four to eight feet below ground and not pose a potential threat. The gathering pipeline system is considered as a Class 1 pipeline (due to the low population density within which it traverses) and is classified as non-jurisdictional gathering per the PHMSA regulations.

The biomethane captured at the digester will be transported via low-pressure gas pipelines from the digester to the biogas upgrading facility's onsite dewatering equipment and thence to the main gas upgrading equipment. All portions of the project will comply with Pipeline and Hazardous Materials Safety Administration (PHMSA) Guidelines, 49 CFR Part 192, and with the CPUC's Safety Enforcement Division (SED) purview, CPUC General Order 112-F. Therefore, there impacts would be less than significant.

MITIGATION MEASURE(S)

No mitigation is required.

LEVEL OF SIGNIFICANCE

Impact would be *less than significant*.

Impact #3.4.20d – 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?

As noted in Impact #3.4.20b, the project site and surrounding area is relatively flat with no slopes or steep inclines that would cause flooding or landslides, slope instability of drainage changes. The upgrading facility is located on flat land adjacent to an existing agribusiness operation. The gathering pipeline route will be located on either existing ROW or private land that is flat. The pipe will be underground and therefore not create any permanent change in topography or drainage. Impacts would be less than significant.

MITIGATION MEASURE(S)

No mitigation is required.

LEVEL OF SIGNIFICANCE

Impact would be *less than significant*.

| | Potentially Significant Impact | Less than Significant with Mitigation Incorporated | Less than Significant Impact | No Impact |
|--|--------------------------------------|--|------------------------------------|--------------|
|--|--------------------------------------|--|------------------------------------|--------------|

3.4.20 - MANDATORY FINDINGS OF SIGNIFICANCE

- | | | | | | |
|----|--|--------------------------|-------------------------------------|--------------------------|--------------------------|
| a. | Does the project have the potential to substantially degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, substantially reduce the number or restrict the range of a rare or endangered plant or animal, 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 significant 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 checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| c. | Does the project have environmental effects that would cause substantial adverse effects on human beings, either directly or indirectly? | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |

Discussion

Impact #3.4.21a - 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?

As evaluated in this IS/MND, the proposed project would not 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; reduce the number or restrict the range of an endangered, rare, or threatened species; or eliminate important examples of the major periods of California history or prehistory. Mitigation measures have been included to lessen the significance of

potential impacts. Similar mitigation measures would be expected of other projects in the surrounding area, most of which share similar cultural paleontological and biological resources. Consequently, the incremental effects of the proposed project, after mitigation, would not contribute to an adverse cumulative impact on these resources. Therefore, the project would have a less-than-significant impact with mitigation incorporated.

MITIGATION MEASURE(S)

Implementation of MM BIO-1 through MM BIO-9, MM CR-1 and MM CR-2, MM HAZ-1, MM HYD-1, MM TRANS-1 and MM TRANS 2.

LEVEL OF SIGNIFICANCE

Impacts would be *less than significant with mitigation incorporated*.

Impact #3.4.21b - Does the project have impacts that are individually limited, but cumulatively considerable? ("Cumulatively considerable" means that the incremental effects of a project are significant when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects.)

As described in the impact analyses in Sections 3.4.1 through 3.4.18 of this IS/MND, 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 Appendix D – Mitigation Monitoring and Reporting Program. All planned 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 project meets all applicable federal, State and local regulations and codes. As currently designed, and with compliance of the recommended mitigation measures, the proposed project would not contribute to a cumulative impact. Thus, the cumulative impacts of past, present, and reasonably foreseeable future projects would be less than cumulatively considerable.

MITIGATION MEASURE(S)

Implementation of MM BIO-1 through MM BIO-9, MM CR-1 and MM CR-2, MM HAZ-1, MM HYD-1, MM TRANS-1 and MM TRANS-2.

LEVEL OF SIGNIFICANCE

Impacts would be *less than significant with mitigation incorporated*.

Impact #3.4.21c - Does the project have environmental effects that would cause substantial adverse effects on human beings, either directly or indirectly?

The ways in which people can be subject to substantial adverse effects from projects include: potential exposure to significant levels of local air pollutants; potential exposure to seismic

and flooding hazards; potential exposure to contamination from hazardous materials; potential exposure to traffic hazards; and potential exposure to excessive noise levels. The risks from these potential hazards would be avoided or reduced to less than significant levels through compliance with existing laws, regulations, or requirements. All of the project's impacts, both direct and indirect, that are attributable to the project were identified and mitigated to a less than significant level. As shown in the *Mitigation Monitoring and Reporting Program*, the project proponent has agreed to implement mitigation substantially reducing or eliminating impacts of the project.

Therefore, the proposed project would not either directly or indirectly cause substantial adverse effects on human beings because all potentially adverse direct impacts of the proposed project are identified as having no impact, less-than-significant impact, or less than significant impact with mitigation incorporated.

MITIGATION MEASURE(S)

Implementation of MM BIO-1 through MM BIO-9, MM CR-1 and MM CR-2, MM HAZ-1, MM HYD-1, MM TRANS-1 and MM TRANS-2.

LEVEL OF SIGNIFICANCE

Impacts would be *less than significant with mitigation incorporated*.

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Kidsdata.org. (2019, March 2). *Kidsdata.org*. Retrieved from Public School Enrollment: <https://www.kidsdata.org/topic/558/publicschoolenrollment/table#fmt=749&loc=2,127,347,1763,331,348,336,171,321,345,357,332,324,369,358,362,360,337,327,364,356,217,353,328,354,323,352,320,339,334,365,343,330,367,344,355,366,368,265,349,361,4,273,59,370,326>

Agonstini, A. et al. (2016). Economics of GHG Emissions Mitigation Via Biogas Production from Sorghum, Maize and Dairy Farm Manure Digestion in teh Po Valley. *Biomass and Energy* 89, pp. 58-66.

CA Department of Conservation. (2015). *California Farmland Conversion Report*. CA DOC.

CA Department of Conservation. (2016). *FMMP*. Retrieved from http://www.conservation.ca.gov/dlrp/Pages/qh_maps.aspx

Cal EPA. (n.d.). *Cortese List (SuperFund Cleanup Site List)*. Retrieved March 9, 2016, from http://www.envirostor.dtsc.ca.gov/public/search.asp?cmd=search&reporttype=CORTESE&site_type=CSITES,OPEN,FUDS,CLOSE&status=ACT,BKLG,COM&reporttitle=HAZARDOUS+WASTE+AND+SUBSTANCES+SITE+LIST.

Cal Fire. (2006). *California Wildland Hazard Severity Zone Map Update*. Retrieved from Local Responsibility Area (LRA) Map: http://www.fire.ca.gov/fire_prevention/fire_prevention_wildland_statewide

Cal Fire. (2012). *Fire Hazard Severity Zones Maps*. Retrieved from http://www.fire.ca.gov/fire_prevention/fire_prevention_wildland_zones

California Department of Conservation. (2017, March 23). *Division of Oil, Gas and Geothermal Resources*. Retrieved from Oil/Gas Fields and DOGGR Districts: <https://maps.conservation.ca.gov/doggr/>

California Department of Education. (2019, March 3). *School Directory*. Retrieved from CA Dept of Education School Directory: <https://www.cde.ca.gov/SchoolDirectory/districtschool?allSearch=kings+county&simpleSearch=Y>

California Department of Resources Recycling and Recovery. (2017). *Countywide, Regionwide, and Statewide Jurisdiction Diversion/Disposal Progress Report (2015)*. Sacramento: State of California.

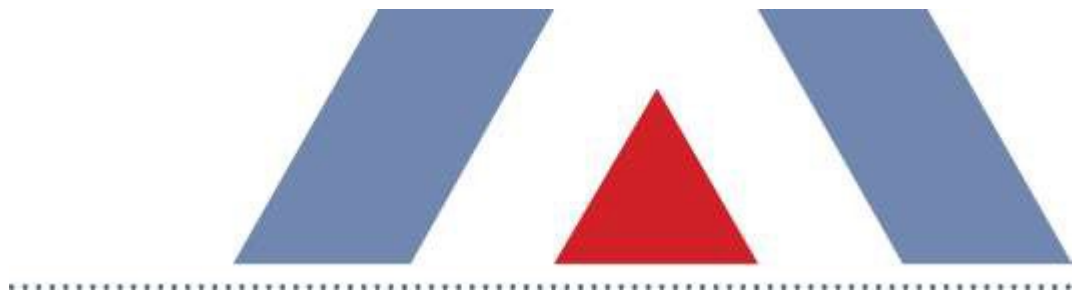
California Department of Transportation. (2011). *California Scenic Highway Mapping System*.

California Department of Water Resources. (2003). *Guidebook for Implementation of Senate Bill 610 and Senate Bill 221 of 2001*.

- California Water Resources Board. (n.d.). *GeoTracker*. Retrieved March 9, 2016, from <https://geotracker.waterboards.ca.gov/map/?CMD=runreport&myaddress=desert+hot+springs%2C+ca>
- CalRecycle. (2017, June). *Chemical Water Management, Inc. Unit B-17*. Retrieved from CalRecycle: <http://www.calrecycle.ca.gov/SWFacilities/Directory/16-AA-0027/>
- County of Kings. (1994). *Kings County Airport Compatability Plan*.
- County of Kings. (1998). *Building Ordinance*. Cuonty of Kings.
- County of Kings. (2010). *General Plan 2035*.
- County of Kings. (2013). *Implementation Procedures for the CA Land Conservation Williamson Act of 1965*. Hanford: Kings County Community Development Agency.
- County of Kings. (2013). *Zoning Ordinance, Title 21A*.
- County of Kings. (2016). *2016-2017 Final Budget*. Hanford: County of Kings.
- County of Kings. (2016). *Development Code No. 668.12, Appendix A*.
- Daniel-Gromke, J., et al. (2015). Digestion of bio-waste - GHG emissions and. *Energy, Sustainability and Society*, pp. 1-12.
- De Jong, D. (2019, April 2). (N. Maas, Interviewer)
- Department of Conservation. (2015). *Department of Conservation - Regulatory Maps*. Retrieved from California Conservation: <http://maps.conservation.ca.gov/cgs/informationwarehouse/index.html?map=regulatorymaps>
- Department of Toxic Substances Control . (2015). EnviroStor. California, United States of America .
- Department of Water Resources. (2003). *California's Groundwater*.
- Federal Aviation Administration. (2017, May). Airport Data and Contact Information. United States of America.
- Federal Emergency Management Agency. (2009, June). *FEMA Flood Map Service Center- Hanford, CA*. Retrieved from FEMA Flood Map Service Center- Kings County, CA: <https://msc.fema.gov/portal/search?AddressQuery=%20hanford%20ca#searchresultsanchor>
- Federal Transit Administration . (2006). *Transit Noise and Vibration Impact Assessment*.

- GeoTracker*. (2016, December 4). Retrieved from State Water Resources Control Board GeoTracker:
https://geotracker.waterboards.ca.gov/profile_report?global_id=T0606700196
- Insight Environmental. (2018). *Air Quality Impact Analysis for the Hanford-Lakeside Dairy Digester Cluster Project*.
- KCAG. (2011). *Kings County Bicycle Plan*. Kings County .
- Kings County. (2010). *2035 General Plan* . Hanford: Kings County Community Development Agency.
- Kings county Association of Governments. (2016). *Air Quality Confiormity Analysis*.
- Kings County Office of Education. (2019, March 3). *Kings County School Directory*. Retrieved from
<http://www.kings.k12.ca.us/HR/Site%20Pages/County%20Schools%20Directory.aspx>
- LSC. (2015). *KCAG - Kings County Transit Development Plan*. Kings County.
- Parr, R.E. (2018). *Results of Cultural Records Search for East Lakeside Pipeline Project*. unpublished.
- Rincon Consultants, Inc. . (2009). *2035 Kings County General Plan EIR*. Hanford: County of Kings.
- Tulare County. (2013). *Final EIR- Pixley Biogas Anaerobic Digester Project*.
- U.S. Department of Transportation, F. R. (2005). *High-Speed Ground Transportation Noise and Vibration Impact Assessment*.
- United States Department of Agriculture. (1986). *Soil Survey of Kings County California*. Soil Conservation Service.
- United States Fish and Wildlife Service. (2011). *Standardized Recommendations for Protection of the Endangered San Joaquin Kit Fox Prior to or During Ground Disturbance*.
- US Department of Agriculture. (2018, April). *LAKESIDE SERIES*. Retrieved from National Cooperative Soil Survey:
https://soilseries.sc.egov.usda.gov/OSD_Docs/L/LAKESIDE.html
- US Department of Agriculture. (n.d.). *Soils Series*. Retrieved from
https://soilseries.sc.egov.usda.gov/OSD_Docs/L/LOKERN.htm

APPENDIX A
AIR QUALITY IMPACT ANALYSIS



AIR QUALITY IMPACT ANALYSIS

Hanford-Lakeside Dairy Digester Cluster Project Kings County, California

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Project 180505.0089



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Attachment B: Project Emission Calculations

Attachment C: California Air Resources Board 2015 and 2020 Estimated Emissions Inventories

Attachment D: Health Risk Prioritization Score

1. EXECUTIVE SUMMARY

Insight Environmental Consultants, Inc., a *Trinity Consultants Company*, has completed an Air Quality Impact Analysis (AQIA) for the construction of the Hanford-Lakeside Dairy Digester Cluster Project (Project). This Project will be located near 15808 7th Avenue, Hanford, California and will include a dairy biogas collection and biomethane injection project. The biogas collected by this Project will come from individual dairy digesters located at nearby dairy farms. A pipeline gathering system will extend outward into the surrounding locale to gather and transport gas collected from various locations to the Project site for processing.

The proposed Project's construction and operations would include the following criteria pollutant emissions: reactive organic gases (ROG), carbon monoxide (CO), nitrogen dioxide (NO₂), sulfur dioxide (SO₂), and suspended particulate matter (PM₁₀ and PM_{2.5}). Project operations would generate air pollutant emissions from mobile sources (automobile activity from employees) and area sources (incidental activities related to facility maintenance). Project construction and operational activities would also generate greenhouse gas (GHG) emissions. Criteria and GHG emissions were estimated using the California Emissions Estimator Model (CalEEMod) version 2016.3.2 (California Air Pollution Control Officers Association (CAPCOA) 2017), which is the most current version of the model approved for use by the San Joaquin Valley Air Pollution Control District (SJVAPCD).

Table 4-3 presents the Project's construction emissions and provides substantial evidence to support a *less than significant* air quality impact on the San Joaquin Valley Air Basin. **Table 4-4** presents the Project's operations emissions and provide substantial evidence to support a *less than significant* air quality impact on the San Joaquin Valley Air Basin. The majority of GHG emissions increases associated with this project result indirectly from electrical usage delivered from a supplier subject to the Cap-and-Trade regulation. Therefore, consistent with SJVAPCD Policies APR 2005 and APR 2025, the GHG emissions increases associated with this Project would have a *less than significant* individual and cumulative impact on global climate change.

Cumulative impacts were also evaluated. Records search of the City of Hanford Planning Division's records and development files and Kings County Community Development Agency's GIS Viewer and records identified no other projects within a one-mile radius of the proposed Project. Evaluation of the cumulative emissions supports a finding that the Project's contribution would not be cumulatively considerable because the proposed Project's increment does not exceed significance thresholds. Additionally, compliance with the SJVAPCD's Air Quality Attainment Plan (AQAP) is presumably required by all projects' located within the SJVAPCD's jurisdiction. Because projects that would have been included in the cumulative analysis presumably comply with the requirements of one or both of these plans, the Project's incremental contribution to a cumulative effect is considered *less than cumulatively considerable* (CEQA Guidelines Section 15064(h)(3); SJVAPCD 2015).

2. INTRODUCTION

2.1. PURPOSE

This AQIA was prepared pursuant to the SJVAPCD Guidance for Assessing and Mitigating Air Quality Impacts (GAMAQI) (SJVAPCD 2015), and the California Environmental Quality Act (CEQA) Statute and Guidelines (CEQA 2016).

2.2. GENERAL PROJECT DESCRIPTION

The Hanford-Lakeside Dairy Digester Cluster (Project) will include a dairy biogas collection and biomethane injection project. The biogas collected by this Project will come from individual dairy digesters located at nearby dairy farms. A pipeline gathering system will extend outward into the surrounding locale to gather and transport gas collected from various locations to the Project site for processing. The Project would be located in eastern Kings County, CA, near 15808 7th Ave, Hanford CA, 93230. **Figure 2-1** depicts the regional location and **Figure 2-2** depicts a localized Project location. The preliminary project design showing the basic layout of the facility is shown in **Figure 2-3**.

Figure 2-1 - Regional Location

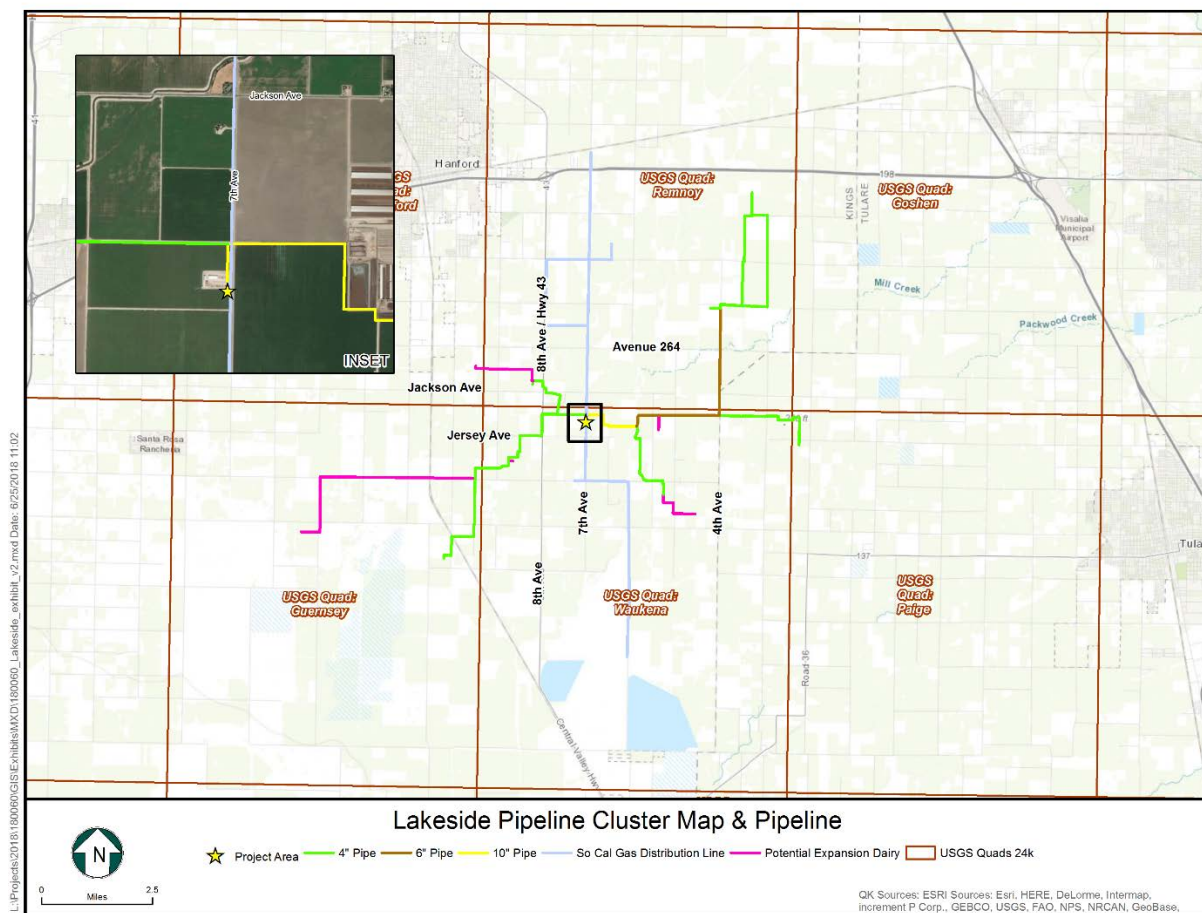
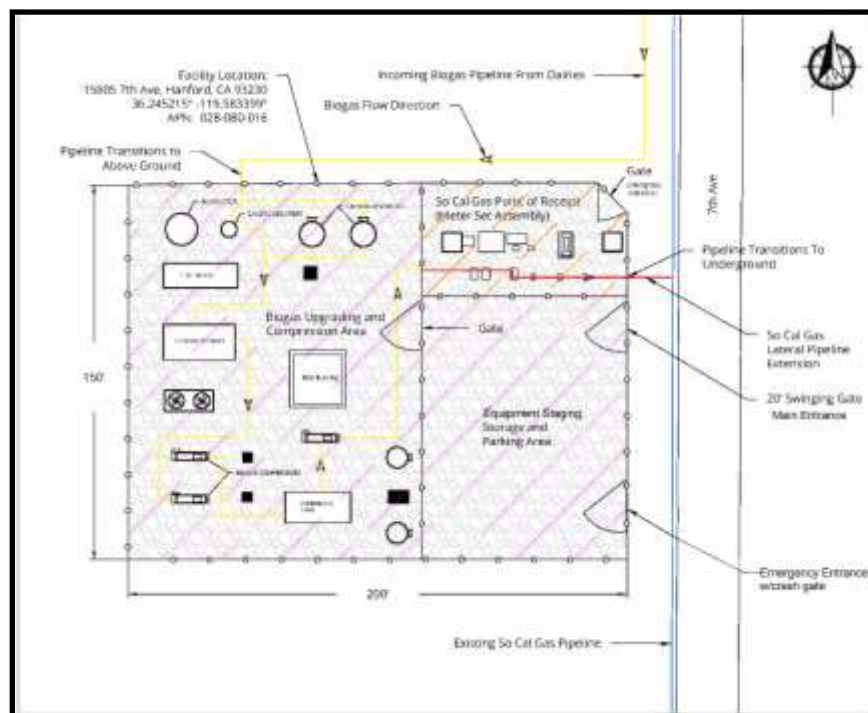




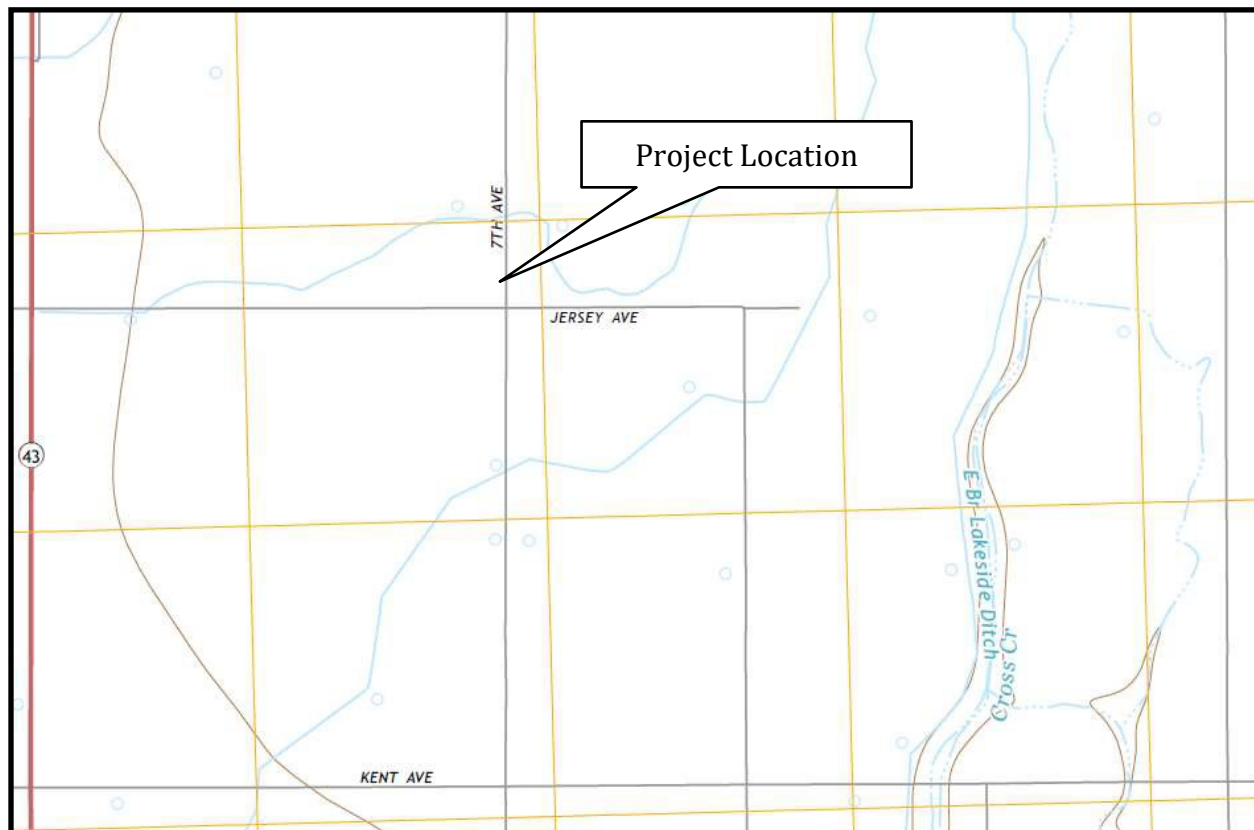
Figure 2-2 - Project Location



Source: MAAS Energy Works 2018

Figure 2-3 – Preliminary Project Design

Figure 2-4 depicts the Project site's topography based on United States Geological Survey's (USGS) National Map (USGS 2015). The Project site is located at an elevation of approximately 230 feet above mean sea level, is surrounded by agricultural land, and is within the Kings County, CA boundary.



Source: USGS 2015

Figure 2-4 – Project Site Topography

Protection of the public health is maintained through the attainment and maintenance of ambient air quality standards for various atmospheric compounds and the enforcement of emissions limits for individual stationary sources. The Federal Clean Air Act requires that the U.S. Environmental Protection Agency (EPA) establish National Ambient Air Quality Standards (NAAQS) to protect the health, safety, and welfare of the public. NAAQS have been established for ozone (O₃), CO, NO₂, SO₂, PM₁₀ and PM_{2.5}, and lead (Pb). California has also adopted ambient air quality standards (CAAQS) for these "criteria" air pollutants. CAAQS are more stringent than the corresponding NAAQS and include standards for hydrogen sulfide (H₂S), vinyl chloride (chloroethene) and visibility reducing particles. The U.S. Clean Air Act Amendments of 1977 required each state to identify areas that were in non-attainment of the NAAQS and to develop State Implementation Plans (SIP's) containing strategies to bring these non-attainment areas into compliance. NAAQS and CAAQS designation/classification for Kings County are presented in **Section 3.1** below.

Responsibility for regulation of air quality in California lies with the California Air Resources Board (CARB) and the 35 local air districts with oversight responsibility held by the EPA. CARB is responsible for regulating mobile source emissions, establishing CAAQS, conducting research, managing regulation development, and providing oversight and coordination of the activities of the 35 air districts. The air districts are primarily responsible for regulating stationary source emissions and monitoring ambient pollutant concentrations. CARB also determines whether air basins, or portions thereof, are "unclassified," in "attainment", or in "non-attainment" for the NAAQS and CAAQS relying on statewide air quality monitoring data.

3.1. AIR QUALITY STANDARDS

The Project area is located in the SJVAB in Kings County and which is included among the eight counties that comprise the SJVAPCD. The SJVAPCD acts as the regulatory agency for air pollution control in the Basin and is the local agency empowered to regulate air pollutant emissions for the plan area. **Table 3-1** provides the NAAQS and CAAQS.

Table 3-1 - Federal & California Standards

| | | NAAQS | CAAQS |
|--|-----------------------------|---|------------------------------------|
| Pollutant | Averaging Time | Concentration | |
| O ₃ | 8-Hour | 0.070 ppm (137 µg/m ³) ^a | 0.070 ppm (137 µg/m ³) |
| | 1-Hour | | 0.09 ppm (180 µg/m ³) |
| CO | 8-Hour | 9 ppm (10 mg/m ³) | 9 ppm (10 mg/m ³) |
| | 1-Hour | 35 ppm (40 mg/m ³) | 20 ppm (23 mg/m ³) |
| NO ₂ | Annual Average | 53 ppb (100 µg/m ³) | 0.030 ppm (57 µg/m ³) |
| | 1-Hour | 100 ppb (188.68 µg/m ³) | 0.18 ppm (339 µg/m ³) |
| SO ₂ | 3-Hour | 0.5 ppm (1,300 µg/m ³) | |
| | 24 Hour | 0.14 ppm (365 µg/m ³) | 0.04 ppm (105 µg/m ³) |
| | 1-Hour | 75 ppb (196 µg/m ³) | 0.25 ppm (655 µg/m ³) |
| Particulate Matter (PM ₁₀) | Annual Arithmetic Mean | | 20 µg/m ³ |
| | 24-Hour | 150 µg/m ³ | 50 µg/m ³ |
| Fine Particulate Matter (PM _{2.5}) | Annual Arithmetic Mean | 12 µg/m ³ | 12 µg/m ³ |
| | 24-Hour | 35 µg/m ³ | |
| Sulfates | 24-Hour | | 25 µg/m ³ |
| Pb ^d | Rolling Three-Month Average | 0.15 µg/m ³ | |
| | 30 Day Average | | 1.5 µg/m ³ |
| H ₂ S | 1-Hour | | 0.03 ppm (42 µg/m ³) |
| Vinyl Chloride (chloroethene) | 24-Hour | | 0.010 ppm (26 µg/m ³) |
| Visibility Reducing particles | 8 Hour (1000 to 1800 PST) | | ^b |
| ppm = parts per million mg/m ³ = milligrams per cubic meter µg/m ³ = micrograms per cubic meter ppb = parts per billion | | | |
| Source: CARB 2016 a On October 1, 2015, the national 8-hour ozone primary and secondary standards were lowered from 0.075 to 0.070 ppm b In 1989, the CARB converted both the general statewide 10-mile visibility standards 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. | | | |

Under the provisions of the U.S. Clean Air Act, the Kings County portion of the SJVAB has been classified as nonattainment/extreme, nonattainment/severe, nonattainment, attainment/unclassified, attainment, or unclassified under the established NAAQS and CAAQS for various criteria pollutants. **Table 3-2** provides the SJVAB’s designation and classification based on the various criteria pollutants under both NAAQS and CAAQS.

Table 3-2 - SJVAB Attainment Status

| Pollutant | NAAQS^a | CAAQS^b |
|----------------------------------|------------------------------------|--------------------------|
| O ₃ , 1-hour | No Federal Standard ^f | Nonattainment/Severe |
| O ₃ , 8-hour | Nonattainment/Extreme ^e | Nonattainment |
| PM ₁₀ | Attainment ^c | Nonattainment |
| PM _{2.5} | Nonattainment ^d | Nonattainment |
| CO | Attainment/Unclassified | Attainment/Unclassified |
| NO ₂ | Attainment/Unclassified | Attainment |
| SO ₂ | Attainment/Unclassified | Attainment |
| Pb (Particulate) | No Designation/Classification | Attainment |
| H ₂ S | No Federal Standard | Unclassified |
| Sulfates | No Federal Standard | Attainment |
| Visibility Reducing particulates | No Federal Standard | Unclassified |
| Vinyl Chloride | No Federal Standard | Attainment |

Source: SJVAPCD 2018a

Note:

a See 40 CFR Part 81

b See CCR Title 17 Sections 60200-60210

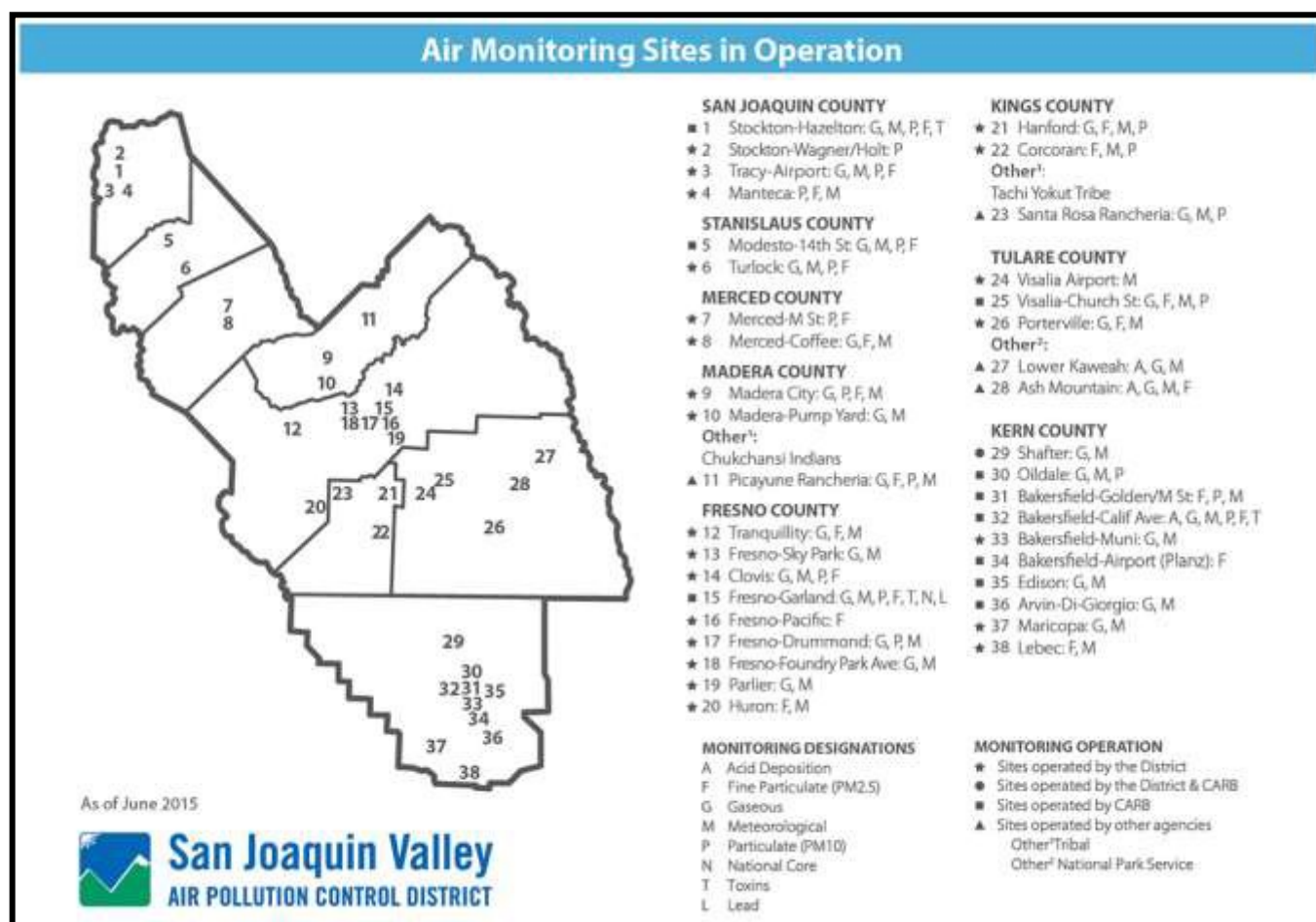
c On September 25, 2008, EPA redesignated the San Joaquin Valley to attainment for the PM₁₀ National Ambient Air Quality Standard (NAAQS) and approved the PM₁₀ Maintenance Plan.

d The Valley is designated nonattainment for the 1997 PM_{2.5} NAAQS. EPA designated the Valley as nonattainment for the 2006 PM_{2.5} NAAQS on November 13, 2009 (effective December 14, 2009).

e Though the Valley was initially classified as serious nonattainment for the 1997 8-hour O₃ standard, EPA approved Valley reclassification to extreme nonattainment in the Federal Register on May 5, 2010 (effective June 4, 2010).

f Effective June 15, 2005, the EPA revoked the federal 1-hour O₃ 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 O₃ nonattainment areas continue to apply to the SJVAB.

The SJVAPCD along with the CARB operates an air quality monitoring network that provides information on average concentrations of those pollutants for which state or Federal agencies have established NAAQS and CAAQS. The monitoring stations in the San Joaquin Valley are depicted in **Figure 3-1**.



Source: SJVAPCD 2017

Figure 3-1 – SJVAPCD Monitoring Network

3.2. EXISTING AIR QUALITY

For the purposes of background data and this air quality assessment, this analysis relied on data collected in the last three years for the CARB monitoring stations that are located in the closest proximity to the project site. **Table 3-3** provides the background concentrations for O₃, particulate matter of 10 microns (PM₁₀), particulate matter of less than 2.5 microns (PM_{2.5}), CO, NO₂, SO₂, and Pb as of June 2015. Information is provided for the Hanford-S Irwin Street, Visalia – N Church Street, and Fresno – Garland monitoring stations for 2014 through 2016. No data is available for H₂S, Vinyl Chloride, or other toxic air contaminants in the Kings County or surrounding counties.

Table 3-3 - Existing Air Quality Monitoring Data in Project Area

| Pollutant and Monitoring Station Location | Maximum Concentration | | | Days Exceeding Standard | | |
|---|-----------------------|-------|-------|-------------------------|------|------|
| | 2014 | 2015 | 2016 | 2014 | 2015 | 2016 |
| O₃ - 1-hour CAAQS (0.09 ppm) | | | | | | |
| Hanford – S Irwin Street | 0.108 | 0.119 | 0.097 | 5 | 4 | 2 |
| Visalia – N Church Street | 0.095 | 0.110 | 0.098 | 1 | 9 | 1 |
| O₃ - 8-hour CAAQS (0.07 ppm) | | | | | | |
| Hanford – S Irwin Street | 0.095 | 0.094 | 0.088 | 40 | 46 | 53 |
| Visalia – N Church Street | 0.080 | 0.091 | 0.083 | 27 | 52 | 19 |
| O₃ - 8-hour NAAQS (0.070 ppm) | | | | | | |
| Hanford – S Irwin Street | 0.094 | 0.094 | 0.088 | 39 | 42 | 49 |
| Visalia – N Church Street | 0.079 | 0.090 | 0.083 | 25 | 49 | 18 |
| PM₁₀ - 24-hour CAAQS (50 µg/m³) | | | | | | |
| Hanford – S Irwin Street | 125.7 | 108.6 | 110.5 | 22 | 17 | 20 |
| Visalia – N Church Street | 104.2 | 140.3 | 132.5 | 17 | 67 | 95 |
| PM₁₀ - 24-hour NAAQS (150 µg/m³) | | | | | | |
| Hanford – S Irwin Street | 131.3 | 136.9 | 152.2 | 0 | 0 | 0 |
| Visalia – N Church Street | 102.4 | 67.3 | 137.1 | 0 | 0 | 0 |
| PM_{2.5} - 24-hour NAAQS (35 µg/m³) | | | | | | |
| Hanford – S Irwin Street | 96.7 | 98.2 | 59.7 | 30 | 25 | 25 |
| Visalia – N Church Street | 81.3 | 86.3 | 48.0 | 12 | 5 | 7 |
| CO - 8-Hour CAAQS & NAAQS (9.0 ppm) | | | | | | |
| No data collected | * | * | * | * | * | * |
| NO₂ - 1-Hour CAAQS (0.18 ppm) | | | | | | |
| Hanford – S Irwin Street | 0.050 | 0.051 | 0.052 | 0 | 0 | 0 |
| Visalia – N Church Street | 0.064 | 0.062 | 0.057 | 0 | 0 | 0 |
| NO₂ - 1-Hour NAAQS (0.10 ppm) | | | | | | |
| Hanford – S Irwin Street | 0.050 | 0.051 | 0.052 | 0 | 0 | 0 |
| Visalia – N Church Street | 0.065 | 0.062 | 0.058 | 0 | 0 | 0 |
| SO₂ - 24-hour Concentration - CAAQS (0.04 ppm) & NAAQS (0.14 ppm) | | | | | | |
| No data collected | * | * | * | * | * | * |
| Pb - Maximum 30-Day Concentration CAAQS (1500 ng/m³) | | | | | | |
| Fresno - Garland | 12.0 | 8.3 | 12.1 | 0 | 0 | 0 |

Source: CARB 2018a

Notes: ppm= parts per million

* There was no data available to determine the value.

The following is a description of criteria air pollutants, typical sources, and health effects and the recently documented pollutant levels in the project vicinity.

3.2.1. Ozone (O₃)

The most severe air quality problem in the San Joaquin Valley is high concentrations of O₃. High levels of O₃ cause eye irritation and can impair respiratory functions. High levels of O₃ can also affect plants and materials. Grapes, lettuce, spinach, and many types of garden flowers and shrubs are particularly vulnerable to O₃ damage. O₃ is not emitted directly into the atmosphere but is a secondary pollutant produced through photochemical reactions

involving hydrocarbons and nitrogen oxides (NO_x). Significant O_3 generation requires about one to three hours in a stable atmosphere with strong sunlight. For this reason, the months of April through October comprise the "ozone season." O_3 is a regional pollutant because O_3 precursors are transported and diffused by wind concurrently with the reaction process. The data contained in **Table 3-3** shows that the Hanford area exceeded the 1-hour average ambient O_3 CAAQS and the 8-hour average ambient O_3 NAAQS and CAAQS for the 2014 through 2016 period.

3.2.2. Suspended Particulate Matter (PM_{10} and $\text{PM}_{2.5}$)

Both State and Federal particulate standards now apply to particulates under 10 microns (PM_{10}) rather than to total suspended particulate, which includes particulates up to 30 microns in diameter. Continuing studies have shown that the smaller-diameter fraction of TSP represents the greatest health hazard posed by the pollutant; therefore, EPA has recently established NAAQS for $\text{PM}_{2.5}$. The project area is classified as attainment for PM_{10} and non-attainment for $\text{PM}_{2.5}$ for NAAQS.

Particulate matter consists of particles in the atmosphere resulting from many kinds of dust and fume-producing industrial and agricultural operations, from combustion, and from atmospheric photochemical reactions. Natural activities also increase the level of particulates in the atmosphere; wind-raised dust and ocean spray are two sources of naturally occurring particulates. The largest sources of PM_{10} and $\text{PM}_{2.5}$ in Kings County are vehicle movement over paved and unpaved roads, demolition and construction activities, farming operations, and unplanned fires. PM_{10} and $\text{PM}_{2.5}$ are considered regional pollutants with elevated levels typically occurring over a wide geographic area. Concentrations tend to be highest in the winter, during periods of high atmospheric stability and low wind speed. In the respiratory tract, very small particles of certain substances may produce injury by themselves or may contain absorbed gases that are injurious. Particulates of aerosol size suspended in the air can both scatter and absorb sunlight, producing haze and reducing visibility. They can also cause a wide range of damage to materials.

Table 3-3 shows that PM_{10} levels regularly exceeded the CAAQS but not the NAAQS at two monitoring stations over the three-year period of 2014 through 2016. **Table 3-3** shows that $\text{PM}_{2.5}$ NAAQS were exceeded from 2014 through 2016. Similar levels can be expected to occur in the vicinity of the project site.

3.2.3. Carbon Monoxide (CO)

Ambient CO concentrations normally correspond closely to the spatial and temporal distributions of vehicular traffic. Relatively high concentrations of CO would be expected along heavily traveled roads and near busy intersections. Wind speed and atmospheric mixing also influence CO concentrations; however, under inversion conditions prevalent in the San Joaquin Valley, CO concentrations may be more uniformly distributed over a broad area.

Internal combustion engines, principally in vehicles, produce CO due to incomplete fuel combustion. Various industrial processes also produce CO emissions through incomplete combustion. Gasoline-powered motor vehicles are typically the major source of this contaminant. CO does not irritate the respiratory tract, but passes through the lungs directly into the blood stream, and by interfering with the transfer of fresh oxygen to the blood, deprives sensitive tissues of oxygen, thereby aggravating cardiovascular disease, causing fatigue, headaches, and dizziness. CO is not known to have adverse effects on vegetation, visibility, or materials.

Table 3-3 reports no CO levels were recorded at any California monitoring stations during the three-year period from 2014 through 2016; historically Hanford data for CO has been below the CAAQS and NAAQS.

3.2.4. Nitrogen Dioxide (NO₂) and Hydrocarbons

Kings County has been designated as an attainment area for the NAAQS for NO₂. NO₂ is the "whiskey brown" colored gas readily visible during periods of heavy air pollution. Mobile sources and oil and gas production account for nearly all of the county's NO_x emissions, most of which is emitted as NO₂. Combustion in motor vehicle engines, power plants, refineries, and other industrial operations are the primary sources in the region. Railroads and aircraft are other potentially significant sources of combustion air contaminants. Oxides of nitrogen are direct participants in photochemical smog reactions. The emitted compound, nitric oxide, combines with oxygen in the atmosphere in the presence of hydrocarbons and sunlight to form NO₂ and O₃. NO₂, the most significant of these pollutants, can color the atmosphere at concentrations as low as 0.5 ppm on days of 10-mile visibility. NO_x is an important air pollutant in the region because it is a primary receptor of ultraviolet light, which initiates the reactions producing photochemical smog. It also reacts in the air to form nitrate particulates.

Motor vehicles are the major source of reactive hydrocarbons in the basin. Other sources include evaporation of organic solvents and petroleum production and refining operations. Certain hydrocarbons can damage plants by inhibiting growth and by causing flowers and leaves to fall. Levels of hydrocarbons currently measured in urban areas are not known to cause adverse effects in humans. However, certain members of this contaminant group are important components in the reactions, which produce photochemical oxidants.

Table 3-3 shows that the Federal or State NO₂ standards have not been exceeded at the Hanford or the Visalia area-monitoring stations over the three-year period of 2014 through 2016. Hydrocarbons are not currently monitored.

3.2.5. Sulfur Dioxide (SO₂)

Kings County has been designated as an attainment area for the NAAQS for SO₂. SO₂ is the primary combustion product of sulfur or sulfur containing fuels. Fuel combustion is the major source of this pollutant, while chemical plants, sulfur recovery plants, and metal processing facilities are minor contributors. Gaseous fuels (natural gas, propane, etc.) typically have lower percentages of sulfur containing compounds than liquid fuels such as diesel or crude oil. SO₂ levels are generally higher in the winter months. Decreasing levels of SO₂ in the atmosphere reflect the use of natural gas in power plants and boilers.

At high concentrations, SO₂ irritates the upper respiratory tract. At lower concentrations, when respired in combination with particulates, SO₂ can result in greater harm by injuring lung tissues. Sulfur oxides (SO_x), in combination with moisture and oxygen, results in the formation of sulfuric acid, which can yellow the leaves of plants, dissolve marble, and oxidize iron and steel. SO_x can also react to produce sulfates that reduce visibility and sunlight.

Table 3-3 shows no data has been reported over the three-year period in California.

3.2.6. Lead (Pb) and Suspended Sulfate

Ambient Pb levels have dropped dramatically due to the increase in the percentage of motor vehicles that run exclusively on unleaded fuel. Ambient Pb levels in Fresno are well below the ambient standard and are expected to continue to decline; the data reported in **Table 3-3** shows the highest concentration and the measured number of days exceeding the standards. Suspended sulfate levels have stabilized to the point where no excesses of the State standard are expected in any given year.

3.3. CLIMATE

The most significant single control on the weather pattern of the San Joaquin Valley is the semi-permanent subtropical high-pressure cell, referred to as the "Pacific High." During the summer, the Pacific High is positioned off the coast of northern California, diverting ocean-derived storms to the north. Hence, the summer months are virtually rainless. During the winter, the Pacific High moves southward allowing storms to pass through the San Joaquin Valley. Almost all of the precipitation expected during a given year occurs from December through April. During the summer, the predominant surface winds are out of the northwest. Air enters the Valley through the Carquinez Strait and flows toward the Tehachapi Mountains. This up-valley (northwesterly) wind flow is interrupted in early fall by the emergence of nocturnal, down-valley (southeasterly) winds which become progressively more predominant as winter approaches. Wind speeds are generally highest during the spring and lightest in fall and winter. The relatively cool air flowing through the Carquinez Strait is warmed on its journey south through the Valley. On reaching the southern end of the Valley, the average high temperature during the summer is nearly 100 degrees Fahrenheit (°F). Relative humidity during the summer is quite low, causing large diurnal temperature variations. Temperatures during the summer often drop into the upper 60s. In winter, the average high temperatures reach into the mid-50s and the average low drops to the mid-30s. In addition, another high-pressure cell, known as the "Great Basin High," develops east of the Sierra Nevada Mountain Range during winter. When this cell is weak, a layer of cool, damp air becomes trapped in the basin and extensive fog results. During inversions, vertical dispersion is restricted, and pollutant emissions are trapped beneath the inversion and pushed against the mountains, adversely affecting regional air quality. Surface-based inversions, while shallow and typically short-lived, are present most mornings. Elevated inversions, while less frequent than ground-based inversions, are typically longer lasting and create the more severe air stagnation problems. The winter season characteristically has the poorest conditions for vertical mixing of the entire year.

Meteorological data for various monitoring stations is maintained by the Western Regional Climate Center. Meteorological data for the project site is expected to be similar to the data recorded at the Hanford monitoring station. This data is provided in **Table 3-4 – Hanford Weather Data**, which contains average precipitation data recorded at the Hanford monitoring station. Over the 116-year period from July of 1899 through June of 2016 (the most recent data available), the average annual precipitation was 8.38 inches.

Table 3-4 – Hanford Weather Data

| Period of Record Monthly Climate Summary for the Period 07/01/1899 to 6/09/2016 | | | | | | | | | | | | | |
|--|------|------|------|------|------|------|------|------|------|------|------|------|--------|
| | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Oct | Nov | Dec | Annual |
| Avg. Maximum Temp (F) | 54.7 | 61.9 | 67.5 | 74.9 | 83.6 | 91.4 | 97.8 | 96.1 | 90.5 | 80.0 | 66.2 | 55.4 | 76.7 |
| Avg. Minimum Temp (F) | 35.2 | 38.6 | 42.1 | 46.4 | 52.5 | 58.3 | 62.5 | 60.4 | 55.5 | 47.4 | 38.8 | 34.6 | 47.7 |
| Average Total Precip.(in.) | 1.60 | 1.53 | 1.48 | 0.77 | 0.26 | 0.09 | 0.01 | 0.01 | 0.16 | 0.39 | 0.84 | 1.24 | 8.38 |
| Average Snowfall (in.) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Average Snow Depth (in.) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Percent of possible observations for period of record: Max. Temp.: 98.4% Min. Temp.: 98.1% Precipitation: 98.8% Snowfall: 98.2% Snow Depth: 98.2% | | | | | | | | | | | | | |

Source: Western Regional Climate Center, 2018.

3.4. CLIMATE CHANGE AND GREENHOUSE GASES

3.4.1. Global Climate Change

Global climate change refers to change in average meteorological conditions on the earth with respect to temperature, precipitation, and storms, lasting for decades or longer. The term “global climate change” is often used interchangeably with the term “global warming,” but “global climate change” is preferred by some scientists and policy makers to “global warming” because it helps convey the notion that in addition to rising temperatures, other changes in global climate may occur. Climate change may result from the following influences:

- Natural factors, such as changes in the sun’s intensity or slow changes in the Earth’s orbit around the sun;
- Natural processes within the climate system (e.g., changes in ocean circulation); and/or
- Human activities that change the atmosphere’s composition (e.g., through burning fossil fuels) and the land surface (e.g., deforestation, reforestation, urbanization, and desertification).

As determined from worldwide meteorological measurements between 1990 and 2005, the primary observed effect of global climate change has been a rise in the average global tropospheric temperature of 0.36 degree Fahrenheit (°F) per decade. Climate change modeling shows that further warming could occur, which could induce additional changes in the global climate system during the current century. Changes to the global climate system, ecosystems, and the environment of California could include higher sea levels, drier or wetter weather, changes in ocean salinity, changes in wind patterns, or more energetic aspects of extreme weather (e.g., droughts, heavy precipitation, heat waves, extreme cold, and increased intensity of tropical cyclones). Specific effects from climate change in California may include a decline in the Sierra Nevada snowpack, erosion of California’s coastline, and seawater intrusion in the Sacramento-San Joaquin River Delta.

Human activities, including fossil fuel combustion and land use changes, release carbon dioxide (CO₂) and other compounds cumulatively termed greenhouse gases. GHGs are effective at trapping radiation that would otherwise escape the atmosphere. This trapped radiation warms the atmosphere, the oceans, and the earth’s surface (USGCRP, 2014). Many scientists believe “most of the warming observed over the last 50 years is attributable to human activities” (IPCC, 2017). The increased amount of CO₂ and other GHGs in the atmosphere is the alleged primary cause of human-induced warming.

GHGs are present in the atmosphere naturally, released by natural sources, or formed from secondary reactions taking place in the atmosphere. They include CO₂, methane (CH₄), nitrous oxide (N₂O), and O₃. In the last 200 years, substantial quantities of GHGs have been released into the atmosphere, primarily from fossil fuel combustion. These human-induced emissions are increasing GHG concentrations in the atmosphere, therefore enhancing the natural greenhouse effect. The GHGs resulting from human activity are believed to be causing global climate change. While human-made GHGs include CO₂, CH₄, and N₂O, some (like chlorofluorocarbons [CFCs]) are completely new to the atmosphere. GHGs vary considerably in terms of Global Warming Potential (GWP), the comparative ability of each GHG to trap heat in the atmosphere. The GWP is based on several factors, including the relative effectiveness of a gas to absorb infrared radiation and the length of time that the gas remains in the atmosphere (“atmospheric lifetime”). The GWP of each gas is measured relative to CO₂, the most abundant GHG. The definition of GWP for a particular GHG is the ratio of heat trapped by one unit mass of the GHG to the ratio of heat trapped by one unit mass of CO₂ over a specified time period. GHG emissions are typically measured in terms of pounds or tons of “CO₂ equivalents” (CO₂e).

Natural sources of CO₂ include the respiration (breathing) of humans and animals and evaporation from the oceans. Together, these natural sources release approximately 150 billion metric tons of CO₂ each year, far outweighing the 7 billion metric tons of GHG emissions from fossil fuel burning, waste incineration, deforestation,

cement manufacturing, and other human activity. Nevertheless, natural GHG removal processes such as photosynthesis cannot keep pace with the additional output of CO₂ from human activities. Consequently GHGs are building up in the atmosphere (Environpedia, 2017).

Methane is produced when organic matter decomposes in environments lacking sufficient oxygen. Natural sources of CH₄ production include wetlands, termites, and oceans. Human activity accounts for the majority of the approximately 500 million metric tons of CH₄ emitted annually. These anthropogenic sources include the mining and burning of fossil fuels; digestive processes in ruminant livestock such as cattle; rice cultivation; and the decomposition of waste in landfills. The major removal process for atmospheric CH₄, the chemical breakdown in the atmosphere, cannot keep pace with source emissions; therefore, CH₄ concentrations in the atmosphere are rising.

Worldwide emissions of GHGs in 2008 were 30.1 billion metric tons of CO₂e and have increased considerably since that time (United Nations, 2011). It is important to note that the global emissions inventory data are not all from the same year and may vary depending on the source of the data (U.S. EPA, 2016). Emissions from the top five emitting countries and the European Union accounted for approximately 55% of total global GHG emissions. The United States was the number two producer of GHG emissions. The primary GHG emitted by human activities in the United States was CO₂, representing approximately 84% of total GHG emissions (U.S. EPA, 2016).

In 2009, the United States emitted approximately 6.6 billion metric tons of CO₂e or approximately 25 tons per year (tpy) per person. Of the six major sectors nationwide (electric power industry, transportation, industry, agriculture, commercial, and residential), the electric power industry and transportation sectors combined account for approximately 62% of the GHG emissions; the majority of the electrical power industry and all of the transportation emissions are generated from direct fossil fuel combustion. Between 1990 and 2006, total United States GHG emissions rose approximately 14.7% (U.S. EPA, 2016).

Worldwide CO₂ emissions are expected to increase by 1.9% annually between 2001 and 2025 (U.S. Energy Information Center, 2017). Much of the increase in these emissions is expected to occur in the developing world where emerging economies, such as China and India, fuel economic development with fossil fuel energy. Developing countries' emissions are expected to grow above the world average at 2.7% annually between 2001 and 2025, and surpass emissions of industrialized countries around 2018.

CARB is responsible for developing and maintaining the California GHG emissions inventory. This inventory estimates the amount of GHGs emitted into and removed from the atmosphere by human activities within the state of California and supports the Assembly Bill (AB) 32 Climate Change Program. CARB's current GHG emission inventory covers the years 1990 through 2008 and is based on fuel use, equipment activity, industrial processes, and other relevant data (e.g., housing, landfill activity, and agricultural lands).

California's net emissions of GHG decreased 1.3% from 459 million metric tons (MMT) of CO₂e in 2000 to 453 MMT in 2009, with a maximum of 483.9 MMT in 2004. Driven by a noticeable drop in on-road transportation emissions, statewide GHG emissions dropped from 485 MMT CO₂e in 2008 to 457 MMT in 2009. (2009 also reflects the beginning of the economic recession and fuel price spikes.) As the economy recovers, GHG emissions are likely to rise again without other mitigation actions. During the same period from 2000 to 2009, California's GHG emissions per person decreased by 9.7%, but the emissions reductions were offset by the state's population increase of 9.0%.

CARB estimates that transportation was the source of approximately 38% of California's GHG emissions in 2009, followed by electricity generation at 23%. Other sources of GHG emissions were industrial sources at 20%, residential plus commercial activities at 9%, and agriculture at 7%.

CARB has projected statewide GHG emissions for the year 2020, which represent the emissions that would be expected to occur with reductions anticipated from Pavley I and the Renewables Portfolio Standard (RPS) (38 MMT CO₂e total), will be 507 MMT of CO₂e (CARB, 2014a). GHG emissions from the transportation and electricity sectors as a whole are expected to increase at approximately 36% and 22% of total CO₂e emissions, respectively, as compared to 2009. The industrial sector consists of large stationary sources of GHG emissions and the percentage of the total 2020 emissions is projected to be 18% of total CO₂e emissions. The remaining sources of GHG emissions in 2020 are high global warming potential gases at 7%, residential and commercial activities at 9%, agriculture at 6%, and recycling and waste at 2%.

3.4.2. Effects of Global Climate Change

Changes in the global climate are assessed using historical records of temperature changes that have occurred in the past. Climate change scientists use this temperature data to extrapolate a level of statistical significance specifically focusing on temperature records from the last 150 years (the Industrial Age) that differ from past climate changes in rate and magnitude.

The Intergovernmental Panel on Climate Change (IPCC) constructed several emission trajectories of GHGs needed to stabilize global temperatures and climate change impacts. In its Fifth Assessment Report, the IPCC predicted that the global mean temperature change from 1990 to 2100, could range from 1.1 degree Celsius (°C) to 6.4 °C (8 to 10.4 °Fahrenheit). Global average temperatures and sea levels are expected to rise under all scenarios (IPCC, 2014). The IPCC concluded that global climate change was largely the result of human activity, mainly the burning of fossil fuels. However, the scientific literature is not consistent regarding many of the aspects of climate change, the actual temperature changes during the 20th century, and contributions from human versus non-human activities.

Effects from global climate change may arise from temperature increases, climate sensitive diseases, extreme weather events, and degradation of air quality. There may be direct temperature effects through increases in average temperature leading to more extreme heat waves and less extreme cold spells. Those living in warmer climates are likely to experience more stress and heat-related problems. Heat-related problems include heat rash and heat stroke, drought, etc. In addition, climate-sensitive diseases may increase, such as those spread by mosquitoes and other disease-carrying insects. Such diseases include malaria, dengue fever, yellow fever, and encephalitis. Extreme events such as flooding and hurricanes can displace people and agriculture. Global warming may also contribute to air quality problems from increased frequency of smog and particulate air pollution.

According to the 2006 California Climate Action Team (CAT) Report, several climate change effects can be expected in California over the course of the next century (CalEPA, 2006). These are based on trends established by the IPCC and are summarized below.

- A diminishing Sierra snowpack declining by 70% to 90%, threatening the state's water supply.
- A rise in sea levels, resulting in the displacement of coastal businesses and residences. During the past century, sea levels along California's coast have risen about seven inches. If emissions continue unabated and temperatures rise into the higher anticipated warming range, sea level is expected to rise an additional 22 to 35 inches by the end of the century. Sea level rises of this magnitude would inundate coastal areas with salt water, accelerate coastal erosion, threaten vital levees and inland water systems, and disrupt wetlands and natural habitats. (Note: This condition would not affect the Proposed Project area as it is a significant distance away from coastal areas.)

- An increase in temperature and extreme weather events. Climate change is expected to lead to increases in the frequency, intensity, and duration of extreme heat events and heat waves in California. More heat waves can exacerbate chronic disease or heat-related illness.
- Increased risk of large wildfires if rain increases as temperatures rise. Wildfires in the grasslands and chaparral ecosystems of southern California are estimated to increase by approximately 30% toward the end of the 21st century because more winter rain will stimulate the growth of more plant fuel available to burn in the fall. In contrast, a hotter, drier climate could promote up to 90% more northern California fires by the end of the century by drying out and increasing the flammability of forest vegetation.
- Increasing temperatures from 8 to 10.4 °F under the higher emission scenarios, leading to a 25% to 35% increase in the number of days that ozone pollution levels are exceeded in most urban areas (see below).
- Increased vulnerability of forests due to forest fires, pest infestation, and increased temperatures.
- Reductions in the quality and quantity of certain agricultural products. The crops and products likely to be adversely affected include wine grapes, fruit, nuts, and milk.
- Exacerbation of air quality problems. If temperatures rise to the medium warming range, there could be 75 to 85% more days with weather conducive to ozone formation in Los Angeles and the San Joaquin Valley, relative to today's conditions. This is more than twice the increase expected if rising temperatures remain in the lower warming range. This increase in air quality problems could result in an increase in asthma and other health-related problems.
- A decrease in the health and productivity of California's forests. Climate change can cause an increase in wildfires, an enhanced insect population, and establishment of non-native species.
- Increased electricity demand, particularly in the hot summer months.
- Increased ground-level ozone formation due to higher reaction rates of ozone precursors.

3.4.3. Global Climate Change Regulatory Issues

In 1988, the United Nations established the Intergovernmental Panel on Climate Change to evaluate the impacts of global warming and to develop strategies that nations could implement to curtail global climate change. In 1992, the United Nations Framework Convention on Climate Change established an agreement with the goal of controlling GHG emissions, including methane. As a result, the Climate Change Action Plan was developed to address the reduction of GHGs in the United States. The plan consists of more than 50 voluntary programs. Additionally, the Montreal Protocol was originally signed in 1987 and substantially amended in 1990 and 1992. The Montreal Protocol stipulates that the production and consumption of compounds that deplete O₃ in the stratosphere (chlorofluorocarbons [CFCs], halons, carbon tetrachloride, and methyl chloroform) were phased out by 2000 (methyl chloroform was phased out by 2005).

On September 27, 2006, Assembly Bill 32 (AB32), the California Global Warming Solutions Act of 2006 (the Act) was enacted by the State of California. The legislature stated, "global warming poses a serious threat to the economic well-being, public health, natural resources, and the environment of California." The Act caps California's GHG emissions at 1990 levels by 2020. The Act defines GHG emissions as all of the following gases: carbon dioxide (CO₂), methane, nitrous oxide, hydrofluorocarbons, perfluorocarbons and sulfur hexafluoride. This agreement represents the first enforceable statewide program in the U.S. to cap all GHG emissions from major industries that includes penalties for non-compliance. While acknowledging that national and international actions will be necessary to fully address the issue of global warming, AB32 lays out a program to inventory and reduce GHG emissions in California and from power generation facilities located outside the state that serve California residents and businesses.

AB32 charges CARB with responsibility to monitor and regulate sources of GHG emissions in order to reduce those emissions. CARB has adopted a list of discrete early action measures that can be implemented to reduce GHG emissions. CARB has defined the 1990 baseline emissions for California, and has adopted that baseline as the 2020

statewide emissions cap. CARB is conducting rulemaking for reducing GHG emissions to achieve the emissions cap by 2020. In designing emission reduction measures, CARB must aim to minimize costs, maximize benefits, improve and modernize California's energy infrastructure, maintain electric system reliability, maximize additional environmental and economic co-benefits for California, and complement the state's efforts to improve air quality.

Global warming and climate change have received substantial public attention for more than 20 years. For example, the United States Global Change Research Program was established by the Global Change Research Act of 1990 to enhance the understanding of natural and human-induced changes in the Earth's global environmental system, to monitor, understand and predict global change, and to provide a sound scientific basis for national and international decision-making. Even so, the analytical tools have not been developed to determine the effect on worldwide global warming from a particular increase in GHG emissions, or the resulting effects on climate change in a particular locale. The scientific tools needed to evaluate the impacts that a specific project may have on the environment are even farther in the future.

The California Supreme Court's most recent CEQA decision on the Newhall Ranch development case, *Center for Biological v. California Department of Fish and Wildlife* (November 30, 2015, Case No. 217763), determined that the project's Environmental Impact Report (EIR) did not substantiate the conclusion that the GHG cumulative impacts would be less than significant. The EIR determined that the Newhall Ranch development project would reduce GHG emissions by 31 percent from business as usual (BAU). This reduction was compared to the California's target of reducing GHG emissions statewide by 29 percent from business as usual. The Court determined that "the EIR's deficiency stems from taking a quantitative comparison method developed by the Scoping Plan as a measure of the greenhouse gas reduction effort required by the state as a whole, and attempting to use that method, without adjustments, for a purpose very different from its original design." In the Court's final ruling it offered suggestions that were deemed appropriate use of the BAU methodology:

1. Lead agencies can use the comparison to BAU methodology if they determine what reduction a particular project must achieve in order to comply with statewide goals,
2. Project design features that comply with regulations to reduce emissions may demonstrate that those components of emissions are less than significant, and
3. Lead agencies could also demonstrate compliance with locally adopted climate plans, or could apply specific numerical thresholds developed by some local agencies.

As discussed in Section 4.1, Significance Criteria, the SJVAPCD, a CEQA Trustee Agency for this Project, has developed thresholds to determine significance of a proposed project – either implement Best Performance Standards or achieve a 29% reduction from BAU (a specific numerical threshold). Therefore the 29% reduction from BAU is applied to the subject Project in order to determine significance. Therefore, the GHG analysis for this Project follows the suggestions from the Court's ruling on the Newhall Ranch development project in order to determine significance using the project design features.

4. IMPACT ASSESSMENT

4.1. SIGNIFICANCE CRITERIA

To determine whether a proposed Project could create a potential CEQA impact, local, state, and federal agencies have developed various means by which a project's impacts may be measured and evaluated. Such means can generally be categorized as follows:

- Thresholds of significance adopted by air quality agencies to guide lead agencies in their evaluation of air quality impacts under the CEQA.
- Regulations established by air districts, CARB, and EPA for the evaluation of stationary sources when applying for Authorities to Construct, Permits to Operate, and other permit program requirements (e.g., New Source Review).
- Thresholds utilized to determine if a project would cause or contribute significantly to violations of the ambient air quality standards or other concentration-based limits.
- Regulations applied in areas where severe air quality problems exist.

Summary tables of these emission-based and concentration-based thresholds of significance for each pollutant are provided below along with a discussion of their applicability.

4.1.1. Thresholds Adopted for the Evaluation of Air Quality Impacts under CEQA

In order to maintain consistency with CEQA, the SJVAPCD (2015) adopted guidelines to assist applicants in complying with the various requirements. According to the SJVAPCD's GAMAQI, a project would have potentially significant air quality impacts when the project:

- Creates a conflict with or obstructs implementation of the applicable air quality plan;
- Causes a violation of any air quality standard or generates substantial contribution towards exceeding an existing or projected air quality standard;
- Results in a cumulatively considerable net increase of any criteria pollutant for which the project region is designated non-attainment under a NAAQS and CAAQS (including emissions which exceed quantitative thresholds for O₃ precursors);
- Exposes sensitive receptors to substantial pollutant concentrations; or
- Creates objectionable odors that affect a substantial number of people.

The SJVAPCD GAMAQI thresholds are designed to implement the general criteria for air quality emissions as required in the CEQA Guidelines, Appendix G, Paragraph III (Title 14 of the California Code of Regulations §15064.7) and CEQA (California Public Resources Code Sections 21000 et. al). SJVAPCD's specific CEQA air quality thresholds are presented in **Table 4-1**.

Table 4-1 SJVAPCD CEQA Thresholds of Significance

| Criteria Pollutant | Significance Level | |
|----------------------|--------------------|-------------|
| | Construction | Operational |
| CO | 100 tons/yr | 100 tons/yr |
| NO _x | 10 tons/yr | 10 tons/yr |
| ROG | 10 tons/yr | 10 tons/yr |
| SO _x | 27 tons/yr | 27 tons/yr |
| PM ₁₀ | 15 tons/yr | 15 tons/yr |
| PM _{2.5} | 15 tons/yr | 15 tons/yr |
| Source: SJVAPCD 2015 | | |

4.1.2. Thresholds for Ambient Air Quality Impacts

CEQA Guidelines – Appendix G (Environmental Checklist) states that a project that would “*violate any air quality standard or contribute substantially to an existing or projected air quality violation*” would be considered to create significant impacts on air quality. Therefore, an AQIA should determine whether the emissions from a project would cause or contribute significantly to violations of the NAAQS or CAAQS (presented above in **Table 3-1**) when added to existing ambient concentrations.

The EPA has established the federal Prevention of Significant Deterioration (PSD) program to determine what comprises “significant impact levels” (SIL) to NAAQS attainment areas. A project’s impacts are considered less than significant if emissions are below PSD SIL for a particular pollutant. When a SIL is exceeded, an additional “increment analysis” is required. As the Project would not include modification to the stationary source under NSR, it would not be subject to either PSD or NSR review. The PSD SIL thresholds are used with ambient air quality modeling for a CEQA project to address whether the Project would “*violate any air quality standard or contribute substantially to an existing or projected air quality violation*.” Ambient air quality emissions estimates below the PSD SIL thresholds would result in less than significant ambient air quality impacts on both a project and cumulative CEQA impact analysis. The SJVAB is classified as non-attainment for the O₃ NAAQS and, as such, is subject to “non-attainment new source review” (NSR). PSD SILs and increments are more stringent than the CAAQS or NAAQS and represent the most stringent thresholds of significance.

4.1.3. Thresholds for Hazardous Air Pollutants

The SJVAPCD’s GAMAQI states, “From a health risk perspective there are basically two types of land use projects that have the potential to cause long-term public health risk impacts:

- Type A Projects: Land use projects that will place new toxic sources in the vicinity of existing receptors, and
- Type B Projects: Land use projects that will place new receptors in the vicinity of existing toxics sources” (SJVAPCD 2015).

Table 4-2 presents the thresholds of significance uses with toxic air contaminants when evaluating hazardous air pollutants (HAPs).

Table 4-2 Measures of Significance – Toxic Air Contaminants

| Agency | Level | Description |
|--|-----------------|---|
| Significance Thresholds Adopted for the Evaluation of Impacts Under CEQA | | |
| SJVAPCD | Carcinogens | Maximally Exposed Individual risk equals or exceeds 20 in one million. |
| | Non-Carcinogens | Acute: Hazard Index equals or exceeds 1 for the Maximally Exposed Individual. |
| | | Chronic: Hazard Index equals or exceeds 1 for the Maximally Exposed Individual. |
| Source: SJVAPCD 2015 | | |

4.1.4. Global Climate Change Thresholds of Significance

On December 17, 2009, SJVAPCD adopted *Guidance for Valley Land-use Agencies in Addressing GHG Emission Impacts for New Projects under CEQA (APR 2005)* (SJVAPCD 2009), which outlined the SJVAPCD’s methodology for assessing a project’s significance for GHGs under CEQA. The following criteria was outlined in the document to determine whether a project could have a significant impact:

- Projects determined to be exempt from the requirements of CEQA would be determined to have a less than significant individual and cumulative impact for GHG emissions and would not require further

environmental review, including analysis of project specific GHG emissions. Projects exempt under CEQA would be evaluated consistent with established rules and regulations governing project approval and would not be required to implement Best Performance Standards (BPS).

- Projects complying with an approved GHG emission reduction plan or GHG mitigation program which avoids or substantially reduces GHG emissions within the geographic area in which the project is located would be determined to have a less than significant individual and cumulative impact for GHG emissions. Such plans or programs must be specified in law or approved by the lead agency with jurisdiction over the affected resource and supported by a CEQA compliant environmental review document adopted by the lead agency. Projects complying with an approved GHG emission reduction plan or GHG mitigation program would not be required to implement BPS.
- Projects implementing Best Performance Standards would not require quantification of project specific GHG emissions. Consistent with CEQA Guidelines, such projects would be determined to have a less than significant individual and cumulative impact for GHG emissions.
- Projects not implementing Best Performance Standards would require quantification of project specific GHG emissions and demonstration that project specific GHG emissions would be reduced or mitigated by at least 29%, compared to Business-as-Usual (BAU*), including GHG emission reductions achieved since the 2002-2004 baseline period. Projects achieving at least a 29% GHG emission reduction compared to BAU would be determined to have a less than significant individual and cumulative impact for GHG.
- Notwithstanding any of the above provisions, projects requiring preparation of an Environmental Impact Report for any other reason would require quantification of project specific GHG emissions. Projects implementing BPS or achieving at least a 29% GHG emission reduction compared to BAU would be determined to have a less than significant individual and cumulative impact for GHG.

Additionally, under SJVAPCD policy *CEQA Determinations of Significance for Projects Subject to ARB's GHG Cap-and-Trade Reduction (APR 2025)* (SJVAPCD 2014), the SJVAPCD finds that the Cap-and-Trade is a regulation plan approved by CARB, consistent with AB32 emission reduction targets, and supported by a CEQA compliant environmental review document. As such, consistent with APR 2005 (SJVAPCD 2009), projects complying with Cap-and-Trade requirements are determined to have a less than significant individual and cumulative impact for GHG emissions.

4.2. PROJECT RELATED EMISSIONS

This document was prepared pursuant to the SJVAPCD's GAMAQI. The GAMAQI identifies separate thresholds for a project's short-term (construction) and long-term (operational) emissions.

Project emissions were estimated for the following project development stages:

- Short-term (Construction and Demolition) – Construction emissions of the proposed Project were estimated in CalEEMod using applicant assumptions for equipment and construction schedule for the development of the Project on 3.3 net acres.
- Long-term (Operations) – Long term emissions were also estimated using EMFAC2014 and stationary source emission factors.

4.2.1. Short-Term Emissions

Short-term emissions are primarily from the construction phase of a project, and would have temporary impacts on air quality.

The Project applicant provided a list of specific construction equipment; the construction emissions were therefore based on the provided equipment list accordingly for the proposed Project's land use type and development intensity. Applying Project applicant assumptions and model defaults, construction emissions were estimated based on the estimated construction schedule. The Project construction is expected to last nine months with an additional month of commissioning and operations would begin by the end of Year 2019. The dates entered into the CalEEMod program may not represent the actual dates the equipment will operate; however, the total construction time is accurate, and therefore, all estimated emission totals are conservative and a reasonable and legally sufficient estimate of potential impacts.

SJVAPCD's required measures for all projects were also applied:

- Water exposed area 3 times per day; and
- Reduce vehicle speed to less than 15 miles per hour.

Table 4-3 presents the Project's short-term emissions based on the anticipated construction period.

Table 4-3 – Short-Term Project Emissions

| Emissions Source | Pollutant (tons/year) | | | | | |
|---|-----------------------|-----------------|------|-----------------|------------------|-------------------|
| | ROG | NO _x | CO | SO ₂ | PM ₁₀ | PM _{2.5} |
| Unmitigated | | | | | | |
| 2019 | 0.48 | 4.79 | 3.36 | 0.006 | 0.32 | 0.27 |
| Mitigated | | | | | | |
| 2019 | 0.48 | 4.79 | 3.36 | 0.006 | 0.29 | 0.25 |
| Significance Threshold | 10 | 10 | 100 | 27 | 15 | 15 |
| Is Threshold Exceeded For a Single Year After Mitigation? | NO | NO | NO | NO | NO | NO |
| <i>Source: Insight Environmental Consultants 2018</i> | | | | | | |

As calculated with CalEEMod, the estimated short-term construction-related emissions would not exceed SJVAPCD significance threshold levels during a given year and would therefore be *less than significant*.

4.2.2. Long-Term Operations Emissions

Long-term emissions are caused by operational mobile, area, and stationary sources. Long-term emissions would consist of the following components.

4.2.2.1. Fugitive Dust Emissions

Operation of the Project site at full build-out is not expected to present a substantial source of fugitive dust (PM₁₀) emissions. The main source of PM₁₀ emissions would be from vehicular traffic associated with the Project site.

PM₁₀ on its own as well as in combination with other pollutants creates a health hazard. The SJVAPCD's Regulation VIII establishes required controls to reduce and minimizing fugitive dust emissions. The following SJVAPCD Rules and Regulations apply to the proposed Project (and all projects):

- ☐ Rule 4102 - Nuisance
 - Regulation VIII – Fugitive PM₁₀ Prohibitions
 - Rule 8011 - General Requirements
 - Rule 8021 - Construction, Demolition, Excavation, Extraction, and Other

- Earthmoving Activities
 - Rule 8041 - Carryout and Trackout
 - Rule 8051 - Open Areas

The Project would comply with applicable SJVAPCD Rules and Regulations, the local zoning codes, and additional emissions reduction measures recommended later in this analysis, in Section 7, Mitigation and Other Recommended Measures.

4.2.2.2. Exhaust Emissions

Project-related transportation activities from employees and maintenance would generate mobile source ROG, NO_x, SO_x, CO, PM₁₀ and PM_{2.5} exhaust emissions. Exhaust emissions would vary substantially from day to day but would average out over the course of an operational year. The variables factored into estimating total Project emissions include: level of activity, site characteristics, weather conditions, and number of employees. As the Project is not expected to generate an adverse change in current activity levels, substantial emissions are not anticipated.

4.2.2.3. Stationary Source Emissions

Stationary source emissions are anticipated to be negligible based on similar projects that have been construction and permitted within the SJVAPCD. Stationary source emissions from the Project would consist of VOC emissions vented to the atmosphere from the biogas upgrade process.

4.2.2.4. Projected Emissions

The proposed project is expected to have long-term air quality impacts as shown in **Table 4-4**. Emission calculations are available in Attachment B.

Table 4-4 – Post-Project (Operational) Emissions

| Emissions Source | Pollutant (tons/year) | | | | | |
|---|-----------------------|-----------------|--------|-----------------|------------------|-------------------|
| | ROG | NO _x | CO | SO _x | PM ₁₀ | PM _{2.5} |
| Mobile Source Emissions | 0.0020 | 0.0522 | 0.0255 | 0.0002 | 0.0018 | 0.0010 |
| Stationary Source Emissions | 0.0001 | - | - | - | - | - |
| SJVAPCD Threshold | 10 | 10 | 100 | 27 | 15 | 15 |
| Is Threshold Exceeded After Mitigation? | NO | NO | NO | NO | NO | NO |

Source: Insight Environmental Consultants 2018

As shown in Table 4-4, operations-related emissions, as calculated in Attachment B, would be less than the SJVAPCD significant threshold levels. Therefore, the proposed Project would have a less than significant impact during Project operations.

4.3. POTENTIAL IMPACTS ON SENSITIVE RECEPTORS

Sensitive receptors are defined as locations where young children, chronically ill individuals, the elderly, or people who are more sensitive than the general population reside, such as schools, hospitals, nursing homes, and daycare centers. There are scattered agricultural residences scattered in the surrounding area to the Project site. These residential receptors represent the nearest sensitive receptors to the proposed Project site with the closest approximately 0.52 miles to the southeast of the Project. There are no known non-residential sensitive receptors within 2 miles of the Project site.

4.4. POTENTIAL IMPACTS TO VISIBILITY TO NEARBY CLASS 1 AREAS

Visibility impact analyses are intended for stationary sources of emissions which are subject to the Prevention of Significant Deterioration (PSD) requirements in 40 CFR Part 60; they are not usually conducted for area sources. Because the Project's PM₁₀ emissions increase are predicted to be less than the PSD threshold levels, an impact at any Class 1 area within 100 kilometers of the Project is extremely unlikely. Therefore, based on the Project's predicted less-than significant PM₁₀ emissions, the Project would be expected to have a less than significant impact to visibility at any Class 1 Area.

4.5. POTENTIAL IMPACTS FROM CARBON MONOXIDE

Ambient CO concentrations normally correspond closely to the spatial and temporal distributions of vehicular traffic. Relatively high concentrations of CO would be expected along heavily traveled roads and near busy intersections. CO concentrations are also influenced by wind speed and atmospheric mixing. CO concentrations may be more uniformly distributed when inversion conditions are prevalent in the valley. Under certain meteorological conditions CO concentrations along a congested roadway or intersection may reach unhealthful levels for sensitive receptors, e.g. children, the elderly, hospital patients, etc. This localized impact can result in elevated levels of CO, or "hotspots" even though concentrations at the closest air quality monitoring station may be below NAAQS and CAAQS.

The localized project impacts depend on whether ambient CO levels in the Project vicinity would be above or below NAAQS. If ambient levels are below the standards, a project is considered to have significant impacts if a project's emissions would exceed one or more of these standards. If ambient levels already exceed a state standard, a project's emissions are considered significant if they would increase one-hour CO concentrations by 10 ppm or more or eight-hour CO concentrations by 0.45 ppm or more. There are two criteria established by the SJVAPCD's GAMAQI by which CO "Hot Spot" modeling is required:

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

According to the Project applicant, a traffic generation assessment impact study has not been prepared for this project and no adverse increase in vehicular traffic is anticipated when compared to existing traffic levels. Therefore, CO "Hotspot" Modeling was not conducted for this Project and no concentrated excessive CO emissions are expected to be caused once the proposed Project is completed.

4.6. PREDICTED HEALTH RISK IMPACTS

GAMAQI recommends that Lead Agencies consider situations wherein a new or modified source of HAPs is proposed for a location near an existing residential area or other sensitive receptor when evaluating potential impacts related to HAPs. Typical sources of HAPs include diesel trucks or permitted sources such as engines, boilers or storage tanks. The Hanford-Lakeside Dairy Digester Cluster Project will be located near scattered agricultural residences. Since there will be a negligible amount of HAPs emitted from the Project and only occasional diesel truck travel on-site, a prioritization score was determined for the facility to determine if a health risk assessment (HRA) would be required. An HRA is not required for a project with a total facility prioritization score of less than or equal to one. The Project's prioritization score was 0.09, which is less than one. Therefore, no further analysis is required to determine the HAPs impacts from this project and potential risk to the population attributable to emissions of HAPs from the proposed Project would be *less than significant*.

4.7. ODOR IMPACTS AND MITIGATION

The SJVAPCD's GAMAQI states "An analysis of potential odor impacts should be conducted for both of the following two situations:

1. Generators – projects that would potentially generate odorous emissions proposed to locate near existing sensitive receptors or other land uses where people may congregate, and
2. Receivers – residential or other sensitive receptor projects or other projects built for the intent of attracting people locating near existing odor sources." (SJVAPCD 2015).

GAMAQI also states "The District has identified some common types of facilities that have been known to produce odors in the San Joaquin Valley Air Basin. These are presented in Table 6 (Screening Levels for Potential Odor Sources), can be used as a screening tool to qualitatively assess a project's potential to adversely affect area receptors." (SJVAPCD, 2015). Because the operations of the Project are not expected to cause a public nuisance due to odor and the anticipated Project site is not listed in Table 6 of the GAMAQI as a source which would create objectionable odors, the Project is not expected to be a source of objectionable odors.

Based on the provisions of the SJVAPCD's GAMAQI, the proposed Project would not exceed any screening trigger levels to be considered a source of objectionable odors or odorous compounds (SJVAPCD, 2015). Furthermore, there does not appear to be any significant source of objectionable odors in close proximity that may adversely impact the project site when it is in operation. Additionally, the Project emission estimates indicate that the proposed Project would not be expected to adversely impact surrounding receptors. As such, the proposed Project would not be a source of any odorous compounds nor would it likely be impacted by any odorous source.

4.8. IMPACTS TO AMBIENT AIR QUALITY

An ambient air quality analysis, when required, determines if the proposed Project has the potential to cause a violation of the ambient air quality standards or a substantial contribution to an existing or projected air quality standard. As demonstrated in *Section 4.2.2 Long Term Operational Emissions*, the Project's potential increase to any criteria pollutants is negligible and would not be anticipated to cause an exceedance of any ambient air quality thresholds; therefore, an ambient air quality analysis was not required. Therefore, the Project's contribution to potential violations of ambient air quality standards would be *less-than-significant*.

4.9. IMPACTS TO GREENHOUSE GASES AND CLIMATE CHANGE

The proposed Project's construction and operational GHG emissions were estimated using the CalEEMod program (version 2016.3.2), EMFAC2014, and the California Climate Action Registry General Reporting Protocol (Version 3.1). These emissions are summarized in Table 4-5.

Table 4-5 – Estimated Annual GHG Emissions (MT/Year)

| Source | CO ₂ | CH ₄ | N ₂ O | CO ₂ e |
|--|-----------------|-----------------|------------------|-------------------|
| Construction Emissions | | | | |
| 2019 Construction Emissions | 522.78 | 0.137 | 0.000 | 526.21 |
| Operational Emissions | | | | |
| Mobile Emissions | 17.41 | 0.001 | 0.001 | 17.68 |
| Stationary Source Emissions | 0.00015 | 0.0001 | 0.000 | 0.002 |
| Energy Emissions | 3,556 | 0.569 | 4.640 | 3,561 |
| <i>Total Project Operational Emissions</i> | <i>3,573</i> | <i>0.570</i> | <i>4.640</i> | <i>3,578</i> |
| <i>Annualized Construction Emissions¹</i> | <i>17.43</i> | <i>0.005</i> | <i>0.000</i> | <i>17.54</i> |
| Project Emissions | 3,590 | 0.574 | 4.640 | 3,596 |
| *Note: 0.00 could represent <0.00 | | | | |
| 1 Per South Coast AQMD's Methodology | | | | |

The Project will not result in the emissions of hydrofluorocarbons (HFCs), perfluorocarbons (PFCs), or sulfur hexafluoride (SF6), the other gases identified as GHG in AB32. The proposed Project will be subject to any regulations developed under AB32 as determined by CARB. In order for the Project to be considered less than significant, it would need to conform with the goals of AB32. The majority of operational GHG emission increases associated with this project result indirectly from electrical usage (99.5%) delivered from a supplier subject to the Cap-and-Trade regulation. Therefore, consistent with SJVAPCD Policies APR 2005 and APR 2025, the GHG emissions increases associated with this Project would have a *less than significant* individual and cumulative impact on global climate change.

4.9.1. Feasible and Reasonable Mitigation Relative to Global Warming

CEQA requires that all feasible and reasonable mitigation be applied to the project to reduce the impacts from construction and operations on air quality. The SJVAPCD's "Non-Residential On-Site Mitigation Checklist" was utilized in preparing the mitigation measures and evaluating the projects features. These measures include using controls that limit the exhaust from construction equipment and using alternatives to diesel when possible. Additional reductions would be achieved through the regulatory process of the air district and CARB as required changes to diesel engines are implemented, which would affect the product delivery trucks and limits on idling.

While it is not possible to determine whether the Project individually would have a significant impact on global warming or climate change, the Project would potentially contribute to cumulative GHG emissions in California as well as to related health effects. The Project emissions would only be a very small fraction of the statewide GHG emissions. However, without the necessary science and analytical tools, it is not possible to assess, with certainty, whether the Project's contribution would be cumulatively considerable, within the meaning of CEQA Guidelines Sections 15065(a)(3) and 15130. CEQA, however, does note that the more severe environmental problems, the lower the thresholds for treating a project's contribution to cumulative impacts as significant. Given the position of the legislature in AB32, which states that global warming poses serious detrimental effects, and the requirements of CEQA for the lead agency to determine that a project not have a cumulatively considerable contribution, the effect of the Project's CO₂ contribution may be considered cumulatively considerable. This determination is "speculative," given the lack of clear scientific evidence or other criteria for determining the significance of the Project's contribution of GHG to the air quality in the SJVAB.

The strategies currently being implemented by CARB may help in reducing the Project's GHG emissions and are summarized in the table below.

Table 4-6 – Select CARB GHG Emission Reduction Strategies

| Strategy | Description of Strategy |
|--|--|
| Vehicle Climate Change Standards | AB 1493 (Pavley) required the state to develop and adopt regulations that achieve the maximum feasible and cost-effective reduction of climate change emissions emitted by passenger vehicles and light duty trucks. Regulations were adopted by CARB in Sept. 2004. |
| Diesel Anti-Idling | In July 2004, CARB adopted a measure to limit diesel-fueled retail motor vehicle idling. |
| Other Light-Duty Vehicle Technology | New standards would be adopted to phase in beginning in the 2017 model year. |
| Alternative Fuels: Biodiesel Blends | CARB would develop regulations to require the use of 1% to 4% Biodiesel displacement of California diesel fuel. |
| Alternative Fuels: Ethanol | Increased use of ethanol fuel. |
| Heavy-Duty Vehicle Emission Reduction Measures | Increased efficiency in the design of heavy-duty vehicles and an educational program for the heavy-duty vehicle sector. |

Not all of these measures are currently appropriate or applicable to the proposed Project. While future legislation could further reduce the Project's GHG footprint, the analysis of this is speculative and in accordance with CEQA Guidelines Section 15145, will not be further evaluated in this AQIA.

CEQA Guidelines Section 15130 notes that sometimes the only feasible mitigation for cumulative impacts may involve the adoption of ordinances or regulations rather than the imposition of conditions on a project-by-project basis. Global climate change is this type of issue. The causes and effects may not be just regional or statewide, they may also be worldwide. Given the uncertainties in identifying, let alone quantifying the impact of any single project on global warming and climate change, and the efforts made to reduce emissions of GHGs from the Project through design, in accordance with CEQA Section 15130, any further feasible emissions reductions would be accomplished through CARB regulations adopted pursuant to AB32. The majority of operational GHG emission increases associated with this project result indirectly from electrical usage (99.5%) delivered from a supplier subject to the Cap-and-Trade regulation. Therefore, consistent with SJVAPCD Policies APR 2005 and APR 2025, the GHG emissions increases associated with this Project would have a *less than significant* individual and cumulative impact on global climate change.

5. CUMULATIVE IMPACTS

By its very nature, air pollution has a cumulative impact. The District's nonattainment status is a result of past and present development within the SJVAB. Furthermore, attainment of ambient air quality standards can be jeopardized by increasing emissions-generating activities in the region. No single project would be sufficient in size, by itself, to result in nonattainment of the regional air quality standards. Instead, a project's emissions may be individually limited, but cumulatively considerable when taken in combination with past, present, and future development within the San Joaquin Valley Air Basin. When assessing whether there is a new significant cumulative effect, the Lead Agency shall consider whether the incremental effects of the project are cumulatively considerable. "Cumulatively considerable" means that the incremental effects of an individual project are significant when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects [CCR §15064(h)(1)]. Per CEQA Guidelines §15064(h)(3), a Lead Agency may determine that a project's incremental contribution to a cumulative effect is not cumulatively considerable if the project will comply with the requirements in a previously approved plan or mitigation program, including, but not limited to, an air quality attainment or maintenance plan that provides specific requirements that will avoid or substantially lessen the cumulative problem within the geographic area in which the project is located. (SJVAPCD 2015a)

GAMAQI also states *"If a project is significant based on the thresholds of significance for criteria pollutants, then it is also cumulatively significant. This does not imply that if the project is below all such significance thresholds, it cannot be cumulatively significant."* (SJVAPCD 2015a). Based on the analysis conducted for this Project, it is individually less than significant. This AQIA, however, also considered impacts of the proposed Project in conjunction with the impacts of other projects previously proposed in the area. The following cumulative impacts were considered:

- Cumulative O₃ Impacts (ROG and NO_x) from numerous sources within the region including transport from outside the region. O₃ is formed through chemical reactions of ROG and NO_x in the presence of sunlight.
- Cumulative CO Impacts produced primarily by vehicular emissions.
- Cumulative PM₁₀ Impacts from within the region and locally from the various projects. Such projects may cumulatively produce a significant amount of PM₁₀ if several projects conduct grading or earthmoving activities at the same time; and
- Hazardous Air Pollutant (HAP) Impacts on sensitive receptors from within the SJVAPCD recommended screening radius of one mile.

5.1. CUMULATIVE REGIONAL AIR QUALITY IMPACTS

The most recent, certified SJVAB Emission Inventory data available from the SJVAPCD is based on data gathered for the 2015 annual inventory. This data will be used to assist the SJVAPCD in demonstrating attainment of Federal 1-hour O₃ Standards (SJVAPCD 2007). **Table 5-1** provides a comparative look at the impacts proposed by the proposed Project to the SJVAB Emissions Inventory.

Table 5-1 – Comparative Analysis Based on SJV Air Basin 2015 Inventory

| Emissions Inventory Source | Pollutant (tons/year) | | | | | |
|--|-----------------------|-----------------|---------------|-----------------|------------------|-------------------|
| | ROG | NO _x | CO | SO _x | PM ₁₀ | PM _{2.5} |
| Kings County - 2015 ¹ | 7,775 | 5,110 | 10,622 | 73 | 8,541 | 1,789 |
| SJVAB - 2015 ¹ | 119,063 | 123,808 | 245,390 | 3,103 | 96,616 | 23,214 |
| Proposed Project | 0.0021 | 0.0522 | 0.0255 | 0.0002 | 0.0018 | 0.0010 |
| Proposed Project's % of Kings | 0.000027 | 0.00102 | 0.00024 | 0.00027 | 0.000021 | 0.000056 |
| Proposed Project's % of SJVAB | 0.000002 | 0.00004 | 0.00001 | 0.00001 | 0.000002 | 0.000004 |
| NOTES: ¹ This is the latest inventory available as of June 2018, excluding Natural Sources. SOURCE: CARB 2018b | | | | | | |

As shown in Table 5-1 the proposed Project does not pose a substantial increase to basin emissions, as such basin emissions would be essentially the same if the Project is approved.

Tables 5-2 through 5-4 provide CARB Emissions Inventory projections for the year 2020 for both the SJVAB and the Kings County. Looking at the SJVAB Emissions predicted by the CARB year 2020 emissions inventory, the Kings County portion of the air basin is a moderate source of the emissions. The proposed Project produces a small portion of the total emissions in both Kings County and the entire SJVAB.

Table 5-2 – Emission Inventory SJVAB 2020 Projection – Tons per Year

| | ROG | NO _x | PM ₁₀ |
|--|---------|-----------------|------------------|
| Total Emissions | 108,113 | 74,204 | 96,652 |
| Percent Stationary Sources | 30.8% | 14.1% | 5.6% |
| Percent Area-Wide Sources | 51.6% | 3.9% | 89.4% |
| Percent Mobile Sources | 17.6% | 82.0% | 4.9% |
| Total Stationary Source Emissions | 33,325 | 10,439 | 5,439 |
| Total Area-Wide Source Emissions | 55,772 | 2,884 | 86,432 |
| Total Mobile Source Emissions | 18,980 | 60,882 | 4,782 |
| Source: CARB 2018b | | | |
| Note: Total may not add due to rounding. | | | |

**Table 5-3 - Emission Inventory Kings County 2020 Estimate
Projection – Tons per Year**

| | ROG | NO _x | PM ₁₀ |
|--|-------|-----------------|------------------|
| Total Emissions | 7,884 | 4,745 | 8,286 |
| Percent Stationary Sources | 16.2% | 6.9% | 3.5% |
| Percent Area-Wide Sources | 58.8% | 1.5% | 88.1% |
| Percent Mobile Sources | 25.0% | 91.5% | 8.8% |
| Total Stationary Source Emissions | 1,278 | 329 | 292 |
| Total Area-Wide Source Emissions | 4,636 | 73 | 7,300 |
| Total Mobile Source Emissions | 1,971 | 4,344 | 730 |
| Source: CARB 2018b | | | |
| Note: Total may not add due to rounding. | | | |

Table 5-4 - 2020 Emissions Projections – Proposed Project, Kings County, and San Joaquin Valley Air Basin

| | ROG | NO_x | PM₁₀ |
|---|---------------|-----------------------|------------------------|
| Proposed Project | 0.0021 | 0.0522 | 0.0018 |
| Kings County | 7,884 | 4,745 | 8,286 |
| SJVAB | 108,113 | 74,204 | 96,652 |
| Proposed Project Percent of Kinga County | 0.000027% | 0.0011% | 0.000022% |
| Proposed Project Percent of SJVAB | 0.000002% | 0.0001% | 0.000002% |
| Kings County Percent of SJVAB | 7.29% | 6.39% | 8.57% |
| Source: CARB 2018b Notes: The emission estimates for Kings County and the SJVAB are based on 2020 projections. The Proposed Project emission estimates are for the proposed emissions that are not already included in the SJVAB Emissions Inventory. Project emissions are based on 2019 emissions estimates to present the most conservative comparison. The Project's emissions are expected to decline as cleaner, less polluting vehicles replace vehicles with higher emissions. | | | |

As shown above, the proposed Project would pose no impact on regional O₃ and PM₁₀ formation. Because the regional contribution to these cumulative impacts would be negligible, the Project would not be considered cumulatively considerable in its contribution to regional O₃ and PM₁₀ impacts.

5.2. CUMULATIVE LOCAL AIR QUALITY IMPACTS

Records search of the City of Hanford Planning Division's records and development files and Kings County Community Development Agency's GIS Viewer and records identified zero other projects within a one-mile radius of the proposed Project. *The number or size of cumulative projects is of no particular significance since no "cumulative" emissions thresholds have been established by the SJVAPCD, the City of Hanford Planning Division, or the Kings County Community Development Agency.* Because the proposed Project would generate less than significant Project-related operational impacts to criteria air pollutants, the Project's contribution to cumulative air quality impacts would not be cumulatively considerable.

5.3. CUMULATIVE HAZARDOUS AIR POLLUTANTS

The GAMAQI states that when evaluating potential impacts related to HAPs, *"impacts of local pollutants (CO, HAPs) are cumulatively significant when modeling shows that the combined emissions from the project and other existing and planned projects will exceed air quality standards."* Because the Project would not be a significant sources of HAPS, the proposed Project would also *not be expected to pose a significant cumulative CO or HAPs impact.*

5.4. CUMULATIVE CARBON MONOXIDE (CO) - MOBILE SOURCES

The SJVAPCD's GAMAQI has identified CO impacts from impacted traffic intersections and roadway segments as being potentially cumulatively considerable. Traffic increases and added congestion caused by a project can combine to cause a violation of the SJVAPCD's CO standard also known as a "Hotspot". There are two criteria established by the GAMAQI by which CO "Hot Spot" modeling is required:

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

According to the Project applicant, a traffic generation assessment impact study has not been prepared for this project and no adverse increase in vehicular traffic is anticipated when compared to existing traffic levels. Therefore, CO “Hotspot” Modeling was not conducted for this Project and no concentrated excessive CO emissions are expected to be caused once the proposed Project is completed.

6. CONSISTENCY WITH THE AIR QUALITY ATTAINMENT PLAN

Air quality impacts from proposed projects within Kings County are controlled through policies and provisions of the SJVAPCD and the Kings County General Plan (KCCDA 2010). In order to demonstrate that a proposed project would not cause further air quality degradation in either of the SJVAPCD's plan to improve air quality within the air basin or federal requirements to meet certain air quality compliance goals, each project should also demonstrate consistency with the SJVAPCD's adopted Air Quality Attainment Plans (AQAP) for O₃ and PM₁₀. The SJVAPCD is required to submit a "Rate of Progress" document to the CARB that demonstrates past and planned progress toward reaching attainment for all criteria pollutants. The California Clean Air Act (CCAA) requires air pollution control districts with severe or extreme air quality problems to provide for a 5% reduction in non-attainment emissions per year. The AQAP prepared for the San Joaquin Valley by the SJVAPCD complies with this requirement. CARB reviews, approves, or amends the document and forwards the plan to the EPA for final review and approval within the SIP.

Air pollution sources associated with stationary sources are regulated through the permitting authority of the SJVAPCD under the New and Modified Stationary Source Review Rule (SJVAPCD Rule 2201). Owners of any new or modified equipment that emits, reduces, or controls air contaminants, except those specifically exempted by the SJVAPCD, are required to apply for an Authority to Construct and Permit to Operate (SJVAPCD Rule 2010). Additionally, best available control technology (BACT) is required on specific types of stationary equipment and are required to offset both stationary source emission increases along with increases in cargo carrier emissions if the specified threshold levels are exceeded (SJVAPCD Rule 2201, 4.7.1). Through this mechanism, the SJVAPCD would ensure that all stationary sources within the project area would be subject to the standards of the SJVAPCD to ensure that new developments do not result in net increases in stationary sources of criteria air pollutants.

6.1. REQUIRED EVALUATION GUIDELINES

State CEQA Guidelines and the Federal Clean Air Act (Sections 176 and 316) contain specific references on the need to evaluate consistencies between the proposed project and the applicable AQAP for the project site. To accomplish this, CARB has developed a three-step approach to determine project conformity with the applicable AQAP:

1. *Determination that an AQAP is being implemented in the area where the project is being proposed. The SJVAPCD has implemented the current, modified, AQAP as approved by the CARB. The current AQAP is under review by the U.S. EPA.*
2. *The proposed project must be consistent with the growth assumptions of the applicable AQAP. The proposed project is included within the growth projected in the Kings County General Plan.*
3. *The project must contain in its design all reasonably available and feasible air quality control measures. The proposed project incorporates various policy and rule-required implementation measures that will reduce related emissions.*

The CCAA and AQAP identify transportation control measures as methods to further reduce emissions from mobile sources. Strategies identified to reduce vehicular emissions such as reductions in vehicle trips, vehicle use, vehicle miles traveled, vehicle idling, and traffic congestion, in order to reduce vehicular emissions, can be implemented as control measures under the CCAA as well. Additional measures may also be implemented through the building process such as providing electrical outlets on exterior walls of structures to encourage use of electrical landscape maintenance equipment or measures such as electrical outlets for electrical systems on diesel trucks to reduce or eliminate idling time.

As the growth represented by the proposed project was anticipated by the Kings County General Plan and incorporated into the AQAP, conclusions may be drawn from the following criteria:

1. The findings of the analysis show that the Project's minimal employment increases are planned for the project area; and
2. That, by definition, the proposed emissions from the project are below the SJVAPCD's established emissions impact thresholds

Based on these factors, the project appears to be *consistent with the AQAP*.

6.2. CONSISTENCY WITH THE KINGS COUNTY ASSOCIATION OF GOVERNMENT'S AIR QUALITY CONFORMITY ANALYSIS

The Kings County Association of Governments (KCAG) Air Quality Conformity Analysis (KCAG 2016) demonstrates that the 2017 Federal Transportation Improvement Program (2017 FTIP) and 2014 Regional Transportation Plan (2014 RTP) in the Kings County would not hinder the efforts set out in the CARB's SIP for each area's non-attainment pollutants (CO, O₃, PM₁₀ and PM_{2.5}). The analysis uses the *San Joaquin Valley Demographic Forecasts 2010 to 2050* (Planning Center 2012).

The KCAG Air Quality Conformity Analysis considers General Plan Amendments (GPA) and zone changes that were enacted at the time of the analysis as projected growth within the area based on land use designations incorporated within the Kings County General Plan. Land use designations that are altered based on subsequent GPAs that were not included in the Air Quality Conformity Analysis were not incorporated into the KCAG analysis. Consequently, if a proposed project is not included in the regional growth forecast using the latest planning assumptions, it may not be said to conform to the regional growth forecast. Under the current Kings County Zoning, the project site is designated as "AG20" (see **Figure 6-1**).

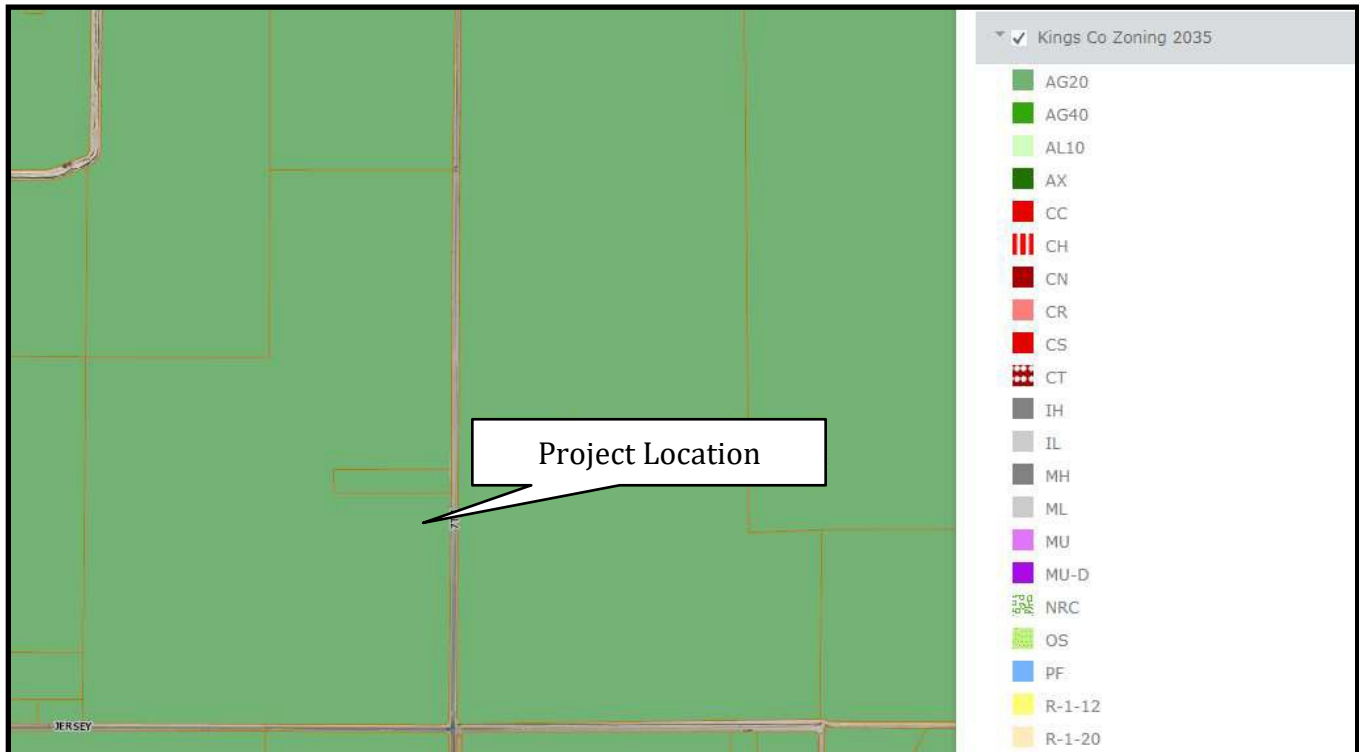


Figure 6-1 – Kings County Zoning

Under current policies, only after a General Plan Amendment (GPA) is approved, can housing and employment assumptions be updated to reflect the capacity changes. Since the proposed development does not require a GPA and zone change, the existing growth forecast will not be modified to reflect these changes. In order to determine whether the forecasted growth for the project area is sufficient to account for the projected increases in employment, an analysis based on KCAG regional forecast was conducted. Employment forecast for the analysis area appear to be sufficient to account for 100% of the planned employment growth attributed to the proposed Project. In order to be considered “consistent” and, therefore, in conformance with the AQAP, these increases would need to occur over the same time as the adopted growth forecast. According to Table 2-2 of KCAG’s Air Quality Conformity Analysis there is a projected employee increase of 7,988 in Kings County between 2010 and 2020.

7. MITIGATION AND OTHER RECOMMENDED MEASURES

As the estimated construction and operational emissions from the proposed Project would be *less than significant*, no specific mitigation measures would be required. However, to ensure that Project is in compliance with all applicable SJVAPCD rules and regulations and emissions are further reduced, the applicant should implement and comply with a number of measures that are either recommended as a “good operating practice” for environmental stewardship or they are required by regulation. Some of the listed measures are regulatory requirements or construction requirements that would result in further emission reductions through their inclusion in Project construction and long-term design. The following measures either have been applied to the project through the CalEEMod model and would be incorporated into the Project by design or would be implemented in conjunction with SJVAPCD rules as conditions of approval:

7.1. SJVAPCD REQUIRED PM₁₀ REDUCTION MEASURES

As the project would be completed in compliance with SJVAPCD Regulation VIII, dust control measures would be taken to ensure compliance specifically during grading and construction phases. The required Regulation VII measures are as follows:

- Water previously exposed surfaces (soil) whenever visible dust is capable of drifting from the site or approaches 20% opacity.
- Water all unpaved haul roads a minimum of three-times/day or whenever visible dust from such roads is capable of drifting from the site or approaches 20% opacity.
- Reduce speed on unpaved roads to less than 15 miles per hour.
- Install and maintain a track out control device that meets the specifications of SJVAPCD Rule 8041 if the site exceeds 150 vehicle trips per day or more than 20 vehicle trips per day by vehicles with three or more axles.
- Stabilize all disturbed areas, including storage piles, which are not being actively utilized for production purposes using water, by using chemical stabilizers or by covering with a tarp or other suitable cover.
- Control fugitive dust emissions during land clearing, grubbing, scraping, excavation, leveling, grading, or cut and fill operations with application of water or by presoaking.
- When transporting materials offsite, maintain a freeboard limit of at least 6 inches and cover or effectively wet to limit visible dust emissions.
- Limit and remove the accumulation of mud and/or dirt from adjacent public roadways at the end of each workday. (Use of dry rotary brushes is prohibited except when preceded or accompanied by sufficient wetting to limit visible dust emissions and use of blowers is expressly forbidden).
- Stabilize the surface of storage piles following the addition or removal of materials using water or chemical stabilizer/suppressants.
- Remove visible track-out from the site at the end of each workday.
- Cease grading or other activities that cause excessive (greater than 20% opacity) dust formation during periods of high winds (greater than 20 mph over a one-hour period).

7.2. RECOMMENDED MEASURES TO REDUCE EQUIPMENT EXHAUST

In addition, the GAMAQI guidance document lists the following measures as approved and recommended for construction activities. These measures are recommended:

- Maintain all construction equipment as recommended by manufacturer manuals.
- Shut down equipment when not in use for extended periods.
- Construction equipment shall operate no longer than eight (8) cumulative hours per day.
- Use electric equipment for construction whenever possible in lieu of diesel or gasoline powered equipment.
- Curtail use of high-emitting construction equipment during periods of high or excessive ambient pollutant concentrations.
- All construction vehicles shall be equipped with proper emissions control equipment and kept in good and proper running order to substantially reduce NO_x emissions.
- On-Road and Off-Road diesel equipment shall use diesel particulate filters if permitted under manufacturer's guidelines.
- On-Road and Off-Road diesel equipment shall use cooled exhaust gas recirculation (EGR) if permitted under manufacturer's guidelines.
- All construction workers shall be encouraged to shuttle (car-pool) to retail establishments or to remain on-site during lunch breaks.
- All construction activities within the project area shall be discontinued during the first stage smog alerts.
- Construction and grading activities shall not be allowed during first stage O₃ alerts. First stage O₃ alerts are declared when the O₃ level exceeds 0.20 ppm (1-hour average).

7.3. OTHER MEASURES TO REDUCE PROJECT IMPACTS

The following measures are recommended to further reduce the potential for long-term emissions from the Project (if applicable). These measures are required as a matter of regulatory compliance:

- The project design shall comply with applicable standards set forth in Title 24 of the Uniform Building Code to minimize total consumption of energy.
- Applicants shall be required to comply with applicable mitigation measures in the AQAP, SJVAPCD Rules, Traffic Control Measures, Regulation VIII, and Indirect Source Rules for the SJVAPCD.
- The developer shall comply with the provisions of SJVAPCD Rule 4601 - Architectural Coatings during the construction of all buildings and facilities. Application of architectural coatings shall be completed in a manner that poses the least emissions impacts whenever such application is deemed proficient.
- The applicant shall comply with the provisions of SJVAPCD Rule 4641 during the construction and pavement of all roads and parking areas within the project area. Specifically, the applicant shall not allow the use of:
 - ☐ Rapid cure cutback asphalt;
 - ☐ Medium cure cutback asphalt;
 - ☐ Slow cure cutback asphalt (as specified in SJVAPCD Rule 4641, Section 5.1.3); or Emulsified asphalt (as specified in SJVAPCD Rule 4641, Section 5.1.4).
 - ☐ The developer shall comply with applicable provisions of SJVAPCD Rule 9510 (Indirect Source Review).

8. LEVEL OF SIGNIFICANCE AFTER MITIGATION

The proposed Project would have short-term air quality impacts due to facility construction activities as well as vehicular emissions. Both of these impacts would be mitigated and *were found to be less than significant* before and after mitigation.

The proposed Project would result in long-term air quality impacts due to operational and related mobile source emissions. These impacts *were found to be less than significant*.

The proposed Project in conjunction with other past, present and foreseeable future Projects will result in cumulative short-term and long-term impacts to air quality. The proposed Project's incremental contribution to these impacts would be mitigated and are below thresholds of significance and would be not be considered cumulatively considerable. Therefore, the Project's contribution to cumulative impacts *were found to be less than significant*.

The proposed Project in conjunction with other past, present and foreseeable future projects would result in cumulative long-term impacts to global climate change. The proposed Project's incremental contribution to these impacts will be mitigated to the extent feasible and are considered *less than significant*.

9. REFERENCES

- California Air Resources Board (CARB). 2018a. website – Background Emissions Data, Website accessed June 2018. <http://www.arb.ca.gov/homepage.htm>.
- . 2018b. Almanac Emission Projection Data, Website accessed by Matt Daniel, June 2018. <https://www.arb.ca.gov/app/emsmv/2017/emssumcat.php>.
- . 2016. “Ambient Air Quality Standards.” May 4, 2016. <http://www.arb.ca.gov/research/aaqs/aaqs2.pdf>
- . 2014a. 2020 Business as Usual (BAU) Emissions Projections, 2014 Edition. <https://www.arb.ca.gov/cc/inventory/data/bau.htm>. Accessed October 2, 2017.
- California Environmental Protection Agency (CalEPA). 2006. Climate Action Team (CAT) Report to Governor Schwarzenegger and the Legislature. http://www.climatechange.ca.gov/climate_action_team/reports/2006report/2006-04-03_FINAL_CAT_REPORT.PDF. Accessed October 3, 2017.
- California Environmental Quality Act, Appendix G – Environmental Checklist Form, Final Text. October 26, 1998.
- California Air Pollution Control Officers Association (CAPCOA). 2017. California Emissions Estimator Model tm (CalEEMod), version 2016.3.2, released October 2017.
- California Environmental Quality Act (CEQA) Statute and Guidelines. 2016. (Public Resources Code 21000 to 21177) and CEQA Guidelines (California Code of Regulations Title 14, Division 6, Chapter 3, Sections 15000 – 15387).
- Enviropedia, 2017. Greenhouse Gas Emissions website. http://www.enviropedia.org.uk/Global_Warming/Emissions.php. Accessed October 2, 2017.
- Intergovernmental Panel on Climate Change (IPCC). 2017. Climate Change 2013: The Physical Science Basis. <http://www.ipcc.ch/report/ar5/wg1/>. Accessed September 29, 2017.
- . Climate Change 2014 Synthesis Report. 2014. https://www.ipcc.ch/pdf/assessment-report/ar5/syr/SYR_AR5_FINAL_full_wcover.pdf. Accessed December 8, 2017
- Kings County Association of Governments (KCAG). September 2016. Air Quality Conformity Analysis.
- Kings County Community Development Agency (KCCDA), 2010. 2035 Kings County General Plan.
- Planning Center, The. 2012. San Joaquin Valley Demographic Forecasts 2010 to 2050. March 27, 2012.
- San Joaquin Valley Air Pollution Control District (SJVAPCD). 2018a. Ambient Air Quality Standards & Valley Attainment Status. <http://www.valleyair.org/aqinfo/attainment.htm>. Site accessed June 2018.
- . 2017. Air Monitoring Location Map. <http://valleyair.org/aqinfo/Docs/2017-Air-Monitoring-Network-Map.png>
- . 2007. SJVAB Emissions Inventory to Demonstrating Attainment of Federal 1-hour O3 Standards, SJVAPCD, September 2007

-----, 2015. Guidance for Assessing and Mitigating Air Quality Impacts. March 19, 2015.

United Nations, 2011. The Millennium Development Goals Report 2011.

[http://www.un.org/millenniumgoals/pdf/\(2011_E\)%20MDG%20Report%202011_Book%20LR.pdf](http://www.un.org/millenniumgoals/pdf/(2011_E)%20MDG%20Report%202011_Book%20LR.pdf).
Accessed July 26, 2011.

U.S. EPA. 2016. Inventory of US Greenhouse Gas Emissions and Sinks 1990–2014.

<http://www.epa.gov/climatechange/emissions/usinventoryreport.html>. Accessed October 2, 2017.

United States Geological Survey's (USGS) National Map. 2015. Waukena, CA. 7.5 minute.

<https://prd-tnm.s3.amazonaws.com/StagedProducts/Maps/USTopo/1/22363/7543881.pdf>

United States Global Change Research Program (USGCRP). 2014. Climate Change Impacts in the United States: The Third National Climate Assessment. <http://nca2014.globalchange.gov/>. Accessed October 3, 2017.

Western Regional Climate Center, 2018. Hanford 1 S, California, Period of Record Monthly Climate Summary, 07/01/1899 to 6/09/2016. Site accessed June 2018. <https://wrcc.dri.edu/cgi-bin/cliMAIN.pl?ca3747>

ATTACHMENT A: EXISTING AIR QUALITY MONITORING DATA



About Our Work Resources Business Assistance Rulemaking News

Top 4 Summary: Highest 4 Daily 24-Hour PM10 Averages

iADAM

at Visalia-N Church Street

| | 2014 | | 2015 | | 2016 | |
|----------------------------------|--------|---------------|--------|---------------|--------|---------------|
| | Date | 24-Hr Average | Date | 24-Hr Average | Date | 24-Hr Average |
| National: | | | | | | |
| First High: | Oct 14 | 102.4 | Jan 6 | 67.3 | Sep 19 | 137.1 |
| Second High: | Jan 5 | 99.5 | Jan 12 | 57.9 | Sep 21 | 121.1 |
| Third High: | Jan 23 | 97.8 | Jan 30 | 43.5 | Sep 20 | 115.3 |
| Fourth High: | Oct 8 | 95.2 | Feb 17 | 42.8 | Sep 30 | 110.1 |
| California: | | | | | | |
| First High: | Jan 5 | 104.2 | Sep 8 | 140.3 | Sep 19 | 132.5 |
| Second High: | Jan 23 | 101.0 | Sep 11 | 138.7 | Sep 21 | 119.2 |
| Third High: | Oct 14 | 100.9 | Sep 9 | 136.9 | Sep 20 | 112.3 |
| Fourth High: | Jan 17 | 99.0 | Sep 12 | 133.4 | Sep 30 | 109.3 |
| National: | | | | | | |
| Estimated # Days > 24-Hour Std: | | 0.0 | | * | | 0.0 |
| Measured # Days > 24-Hour Std: | | 0 | | 0 | | 0 |
| 3-Yr Avg Est # Days > 24-Hr Std: | | 1.0 | | * | | * |
| Annual Average: | | 45.4 | | 28.9 | | 43.3 |
| 3-Year Average: | | 42 | | 39 | | * |
| California: | | | | | | |
| Estimated # Days > 24-Hour Std: | | * | | * | | * |
| Measured # Days > 24-Hour Std: | | 17 | | 67 | | 95 |
| Annual Average: | | * | | * | | * |
| 3-Year Maximum Annual Average: | | 45 | | 45 | | * |
| Year Coverage: | | 97 | | 20 | | 0 |

Notes:

Daily PM10 averages and related statistics are available at Visalia-N Church Street between 1988 and 2016.

Some years in this range may not be represented.

All averages expressed in micrograms per cubic meter.



About Our Work Resources Business Assistance Rulemaking News

Top 4 Summary: Highest 4 Daily 24-Hour PM10 Averages



at Hanford-S Irwin Street

| | 2014 | | 2015 | | 2016 | |
|----------------------------------|--------|---------------|--------|---------------|--------|---------------|
| | Date | 24-Hr Average | Date | 24-Hr Average | Date | 24-Hr Average |
| National: | | | | | | |
| First High: | Oct 14 | 131.3 | Sep 11 | 136.9 | Sep 28 | 152.2 |
| Second High: | Jan 22 | 129.5 | Jun 9 | 128.8 | Sep 19 | 126.0 |
| Third High: | Jan 7 | 128.0 | Sep 12 | 128.0 | Sep 21 | 121.6 |
| Fourth High: | Oct 7 | 125.1 | Sep 8 | 118.1 | Sep 30 | 119.5 |
| California: | | | | | | |
| First High: | Oct 14 | 125.7 | Sep 9 | 108.6 | Sep 27 | 110.5 |
| Second High: | Jan 17 | 123.4 | Sep 30 | 100.7 | Sep 21 | 108.7 |
| Third High: | Jan 5 | 111.1 | Oct 27 | 98.3 | Oct 21 | 91.5 |
| Fourth High: | Jan 23 | 108.3 | Sep 24 | 95.6 | Nov 14 | 91.1 |
| National: | | | | | | |
| Estimated # Days > 24-Hour Std: | | 0.0 | | * | | 0.0 |
| Measured # Days > 24-Hour Std: | | 0 | | 0 | | 0 |
| 3-Yr Avg Est # Days > 24-Hr Std: | | * | | * | | * |
| Annual Average: | | 47.8 | | 46.2 | | 42.8 |
| 3-Year Average: | | 45 | | 47 | | 46 |
| California: | | | | | | |
| Estimated # Days > 24-Hour Std: | | 138.8 | | * | | 121.2 |
| Measured # Days > 24-Hour Std: | | 22 | | 17 | | 20 |
| Annual Average: | | 47.5 | | * | | 44.3 |
| 3-Year Maximum Annual Average: | | 48 | | 48 | | 48 |
| Year Coverage: | | 0 | | 0 | | 0 |

Notes:

Daily PM10 averages and related statistics are available at Hanford-S Irwin Street between 1993 and 2016.

Some years in this range may not be represented.

All averages expressed in micrograms per cubic meter.



CALIFORNIA
AIR RESOURCES BOARD

About Our Work Resources Business Assistance Rulemaking News

Top 4 Summary: Highest 4 Daily 24-Hour PM2.5 Averages

iADAM

at Visalia-N Church Street

| | 2014 | | 2015 | | 2016 | |
|-----------------------------------|--------|---------------|--------|---------------|--------|---------------|
| | Date | 24-Hr Average | Date | 24-Hr Average | Date | 24-Hr Average |
| National: | | | | | | |
| First High: | Nov 10 | 81.3 | Jan 9 | 86.3 | Nov 6 | 48.0 |
| Second High: | Nov 7 | 76.8 | Jan 12 | 57.3 | Jan 1 | 43.0 |
| Third High: | Jan 5 | 75.4 | Jan 30 | 45.8 | Dec 20 | 40.7 |
| Fourth High: | Jan 2 | 72.3 | Sep 9 | 45.6 | Dec 29 | 39.3 |
| California: | | | | | | |
| First High: | Jan 3 | 85.9 | Jan 11 | 91.5 | Dec 30 | 53.9 |
| Second High: | Nov 10 | 81.3 | Jan 9 | 86.3 | Nov 6 | 51.0 |
| Third High: | Nov 9 | 78.0 | Jan 10 | 68.3 | Dec 22 | 50.5 |
| Fourth High: | Nov 7 | 76.8 | Jan 8 | 66.5 | Dec 21 | 49.5 |
| National: | | | | | | |
| Estimated # Days > 24-Hour Std: | | 35.5 | | 17.9 | | 21.3 |
| Measured # Days > 24-Hour Std: | | 12 | | 5 | | 7 |
| 24-Hour Standard Design Value: | | 64 | | 61 | | 54 |
| 24-Hour Standard 98th Percentile: | | 75.4 | | 45.8 | | 40.7 |
| 2006 Annual Std Design Value: | | 17.2 | | 17.6 | | 16.2 |
| 2013 Annual Std Design Value: | | 17.2 | | 17.6 | | 16.2 |
| Annual Average: | | 17.8 | | 16.1 | | 14.6 |
| California: | | | | | | |
| Annual Std Designation Value: | | 19 | | 19 | | 18 |
| Annual Average: | | 17.9 | | * | | 15.6 |
| Year Coverage: | | 100 | | 85 | | 99 |

Notes:

Daily PM2.5 averages and related statistics are available at Visalia-N Church Street between 1999 and 2016.
Some years in this range may not be represented.
All averages expressed in micrograms per cubic meter.



About Our Work Resources Business Assistance Rulemaking News

Top 4 Summary: Highest 4 Daily 24-Hour PM_{2.5} Averages

iADAM

at Hanford-S Irwin Street

| | 2014 | | 2015 | | 2016 | |
|-----------------------------------|--------|------------------|--------|------------------|--------|------------------|
| | Date | 24-Hr Average | Date | 24-Hr Average | Date | 24-Hr Average |
| National: | | | | | | |
| First High: | Jan 1 | 96.7 | Jan 9 | 98.2 | Nov 5 | 59.7 |
| Second High: | Nov 10 | 95.7 | Jan 10 | 88.5 | Dec 22 | 51.3 |
| Third High: | Nov 9 | 93.2 | Jan 11 | 78.9 | Dec 21 | 51.0 |
| Fourth High: | Nov 6 | 91.2 | Jan 8 | 74.0 | Nov 11 | 50.9 |
| California: | | | | | | |
| First High: | Jan 1 | 96.7 | Jan 9 | 98.2 | Nov 5 | 59.7 |
| Second High: | Nov 10 | 95.7 | Jan 10 | 88.5 | Dec 22 | 51.3 |
| Third High: | Nov 9 | 93.2 | Jan 11 | 78.9 | Dec 21 | 51.0 |
| Fourth High: | Nov 6 | 91.2 | Jan 8 | 74.0 | Nov 11 | 50.9 |
| National: | | | | | | |
| Estimated # Days > 24-Hour Std: | | 33.8 | | 27.8 | | 25.0 |
| Measured # Days > 24-Hour Std: | | 30 | | 25 | | 25 |
| 24-Hour Standard Design Value: | | 66 | | 67 | | 59 |
| 24-Hour Standard 98th Percentile: | | 81.9 | | 51.4 | | 43.3 |
| 2006 Annual Std Design Value: | | 16.8 | | 17.4 | | 16.5 |
| 2013 Annual Std Design Value: | | 16.8 | | 17.4 | | 16.5 |
| Annual Average: | | 17.4 | | 16.4 | | 15.5 |
| California: | | | | | | |
| Annual Std Designation Value: | | 18 | | 18 | | 16 |
| Annual Average: | | * | | 16.5 | | 15.6 |
| Year Coverage: | | 95 | | 91 | | 100 |

Notes:

Daily PM_{2.5} averages and related statistics are available at Hanford-S Irwin Street between 2010 and 2016.
Some years in this range may not be represented.
All averages expressed in micrograms per cubic meter.



Top 4 Summary: Highest 4 Daily Maximum 8-Hour Ozone Averages



at Visalia-N Church Street

| | 2014 | | 2015 | | 2016 | |
|----------------------------------|--------|--------------|--------|--------------|--------|--------------|
| | Date | 8-Hr Average | Date | 8-Hr Average | Date | 8-Hr Average |
| National 2015 Std (0.070 ppm): | | | | | | |
| First High: | Jun 8 | 0.079 | Jul 31 | 0.090 | Jul 27 | 0.083 |
| Second High: | Jun 10 | 0.079 | Jun 26 | 0.087 | Jun 27 | 0.079 |
| Third High: | Oct 7 | 0.079 | Sep 8 | 0.087 | Jul 26 | 0.078 |
| Fourth High: | Aug 2 | 0.078 | Sep 25 | 0.087 | Aug 11 | 0.077 |
| California Std (0.070 ppm): | | | | | | |
| First High: | Jun 8 | 0.080 | Jul 31 | 0.091 | Jul 27 | 0.083 |
| Second High: | Jun 10 | 0.080 | Jun 26 | 0.088 | Jun 27 | 0.079 |
| Third High: | Aug 29 | 0.079 | Sep 8 | 0.088 | Jul 26 | 0.079 |
| Fourth High: | Oct 7 | 0.079 | Sep 25 | 0.087 | Aug 11 | 0.078 |
| National 2015 Std (0.070 ppm): | | | | | | |
| # Days Above the Standard: | | 25 | | 49 | | 18 |
| Nat'l Standard Design Value: | | 0.080 | | 0.079 | | 0.080 |
| National Year Coverage: | | 99 | | 97 | | 98 |
| California Std (0.070 ppm): | | | | | | |
| # Days Above the Standard: | | 27 | | 52 | | 19 |
| California Designation Value: | | 0.090 | | 0.088 | | 0.088 |
| Expected Peak Day Concentration: | | 0.091 | | 0.089 | | 0.090 |
| California Year Coverage: | | 98 | | 94 | | 98 |

Notes:

Eight-hour ozone averages and related statistics are available at Visalia-N Church Street between 1979 and 2016. Some years in this range may not be represented.

All averages expressed in parts per million.

An exceedance of a standard is not necessarily related to a violation of the standard.

State and national statistics may differ for the following reasons:

National 8-hour averages are truncated to three decimal places; State 8-hour averages are rounded to three decimal places.

State criteria for ensuring that data are sufficiently complete for calculating 8-hour averages are more stringent than the national criteria.

Daily maximum 8-hour averages associated with the National 0.070 ppm standard exclude those 8-hour averages that have first hours between midnight and 6:00 am, Pacific Standard Time.

Daily maximum 8-hour averages associated with the National 0.070 ppm standard include only those 8-hour averages from days that have sufficient data for the day to be considered valid.



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Top 4 Summary: Highest 4 Daily Maximum 8-Hour Ozone Averages



at Hanford-S Irwin Street

| | 2014 | | 2015 | | 2016 | |
|----------------------------------|--------|--------------|--------|--------------|--------|--------------|
| | Date | 8-Hr Average | Date | 8-Hr Average | Date | 8-Hr Average |
| National 2015 Std (0.070 ppm): | | | | | | |
| First High: | Sep 12 | 0.094 | Sep 8 | 0.094 | Jun 4 | 0.088 |
| Second High: | Jul 8 | 0.090 | Sep 10 | 0.090 | Aug 17 | 0.087 |
| Third High: | Jun 10 | 0.086 | Jun 12 | 0.085 | Jul 27 | 0.085 |
| Fourth High: | Aug 2 | 0.086 | Jun 26 | 0.085 | Jul 15 | 0.083 |
| California Std (0.070 ppm): | | | | | | |
| First High: | Sep 12 | 0.095 | Sep 8 | 0.094 | Jun 4 | 0.088 |
| Second High: | Jul 8 | 0.091 | Sep 10 | 0.090 | Aug 17 | 0.087 |
| Third High: | Aug 2 | 0.087 | Jun 12 | 0.085 | Jul 27 | 0.085 |
| Fourth High: | Jun 10 | 0.086 | Jun 26 | 0.085 | Jul 15 | 0.084 |
| National 2015 Std (0.070 ppm): | | | | | | |
| # Days Above the Standard: | | 39 | | 42 | | 49 |
| Nat'l Standard Design Value: | | 0.084 | | 0.085 | | 0.084 |
| National Year Coverage: | | 100 | | 99 | | 97 |
| California Std (0.070 ppm): | | | | | | |
| # Days Above the Standard: | | 40 | | 46 | | 53 |
| California Designation Value: | | 0.094 | | 0.096 | | 0.094 |
| Expected Peak Day Concentration: | | 0.094 | | 0.096 | | 0.094 |
| California Year Coverage: | | 96 | | 97 | | 96 |

Notes:

Eight-hour ozone averages and related statistics are available at Hanford-S Irwin Street between 1994 and 2016. Some years in this range may not be represented.

All averages expressed in parts per million.

An exceedance of a standard is not necessarily related to a violation of the standard.

State and national statistics may differ for the following reasons:

National 8-hour averages are truncated to three decimal places; State 8-hour averages are rounded to three decimal places.

State criteria for ensuring that data are sufficiently complete for calculating 8-hour averages are more stringent than the national criteria.

Daily maximum 8-hour averages associated with the National 0.070 ppm standard exclude those 8-hour averages that have first hours between midnight and 6:00 am, Pacific Standard Time.

Daily maximum 8-hour averages associated with the National 0.070 ppm standard include only those 8-hour averages from days that have sufficient data for the day to be considered valid.



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Top 4 Summary: Highest 4 Daily Maximum Hourly Ozone Measurements

iADAM

at Visalia-N Church Street

| | 2014 | | 2015 | | 2016 | |
|--|--------|-------------|--------|-------------|--------|-------------|
| | Date | Measurement | Date | Measurement | Date | Measurement |
| First High: | Aug 29 | 0.095 | Sep 8 | 0.110 | Jul 27 | 0.098 |
| Second High: | May 16 | 0.091 | Jun 26 | 0.105 | Aug 29 | 0.090 |
| Third High: | Sep 14 | 0.090 | Sep 9 | 0.101 | Aug 30 | 0.089 |
| Fourth High: | Aug 6 | 0.088 | Jul 31 | 0.100 | Jul 26 | 0.088 |
| California: | | | | | | |
| # Days Above the Standard: | | 1 | | 9 | | 1 |
| California Designation Value: | | 0.10 | | 0.10 | | 0.10 |
| Expected Peak Day Concentration: | | 0.099 | | 0.100 | | 0.098 |
| National: | | | | | | |
| # Days Above the Standard: | | 0 | | 0 | | 0 |
| 3-Year Estimated Expected Number of Exceedance Days: | | 0.0 | | 0.0 | | 0.0 |
| 1-Year Estimated Expected Number of Exceedance Days: | | 0.0 | | 0.0 | | 0.0 |
| Nat'l Standard Design Value: | | 0.101 | | 0.100 | | 0.100 |
| Year Coverage: | | 98 | | 96 | | 98 |

Notes:

Hourly ozone measurements and related statistics are available at Visalia-N Church Street between 1979 and 2016. Some years in this range may not be represented.

All concentrations expressed in parts per million.

The national 1-hour ozone standard was revoked in June 2005. Statistics related to the national 1-hour ozone standard are shown in or .

An exceedance of a standard is not necessarily related to a violation of the standard.

Year Coverage indicates the extent to which available monitoring data represent the time of the year when concentrations are expected to be highest. 0 means that data represent none of the high period; 100 means that data represent the entire high period. A high Year Coverage does not mean that there was sufficient data for annual statistics to be considered valid.

* means there was insufficient data available to determine the value.



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Top 4 Summary: Highest 4 Daily Maximum Hourly Ozone Measurements

iADAM

at Hanford-S Irwin Street

| | 2014 | | 2015 | | 2016 | |
|--|--------|-------------|--------|-------------|--------|-------------|
| | Date | Measurement | Date | Measurement | Date | Measurement |
| First High: | Aug 2 | 0.108 | Sep 10 | 0.119 | Jun 4 | 0.097 |
| Second High: | Sep 12 | 0.107 | Sep 8 | 0.108 | Aug 17 | 0.096 |
| Third High: | Jun 10 | 0.099 | Sep 21 | 0.107 | Jul 16 | 0.093 |
| Fourth High: | Oct 7 | 0.098 | Sep 12 | 0.099 | Jun 28 | 0.091 |
| California: | | | | | | |
| # Days Above the Standard: | | 5 | | 4 | | 2 |
| California Designation Value: | | 0.10 | | 0.10 | | 0.10 |
| Expected Peak Day Concentration: | | 0.101 | | 0.102 | | 0.100 |
| National: | | | | | | |
| # Days Above the Standard: | | 0 | | 0 | | 0 |
| 3-Year Estimated Expected Number of Exceedance Days: | | 0.0 | | 0.0 | | 0.0 |
| 1-Year Estimated Expected Number of Exceedance Days: | | 0.0 | | 0.0 | | 0.0 |
| Nat'l Standard Design Value: | | 0.104 | | 0.107 | | 0.107 |
| Year Coverage: | | 100 | | 98 | | 97 |

Notes:

Hourly ozone measurements and related statistics are available at Hanford-S Irwin Street between 1994 and 2016. Some years in this range may not be represented.

All concentrations expressed in parts per million.

The national 1-hour ozone standard was revoked in June 2005. Statistics related to the national 1-hour ozone standard are shown in or .

An exceedance of a standard is not necessarily related to a violation of the standard.

Year Coverage indicates the extent to which available monitoring data represent the time of the year when concentrations are expected to be highest. 0 means that data represent none of the high period; 100 means that data represent the entire high period. A high Year Coverage does not mean that there was sufficient data for annual statistics to be considered valid.

* means there was insufficient data available to determine the value.



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Top 4 Summary: Highest 4 Daily Maximum Hourly Nitrogen Dioxide Measurements

ADAM

at Visalia-N Church Street

| | 2014 | | 2015 | | 2016 | |
|----------------------------------|--------|-------------|--------|-------------|--------|-------------|
| | Date | Measurement | Date | Measurement | Date | Measurement |
| National: | | | | | | |
| First High: | Oct 8 | 64.5 | Sep 21 | 62.3 | Nov 11 | 57.5 |
| Second High: | Oct 13 | 64.0 | Aug 25 | 56.9 | Nov 12 | 51.8 |
| Third High: | Jan 2 | 59.3 | Sep 1 | 54.3 | Oct 20 | 51.3 |
| Fourth High: | Oct 24 | 56.2 | Aug 31 | 53.6 | Nov 14 | 49.5 |
| California: | | | | | | |
| First High: | Oct 8 | 64 | Sep 21 | 62 | Nov 11 | 57 |
| Second High: | Oct 13 | 64 | Aug 25 | 56 | Oct 20 | 51 |
| Third High: | Jan 2 | 59 | Sep 1 | 54 | Nov 12 | 51 |
| Fourth High: | Oct 24 | 56 | Aug 31 | 53 | Nov 14 | 49 |
| National: | | | | | | |
| 1-Hour Standard Design Value: | | 53 | | 51 | | 49 |
| 1-Hour Standard 98th Percentile: | | 54.1 | | 45.6 | | 45.9 |
| # Days Above the Standard: | | 0 | | 0 | | 0 |
| Annual Standard Design Value: | | 10 | | 10 | | 9 |
| California: | | | | | | |
| 1-Hour Std Designation Value: | | 60 | | 60 | | 60 |
| Expected Peak Day Concentration: | | 62 | | 65 | | 65 |
| # Days Above the Standard: | | 0 | | 0 | | 0 |
| Annual Std Designation Value: | | 12 | | 12 | | 10 |
| Annual Average: | | 10 | | 9 | | * |
| Year Coverage: | | 93 | | 99 | | 84 |

Notes:

Hourly nitrogen dioxide measurements and related statistics are available at Visalia-N Church Street between 1979 and 2016. Some years in this range may not be represented.
All concentrations expressed in parts per billion.



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Top 4 Summary: Highest 4 Daily Maximum Hourly Nitrogen Dioxide Measurements

ADAM

at Hanford-S Irwin Street

| | 2014 | | 2015 | | 2016 | |
|----------------------------------|--------|-------------|--------|-------------|--------|-------------|
| | Date | Measurement | Date | Measurement | Date | Measurement |
| National: | | | | | | |
| First High: | Nov 10 | 50.0 | Oct 23 | 51.0 | Nov 10 | 52.2 |
| Second High: | Oct 2 | 48.0 | Oct 31 | 48.0 | Nov 14 | 48.1 |
| Third High: | Oct 6 | 47.0 | Oct 16 | 45.0 | Nov 7 | 44.3 |
| Fourth High: | Nov 9 | 47.0 | Oct 14 | 44.0 | Nov 9 | 42.6 |
| California: | | | | | | |
| First High: | Nov 10 | 50 | Oct 23 | 51 | Nov 10 | 52 |
| Second High: | Oct 2 | 48 | Oct 31 | 48 | Nov 14 | 48 |
| Third High: | Oct 6 | 47 | Oct 16 | 45 | Nov 7 | 44 |
| Fourth High: | Nov 9 | 47 | Oct 14 | 44 | Oct 8 | 42 |
| National: | | | | | | |
| 1-Hour Standard Design Value: | | 46 | | 44 | | 42 |
| 1-Hour Standard 98th Percentile: | | 45.0 | | 41.0 | | 41.1 |
| # Days Above the Standard: | | 0 | | 0 | | 0 |
| Annual Standard Design Value: | | 10 | | 9 | | 9 |
| California: | | | | | | |
| 1-Hour Std Designation Value: | | 60 | | 60 | | 50 |
| Expected Peak Day Concentration: | | 57 | | 55 | | 52 |
| # Days Above the Standard: | | 0 | | 0 | | 0 |
| Annual Std Designation Value: | | 10 | | 10 | | 10 |
| Annual Average: | | 10 | | 9 | | 8 |
| Year Coverage: | | 95 | | 93 | | 94 |

Notes:

Hourly nitrogen dioxide measurements and related statistics are available at Hanford-S Irwin Street between 1994 and 2016. Some years in this range may not be represented.
All concentrations expressed in parts per billion.



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Annual Toxics Summary

Fresno-Garland

Lead

nanograms per cubic meter

iADAM
[FAQs](#)

Read About New Estimated Risk

| Year | Months Present | Minimum | Median | Mean | 90th Percentile | Maximum | Standard Deviation | Number of Observations | Detection Limit | Estimated Risk |
|------|----------------|---------|--------|------|-----------------|---------|--------------------|------------------------|-----------------|----------------|
| 2017 | ----- | 0.65 | 3.1 | * | 6.6 | 8.4 | 2.08 | 26 | 1.3 | * |
| 2016 | ----- | 0.65 | 3.0 | 3.71 | 5.7 | 12.1 | 2.47 | 31 | 1.3 | 0.1 |
| 2015 | ----- | 0.65 | 2.6 | 3.01 | 5.4 | 8.3 | 1.81 | 30 | 1.3 | 0.1 |
| 2014 | ----- | 0.85 | 3.0 | 3.93 | 8.0 | 12 | 3.09 | 30 | 1.7 | 0.1 |
| 2013 | ----- | 0.5 | 3.5 | * | 10.1 | 17 | 4.01 | 30 | 1.0 | * |
| 2012 | ----- | 0.75 | 2.6 | 3.17 | 6.2 | 16 | 3.29 | 29 | 1.5 | 0.1 |
| 2011 | ----- | * | * | * | * | * | * | 0 | * | * |
| 2010 | ----- | * | * | * | * | * | * | 0 | * | * |
| 2009 | ----- | * | * | * | * | * | * | 0 | * | * |
| 2008 | ----- | * | * | * | * | * | * | 0 | * | * |
| 2007 | ----- | * | * | * | * | * | * | 0 | * | * |
| 2006 | ----- | * | * | * | * | * | * | 0 | * | * |
| 2005 | ----- | * | * | * | * | * | * | 0 | * | * |
| 2004 | ----- | * | * | * | * | * | * | 0 | * | * |
| 2003 | ----- | * | * | * | * | * | * | 0 | * | * |
| 2002 | ----- | * | * | * | * | * | * | 0 | * | * |
| 2001 | ----- | * | * | * | * | * | * | 0 | * | * |
| 2000 | ----- | * | * | * | * | * | * | 0 | * | * |
| 1999 | ----- | * | * | * | * | * | * | 0 | * | * |
| 1998 | ----- | * | * | * | * | * | * | 0 | * | * |
| 1997 | ----- | * | * | * | * | * | * | 0 | * | * |
| 1996 | ----- | * | * | * | * | * | * | 0 | * | * |
| 1995 | ----- | * | * | * | * | * | * | 0 | * | * |
| 1994 | ----- | * | * | * | * | * | * | 0 | * | * |
| 1993 | ----- | * | * | * | * | * | * | 0 | * | * |
| 1992 | ----- | * | * | * | * | * | * | 0 | * | * |
| 1991 | ----- | * | * | * | * | * | * | 0 | * | * |
| 1990 | ----- | * | * | * | * | * | * | 0 | * | * |
| 1989 | ----- | * | * | * | * | * | * | 0 | * | * |

[Graph It!](#)


Notes: Values below the Limit of Detection (LoD) assumed to be ½ LoD.
Means and risks shown only for years with data in all 12 months.
"***" means there was insufficient or no data available to determine the value.



ATTACHMENT B: PROJECT EMISSION CALCULATIONS

2019 Project Operational Light Duty Trucks Exhaust Emissions - EMFAC2014

Daily Equipment Checks and Quarterly Maintenance

Based on:

| | | | | | |
|----------------------------|-------|--|--------------------------|----|---|
| Daily Round Trips/year: | 365 | (one trip per day) | Maintenance Trucks/year: | 4 | (one truck per quarter) |
| Daily Miles/Round Trip: | 18.4 | (distance from Hanford) | miles/maintenance truck: | 50 | (estimated quarterly miles for maintenance) |
| Total miles traveled/year: | 6,916 | (1 truck per day for equipment checks (18.4 miles/day) and 1 truck per quarter for maintenance (50 miles per quarter)) | | | |

| | ROG | NOx | CO | SOX | PM10 ¹ | PM2.5 ¹ | CO2 | CH4 ² | N2O ² | CO2e |
|-------------------------|-----------------|-----------------|-----------------|-----------------|-------------------|--------------------|-----------------|------------------|------------------|-----------------|
| Em. Factor (grams/mile) | 0.07 | 0.28 | 2.53 | 0.00 | 0.05 | 0.02 | 333.98 | 0.0813 | 0.1035 | |
| Lbs/Mile | 1.48E-04 | 6.28E-04 | 5.57E-03 | 7.44E-06 | 1.06E-04 | 4.55E-05 | 7.36E-01 | 1.79E-04 | 2.28E-04 | |
| Lbs/Year | 1.0249 | 4.3420 | 38.5101 | 0.0515 | 0.7305 | 0.3150 | 5092.2709 | 1.2396 | 1.5781 | |
| Tons/year | 5.12E-04 | 2.17E-03 | 1.93E-02 | 2.57E-05 | 3.65E-04 | 1.58E-04 | 2.55E+00 | 6.20E-04 | 7.89E-04 | 2.80E+00 |

¹ PM accounts for PM from running, tire wear and break wear.

² California Climate Action Registry General Reporting Protocol Version 3.1 April 2009. Table C4 Gasoline Light Trucks, Model Years 1987-1993 (used to be most conservative)

2019 Project Operational T7 Single Trucks Exhaust Emissions - EMFAC2014

Delivery Trucks

Based on:

| | | |
|----------------------------|-------|---|
| round trips/year | 52.0 | (1 truck per week) |
| miles/round trip | 152.8 | (Round trip distance to Bakersfield. Trucks may also come from Fresno) |
| Total miles traveled/year: | 7,946 | |

| | ROG | NOx | CO | SOX | PM10 ¹ | PM2.5 ¹ | CO2 | CH4 ² | N2O ² | CO2e |
|-------------------------|-----------------|-----------------|-----------------|-----------------|-------------------|--------------------|-----------------|------------------|------------------|-----------------|
| Em. Factor (grams/mile) | 0.17 | 5.71 | 0.71 | 0.02 | 0.16 | 0.09 | 1697.12 | 0.0051 | 0.0048 | |
| Lbs/Mile | 3.85E-04 | 1.26E-02 | 1.57E-03 | 3.57E-05 | 3.49E-04 | 2.06E-04 | 3.74E+00 | 1.12E-05 | 1.06E-05 | |
| Lbs/Year | 3.0599 | 100.0961 | 12.4796 | 0.2836 | 2.7703 | 1.6335 | 29728.4876 | 0.0893 | 0.0841 | |
| Tons/year | 1.53E-03 | 5.00E-02 | 6.24E-03 | 1.42E-04 | 1.39E-03 | 8.17E-04 | 1.49E+01 | 4.47E-05 | 4.20E-05 | 1.49E+01 |

¹ PM accounts for PM from running, tire wear and break wear.

² California Climate Action Registry General Reporting Protocol Version 3.1 April 2009. Table C4 Diesel Heavy -Duty Vehicles, All Model Years

Project Fugitive Gas Emissions

Assumptions:

Operation 24 hr/day, 365 days/yr

Flow Rate of raw biogas: 600 MMscf/yr

% of inlet gas to CO2 membrane system vented to atmosphere: 2%

Activated carbon is expected to remove 95% of the VOCs

VOC content of raw biogas: 0.296 lb/MMscf (taken from similar project S-8982, 1170742)

CO2 removal from gas to less than 3%

| | VOC | CO2 | CH4 | CO2e |
|------------------------|---------------|---------------|---------------|--------------|
| Em. Factor (lbs/MMscf) | 0.296 | 0.81 | 0.30 | |
| Lbs/Year | 0.18 | 0.29 | 0.18 | 4.02 |
| Tons/year | 0.0001 | 0.0001 | 0.0001 | 0.002 |

Operational Exhaust and Fugitive Emissions (Total)

| | ROG | NOx | CO | SOX | PM10 | PM2.5 | CO2 | CH4 | N2O | CO2e |
|--|---------------|---------------|---------------|---------------|---------------|---------------|-----------------|-----------------|-----------------|-----------------|
| Mobile emissions (tons/yr) | 0.0020 | 0.0522 | 0.0255 | 0.0002 | 0.0018 | 0.0010 | 17.4104 | 0.0007 | 0.0008 | 17.6820 |
| Fugitive Gas Emissions (tons/yr) | 0.0001 | - | - | - | - | - | 1.462E-04 | 8.88E-05 | 0.00E+00 | 2.01E-03 |
| Operational total emissions (tons/year) | 0.0021 | 0.0522 | 0.0255 | 0.0002 | 0.0018 | 0.0010 | 1.74E+01 | 7.53E-04 | 8.31E-04 | 1.77E+01 |

2019 Project Operational T7 Single Trucks Exhaust Emissions - EMFAC2014

Delivery Trucks Travel - On-site

Based on:

| | | |
|----------------------------|------|--------------------------|
| round trips/year: | 76.0 | (1 truck per week) |
| miles/round trip: | 0.1 | (On-site trip distance) |
| Total miles traveled/year: | 8 | |

| | PM10¹ |
|-------------------------|-------------------------|
| Em. Factor (grams/mile) | 0.13 |
| Lbs/Mile | 2.81E-04 |
| Lbs/Year | 0.0021 |
| lbs/day | 2.81E-05 |
| Tons/year | 1.07E-06 |

¹ PM10 = DPM

2019 Project Operational T7 Single Trucks Exhaust Emissions - EMFAC2014

Delivery Trucks Travel - Idle On-site

Based on:

| | | |
|---------------------|------|---|
| trucks/year: | 76.0 | (1 truck per week) |
| idle minutes/truck: | 15 | (Round trip distance to Bakersfield. Trucks may also come from Fresno) |
| idle hrs/year: | 19 | |

| | PM10¹ |
|-----------------------|-------------------------|
| Em. Factor (grams/hr) | 0.14 |
| Em. Factor (lbs/hr) | 3.05E-04 |
| Lbs/Year | 0.0058 |
| lbs/day | 0.0000762 |
| Tons/year | 2.90E-06 |

¹ PM accounts for PM from running, tire wear and break wear.

² California Climate Action Registry General Reporting Protocol Version 3.1 April 2009. Table C4 Diesel Heavy -Duty Vehicles, All Model Years

Hanford-Lakeside Dairy Digester Cluster Project - Construction - Kings County, Annual

Hanford-Lakeside Dairy Digester Cluster Project - Construction
Kings County, Annual**1.0 Project Characteristics**

1.1 Land Usage

| Land Uses | Size | Metric | Lot Acreage | Floor Surface Area | Population |
|------------------------|-------|----------|-------------|--------------------|------------|
| General Light Industry | 30.00 | 1000sqft | 3.30 | 30,000.00 | 0 |

1.2 Other Project Characteristics

| | | | | | |
|-----------------------------|--------------------------------|-----------------------------|-------|-----------------------------|-------|
| Urbanization | Rural | Wind Speed (m/s) | 2.2 | Precipitation Freq (Days) | 37 |
| Climate Zone | 3 | | | Operational Year | 2019 |
| Utility Company | Pacific Gas & Electric Company | | | | |
| CO2 Intensity (lb/MW hr) | 641.35 | CH4 Intensity (lb/MW hr) | 0.029 | N2O Intensity (lb/MW hr) | 0.006 |

1.3 User Entered Comments & Non-Default Data

Hanford-Lakeside Dairy Digester Cluster Project - Construction - Kings County, Annual

Project Characteristics -

Land Use - Actual Lot Acreage

Construction Phase - Anticipated Construction Schedule

Off-road Equipment - Anticipated Construction Equipment

Off-road Equipment - Anticipated Construction Equipment

Vehicle Trips - Construction Run Only

Consumer Products - Construction Run Only

Area Coating - Construction Run Only

Landscape Equipment - Construction Run Only

Energy Use - Construction Run Only

Water And Wastewater - Construction Run Only

Solid Waste - Construction Run Only

Construction Off-road Equipment Mitigation -

| Table Name | Column Name | Default Value | New Value |
|------------------------|------------------------------|---------------|------------|
| tblAreaCoating | ReapplicationRatePercent | 10 | 0 |
| tblConstDustMitigation | WaterUnpavedRoadVehicleSpeed | 0 | 15 |
| tblConstructionPhase | NumDays | 230.00 | 180.00 |
| tblConstructionPhase | NumDays | 8.00 | 15.00 |
| tblConstructionPhase | PhaseEndDate | 2/12/2020 | 11/10/2019 |
| tblConstructionPhase | PhaseEndDate | 3/27/2019 | 3/3/2019 |
| tblConstructionPhase | PhaseStartDate | 3/28/2019 | 3/4/2019 |
| tblConstructionPhase | PhaseStartDate | 3/16/2019 | 2/11/2019 |
| tblConsumerProducts | ROG_EF | 2.14E-05 | 0 |
| tblEnergyUse | LightingElect | 2.70 | 0.00 |
| tblEnergyUse | NT24E | 4.16 | 0.00 |
| tblEnergyUse | NT24NG | 3.84 | 0.00 |

Hanford-Lakeside Dairy Digester Cluster Project - Construction - Kings County, Annual

| | | | |
|---------------------------|----------------------------|---------------------------|-----------------|
| tblEnergyUse | T24E | 1.96 | 0.00 |
| tblEnergyUse | T24NG | 17.03 | 0.00 |
| tblGrading | AcresOfGrading | 7.50 | 4.00 |
| tblLandUse | LotAcreage | 0.69 | 3.30 |
| tblOffRoadEquipment | HorsePower | 158.00 | 65.00 |
| tblOffRoadEquipment | HorsePower | 158.00 | 65.00 |
| tblOffRoadEquipment | LoadFactor | 0.38 | 0.38 |
| tblOffRoadEquipment | LoadFactor | 0.48 | 0.48 |
| tblOffRoadEquipment | LoadFactor | 0.38 | 0.38 |
| tblOffRoadEquipment | LoadFactor | 0.50 | 0.50 |
| tblOffRoadEquipment | LoadFactor | 0.41 | 0.41 |
| tblOffRoadEquipment | OffRoadEquipmentType | Cranes | Excavators |
| tblOffRoadEquipment | OffRoadEquipmentType | Forklifts | Scrapers |
| tblOffRoadEquipment | OffRoadEquipmentType | | Rollers |
| tblOffRoadEquipment | OffRoadEquipmentType | Tractors/Loaders/Backhoes | Trenchers |
| tblOffRoadEquipment | OffRoadEquipmentType | | Graders |
| tblOffRoadEquipment | OffRoadEquipmentType | | Air Compressors |
| tblOffRoadEquipment | OffRoadEquipmentUnitAmount | 3.00 | 1.00 |
| tblProjectCharacteristics | UrbanizationLevel | Urban | Rural |
| tblSolidWaste | SolidWasteGenerationRate | 37.20 | 0.00 |
| tblTripsAndVMT | WorkerTripNumber | 10.00 | 8.00 |
| tblVehicleTrips | ST_TR | 1.32 | 0.00 |
| tblVehicleTrips | SU_TR | 0.68 | 0.00 |
| tblVehicleTrips | WD_TR | 6.97 | 0.00 |
| tblWater | IndoorWaterUseRate | 6,937,500.00 | 0.00 |

2.0 Emissions Summary

Hanford-Lakeside Dairy Digester Cluster Project - Construction - Kings County, Annual

2.1 Overall Construction**Unmitigated Construction**

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---------|---------|--------|--------|-------------|---------------|--------------|------------|----------------|---------------|-------------|----------|-----------|-----------|--------|--------|----------|
| Year | tons/yr | | | | | | | | | | MT/yr | | | | | |
| 2019 | 0.4822 | 4.7943 | 3.3593 | 5.8900e-003 | 0.0654 | 0.2528 | 0.3181 | 0.0299 | 0.2361 | 0.2661 | 0.0000 | 522.7809 | 522.7809 | 0.1370 | 0.0000 | 526.2061 |
| Maximum | 0.4822 | 4.7943 | 3.3593 | 5.8900e-003 | 0.0654 | 0.2528 | 0.3181 | 0.0299 | 0.2361 | 0.2661 | 0.0000 | 522.7809 | 522.7809 | 0.1370 | 0.0000 | 526.2061 |

Mitigated Construction

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---------|---------|--------|--------|-------------|---------------|--------------|------------|----------------|---------------|-------------|----------|-----------|-----------|--------|--------|----------|
| Year | tons/yr | | | | | | | | | | MT/yr | | | | | |
| 2019 | 0.4822 | 4.7943 | 3.3593 | 5.8900e-003 | 0.0365 | 0.2528 | 0.2893 | 0.0146 | 0.2361 | 0.2508 | 0.0000 | 522.7803 | 522.7803 | 0.1370 | 0.0000 | 526.2055 |
| Maximum | 0.4822 | 4.7943 | 3.3593 | 5.8900e-003 | 0.0365 | 0.2528 | 0.2893 | 0.0146 | 0.2361 | 0.2508 | 0.0000 | 522.7803 | 522.7803 | 0.1370 | 0.0000 | 526.2055 |

| | 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 | 44.12 | 0.00 | 9.07 | 51.07 | 0.00 | 5.74 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |

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| Quarter | Start Date | End Date | Maximum Unmitigated ROG + NOX (tons/quarter) | Maximum Mitigated ROG + NOX (tons/quarter) |
|---------|------------|-----------|--|--|
| 1 | 2-11-2019 | 5-10-2019 | 1.5584 | 1.5584 |
| 2 | 5-11-2019 | 8-10-2019 | 1.8589 | 1.8589 |
| 3 | 8-11-2019 | 9-30-2019 | 1.0305 | 1.0305 |
| | | Highest | 1.8589 | 1.8589 |

2.2 Overall Operational

Unmitigated Operational

[illegible]

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2.2 Overall Operational**Mitigated Operational**

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|--------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|----------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|
| Category | tons/yr | | | | | | | | | | MT/yr | | | | | |
| Area | 0.0000 | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Energy | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Mobile | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Waste | | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 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 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |

| | 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 | Grading | Grading | 2/11/2019 | 3/3/2019 | 5 | 15 | |
| 2 | Building Construction | Building Construction | 3/4/2019 | 11/10/2019 | 5 | 180 | |

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Acres of Grading (Site Preparation Phase): 0**Acres of Grading (Grading Phase): 4****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 |
|-----------------------|---------------------------|--------|-------------|-------------|-------------|
| Building Construction | Rollers | 1 | 8.00 | 80 | 0.38 |
| Building Construction | Graders | 1 | 8.00 | 187 | 0.41 |
| Building Construction | Air Compressors | 1 | 8.00 | 78 | 0.48 |
| Building Construction | Cranes | 1 | 7.00 | 231 | 0.29 |
| Building Construction | Excavators | 1 | 8.00 | 65 | 0.38 |
| Building Construction | Scrapers | 1 | 8.00 | 367 | 0.48 |
| Grading | Excavators | 1 | 8.00 | 65 | 0.38 |
| Building Construction | Forklifts | 3 | 8.00 | 89 | 0.20 |
| Grading | Rubber Tired Dozers | 1 | 8.00 | 247 | 0.40 |
| Building Construction | Tractors/Loaders/Backhoes | 3 | 7.00 | 97 | 0.37 |
| Building Construction | Trenchers | 1 | 8.00 | 78 | 0.50 |
| Building Construction | Generator Sets | 1 | 8.00 | 84 | 0.74 |
| Grading | Tractors/Loaders/Backhoes | 1 | 8.00 | 97 | 0.37 |
| Grading | Graders | 1 | 8.00 | 187 | 0.41 |
| Building Construction | Welders | 1 | 8.00 | 46 | 0.45 |

Trips and VMT

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| 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 |
|-----------------------|-------------------------|--------------------|--------------------|---------------------|--------------------|--------------------|---------------------|----------------------|----------------------|-----------------------|
| Grading | 4 | 8.00 | 0.00 | 0.00 | 16.80 | 6.60 | 20.00 | LD_Mix | HDT_Mix | HHDT |
| Building Construction | 15 | 13.00 | 5.00 | 0.00 | 16.80 | 6.60 | 20.00 | LD_Mix | HDT_Mix | HHDT |

3.1 Mitigation Measures Construction

Water Exposed Area

Reduce Vehicle Speed on Unpaved Roads

3.2 Grading - 2019**Unmitigated Construction On-Site**

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---------------|---------------|---------------|---------------|--------------------|---------------|--------------------|---------------|----------------|--------------------|---------------|---------------|----------------|----------------|--------------------|---------------|----------------|
| Category | tons/yr | | | | | | | | | | MT/yr | | | | | |
| Fugitive Dust | | | | | 0.0473 | 0.0000 | 0.0473 | 0.0251 | 0.0000 | 0.0251 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Off-Road | 0.0150 | 0.1684 | 0.0747 | 1.5000e-004 | | 7.8600e-003 | 7.8600e-003 | | 7.2300e-003 | 7.2300e-003 | 0.0000 | 13.7366 | 13.7366 | 4.3500e-003 | 0.0000 | 13.8453 |
| Total | 0.0150 | 0.1684 | 0.0747 | 1.5000e-004 | 0.0473 | 7.8600e-003 | 0.0552 | 0.0251 | 7.2300e-003 | 0.0323 | 0.0000 | 13.7366 | 13.7366 | 4.3500e-003 | 0.0000 | 13.8453 |

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3.2 Grading - 2019**Unmitigated Construction Off-Site**

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|--------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|---------------|--------------------|---------------|---------------|---------------|--------------------|---------------|---------------|
| Category | tons/yr | | | | | | | | | | MT/yr | | | | | |
| Hauling | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Vendor | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Worker | 4.1000e-004 | 3.5000e-004 | 3.2000e-003 | 1.0000e-005 | 7.5000e-004 | 1.0000e-005 | 7.5000e-004 | 2.0000e-004 | 0.0000 | 2.0000e-004 | 0.0000 | 0.6493 | 0.6493 | 3.0000e-005 | 0.0000 | 0.6500 |
| Total | 4.1000e-004 | 3.5000e-004 | 3.2000e-003 | 1.0000e-005 | 7.5000e-004 | 1.0000e-005 | 7.5000e-004 | 2.0000e-004 | 0.0000 | 2.0000e-004 | 0.0000 | 0.6493 | 0.6493 | 3.0000e-005 | 0.0000 | 0.6500 |

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 | | | | | 0.0184 | 0.0000 | 0.0184 | 9.7700e-003 | 0.0000 | 9.7700e-003 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Off-Road | 0.0150 | 0.1684 | 0.0747 | 1.5000e-004 | | 7.8600e-003 | 7.8600e-003 | | 7.2300e-003 | 7.2300e-003 | 0.0000 | 13.7366 | 13.7366 | 4.3500e-003 | 0.0000 | 13.8453 |
| Total | 0.0150 | 0.1684 | 0.0747 | 1.5000e-004 | 0.0184 | 7.8600e-003 | 0.0263 | 9.7700e-003 | 7.2300e-003 | 0.0170 | 0.0000 | 13.7366 | 13.7366 | 4.3500e-003 | 0.0000 | 13.8453 |

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3.2 Grading - 2019**Mitigated Construction Off-Site**

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|--------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|---------------|--------------------|---------------|---------------|---------------|--------------------|---------------|---------------|
| Category | tons/yr | | | | | | | | | | MT/yr | | | | | |
| Hauling | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Vendor | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Worker | 4.1000e-004 | 3.5000e-004 | 3.2000e-003 | 1.0000e-005 | 7.5000e-004 | 1.0000e-005 | 7.5000e-004 | 2.0000e-004 | 0.0000 | 2.0000e-004 | 0.0000 | 0.6493 | 0.6493 | 3.0000e-005 | 0.0000 | 0.6500 |
| Total | 4.1000e-004 | 3.5000e-004 | 3.2000e-003 | 1.0000e-005 | 7.5000e-004 | 1.0000e-005 | 7.5000e-004 | 2.0000e-004 | 0.0000 | 2.0000e-004 | 0.0000 | 0.6493 | 0.6493 | 3.0000e-005 | 0.0000 | 0.6500 |

3.3 Building Construction - 2019**Unmitigated Construction On-Site**

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|--------------|---------------|---------------|---------------|--------------------|---------------|---------------|---------------|----------------|---------------|---------------|---------------|-----------------|-----------------|---------------|---------------|-----------------|
| Category | tons/yr | | | | | | | | | | MT/yr | | | | | |
| Off-Road | 0.4567 | 4.5619 | 3.2068 | 5.4700e-003 | | 0.2444 | 0.2444 | | 0.2285 | 0.2285 | 0.0000 | 484.2468 | 484.2468 | 0.1307 | 0.0000 | 487.5144 |
| Total | 0.4567 | 4.5619 | 3.2068 | 5.4700e-003 | | 0.2444 | 0.2444 | | 0.2285 | 0.2285 | 0.0000 | 484.2468 | 484.2468 | 0.1307 | 0.0000 | 487.5144 |

Hanford-Lakeside Dairy Digester Cluster Project - Construction - Kings County, Annual

3.3 Building Construction - 2019**Unmitigated Construction Off-Site**

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|--------------|---------------|---------------|---------------|--------------------|---------------|--------------------|---------------|--------------------|--------------------|--------------------|---------------|----------------|----------------|--------------------|---------------|----------------|
| Category | tons/yr | | | | | | | | | | MT/yr | | | | | |
| Hauling | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Vendor | 2.1000e-003 | 0.0568 | 0.0121 | 1.2000e-004 | 2.7100e-003 | 3.8000e-004 | 3.0900e-003 | 7.8000e-004 | 3.6000e-004 | 1.1400e-003 | 0.0000 | 11.4866 | 11.4866 | 1.4200e-003 | 0.0000 | 11.5222 |
| Worker | 7.9900e-003 | 6.8400e-003 | 0.0625 | 1.4000e-004 | 0.0146 | 1.0000e-004 | 0.0147 | 3.8800e-003 | 9.0000e-005 | 3.9700e-003 | 0.0000 | 12.6616 | 12.6616 | 5.1000e-004 | 0.0000 | 12.6744 |
| Total | 0.0101 | 0.0637 | 0.0746 | 2.6000e-004 | 0.0173 | 4.8000e-004 | 0.0178 | 4.6600e-003 | 4.5000e-004 | 5.1100e-003 | 0.0000 | 24.1482 | 24.1482 | 1.9300e-003 | 0.0000 | 24.1965 |

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 | 0.4567 | 4.5619 | 3.2068 | 5.4700e-003 | | 0.2444 | 0.2444 | | 0.2285 | 0.2285 | 0.0000 | 484.2462 | 484.2462 | 0.1307 | 0.0000 | 487.5138 |
| Total | 0.4567 | 4.5619 | 3.2068 | 5.4700e-003 | | 0.2444 | 0.2444 | | 0.2285 | 0.2285 | 0.0000 | 484.2462 | 484.2462 | 0.1307 | 0.0000 | 487.5138 |

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3.3 Building Construction - 2019**Mitigated Construction Off-Site**

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|--------------|---------------|---------------|---------------|--------------------|---------------|--------------------|---------------|--------------------|--------------------|--------------------|---------------|----------------|----------------|--------------------|---------------|----------------|
| Category | tons/yr | | | | | | | | | | MT/yr | | | | | |
| Hauling | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Vendor | 2.1000e-003 | 0.0568 | 0.0121 | 1.2000e-004 | 2.7100e-003 | 3.8000e-004 | 3.0900e-003 | 7.8000e-004 | 3.6000e-004 | 1.1400e-003 | 0.0000 | 11.4866 | 11.4866 | 1.4200e-003 | 0.0000 | 11.5222 |
| Worker | 7.9900e-003 | 6.8400e-003 | 0.0625 | 1.4000e-004 | 0.0146 | 1.0000e-004 | 0.0147 | 3.8800e-003 | 9.0000e-005 | 3.9700e-003 | 0.0000 | 12.6616 | 12.6616 | 5.1000e-004 | 0.0000 | 12.6744 |
| Total | 0.0101 | 0.0637 | 0.0746 | 2.6000e-004 | 0.0173 | 4.8000e-004 | 0.0178 | 4.6600e-003 | 4.5000e-004 | 5.1100e-003 | 0.0000 | 24.1482 | 24.1482 | 1.9300e-003 | 0.0000 | 24.1965 |

4.0 Operational Detail - Mobile**4.1 Mitigation Measures Mobile**

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| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|-------------|---------|--------|--------|--------|---------------|--------------|------------|----------------|---------------|-------------|----------|-----------|-----------|--------|--------|--------|
| Category | tons/yr | | | | | | | | | | MT/yr | | | | | |
| Mitigated | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Unmitigated | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |

4.2 Trip Summary Information

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

4.3 Trip Type Information

| | Miles | | | Trip % | | | Trip Purpose % | | |
|------------------------|------------|------------|-------------|------------|------------|-------------|----------------|----------|---------|
| Land Use | H-W or C-W | H-S or C-C | H-O or C-NW | H-W or C-W | H-S or C-C | H-O or C-NW | Primary | Diverted | Pass-by |
| General Light Industry | 14.70 | 6.60 | 6.60 | 59.00 | 28.00 | 13.00 | 92 | 5 | 3 |

4.4 Fleet Mix

| Land Use | LDA | LDT1 | LDT2 | MDV | LHD1 | LHD2 | MHD | HHD | OBUS | UBUS | MCY | SBUS | MH |
|------------------------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|
| General Light Industry | 0.480541 | 0.029898 | 0.145962 | 0.133853 | 0.023791 | 0.005025 | 0.012238 | 0.156969 | 0.001786 | 0.002002 | 0.006069 | 0.001023 | 0.000844 |

5.0 Energy Detail

 Historical Energy Use: N

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5.1 Mitigation Measures Energy

[illegible]

5.2 Energy by Land Use - NaturalGas

Unmitigated

[illegible]

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5.2 Energy by Land Use - NaturalGas**Mitigated**

| | NaturalGas Use | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|------------------------|----------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|----------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|
| Land Use | kBTU/yr | tons/yr | | | | | | | | | | MT/yr | | | | | |
| General Light Industry | 0 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Total | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |

5.3 Energy by Land Use - Electricity**Unmitigated**

| | Electricity Use | Total CO2 | CH4 | N2O | CO2e |
|------------------------|-----------------|---------------|---------------|---------------|---------------|
| Land Use | kWh/yr | MT/yr | | | |
| General Light Industry | 0 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Total | | 0.0000 | 0.0000 | 0.0000 | 0.0000 |

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5.3 Energy by Land Use - Electricity

Mitigated

| | Electricity Use | Total CO2 | CH4 | N2O | CO2e |
|------------------------|-----------------|---------------|---------------|---------------|---------------|
| Land Use | kWh/yr | MT/yr | | | |
| General Light Industry | 0 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Total | | 0.0000 | 0.0000 | 0.0000 | 0.0000 |

6.0 Area Detail

6.1 Mitigation Measures Area

[illegible]

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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 | 0.0000 | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Consumer Products | 0.0000 | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Total | 0.0000 | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |

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 | 0.0000 | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Consumer Products | 0.0000 | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Total | 0.0000 | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |

7.0 Water Detail**7.1 Mitigation Measures Water**

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| | 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 | | | |
| General Light Industry | 0 / 0 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Total | | 0.0000 | 0.0000 | 0.0000 | 0.0000 |

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7.2 Water by Land Use**Mitigated**

| | Indoor/Outdoor Use | Total CO2 | CH4 | N2O | CO2e |
|------------------------|--------------------|---------------|---------------|---------------|---------------|
| Land Use | Mgal | MT/yr | | | |
| General Light Industry | 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 |

Hanford-Lakeside Dairy Digester Cluster Project - Construction - Kings County, Annual

8.2 Waste by Land Use**Unmitigated**

| | Waste Disposed | Total CO2 | CH4 | N2O | CO2e |
|------------------------|----------------|---------------|---------------|---------------|---------------|
| Land Use | tons | MT/yr | | | |
| General Light Industry | 0 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Total | | 0.0000 | 0.0000 | 0.0000 | 0.0000 |

Mitigated

| | Waste Disposed | Total CO2 | CH4 | N2O | CO2e |
|------------------------|----------------|---------------|---------------|---------------|---------------|
| Land Use | tons | MT/yr | | | |
| General Light Industry | 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 |
|----------------|--------|-----------|-----------|-------------|-------------|-----------|
|----------------|--------|-----------|-----------|-------------|-------------|-----------|

Hanford-Lakeside Dairy Digester Cluster Project - Construction - Kings County, Annual

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

Operational GHG Emissions

| | Emission Factor ¹ | Electricity Usage | Conversion | Emissions | Conversion Factor | CO2e Emissions |
|---------------------------|------------------------------|-------------------|----------------|-------------|---------------------|----------------|
| | lbs/MWh | MWh | lbs/metric ton | metric tons | to CO2e | metric tons |
| Electricity CO2 Emissions | 879 | 8918 | 2204.62 | 3555.552 | 1 | 3,555.6 |
| Electricity CH4 Emissions | 0.0067 | 8918 | 2204.62 | 0.027 | 21 | 0.569 |
| Electricity N2O Emissions | 0.0037 | 8918 | 2204.62 | 0.015 | 310 | 4.640 |
| | | | | | Total CO2e = | 3,561 |

¹ California Climate Action Registry General Reporting Protocol Version 3.1 April 2009

| Source | CO ₂ | CH ₄ | N ₂ O | CO ₂ e |
|-----------------------------------|-----------------|-----------------|------------------|-------------------|
| Construction GHG Emissions | 522.780 | 0.137 | 0.000 | 526.210 |
| Annualized Construction Emissions | 17.426 | 0.005 | 0.000 | 17.540 |
| Direct Operations GHG Emissions | 17.411 | 0.001 | 0.001 | 17.684 |
| Indirect Operations GHG Emissions | 3555.552 | 0.569 | 4.640 | 3560.761 |
| Project emissions | 3590.388 | 0.574 | 4.640 | 3595.985 |

ATTACHMENT C: CARB 2015 AND 2020 ESTIMATED EMISSION INVENTORIES



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2016 SIP EMISSION PROJECTION DATA 2020 Estimated Annual Average Emissions

KINGS COUNTY

All emissions are represented in Tons per Day and reflect the most current data provided to ARB.

[See detailed information.](#)

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| STATIONARY SOURCES | TOG | ROG | CO | NOX | SOX | PM | PM10 | PM2.5 | NH3 |
|-------------------------------------|--------------|-------------|-------------|-------------|------------|-------------|-------------|--------------|-------------|
| FUEL COMBUSTION | 1.1 | 0.2 | 1.0 | 0.9 | 0.1 | 0.1 | 0.1 | 0.1 | 0.0 |
| WASTE DISPOSAL | 59.9 | 1.8 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.2 |
| CLEANING AND SURFACE COATINGS | 0.6 | 0.5 | - | - | - | 0.0 | 0.0 | 0.0 | 0.0 |
| PETROLEUM PRODUCTION AND MARKETING | 8.7 | 0.3 | - | - | 0.0 | - | - | - | - |
| INDUSTRIAL PROCESSES | 0.7 | 0.7 | - | - | - | 1.4 | 0.6 | 0.1 | 0.0 |
| * TOTAL STATIONARY SOURCES | 71.0 | 3.5 | 1.0 | 0.9 | 0.1 | 1.6 | 0.8 | 0.3 | 0.2 |
| AREAWIDE SOURCES | TOG | ROG | CO | NOX | SOX | PM | PM10 | PM2.5 | NH3 |
| SOLVENT EVAPORATION | 2.6 | 2.4 | - | - | - | - | - | - | 7.5 |
| MISCELLANEOUS PROCESSES | 76.0 | 10.2 | 1.1 | 0.2 | 0.0 | 41.4 | 20.0 | 3.0 | 20.9 |
| * TOTAL AREAWIDE SOURCES | 78.6 | 12.7 | 1.1 | 0.2 | 0.0 | 41.4 | 20.0 | 3.0 | 28.3 |
| MOBILE SOURCES | TOG | ROG | CO | NOX | SOX | PM | PM10 | PM2.5 | NH3 |
| ON-ROAD MOTOR VEHICLES | 1.1 | 1.0 | 6.5 | 4.8 | 0.0 | 0.3 | 0.3 | 0.1 | 0.1 |
| OTHER MOBILE SOURCES | 4.6 | 4.4 | 24.2 | 7.1 | 0.1 | 1.7 | 1.7 | 1.6 | 0.0 |
| * TOTAL MOBILE SOURCES | 5.7 | 5.4 | 30.7 | 11.9 | 0.1 | 2.0 | 2.0 | 1.8 | 0.1 |
| GRAND TOTAL FOR KINGS COUNTY | 155.3 | 21.6 | 32.7 | 13.0 | 0.2 | 45.0 | 22.7 | 5.0 | 28.7 |

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2016 SIP EMISSION PROJECTION DATA 2015 Estimated Annual Average Emissions

KINGS COUNTY

All emissions are represented in Tons per Day and reflect the most current data provided to ARB.

[See detailed information.](#)

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| STATIONARY SOURCES | TOG | ROG | CO | NOX | SOX | PM | PM10 | PM2.5 | NH3 |
|-------------------------------------|--------------|-------------|-------------|-------------|------------|-------------|-------------|--------------|-------------|
| FUEL COMBUSTION | 1.1 | 0.2 | 1.1 | 1.2 | 0.1 | 0.2 | 0.2 | 0.2 | 0.0 |
| WASTE DISPOSAL | 56.2 | 1.7 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.2 |
| CLEANING AND SURFACE COATINGS | 0.6 | 0.5 | - | - | - | 0.0 | 0.0 | 0.0 | 0.0 |
| PETROLEUM PRODUCTION AND MARKETING | 8.5 | 0.3 | 0.0 | - | 0.0 | - | - | - | - |
| INDUSTRIAL PROCESSES | 0.6 | 0.6 | - | - | - | 1.3 | 0.6 | 0.1 | 0.0 |
| * TOTAL STATIONARY SOURCES | 67.0 | 3.4 | 1.1 | 1.2 | 0.1 | 1.5 | 0.7 | 0.3 | 0.2 |
| AREAWIDE SOURCES | TOG | ROG | CO | NOX | SOX | PM | PM10 | PM2.5 | NH3 |
| SOLVENT EVAPORATION | 2.7 | 2.5 | - | - | - | - | - | - | 8.2 |
| MISCELLANEOUS PROCESSES | 76.0 | 10.2 | 1.1 | 0.2 | 0.0 | 43.8 | 21.1 | 3.2 | 20.8 |
| * TOTAL AREAWIDE SOURCES | 78.6 | 12.7 | 1.1 | 0.2 | 0.0 | 43.8 | 21.1 | 3.2 | 29.1 |
| MOBILE SOURCES | TOG | ROG | CO | NOX | SOX | PM | PM10 | PM2.5 | NH3 |
| ON-ROAD MOTOR VEHICLES | 1.7 | 1.5 | 10.9 | 6.8 | 0.0 | 0.3 | 0.3 | 0.2 | 0.2 |
| OTHER MOBILE SOURCES | 3.9 | 3.7 | 16.1 | 5.8 | 0.1 | 1.3 | 1.3 | 1.2 | 0.0 |
| * TOTAL MOBILE SOURCES | 5.6 | 5.2 | 27.0 | 12.6 | 0.1 | 1.6 | 1.6 | 1.4 | 0.2 |
| GRAND TOTAL FOR KINGS COUNTY | 151.2 | 21.3 | 29.1 | 14.0 | 0.2 | 47.0 | 23.4 | 4.9 | 29.5 |

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2016 SIP EMISSION PROJECTION DATA 2020 Estimated Annual Average Emissions

SAN JOAQUIN VALLEY AIR BASIN

All emissions are represented in Tons per Day and reflect the most current data provided to ARB.

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| STATIONARY SOURCES | TOG | ROG | CO | NOX | SOX | PM | PM10 | PM2.5 | NH3 |
|---|---------------|--------------|--------------|--------------|------------|--------------|--------------|--------------|--------------|
| FUEL COMBUSTION | 17.9 | 3.2 | 24.7 | 24.1 | 2.4 | 4.8 | 4.7 | 4.6 | 2.2 |
| WASTE DISPOSAL | 527.3 | 26.9 | 0.6 | 0.3 | 0.2 | 0.9 | 0.3 | 0.2 | 11.2 |
| CLEANING AND SURFACE COATINGS | 27.8 | 25.2 | - | - | - | 0.3 | 0.3 | 0.3 | 0.0 |
| PETROLEUM PRODUCTION AND MARKETING | 111.0 | 16.6 | 1.0 | 0.4 | 0.4 | 0.2 | 0.1 | 0.1 | 0.0 |
| INDUSTRIAL PROCESSES | 20.6 | 19.5 | 1.4 | 3.9 | 3.6 | 20.9 | 9.5 | 3.6 | 1.7 |
| * TOTAL STATIONARY SOURCES | 704.7 | 91.3 | 27.7 | 28.6 | 6.5 | 27.2 | 14.9 | 8.7 | 15.2 |
| AREAWIDE SOURCES | TOG | ROG | CO | NOX | SOX | PM | PM10 | PM2.5 | NH3 |
| SOLVENT EVAPORATION | 55.0 | 49.9 | - | - | - | - | - | - | 113.1 |
| MISCELLANEOUS PROCESSES | 761.8 | 103.0 | 53.2 | 7.9 | 0.3 | 473.4 | 236.8 | 41.8 | 193.9 |
| * TOTAL AREAWIDE SOURCES | 816.8 | 152.8 | 53.2 | 7.9 | 0.3 | 473.4 | 236.8 | 41.8 | 307.0 |
| MOBILE SOURCES | TOG | ROG | CO | NOX | SOX | PM | PM10 | PM2.5 | NH3 |
| ON-ROAD MOTOR VEHICLES | 27.3 | 24.9 | 167.9 | 96.9 | 0.6 | 7.8 | 7.6 | 3.4 | 3.6 |
| OTHER MOBILE SOURCES | 30.6 | 27.2 | 196.2 | 69.8 | 0.3 | 5.6 | 5.5 | 5.0 | 0.0 |
| * TOTAL MOBILE SOURCES | 57.9 | 52.0 | 364.1 | 166.8 | 1.0 | 13.4 | 13.1 | 8.5 | 3.6 |
| GRAND TOTAL FOR SAN JOAQUIN VALLEY AIR BASIN | 1579.4 | 296.2 | 445.0 | 203.3 | 7.8 | 514.0 | 264.8 | 59.0 | 325.9 |

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2016 SIP EMISSION PROJECTION DATA 2012 Estimated Annual Average Emissions

SAN JOAQUIN VALLEY AIR BASIN

All emissions are represented in Tons per Day and reflect the most current data provided to ARB.

[See detailed information.](#)

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| STATIONARY SOURCES | TOG | ROG | CO | NOX | SOX | PM | PM10 | PM2.5 | NH3 |
|---|---------------|--------------|--------------|--------------|------------|--------------|--------------|--------------|--------------|
| FUEL COMBUSTION | 19.3 | 3.7 | 25.5 | 31.6 | 3.0 | 5.2 | 5.1 | 4.9 | 2.2 |
| WASTE DISPOSAL | 476.7 | 23.9 | 0.5 | 0.2 | 0.1 | 0.8 | 0.2 | 0.1 | 9.8 |
| CLEANING AND SURFACE COATINGS | 23.4 | 21.1 | - | - | - | 0.3 | 0.3 | 0.3 | 0.0 |
| PETROLEUM PRODUCTION AND MARKETING | 115.6 | 19.7 | 1.1 | 0.4 | 0.5 | 0.2 | 0.1 | 0.1 | 0.1 |
| INDUSTRIAL PROCESSES | 18.0 | 17.0 | 1.3 | 6.5 | 3.6 | 18.2 | 8.4 | 3.2 | 1.5 |
| * TOTAL STATIONARY SOURCES | 653.1 | 85.5 | 28.5 | 38.8 | 7.2 | 24.8 | 14.1 | 8.7 | 13.6 |
| AREAWIDE SOURCES | TOG | ROG | CO | NOX | SOX | PM | PM10 | PM2.5 | NH3 |
| SOLVENT EVAPORATION | 51.7 | 46.8 | - | - | - | - | - | - | 118.2 |
| MISCELLANEOUS PROCESSES | 762.9 | 103.5 | 57.2 | 8.2 | 0.3 | 464.8 | 232.7 | 41.5 | 193.2 |
| * TOTAL AREAWIDE SOURCES | 814.6 | 150.3 | 57.2 | 8.2 | 0.3 | 464.8 | 232.7 | 41.5 | 311.4 |
| MOBILE SOURCES | TOG | ROG | CO | NOX | SOX | PM | PM10 | PM2.5 | NH3 |
| ON-ROAD MOTOR VEHICLES | 60.8 | 55.0 | 391.5 | 202.0 | 0.7 | 11.5 | 11.3 | 7.4 | 4.6 |
| OTHER MOBILE SOURCES | 40.2 | 35.5 | 195.2 | 90.2 | 0.3 | 6.7 | 6.6 | 6.0 | 0.0 |
| * TOTAL MOBILE SOURCES | 101.0 | 90.5 | 586.7 | 292.2 | 1.0 | 18.2 | 17.9 | 13.4 | 4.7 |
| GRAND TOTAL FOR SAN JOAQUIN VALLEY AIR BASIN | 1568.7 | 326.2 | 672.3 | 339.2 | 8.5 | 507.8 | 264.7 | 63.6 | 329.7 |

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ATTACHMENT D: HEALTH RISK PRIORITIZATION SCORE

Max Prioritization for Hanford-Lakeside Dairy Digester Cluster (C-2)

Inventory Year: 2019

Grouped Facilities: None

Area Name: No Sub-Areas Identified

Receptor: Stack Table Distance

Options Selected: ☐ 2,500 m Distance Limit

☐ Remove Pollutants < 1/2 the
Applicable Degree of Accuracy

| | | | | Emissions and Potency Method | | | Dispersion Adjustment Method | | |
|------------------|------------------------|--------------|---|---------------------------------|----------|----------|---------------------------------|----------|----------|
| | | | | Prioritization Scores | | | Prioritization Scores | | |
| | | | | CANCER | CHRONIC | ACUTE | CANCER | CHRONIC | ACUTE |
| Device#: 2 | Device Name: | Clean Biogas | | | | | | | |
| | Receptor Distance (m): | 0 | Greater Than 2500m <input type="checkbox"/> | 0.00E+00 | 0.00E+00 | 0.00E+00 | 7.22E-02 | 3.74E-02 | 8.71E-02 |
| Total For Area : | | | | 0.00E+00 | 0.00E+00 | 0.00E+00 | 7.22E-02 | 3.74E-02 | 8.71E-02 |

Max Prioritization for Hanford-Lakeside Dairy Digester Cluster (C-2)

Grouped Facilities: None

Area Name: No Sub-Areas Identified

Receptor: Stack Table Distance

Options Selected: ☐ 2,500 m Distance Limit

☐ Remove Pollutants < 1/2 the
Applicable Degree of Accuracy

Toxic Device #: 2
Device Name: Clean Biogas
Receptor Distance (m): 0
Greater Than 2500m ☐

| CAS NUMBER | POLLUTANT NAME | PROID | LBS/YEAR | LBS/HOUR | Emissions and Potency Method | | | Dispersion Adjustment Method | | |
|------------|---|-------|----------|----------|---------------------------------|----------|----------|---------------------------------|----------|----------|
| | | | | | Prioritization Scores | | | Prioritization Scores | | |
| | | | | | CANCER | CHRONIC | ACUTE | CANCER | CHRONIC | ACUTE |
| 9901 | Diesel engine exhaust, particulate matt | 2 | 7.90E-03 | 1.04E-04 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 1.82E-02 | 2.71E-05 | |
| 56235 | Carbon tetrachloride | 2 | 6.30E-03 | 1.16E-06 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 2.03E-03 | 2.70E-06 | 9.12E-07 |
| 62533 | Aniline | 2 | 6.30E-02 | 1.16E-05 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 7.74E-04 | | |
| 71432 | Benzene | 2 | 1.04E-02 | 1.90E-06 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 2.31E-03 | 5.92E-05 | 1.06E-04 |
| 75150 | Carbon disulfide | 2 | 2.16E-01 | 3.96E-05 | 0.00E+00 | 0.00E+00 | 0.00E+00 | | 4.62E-06 | 9.58E-06 |
| 76131 | Chlorinated fluorocarbon {CFC-113} | 2 | 1.87E-01 | 3.43E-05 | 0.00E+00 | 0.00E+00 | 0.00E+00 | | | |
| 79345 | 1,1,2,2-Tetrachloroethane | 2 | 6.72E-03 | 1.23E-06 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 2.99E-03 | | |
| 84662 | Diethyl phthalate | 2 | 1.47E-03 | 2.69E-07 | 0.00E+00 | 0.00E+00 | 0.00E+00 | | | |
| 84742 | Dibutyl phthalate | 2 | 6.60E-03 | 1.21E-06 | 0.00E+00 | 0.00E+00 | 0.00E+00 | | | |
| 85018 | Phenanthrene | 2 | 6.12E-03 | 1.12E-06 | 0.00E+00 | 0.00E+00 | 0.00E+00 | | | |
| 91203 | Naphthalene | 2 | 6.54E-03 | 1.20E-06 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 1.71E-03 | 1.24E-05 | |
| 91576 | 2-Methyl naphthalene | 2 | 9.90E-03 | 1.82E-06 | 0.00E+00 | 0.00E+00 | 0.00E+00 | | | |
| 95578 | 2-Chlorophenol | 2 | 3.46E-03 | 6.34E-07 | 0.00E+00 | 0.00E+00 | 0.00E+00 | | | |
| 95636 | 1,2,4-Trimethylbenzene | 2 | 4.56E-02 | 8.36E-06 | 0.00E+00 | 0.00E+00 | 0.00E+00 | | | |
| 98828 | Cumene | 2 | 1.35E-02 | 2.48E-06 | 0.00E+00 | 0.00E+00 | 0.00E+00 | | | |
| 98953 | Nitrobenzene | 2 | 2.14E-03 | 3.93E-07 | 0.00E+00 | 0.00E+00 | 0.00E+00 | | | |
| 100414 | Ethyl benzene | 2 | 3.67E-02 | 6.73E-06 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 7.05E-04 | 3.14E-07 | |
| 100425 | Styrene | 2 | 1.49E-03 | 2.73E-07 | 0.00E+00 | 0.00E+00 | 0.00E+00 | | 2.83E-08 | 1.95E-08 |
| 108601 | Bis(2-chloro-1-methylethyl) ether | 2 | 1.81E-02 | 3.32E-06 | 0.00E+00 | 0.00E+00 | 0.00E+00 | | | |
| 108883 | Toluene | 2 | 1.26E-01 | 2.31E-05 | 0.00E+00 | 0.00E+00 | 0.00E+00 | | 7.19E-06 | 9.36E-07 |
| 108952 | Phenol | 2 | 2.89E-02 | 5.29E-06 | 0.00E+00 | 0.00E+00 | 0.00E+00 | | 2.47E-06 | 1.37E-06 |
| 110861 | Pyridine | 2 | 3.73E-03 | 6.83E-07 | 0.00E+00 | 0.00E+00 | 0.00E+00 | | | |
| 117817 | Di(2-ethylhexyl) phthalate | 2 | 4.82E-03 | 8.83E-07 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 8.88E-05 | | |
| 127184 | Perchloroethylene {Tetrachloroethene} | 2 | 6.60E-03 | 1.21E-06 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 3.09E-04 | 3.23E-06 | 9.08E-08 |
| 206440 | Fluoranthene | 2 | 2.75E-03 | 5.04E-07 | 0.00E+00 | 0.00E+00 | 0.00E+00 | | | |
| 463581 | Carbonyl sulfide | 2 | 2.93E+00 | 5.37E-04 | 0.00E+00 | 0.00E+00 | 0.00E+00 | | | |
| 621647 | N-Nitrosodi-n-propylamine | 2 | 2.80E-03 | 5.14E-07 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 4.30E-02 | | |
| 1319773 | Cresols (mixtures of) {Cresylic acid} | 2 | 6.12E-02 | 1.12E-05 | 0.00E+00 | 0.00E+00 | 0.00E+00 | | 1.75E-06 | |

Max Prioritization for Hanford-Lakeside Dairy Digester Cluster (C-2)

Grouped Facilities: None

Area Name: No Sub-Areas Identified

Receptor: Stack Table Distance

Options Selected: ☐ 2,500 m Distance Limit

☐ Remove Pollutants < 1/2 the
Applicable Degree of Accuracy

| | | | | | | | | | |
|----------------------------|------------------|---|----------|----------|----------|----------|----------|----------|----------|
| 1330207 | Xylenes (mixed) | 2 | 5.92E-02 | 1.09E-05 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 1.45E-06 | 7.40E-07 |
| 7446095 | SULFUR DIOXIDE | 2 | 2.66E+00 | 4.87E-04 | 0.00E+00 | 0.00E+00 | 0.00E+00 | | 1.11E-03 |
| 7664417 | Ammonia | 2 | 1.71E+01 | 1.96E-03 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 1.46E-03 | 9.19E-04 |
| 7783064 | Hydrogen sulfide | 2 | 2.09E+01 | 2.38E-03 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 3.58E-02 | 8.50E-02 |
| TOTALS FOR DEVICE 2 | | | | | 0.00E+00 | 0.00E+00 | 0.00E+00 | 7.22E-02 | 3.74E-02 |
| Total For Area: | | | | | 0.00E+00 | 0.00E+00 | 0.00E+00 | 7.22E-02 | 3.74E-02 |

Emissions and Potency Method

Prioritization Scores

CANCER 0.00E+00
CHRONIC 0.00E+00
ACUTE 0.00E+00

TS = Total Score
t = Specific Toxic Substance
EYR = Emissions in lbs / year
EHR = Emissions in Maximum lbs / hour for Acute and Average lbs / hour for Chronic
NF = Normalization Factor (Cancer = 7700, Acute = 1500, Chronic = 150)
URF = Unit Risk Factor
AREL = Acute Reference Exposure Level
CREL = Chronic Reference Exposure Level
RP = Receptor Proximity Adjustment Factor
R = Receptor Distance

| R | RP |
|-------------------|-------|
| 0m < R < 100m | 1.0 |
| 100m < R < 250m | 0.25 |
| 250m < R < 500m | 0.04 |
| 500m < R < 1000m | 0.011 |
| 1000m < R < 1500m | 0.003 |
| 1500m < R < 2000m | 0.002 |
| R > 2000m | 0.001 |

Cancer Score:

$$TS(t) = EYR(t) * URF(t) * RP * 7700$$

Acute Score:

$$TS(t) = [EHR(t) / AREL(t)] * RP * 1500$$

Chronic Score:

$$TS(t) = [EYR(t) / CREL(t)] * RP * 150$$

Dispersion Adjustment Method

Prioritization Scores

CANCER 7.22E-02
CHRONIC 3.74E-02
ACUTE 8.71E-02

TS = Total Score
t = Specific Toxic Substance
EYR = Emissions in lbs / year
EHR = Emissions in Maximum lbs / hour for Acute and Average lbs / hour for Chronic
NF = Normalization Factor (Cancer = 128, Acute = 25, Chronic = 2.5)
URF = Unit Risk Factor
AREL = Acute Reference Exposure Level
CREL = Chronic Reference Exposure Level
SHA = Stack Height Adjustment (< 20m = 60, < 45m = 9, >= 45m = 1)
RP = Receptor Proximity Adjustment Factor
R = Receptor Distance
H = Stack Height

| For Stacks 0m <= H < 20m | | For Stacks 20m <= H < 45m | | For Stacks - >= H < 45m | |
|--------------------------|-------|---------------------------|-------|-------------------------|-------|
| R | RP | R | RP | R | RP |
| 0m < R < 100m | 1.0 | 0m < R < 100m | 1.0 | 0m < R < 100m | 1.0 |
| 100m < R < 250m | 0.25 | 100m < R < 250m | 0.85 | 100m < R < 250m | 1.0 |
| 250m < R < 500m | 0.04 | 250m < R < 500m | 0.22 | 250m < R < 500m | 0.90 |
| 500m < R < 1000m | 0.011 | 500m < R < 1000m | 0.064 | 500m < R < 1000m | 0.40 |
| 1000m < R < 1500m | 0.003 | 1000m < R < 1500m | 0.018 | 1000m < R < 1500m | 0.13 |
| 1500m < R < 2000m | 0.002 | 1500m < R < 2000m | 0.009 | 1500m < R < 2000m | 0.066 |
| R > 2000m | 0.001 | R > 2000m | 0.006 | R > 2000m | 0.042 |

Cancer Score:

$$TS(t) = EYR(t) * URF(t) * RP * SHA * 128$$

Acute Score:

$$TS(t) = [EHR(t) / AREL(t)] * RP * SHA * 25$$

Chronic Score:

$$TS(t) = [EYR(t) / CREL(t)] * RP * 150 * SHA * 2.5$$

APPENDIX B
CULTURAL RESOURCES RECORDS SEARCH MEMO



TECHNICAL MEMORANDUM

Date: March 28, 2019

Project: Cultural Resource Records Search for Lakeside Pipeline project, Kings County, CA

To: Jaymie Brauer

From: Robert Parr, MS, RPA, Senior Archaeologist

Subject: Cultural Resources Records Search Results (RS#18-158)

Background

This Technical Memo is to provide a cultural record search and to determine whether the proposed project would impact cultural resources.

Project Description

The Hanford-Lakeside Dairy Digester Cluster Project is a dairy biogas collection and biomethane injection project. The biogas collected by this project will come from individual dairy digesters located on up to 18 nearby dairy farms. Each of these digesters will be separately permitted as part of the farming operation and are out of the scope of this application. The project proposes to install a biogas upgrading facility on an approximately 57,750 square foot (1.32 acre) portion of a 3.3-acre parcel (APN #028-080-016), which will host the biogas upgrading and metering equipment (for delivery into the adjacent Southern California Gas Company (SCG) transmission pipeline. References to the project includes both the biogas facility site and the pipeline route.

In addition to the project site, the application covers approximately 37 miles of buried biogas gathering lines (Figure 2-3) connecting to the dairies and installed on a variety of parcels that may include private land or public ROWs. The pipeline route will also bisect several County roads and drainages. Either a jack-and-bore method underneath the roads and drainages or an open cutting of the roads and drainages will be employed in order to install the pipe across these features. All work within the County ROW would be subject to obtaining an encroachment permit or franchise agreement through County Public Works Department..

Project Location

The Hanford-Lakeside Dairy Digester Cluster project (project) is to be located at 15664 7th Avenue, in the unincorporated area of Kings County, California. (Figures 1 and 2). The project also includes approximately 37 miles of buried biogas gathering pipelines connecting to the dairies and installed on a variety of parcels that may include private land or public rights of way (ROW) and bisect several existing drainages. The site is approximately 3.5 miles south east of the City of Hanford and approximately 12 miles west of the City of Tulare (APN #028-080-016).



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The project facility is located within the Waukena, California USGS 7.5-minute topographic quadrangle map in the NE $\frac{1}{4}$ of SE $\frac{1}{4}$ of Section 28 Township 19 South, Range 22 East, of the Mount Diablo Base and Meridian (MDB&M). The pipelines run within the Guernsey, Hanford, Remnoy, Goshen and Paige USGS quad maps. Elevation of the site is 218 feet Above Mean Sea Level (Figure 3).

Results

A cultural resources records search (RS# 18-158) was conducted at the Southern San Joaquin Valley Information Center, California State University- Bakersfield, for the Lakeside Pipeline project (180060) in Kings County, CA. The proposed project consists of the Hanford-Lakeside Dairy Digester Cluster of 18 dairies, a dairy biogas collection and biomethane injection site and approximately 37 miles of pipeline alignment located approximately 3.5 miles south east of the City of Hanford and approximately 12 miles west of the City of Tulare (APN #028-080-016).

The records search covered an area within one quarter mile of the biogas site and the pipeline route and included a review of the *National Register of Historic Places (NRHP)*, *California Points of Historical Interest*, *California Registry of Historic Resources (CRHR)*, *California Historical Landmarks*, *California State Historic Resources Inventory*, and a review of cultural resource reports on file.

The records search indicated that three *linear* cultural resource surveys cross the alignment at right, or at near-right, angles at three separate points (Parr, et al. 1998; Nelson 2000; EBI Consulting 2012). Four additional surveys were conducted immediately adjacent to (though not *on*) approximately two miles the alignment (Hudlow 2003; Switalski 2007; Patrick 2011; Pacheco-Patrick 2012). No further cultural resource surveys have been performed within a quarter mile of the proposed biogas site or pipeline alignment. No prehistoric cultural resources were noted in the previous surveys.

Three cultural resource properties have been recorded on or within a quarter mile of the proposed pipeline. These include the routes of the historic Burlington Northern and Santa Fe Railway (P-16-120) and Highline Canal (P-16-253). Combined, they cross the pipeline route at four separate points.

The railroad previously was evaluated for significance and found to be ineligible for inclusion in the NRHP due to lack of historical integrity (Love et al. 2001). The Highline Canal (ca. 1930) has been evaluated and found to be ineligible for inclusion in the NRHP or the CRHR (JRP Historical Consulting 1997).



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One additional resource close to the alignment is the PG&E Guernsey Substation (P-16-352) at the NW corner of Kent and 11th avenues. The facility was built by the San Joaquin Light and Power Corporation in 1930. The site has previously been evaluated and found ineligible for listing in the NRH Places or California Register of Historic Resources. Nor does it appear to be a historical resource for the purposes of CEQA.

Conclusions

Based on the results of cultural records search findings and the lack of historical or archaeological resources previously identified within a 0.5-mile radius of the proposed project, the potential to encounter subsurface cultural resources is minimal. Additionally, construction of the pipeline would be conducted within the existing road rights-of way or private property. The potential to uncover subsurface historical or archaeological deposits is would be considered unlikely.

However, there is still a possibility that historical or archaeological materials may be exposed during construction or trenching for underground pipes. Grading and trenching, as well as other ground-disturbing actions have the potential to damage or destroy these previously unidentified and potentially significant cultural resources within the project area, including historical or archaeological resources. Disturbance of any deposits that have the potential to provide significant cultural data would be considered a significant impact under CEQA.

With implementation of Mitigation Measure CUL-01 and CUL-03 as outlined in the draft Initial Study/Mitigated Negative Declaration, potential Project-specific and cumulative impacts related to cultural resources, including historical and archaeological resources, would be considered *less-than-significant*.

References

EBI Consulting

2012 Cultural Resources Analysis: Kansas Ave / Ensite #12356 (248221), 16836 12th Avenue, Hanford, Kings County, California 93230, EBI Project No. 61125052. Report submitted to Verizon Wireless, Walnut Creek, CA. (KI-252)

Hudlow, Scott M.

2003 A Phase I Cultural Resource Survey for a Calf Nursery/Grow Yard, Grimmus Cattle Company, Kings County, California. Report submitted to EJS and Associates, Hanford, CA. (KI-171)

Love, Bruce, Bai “Tom” Tang and Daniel Ballester

2001 Historical Resource Compliance Report: The Burlington Northern Santa Fe Railway Company San Joaquin Corridor Capacity Improvements Project, Guernsey (MP 959.34)



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to Shirley (MP 974.18), Kings County, California. Report submitted to Caltrans District 6, Fresno, CA.

Nelson, Wendy J.

2000 Cultural Resources Survey for the Level (3) Communications Long Haul Fiber Optics Project. Segment WS04: Sacramento to Bakersfield. Report submitted to Parsons Brinkerhoff Network Services, Pleasanton, CA. (KI-94; TU-1025)

Pacheco-Patrick, Melinda

2012 Solar PV 250 MW Program – Guernsey Substation – Cloverdale Parcel. Letter report submitted to Pacific Gas & Electric, Sacramento, CA. (KI-218)

Parr, Robert E., Matt DesLauriers and Andres Duque

1998 Negative Archaeological Survey Report: 06 KIN 198 21.5 / 28.3, 06 TUL 198 0.0 / 3.3. Report submitted to California Department of Transportation, District 6, Fresno, CA. (KI-89; TU-1010)

Patrick, Melinda

2011 Radiocarbon Dating Results from the Guernsey-Hakker Parcel for the 250-MW Solar PV Project. Report submitted to Pacific Gas & Electric, Sacramento, CA. (KI-208)

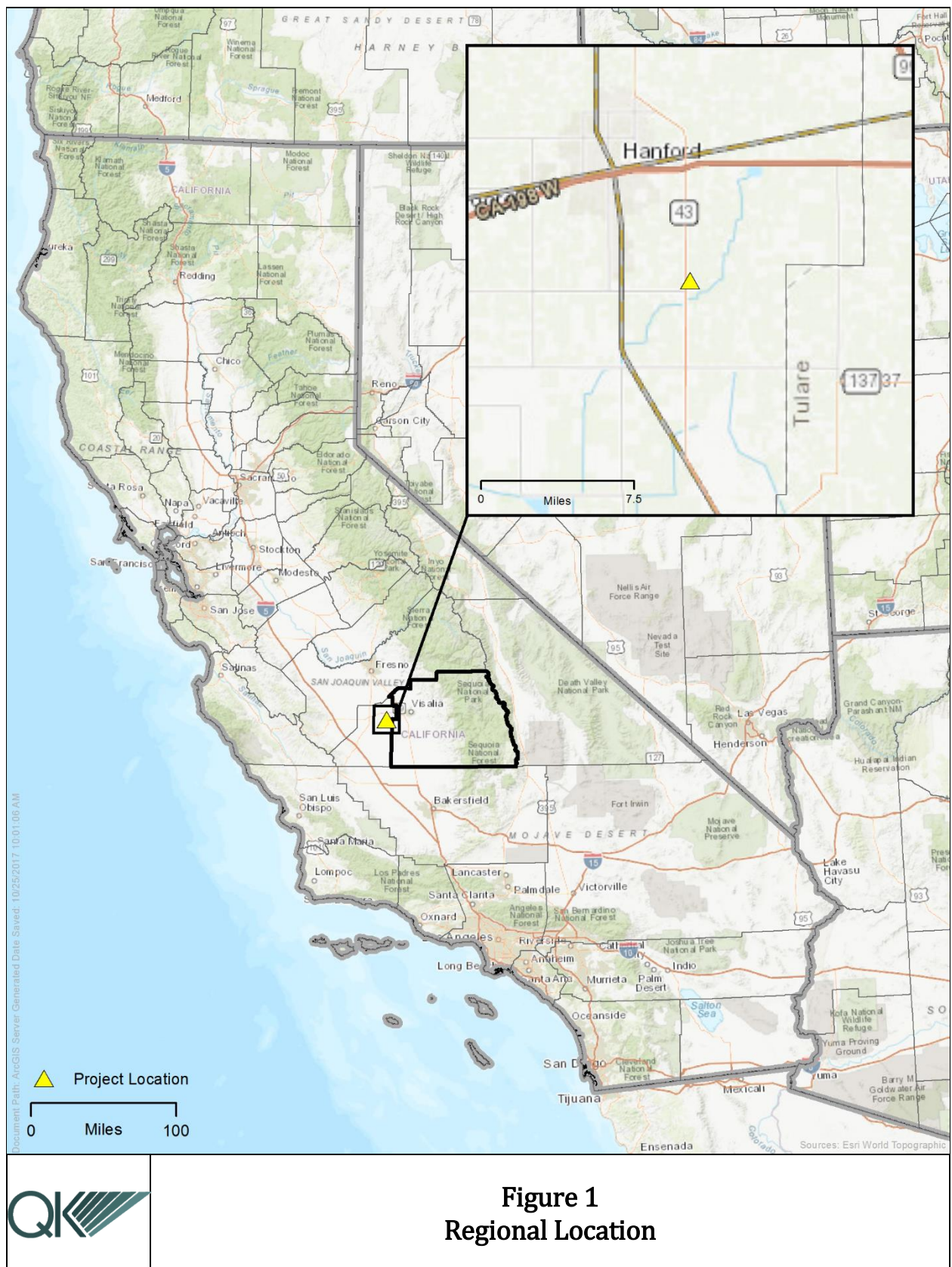
JRP Historical Consulting

1997 Draft Water Conveyance Systems in California: An Historic Context and Evaluation Procedure. Report prepared for Caltrans District 6, Fresno, CA.

Switalski, Hubert

2007 Archaeological Survey for the Southern California Edison Company Replacement of 10 Deteriorated Power Poles on the Budd 12 kV, Campbell 12 kV, Caratan 12 kV, Elster 12 kV, Granite 12 kV, Monroe 12 kV, and Windt 12 kV Distribution Circuits Kings and Tulare Counties, California. Report submitted to Southern California Edison Company, Rosemead, CA. (KI-204; TU-1596)

ATTACHMENT A
PROJECT FIGURES



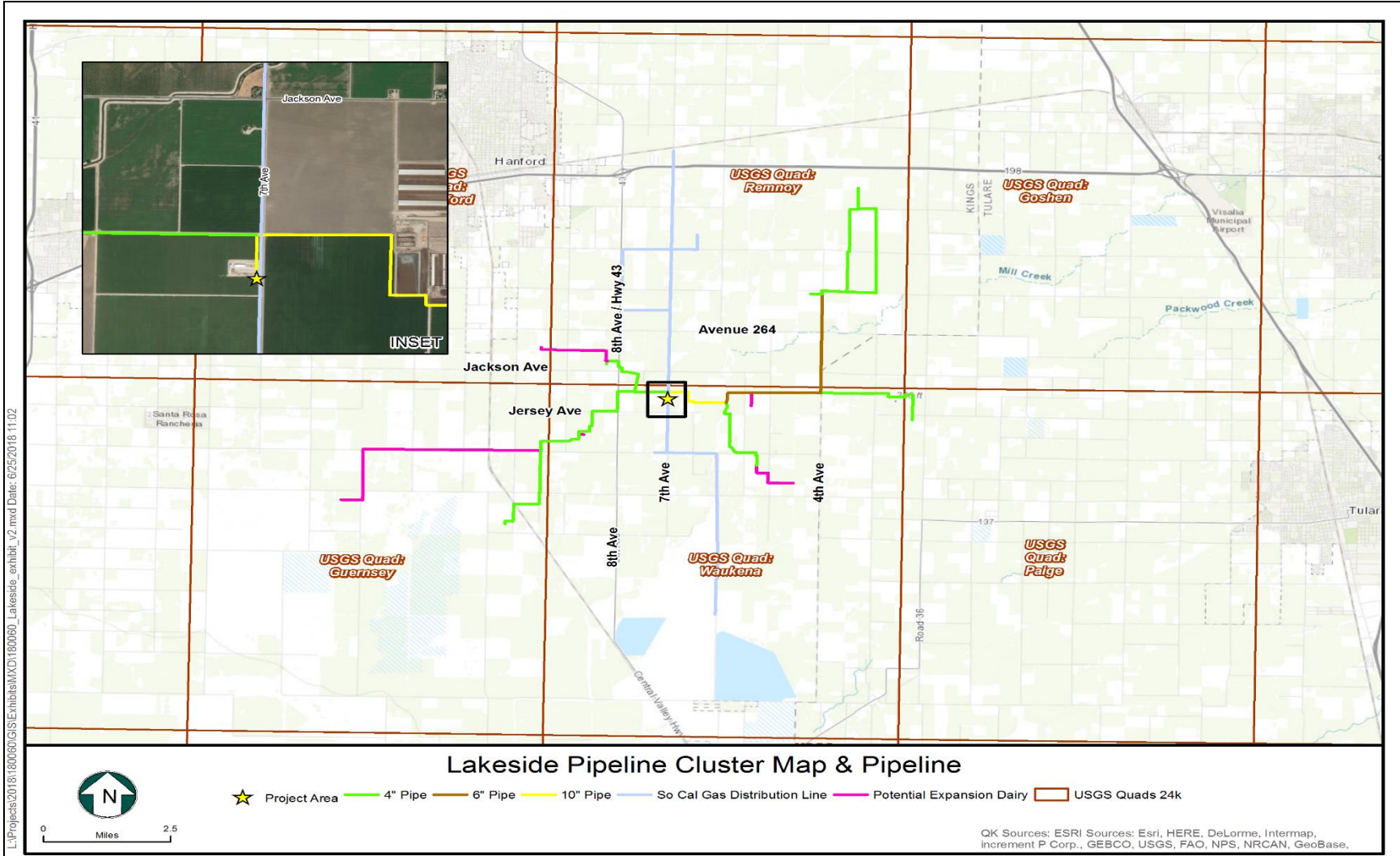


Figure -2
Project Area

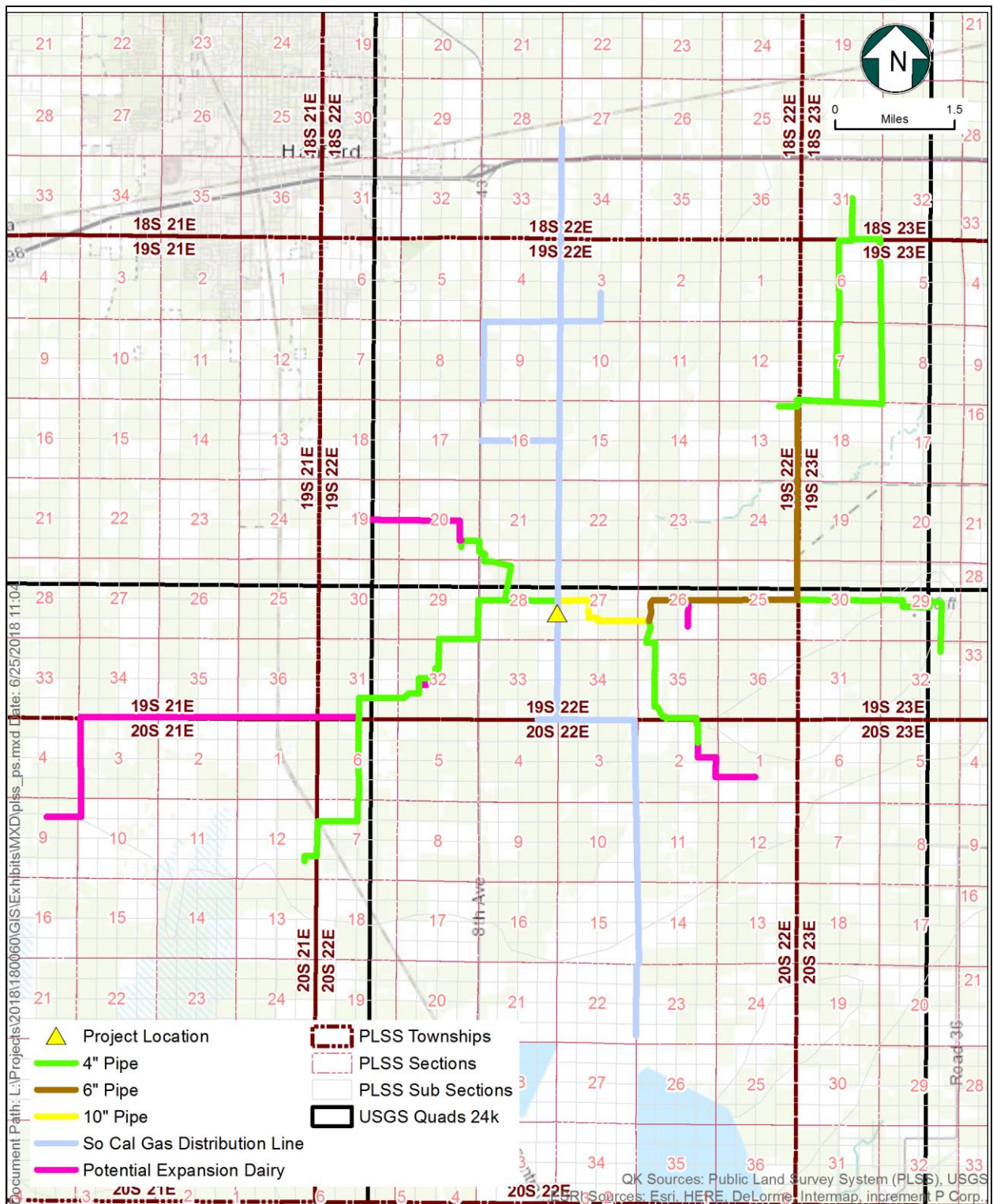


Figure -3
PLSS-USGS Quad

APPENDIX C
SAFETY ACTION PLAN



Lakeside Pipeline, LLC

Safety Action Plan

*Kings County, CA
January 2019*

Prepared For:
Lakeside Pipeline, LLC
Hanford, CA

Prepared By:
Maas Energy Works, Inc.
3711 Meadow View Drive, Redding, CA 96002

Potential Operational Issues

The following are issues that may pose operational risk and have potential for safety concerns. The outlined procedures will ensure the safety of digester/dairy personnel and the public alike.

Blower Failure

In the case of a blower failure, the transportation of biogas from the associated digester will not be possible. Other digesters may still be able to deliver their biogas to the central cleanup facility.

For the associated digester, prolonged downtime will result in a build-up of biogas under the digester cover. If digester pressures increase significantly, the digester will need to be vented to prevent damage to the cover and uncontrolled release of biogas.

High Gas Temperature

High biogas temperatures can damage the integrity of HDPE piping if they exceed 140 degrees Fahrenheit. Furthermore, high temperatures have a significant impact on pipeline pressures. Chillers and heat exchangers must be in good operating condition to prevent high temperature events. In the case of high biogas temperatures, the SCADA system will trigger an alarm and shut down the blowers to prevent heating the pipeline. Remote operators should check the data logs for preliminary troubleshooting and reboot the chilling systems if possible. If remote intervention is unsuccessful, a local operator should perform further troubleshooting to reinstate effective chilling to the biogas to prevent damage to the pipeline integrity.

High Gas Pressure

The blowers are not capable of pressures that would damage any pipeline components and are not anticipated to be an operational issue.

Hazards Management

Methane

Methane (CH₄) composes 50-75% of the biogas contents. It is flammable between 5% and 15% in air and has an ignition temperature of 1,000 degrees Fahrenheit. While not explosive in unconfined spaces, a flammable concentration in an enclosed space can explode when an ignition source is introduced. Methane is buoyant at atmospheric temperatures and disperses rapidly in air, but still poses a risk to human health and safety if released from digesters or pipelines unintentionally. Combustion resulting from the release of methane could result in injury or fatality. It is therefore required that all personnel wear LEL detectors when working in and around digester facilities. Furthermore, periodic pipeline leak detection

surveys are practiced as a layer of protection in addition to the SCADA system to find and pinpoint any possible leaks in the pipeline or digester facilities.

Hydrogen Sulfide

Hydrogen Sulfide (H₂S) is highly toxic and flammable, and raw biogas can reach concentrations of 4,000 ppm. Cal OSHA has the 8-hour Time Weighted Average exposure limit for H₂S set at 10 ppm with a ceiling of 50 ppm. At low concentrations, it can be identifiable by its rotten egg smell, but is known to impair the sense of smell and therefore odor is not a reliable means of determining if it is not present. It is heavier than air and will settle in places with poor ventilation. It is therefore required that all personnel wear H₂S detectors with the lower limit set to 10 ppm when working in and around pipeline facilities or near the biogas pipeline. Digester buildings are outfitted with forced ventilation systems and are to be checked for functionality regularly. Furthermore, H₂S is to be scrubbed at each digester facility to limit exposure in the case of unintentional release of biogas.

Pipeline Breach

The pipeline was constructed with fusion-welded joints and pressure tested during construction to confirm that it was free of leaks. The pipeline is equipped with a SCADA system that monitors pressures and temperatures to warn and protect against any possible leaks. The blowers are also controlled through the SCADA system and limited from over-pressurization and high-biogas-temperature to prevent any mechanical cause of pipeline breach.

It is possible that agricultural activity or another excavation or subterranean activity may cause a breach in the pipeline. In any case where biogas is found to be or suspected of leaking from the pipeline, the following things must be done:

- Notify a Remote Operator
- Turn off all blowers to stop flow of biogas into the pipeline
- Isolate the segment of pipeline in question using the pipeline's inline valves
- Contact county fire department if necessary to restrict access to the breached area and assist with any required evacuations

Such events will be mitigated through community outreach. Any property owners and operators within 30 feet of the center of pipe will periodically be notified of the pipeline's existence, location, and potential hazards. The pipeline will also be identifiable by above-ground marker posts at a maximum of 700-foot intervals that include information of its contents and emergency contact info. Tracer wires have been installed to aid in identification pipeline location, and marker tape has been installed to warn excavators of pipeline presence. The pipeline has been registered with the Utility Services Alert system as is legally required prior to any excavation.

Maintenance in Enclosed Spaces

Personnel could encounter safety risks when maintaining equipment in enclosed spaces where biogas can collect such as H₂S scrubbers, moisture knockouts, and blower buildings. Lakeside Pipeline, LLC has minimized this risk by using H₂S scrubbers that are not emptied out by personnel inside of them, but rather are mounted in such a way that media can be gravity drained and installed from the outside of the vessel. Moisture knockouts have been designed to use pressurized moisture recovery systems or simple manual bailing, rather than requiring an operator to enter the trap. The moisture traps contain no interior equipment that could later require maintenance inside the trap. The blower buildings are outfitted with forced ventilation systems that cycle fresh air into the building and any potentially hazardous gasses out. These systems are checked regularly to ensure they are operating properly. Should any enclosed spaces still require entry, the project will employ only personnel trained in enclosed space maintenance, using no fewer than one person per entrant to observe safely in preparation for any necessary rescue procedures.

Emergency Contact Information

In case of any emergency requiring evacuation, immediate medical attention, or firefighting dial 9-1-1.

For operational emergencies and conditions that increase risk to public safety or the safety of personnel, the Remote Operator or 24-hour Operations line should be contacted.

| Description | Name | Number |
|------------------------|-----------------------|----------------|
| Director of Operations | Jordan Leichty | (319) 750-3434 |
| 24-hour | Maas Energy Works | (530) 395-5048 |
| CEO | Daryl Maas | (210) 527-7631 |
| Fire Department | Hanford, Kings County | (559) 582-3211 |

APPENDIX D
MITIGATION MONITORING AND REPORTING PROGRAM

MITIGATION MONITORING AND REPORTING PROGRAM

| Mitigation Measure | Timeframe | Responsible Monitoring Agency | Date | Initial |
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| <p>MM AQ-1: During project construction the following measures shall be implemented:</p> <ul style="list-style-type: none"> • 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. • When exposure to dust is unavoidable for workers who will be disturbing the top two-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 "Preventing Work-Related Coccidioidomycosis (Valley Fever)." • Identify a health care provider for occupational injuries and illnesses who is knowledgeable about the diagnosis and treatment of Valley Fever. • Train workers and supervisors about the risk of Valley Fever, the work activities that may increase the risk, and the measures used onsite to reduce exposure. Also train on how to recognize Valley Fever symptoms. • Encourage workers to report Valley Fever symptoms promptly to a supervisor. Not associating these symptoms with workplace exposures can lead to a delay in | During Construction | Lead Agency | | |

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| appropriate treatment. | diagnosis | and |
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| <p>MM BIO-1: Prior to ground-disturbing activities, a qualified wildlife biologist shall conduct a biological clearance survey no more than 30 calendar days prior to the onset of construction. The clearance survey shall include walking transects to identify presence of San Joaquin kit fox, Tipton kangaroo rat, San Joaquin kangaroo rat, burrowing owl, other special-status species or signs of, and sensitive natural communities. The pre-construction survey shall be walked by no greater than 30-foot transects for 100 percent coverage of the project site and the 50-foot buffer, where feasible.</p> | <p>Prior to Construction</p> | <p>Lead Agency</p> |
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Exclusion zones for kit fox shall be placed in accordance with U.S. Fish and Wildlife Service (USFWS) Recommendations using the following:

- Potential Den: 50-foot radius
- Known Den: 100-foot radius
- Natal/Pupping Den (Occupied and Unoccupied): Contact USFWS
- Atypical Den: 50-foot radius.

Buffer zones shall be considered Environmentally Sensitive Areas (ESAs) and no ground-disturbing activities shall be allowed within a buffer area. The United States Fish and Wildlife Service (USFWS) and California Department of Fish and Wildlife (CDFW) shall be contacted upon the discovery of any natal or pupping dens.

Potential kit fox dens may be excavated provided that the following conditions are satisfied: (1) the den has been monitored for at least five consecutive days and is deemed unoccupied by a qualified biologist; (2) the excavation is conducted

by or under the direct supervision of a qualified biologist. Den monitoring and excavation should be conducted in accordance with the *Standardized Recommendations for Protection of the Endangered San Joaquin Kit Fox Prior to or During Ground Disturbance* (United States Fish and Wildlife Service, 2011).

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| <p>MM BIO-2: Species awareness training shall be conducted for all employees, contractors, or other personnel involved with the project prior to the commencement of ground-disturbing activities. The training shall consist of a brief presentation by a qualified biologist and include the following: a description of special-status species with the potential to occur in the project area and their habitat needs, a report of occurrence of special-status species in the project area, an explanation of the listing status of said species, a list of avoidance and minimization measures to be implemented, and violations associated with the federal and State endangered species acts. A fact sheet conveying this information should be available to all personnel upon entering the project site and a sign-in sheet shall be maintained and made available to the district, USFWS, and CDFW.</p> | <p>Prior to Construction</p> | <p>Lead Agency</p> |
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| <p>MM BIO-3: During all construction-related activities, the following mitigation shall apply:</p> <ul style="list-style-type: none"> • All food-related trash items such as wrappers, cans, bottles, and food scraps shall be disposed of in securely closed containers. All food-related trash items such as wrappers, cans, bottles, and food scraps shall be disposed of in securely closed containers and | <p>During Construction</p> | <p>Lead Agency</p> |
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removed at least once a week from the construction or project site.

- Construction-related vehicle traffic shall be restricted to established roads and predetermined ingress and egress corridors, staging, and parking areas. Vehicle speeds should not exceed 20 miles per hour (mph) within the project site.
- To prevent inadvertent entrapment of kit fox or other animals during construction, the contractor shall cover all excavated, steep-walled holes or trenches more than two-feet deep at the close of each workday with plywood or similar materials. If holes or trenches cannot be covered, one or more escape ramps constructed of earthen fill or wooden planks shall be installed in the trench. Before such holes or trenches are filled, the contractor shall thoroughly inspect them for entrapped animals. All construction-related pipes, culverts, or similar structures with a diameter of four inches or greater that are stored on the project site shall be thoroughly inspected for wildlife before the pipe is subsequently buried, capped, or otherwise used or moved in anyway. If at any time an entrapped or injured kit fox is discovered, work in the immediate area shall be temporarily halted and USFWS and CDFW shall be consulted.
- Kit foxes are attracted to den-like structures such as pipes and may enter stored pipes and become trapped or injured. All construction pipes, culverts, or similar structures with a diameter of four inches or greater that are stored at a construction site for one or more

overnight periods shall be thoroughly inspected for kit foxes before the pipe is subsequently buried, capped, or otherwise used or moved in any way. If a kit fox is discovered inside a pipe, that section of pipe shall not be moved until the USFWS has been consulted. If necessary, and under the direct supervision of the biologist, the pipe may be moved only once to remove it from the path of construction activity, until the fox has escaped.

- No pets, such as dogs or cats, shall be permitted on the project sites to prevent harassment, mortality of kit foxes, or destruction of dens.
- Use of anti-coagulant rodenticides and herbicides in project areas shall be restricted. This is necessary to prevent primary or secondary poisoning of kit foxes and the depletion of prey populations on which they depend. All uses of such compounds shall observe label and other restrictions mandated by the U.S. Environmental Protection Agency, California Department of Food and Agriculture, and other State and federal legislation, as well as additional project-related restrictions deemed necessary by the USFWS. If rodent control must be conducted, zinc phosphide shall be used because of the proven lower risk to kit foxes.
- A representative shall be appointed by the project proponent who will be the contact source for any employee or contractor who might inadvertently kill or injure a kit fox or who finds a dead, injured or entrapped kit fox. The representative shall be identified

during the employee education program and their name and telephone number shall be provided to the USFWS.

- The Sacramento Fish and Wildlife Office of USFWS and CDFW shall be notified in writing within three working days of the accidental death or injury to a San Joaquin kit fox during project-related activities. Notification must include the date, time, and location of the incident or of the finding of a dead or injured animal and any other pertinent information. The USFWS contact is the Chief of the Division of Endangered Species, at the addresses and telephone numbers below. The CDFW contact can be reached at 1701 Nimbus Road, Suite A, Rancho Cordova, California 95670, (530) 934-9309.
- All sightings of the San Joaquin kit fox shall be reported to the California Natural Diversity Database (CNDDDB). A copy of the reporting form and a topographic map clearly marked with the location of where the kit fox was observed shall also be provided to the USFWS at the address below.
- Any project-related information required by the USFWS or questions concerning the above conditions, or their implementation may be directed in writing to the U.S. Fish and Wildlife Service at: Endangered Species Division, 2800 Cottage Way, Suite W 2605, Sacramento, California 95825-1846, phone (916) 414-6620 or (916) 414-6600.

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| MM BIO-4: All fencing constructed on the project site shall be wildlife friendly. In | During Construction | Lead Agency |
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order to allow wildlife safe passage, fencing shall have a five to seven-inch continuous gap with the bottom mesh material knuckled back along the bottom of the fence.

MM BIO-5: If initial grading activities are planned during the potential nesting season for migratory birds/raptors that may nest on or near the project sites, the preconstruction survey shall evaluate the sites and accessible lands within an adequate buffer for active nests of migratory birds/raptors. If any nesting birds/raptors are observed, a qualified biologist in coordination with the California Department of Fish and Wildlife shall determine buffer distances and/or the timing of project activities so that the proposed project does not cause nest abandonment or destruction of eggs or young. This measure shall be implemented so that the proposed project remains in compliance with the Migratory Bird Treaty Act and applicable State regulations.

Prior to
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Lead Agency

MM BIO-6: If construction of the project occurs during Swainson's hawk breeding season (February 1 through September 15), no more than 10 days prior to the commencement of construction, the following shall be implemented:

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- Protocol nesting surveys for Swainson's hawk shall be conducted by a qualified biologist within 0.5 miles of the project site and pipeline route. The survey methodology shall be consistent with the *Recommended Timing and Methodology for Swainson's Hawk Nesting Surveys in California's Central Valley* (Swainson's Hawk Technical Advisory Committee, 2000). At a minimum, two sets of surveys shall be conducted between

March 20 and April 20. If no nests are observed, no further action is necessary.

- If active Swainson's hawk nests are observed within 0.5 miles of the project, appropriate avoidance and minimization measures shall be implemented under direction of a qualified biologist in coordination with the California Department of Fish and Wildlife. A copy of the survey results shall be submitted to the Kings County Community Development Agency.

MM BIO-7: If any burrowing owl burrows are observed during the preconstruction survey, avoidance measures shall be consistent with those included in the California Department of Fish and Game Staff Report on Burrowing Owl Mitigation (CDFG 2012). If occupied burrowing owl burrows are observed outside of the breeding season (September 1 through January 31) and within 500 feet of proposed construction activities, a passive relocation effort may be instituted in accordance with the guidelines established by the California Burrowing Owl Consortium (1993) and the California Department of Fish and Game (2012). During the breeding season (February 1 through August 31), a 250-foot (minimum) buffer zone shall be maintained unless a qualified biologist verifies through noninvasive methods that either the birds have not begun egg laying and incubation or that juveniles from the occupied burrows are foraging independently and are capable of independent survival.

Prior to
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MM BIO-8: The measures listed below shall be implemented prior to and during construction at the project site, to protect

Prior to and
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the Tipton and San Joaquin kangaroo rat and other special-status small mammals:

- All construction activity shall occur during daylight when kangaroo rats are less active;
- A biologist shall inspect areas with a potential for kangaroo rat burrows within 14 days prior to construction. If potential burrows are found in construction areas, trapping shall be conducted for a minimum of three nights with at least one trap per active burrow. If Tipton kangaroo rats are captured, consultation with California Department of Fish and Wildlife is required; and
- During operations, no small mammal burrows shall be removed without first being inspected by a qualified biologist. If it is essential to move a burrow, trapping shall occur for three consecutive nights. If Tipton or San Joaquin kangaroo rats are observed, consultation with California Department of Fish and Wildlife shall occur to determine subsequent actions.

MM BIO-9: Prior to the issuance of building permits, if Cross Creek cannot be avoided, specific impacts on the features shall be quantified by an aquatic resources delineation prepared by a qualified biologist. A Central Valley Regional Water Quality Control Board Section 401 Water Quality Certification, a Section 404 ACOE Permit and Section 1602 California Department of Fish and Wildlife Streambed Alteration Agreement shall be obtained, or confirmation received from these agencies that regulatory permits are not required.

Prior to
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MM CR-1: The following measures shall be implemented, as necessary, in conjunction with the construction of the project:

During
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- a) The project proponent shall note on any plans that require ground disturbing excavation that there is a potential for exposing buried cultural resources.
- b) 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) 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) 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 site work within the area of discovery shall not be allowed until the preceding steps have been taken.
- e) 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 construction. Tribal participation would be dependent upon the availability and interest of the Tribe.

- f) Upon coordination with the Kings County Community Development Agency, any pre-historic 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.

MM CR-2: 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:

During Lead Agency
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- 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 in the vicinity of the find and the Kings County Coroner shall be notified immediately. 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). 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(e) 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.

MM GEO-1: Prior to final design and issuance of building permits, a geotechnical study shall be prepared for the project site and recommendations of the study shall be incorporated into final design of the project. A copy of the report

Prior to Construction Lead Agency

shall be submitted to the Kings County Community Development Agency for review.

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| MM GEO-2: During grading and site preparation activities, if paleontological resources are encountered, all work within 50 feet of the find shall halt until a qualified paleontologist, in accordance with Society of Vertebrate Paleontology Standards can evaluate the find and make recommendations. Paleontological resource materials may include resources such as fossils, plant impressions, or animal tracks preserved in rock. If the qualified paleontologist determines that the discovery represents a potentially significant paleontological resource, additional investigations and fossil recovery may be required to mitigate adverse impacts from project implementation. The paleontologist shall notify the Kings County Community Development Agency, who shall coordinate with the paleontologist as to any necessary investigation of the find. If the find is determined to be significant under CEQA, the County shall implement mitigation measures, which may include avoidance, preservation in place, or other appropriate measures, as outlined in PRC Section 21083.2. | Prior to and during construction | Lead Agency |
|--|----------------------------------|-------------|

| | | |
|---|--------------------|-------------|
| MM HAZ-1: Prior to operation, the project proponent shall submit to Kings County Department of Environmental Health Services, a Hazardous Materials Business Plan (HMBP) pursuant to Health and Safety Code Chapter 6.95, Sections 25500 to 25520. The HMBP shall outline the types and quantities of hazardous materials used onsite and indicate onsite safety measures to ensure such materials are properly handled and stored. A copy of the approved | Prior to operation | Lead Agency |
|---|--------------------|-------------|

HMBP shall be submitted to the Kings County Community Development Agency.

| | | |
|--|--------------------|-------------|
| MM HAZ-2: Prior to operation, the project proponent shall submit to Kings County Department of Environmental Health Services, a Spill Prevention and Management Plan for review and approval. | Prior to operation | Lead Agency |
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|---|-----------------------|-------------|
| MM HYD-1: Prior to ground-disturbing activities, the project proponent shall prepare and implement a Stormwater Pollution Prevention Plan (SWPPP) that specifies best management practices, with the intent of keeping all products of erosion from moving offsite. The SWPPP shall include a site map that shows the construction site perimeter, existing and proposed manmade facilities, stormwater collection and discharge points, general topography both before and after construction, and drainage patterns across the project site. Additionally, the SWPPP shall contain a visual monitoring program and a chemical monitoring program for non-visible pollutants to be implemented (if there is a failure of best management practices). The requirements of the SWPPP shall be incorporated into design specifications and construction contracts. Recommended best management practices for the construction phase may include the following: | Prior to construction | Lead Agency |
|---|-----------------------|-------------|

- Stockpiling and disposing of demolition debris, concrete, and soil properly;
- Protecting any existing storm drain inlets and stabilizing disturbed areas;
- Implementing erosion controls;
- Properly managing construction materials; and

- Managing waste, aggressively controlling litter, and implementing sediment controls.

A copy of the approved SWPPP shall be submitted to the Kings County Community Development Agency.

MM TRANS-1: A detectable underground warning tape will be installed above the pipeline where the pipeline crosses public ROW to notify anyone digging in the area of the deeper pipe. Signage will also be provided along the pipeline at half mile intervals to provide notice of the buried pipe.

Prior to
operation

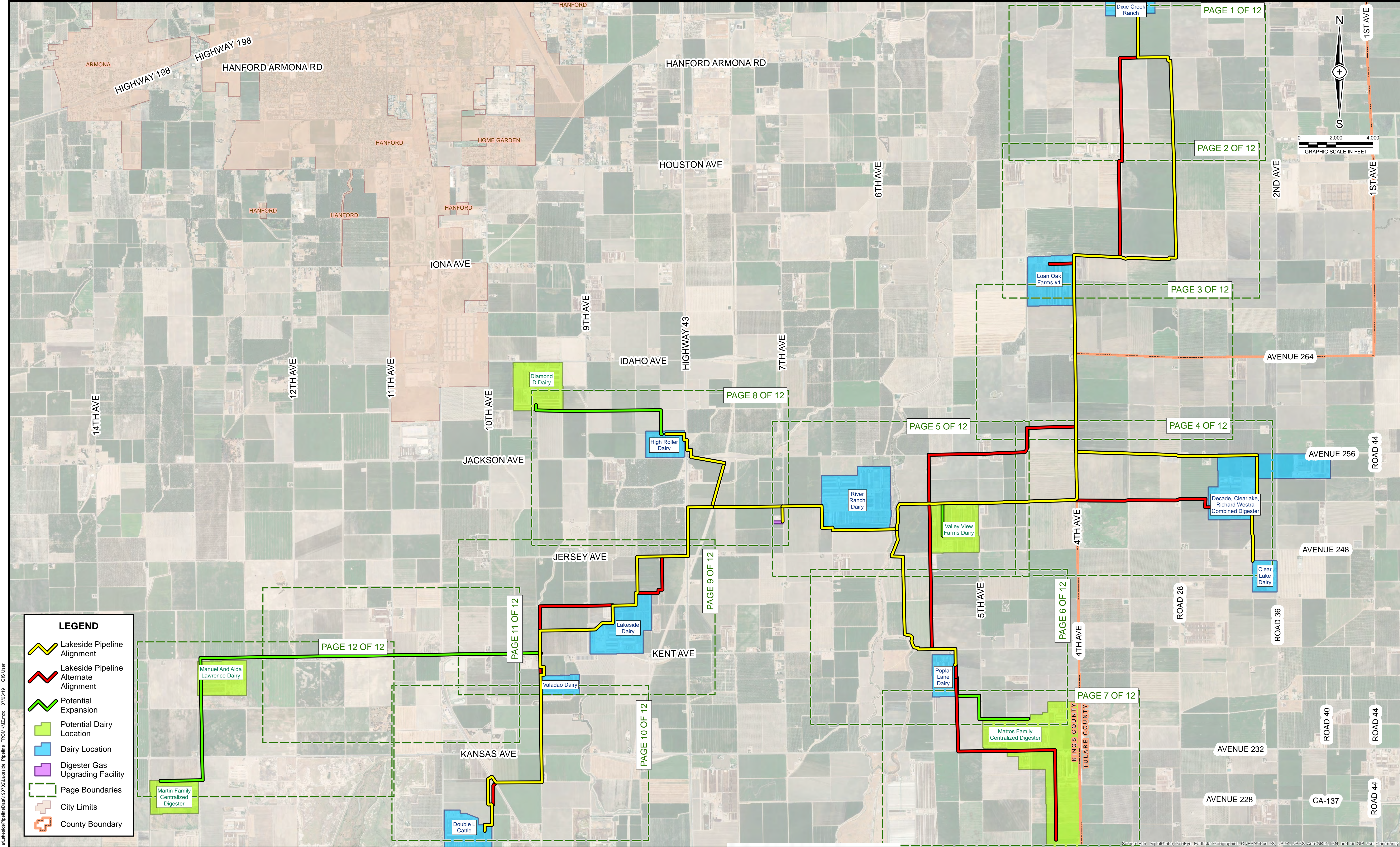
Lead Agency

MM TRANS-2: An Operations and Maintenance Program will be developed and followed to inspect and pressure-test the pipeline. Monitoring will occur during construction and on an annual basis during project operations.

During
construction
and
operation

Lead Agency

APPENDIX E
PIPELINE ROUTE DETAIL



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LEGEND

Lakeside Pipeline Alignment

Lakeside Pipeline Alternate Alignment

Potential Expansion

Potential Dairy Location

Dairy Location

Digester Gas Upgrading Facility

Page Boundaries

City Limits

County Boundary

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THIS SITE PLAN WILL REPLACE AND SUPERSEDE EXHIBIT G TO THE GROUND LEASE AGREEMENT.

LANDOWNER SIGNATURE: _____

LANDOWNER NAME: _____

DATE: _____

OWNER:

MAAS
ENERGY WORKS

LAKESIDE PIPELINE LLC

3711 MEADOW VIEW DR, #100, REDDING, CA 96002

ENGINEER:

BIOGAS
ENGINEERING

SIGNAL HILL, CA 90755

PH: (562) 726-3565

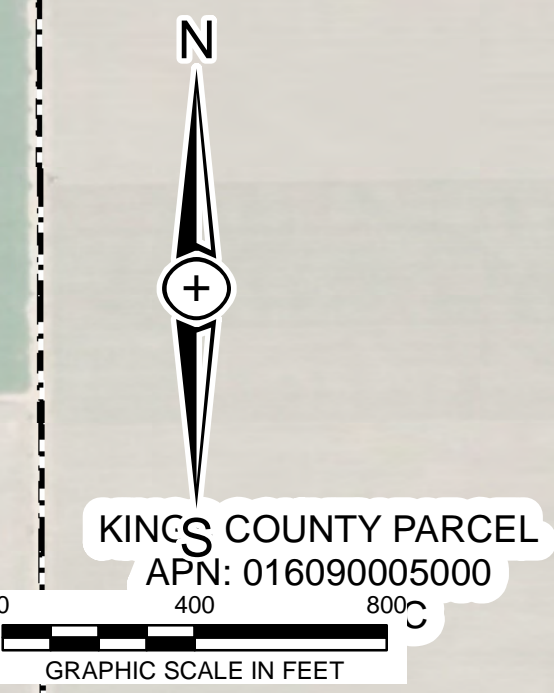
EMAIL: INFO@BIOGASENG.COM

MAIN ALIGNMENT WITH ALTERNATES

LAKESIDE DIGESTER GAS (DG)
UPGRADING FACILITY
15662 7TH AVE, HANFORD,
CALIFORNIA-93230

DRAWING NO.

INDEX



KINGS COUNTY PARCEL
APN: 016080028000
163.13+/- AC

KINGS COUNTY PARCEL
APN: 016090012000
633.20+/- AC

KINGS COUNTY PARCEL
APN: 016090007000
165.51+/- AC

KINGS COUNTY PARCEL
APN: 016090006000
164.46+/- AC

KINGS COUNTY PARCEL
APN: 016090005000

KINGS COUNTY PARCEL
APN: 016080030000
88.76+/- AC

KINGS COUNTY PARCEL
APN: 016120034000
160.57+/- AC

KINGS COUNTY PARCEL
APN: 016110002000
75.01+/- AC

KINGS COUNTY PARCEL
APN: 016110003000
80.53+/- AC

KINGS COUNTY PARCEL
APN: 016110004000
163.19+/- AC

KINGS COUNTY PARCEL
APN: 016110015000
171.76+/- AC

KINGS COUNTY PARCEL
APN: 016110010000
184.89+/- AC

KINGS COUNTY PARCEL
APN: 016120010000
202.18+/- AC

KINGS COUNTY PARCEL
APN: 016110007000
85.83+/- AC

KINGS COUNTY PARCEL
APN: 016110006000
87.34+/- AC

KINGS COUNTY PARCEL
APN: 016110005000
166.40+/- AC

KINGS COUNTY PARCEL
APN: 016110017000
172.60+/- AC

KINGS COUNTY PARCEL
APN: 016110018000
170.66+/- AC

PAGE 2 OF 12

LEGEND

Lakeside Pipeline Alignment

Lakeside Pipeline Alternate Alignment

Potential Pipeline Expansion

Dairy Injection Point

Potential Dairy Location

Dairy Location

Digester Gas Upgrading Facility

Digester

Page Boundaries

County Boundary

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THIS SITE PLAN WILL REPLACE AND SUPERSEDE EXHIBIT G TO THE GROUND LEASE AGREEMENT.

LANDOWNER SIGNATURE: _____

LANDOWNER NAME: _____

DATE: _____


OWNER:



MAAS
ENERGY WORKS

LAKESIDE PIPELINE LLC
3711 MEADOW VIEW DR, #100, REDDING, CA 96002

ENGINEER:



BIOGAS
ENGINEERING

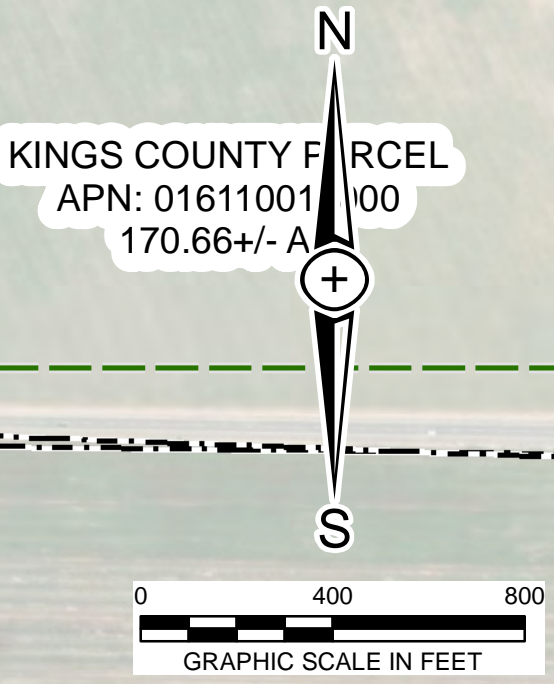
SIGNAL HILL, CA 90755
PH: (562) 726-3565
EMAIL: INFO@BIOGASENG.COM

MAIN ALIGNMENT WITH ALTERNATES

LAKESIDE DIGESTER GAS (DG)
UPGRADING FACILITY
15662 7TH AVE, HANFORD,
CALIFORNIA-93230

DRAWING NO.

1 OF 12



HOUSTON AVE



LEGEND

Lakeside Pipeline Alignment

Lakeside Pipeline Alternate Alignment

Potential Expansion

Dairy Injection Point

Potential Dairy Location

Dairy Location

Digester Gas Upgrading Facility

Digester

Page Boundaries

County Boundary

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MAAS
ENERGY WORKS

LAKESIDE PIPELINE LLC
3711 MEADOW VIEW DR, #100, REDDING, CA 96002

ENGINEER:



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SIGNAL HILL, CA 90755
PH: (562) 726-3565
EMAIL: INFO@BIOGASENG.COM

MAIN ALIGNMENT WITH ALTERNATES

LAKESIDE DIGESTER GAS (DG)
UPGRADING FACILITY
15662 7TH AVE, HANFORD,
CALIFORNIA-93230

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2 OF 12



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LANDOWNER NAME: _____

DATE: _____


OWNER:



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ENERGY WORKS

LAKESIDE PIPELINE LLC
3711 MEADOW VIEW DR, #100, REDDING, CA 96002

ENGINEER:



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ENGINEERING

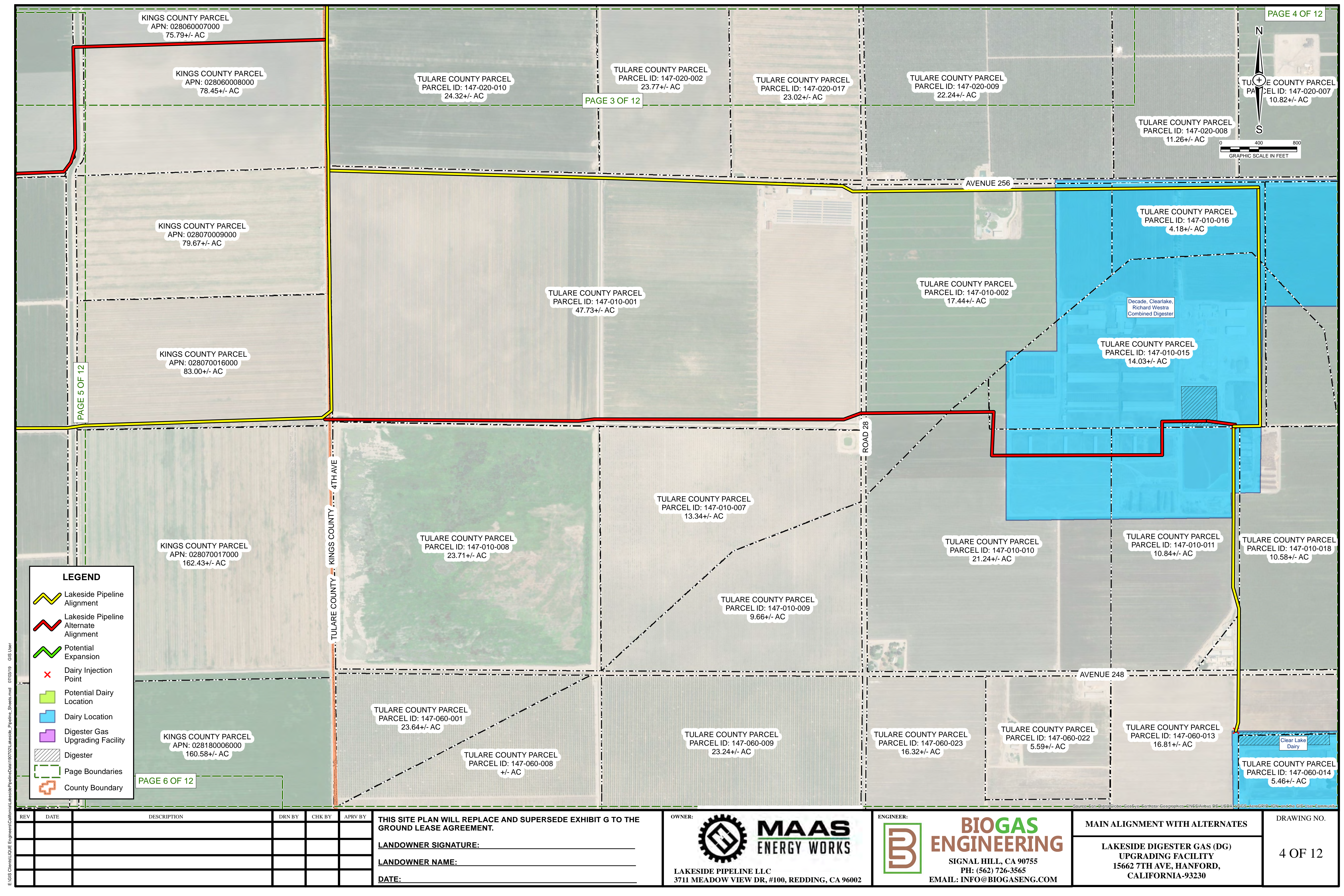
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PH: (562) 726-3565
EMAIL: INFO@BIOGASENG.COM

MAIN ALIGNMENT WITH ALTERNATES

LAKESIDE DIGESTER GAS (DG)
UPGRADING FACILITY
15662 7TH AVE, HANFORD,
CALIFORNIA-93230

DRAWING NO.

3 OF 12



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KINGS COUNTY PARCEL
APN: 028060007000
75.79+/- AC

KINGS COUNTY PARCEL
APN: 028060008000
78.45+/- AC

TULARE COUNTY PARCEL
PARCEL ID: 147-020-010
24.32+/- AC

TULARE COUNTY PARCEL
PARCEL ID: 147-020-002
23.77+/- AC

TULARE COUNTY PARCEL
PARCEL ID: 147-020-017
23.02+/- AC

TULARE COUNTY PARCEL
PARCEL ID: 147-020-009
22.24+/- AC

TULARE COUNTY PARCEL
PARCEL ID: 147-020-008
11.26+/- AC

TULARE COUNTY PARCEL
PARCEL ID: 147-020-007
10.82+/- AC

KINGS COUNTY PARCEL
APN: 028070009000
79.67+/- AC

KINGS COUNTY PARCEL
APN: 028070016000
83.00+/- AC

TULARE COUNTY PARCEL
PARCEL ID: 147-010-001
47.73+/- AC

TULARE COUNTY PARCEL
PARCEL ID: 147-010-002
17.44+/- AC

TULARE COUNTY PARCEL
PARCEL ID: 147-010-016
4.18+/- AC

Decade, Clearlake,
Richard Westra
Combined Digester

TULARE COUNTY PARCEL
PARCEL ID: 147-010-015
14.03+/- AC

KINGS COUNTY PARCEL
APN: 028070017000
162.43+/- AC

TULARE COUNTY PARCEL
PARCEL ID: 147-010-008
23.71+/- AC

TULARE COUNTY PARCEL
PARCEL ID: 147-010-007
13.34+/- AC

TULARE COUNTY PARCEL
PARCEL ID: 147-010-009
9.66+/- AC

TULARE COUNTY PARCEL
PARCEL ID: 147-010-010
21.24+/- AC

TULARE COUNTY PARCEL
PARCEL ID: 147-010-011
10.84+/- AC

TULARE COUNTY PARCEL
PARCEL ID: 147-010-018
10.58+/- AC

KINGS COUNTY PARCEL
APN: 028180006000
160.58+/- AC

TULARE COUNTY PARCEL
PARCEL ID: 147-060-001
23.64+/- AC

TULARE COUNTY PARCEL
PARCEL ID: 147-060-008
+/- AC

TULARE COUNTY PARCEL
PARCEL ID: 147-060-009
23.24+/- AC

TULARE COUNTY PARCEL
PARCEL ID: 147-060-023
16.32+/- AC

TULARE COUNTY PARCEL
PARCEL ID: 147-060-022
5.59+/- AC

TULARE COUNTY PARCEL
PARCEL ID: 147-060-013
16.81+/- AC

TULARE COUNTY PARCEL
PARCEL ID: 147-060-014
5.46+/- AC

Clear Lake
Dairy

LEGEND

- Lakeside Pipeline Alignment
- Lakeside Pipeline Alternate Alignment
- Potential Expansion
- Dairy Injection Point
- Potential Dairy Location
- Dairy Location
- Digester Gas Upgrading Facility
- Digester
- Page Boundaries
- County Boundary

THIS SITE PLAN WILL REPLACE AND SUPERSEDE EXHIBIT G TO THE GROUND LEASE AGREEMENT.

LANDOWNER SIGNATURE: _____

LANDOWNER NAME: _____

DATE: _____

OWNER:



MAAS
ENERGY WORKS

LAKESIDE PIPELINE LLC
3711 MEADOW VIEW DR, #100, REDDING, CA 96002

ENGINEER:



BIOGAS
ENGINEERING

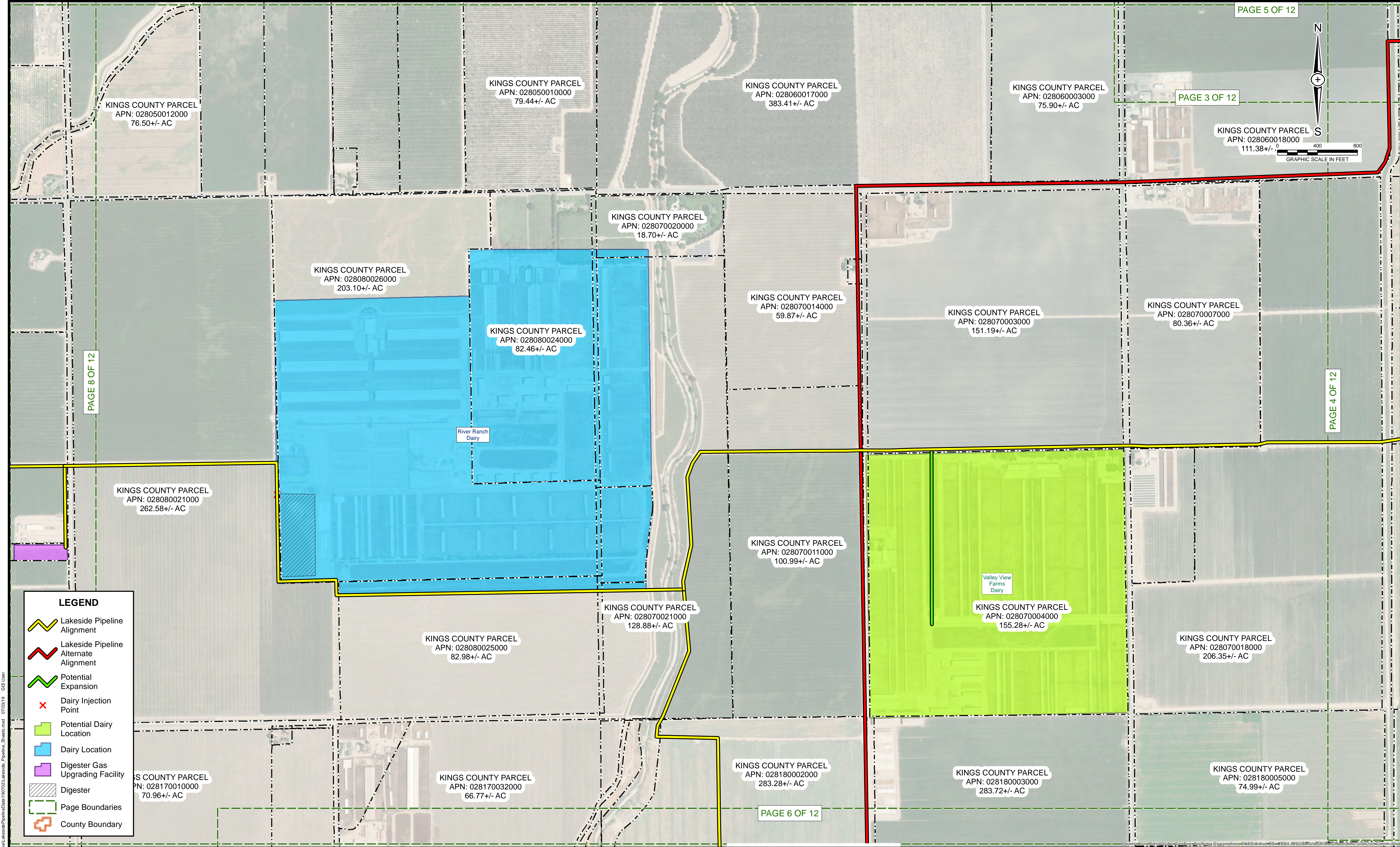
SIGNAL HILL, CA 90755
PH: (562) 726-3565
EMAIL: INFO@BIOGASENG.COM

MAIN ALIGNMENT WITH ALTERNATES

LAKESIDE DIGESTER GAS (DG)
UPGRADING FACILITY
15662 7TH AVE, HANFORD,
CALIFORNIA-93230

DRAWING NO.

4 OF 12



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LEGEND

Lakeside Pipeline Alignment

Lakeside Pipeline Alternate Alignment

Potential Expansion

Dairy Injection Point

Potential Dairy Location

Dairy Location

Digester Gas Upgrading Facility

Digester

Page Boundaries

County Boundary

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LANDOWNER SIGNATURE: _____

LANDOWNER NAME: _____

DATE: _____

OWNER:

MAAS
ENERGY WORKS

LAKESIDE PIPELINE LLC
3711 MEADOW VIEW DR, #100, REDDING, CA 96002

ENGINEER:

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ENGINEERING

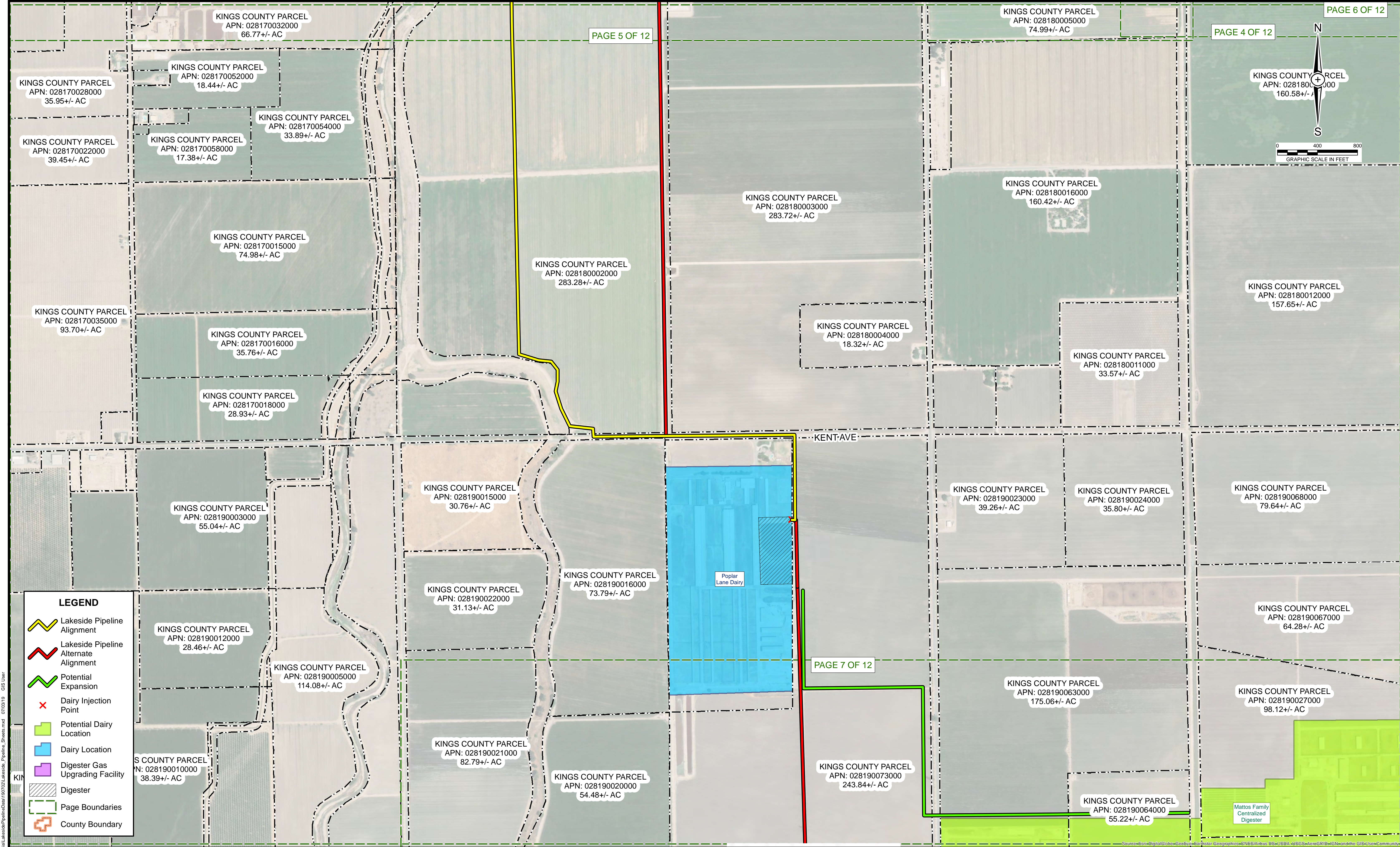
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EMAIL: INFO@BIOGASENG.COM

MAIN ALIGNMENT WITH ALTERNATES

LAKESIDE DIGESTER GAS (DG)
UPGRADING FACILITY
15662 7TH AVE, HANFORD,
CALIFORNIA-93230

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5 OF 12



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LEGEND

Lakeside Pipeline Alignment

Lakeside Pipeline Alternate Alignment

Potential Expansion

Dairy Injection Point

Potential Dairy Location

Dairy Location

Digester Gas Upgrading Facility

Digester

Page Boundaries

County Boundary

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LANDOWNER SIGNATURE: _____

LANDOWNER NAME: _____

DATE: _____


OWNER:



MAAS
ENERGY WORKS

LAKESIDE PIPELINE LLC
3711 MEADOW VIEW DR, #100, REDDING, CA 96002

ENGINEER:



BIOGAS
ENGINEERING

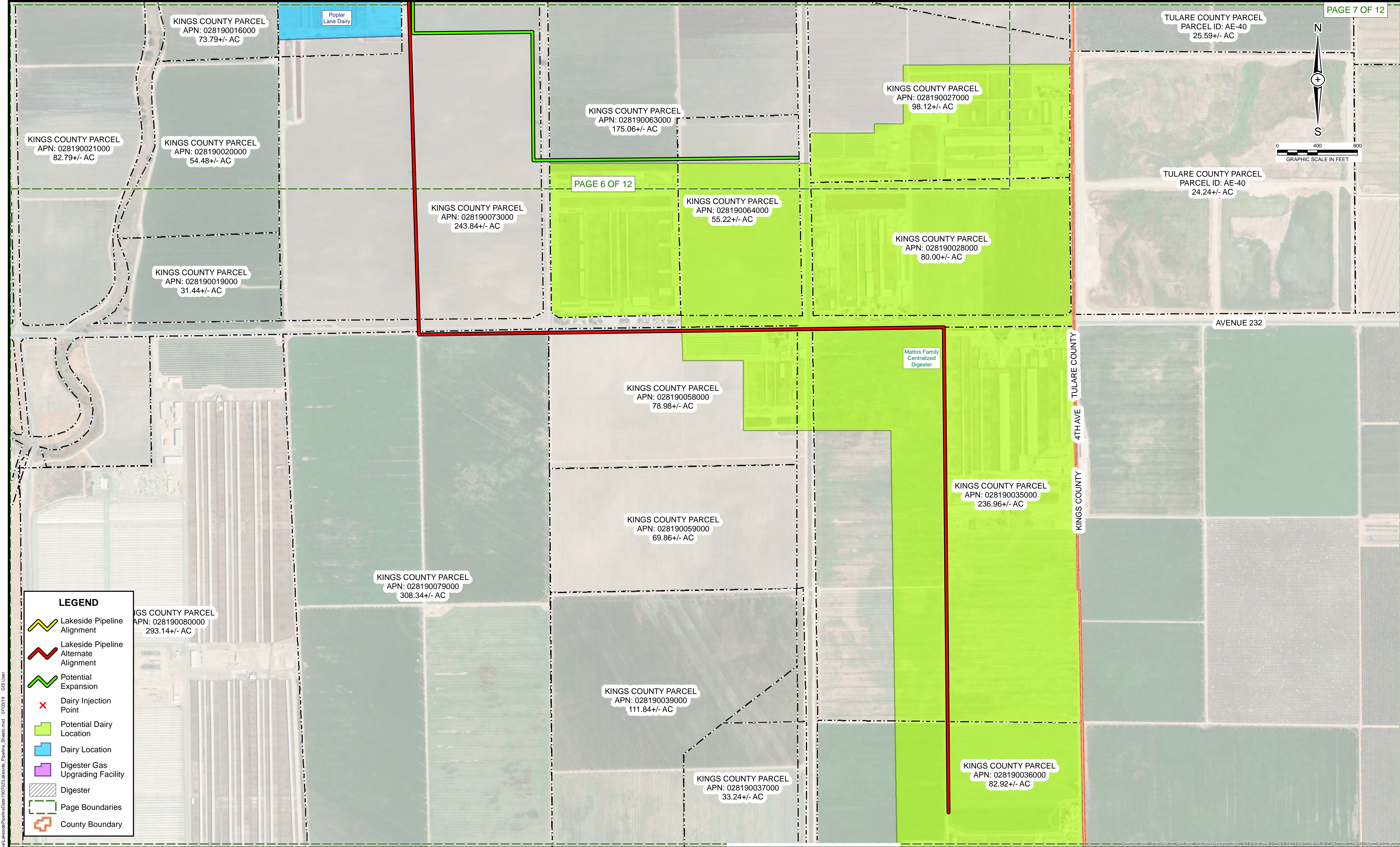
SIGNAL HILL, CA 90755
PH: (562) 726-3565
EMAIL: INFO@BIOGASENG.COM

MAIN ALIGNMENT WITH ALTERNATES

LAKESIDE DIGESTER GAS (DG)
UPGRADING FACILITY
15662 7TH AVE, HANFORD,
CALIFORNIA-93230

DRAWING NO.

6 OF 12



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LANDOWNER SIGNATURE: _____

LANDOWNER NAME: _____

DATE: _____


OWNER:



MAAS
ENERGY WORKS

LAKESIDE PIPELINE LLC
3711 MEADOW VIEW DR, #100, REDDING, CA 96002

ENGINEER:



BIOGAS
ENGINEERING

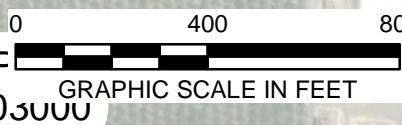
SIGNAL HILL, CA 90755
PH: (562) 726-3565
EMAIL: INFO@BIOGASENG.COM

MAIN ALIGNMENT WITH ALTERNATES

LAKESIDE DIGESTER GAS (DG)
UPGRADING FACILITY
15662 7TH AVE, HANFORD,
CALIFORNIA-93230

DRAWING NO.

7 OF 12



LEGEND

Lakeside Pipeline Alignment

Lakeside Pipeline Alternate Alignment

Potential Expansion

Dairy Injection Point

Potential Dairy Location

Dairy Location

Digester Gas Upgrading Facility

Digester

Page Boundaries

County Boundary

KINGS COUNTY PARCEL
APN: 028090022000
298.28+/- AC

KINGS COUNTY PARCEL
APN: 028040004000
80.46+/- AC

KINGS COUNTY PARCEL
APN: 028040006000
39.77+/- AC

KINGS COUNTY PARCEL
APN: 028040019000
14.87+/- AC

KINGS COUNTY PARCEL
APN: 028040033000
77.05+/- AC

KINGS COUNTY PARCEL
APN: 028040015000
78.00+/- AC

KINGS COUNTY PARCEL
APN: 028050015000
92.29+/- AC

KINGS COUNTY PARCEL
APN: 028050031000
141.80+/- AC

KINGS COUNTY F
APN: 028050003000
78.64+/- AC

KINGS COUNTY PARCEL
APN: 028050006000
74.48+/- AC

KINGS COUNTY PARCEL
APN: 028050022000
141.64+/- AC

KINGS COUNTY PARCEL
APN: 028080004000
36.31+/- AC

KINGS COUNTY PARCEL
APN: 028080003000
71.05+/- AC

KINGS COUNTY PARCEL
APN: 028080001000
78.72+/- AC

KINGS COUNTY PARCEL
APN: 028080015000
70.21+/- AC

KINGS COUNTY PARCEL
APN: 028080008000
143.08+/- AC

KINGS COUNTY PARCEL
APN: 028080017000
186.59+/- AC

KINGS COUNTY PARCEL
APN: 028090013000
150.14+/- AC

KINGS COUNTY PARCEL
APN: 028090013000
150.14+/- AC

KINGS COUNTY PARCEL
APN: 028090017000
154.73+/- AC

KINGS COUNTY PARCEL
APN: 028090007000
107.57+/- AC

KINGS COUNTY PARCEL
APN: 028090026000
190.21+/- AC

KINGS COUNTY PARCEL
APN: 028040017000
77.31+/- AC

KINGS COUNTY PARCEL
APN: 028040016000
154.65+/- AC

KINGS COUNTY PARCEL
APN: 028040018000
93.36+/- AC

KINGS COUNTY PARCEL
APN: 028040031000
77.46+/- AC

KINGS COUNTY PARCEL
APN: 028040010000
80.44+/- AC

High Roller Dairy

JACKSON AVE

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THIS SITE PLAN WILL REPLACE AND SUPERSEDE EXHIBIT G TO THE GROUND LEASE AGREEMENT.

LANDOWNER SIGNATURE: _____

LANDOWNER NAME: _____

DATE: _____

OWNER:

LAKESIDE PIPELINE LLC
3711 MEADOW VIEW DR, #100, REDDING, CA 96002

ENGINEER:

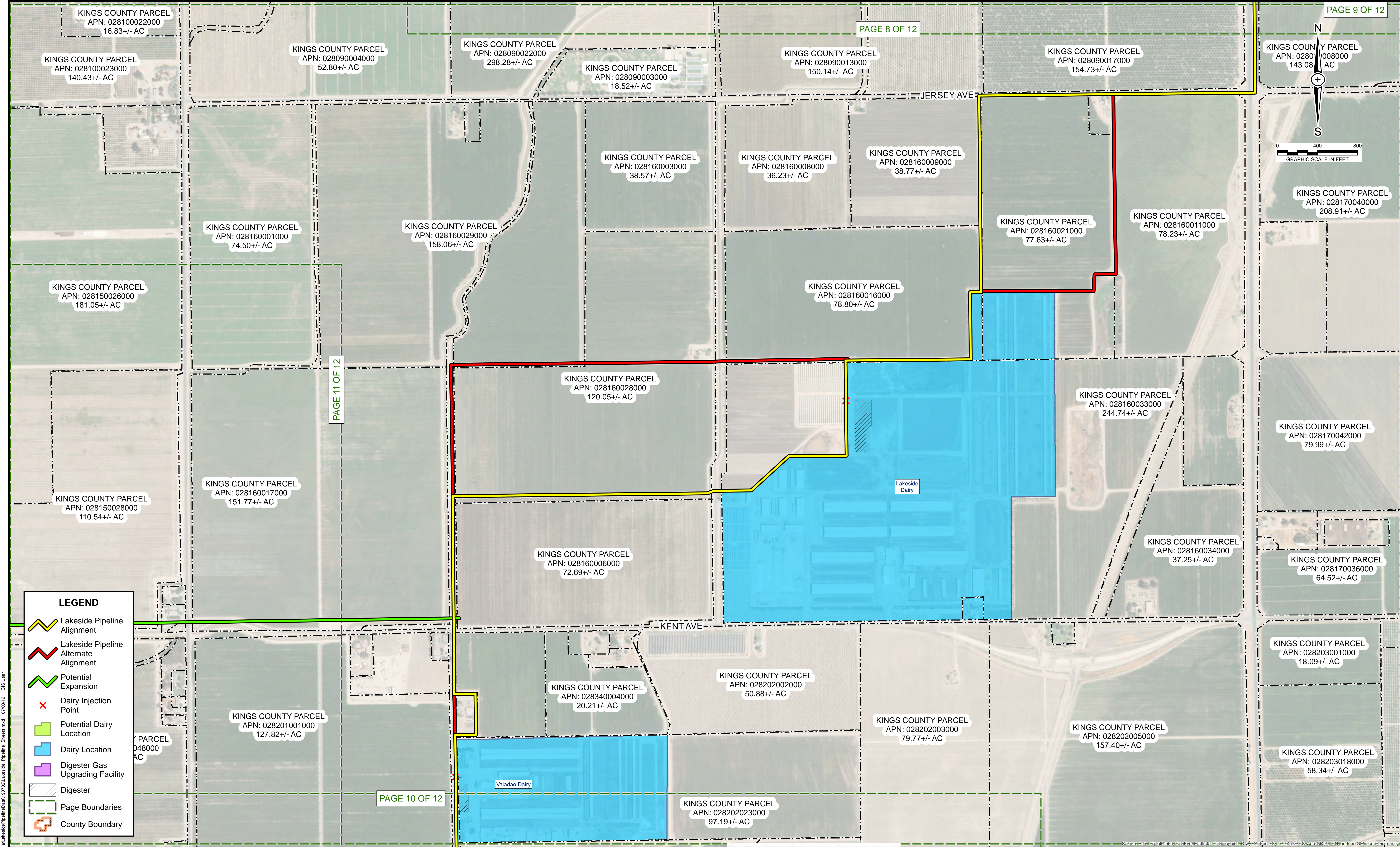
BIOGAS
ENGINEERING
SIGNAL HILL, CA 90755
PH: (562) 726-3565
EMAIL: INFO@BIOGASENG.COM

MAIN ALIGNMENT WITH ALTERNATES

LAKESIDE DIGESTER GAS (DG)
UPGRADING FACILITY
15662 7TH AVE, HANFORD,
CALIFORNIA-93230

DRAWING NO.

8 OF 12



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LANDOWNER SIGNATURE: _____

LANDOWNER NAME: _____


DATE: _____

OWNER:

**MAAS**
ENERGY WORKS

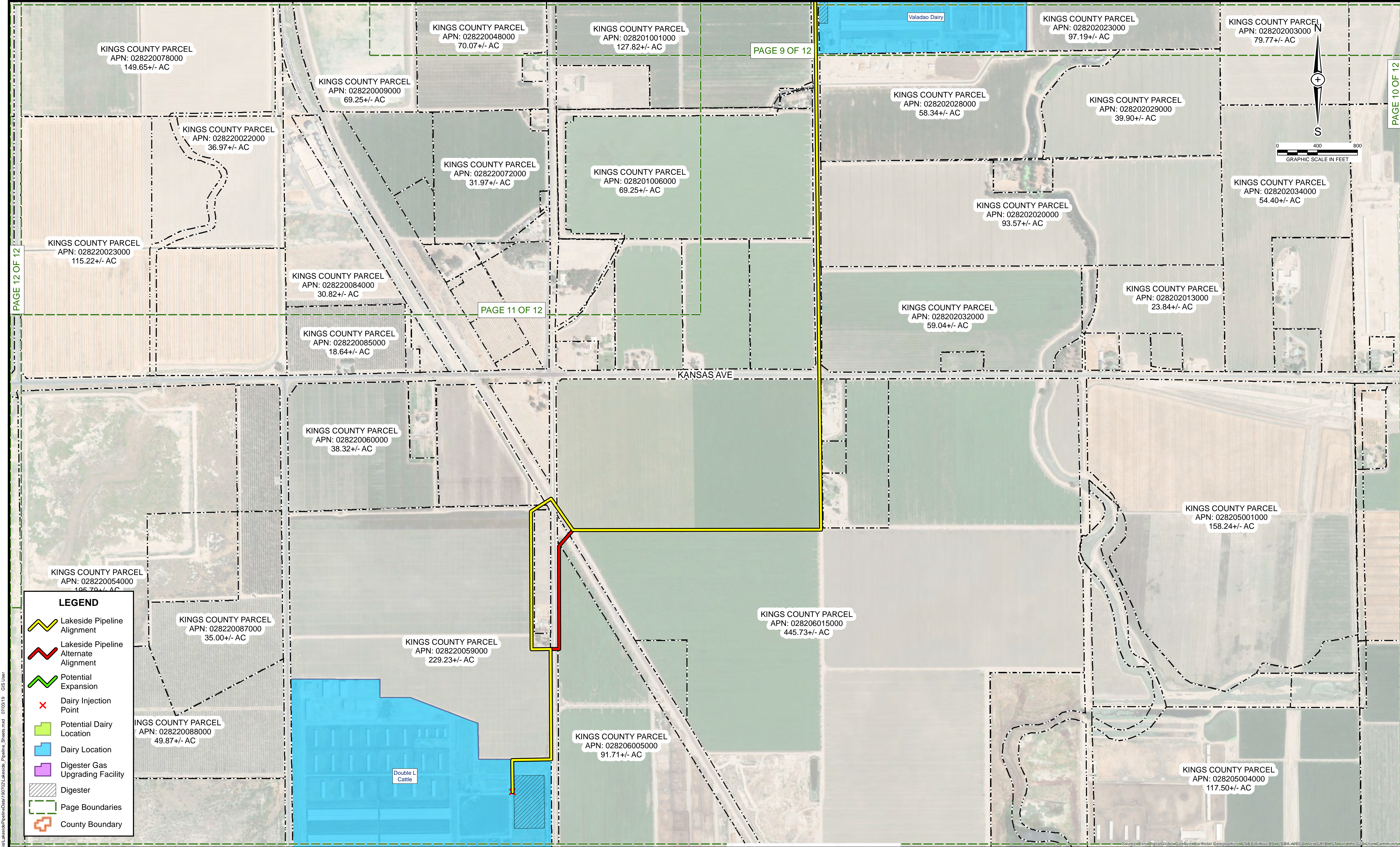
LAKESIDE PIPELINE LLC
3711 MEADOW VIEW DR, #100, REDDING, CA 96002

ENGINEER:

**BIOGAS**
ENGINEERING

SIGNAL HILL, CA 90755
PH: (562) 726-3565
EMAIL: INFO@BIOGASENG.COM

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|---|----------------------------|
| MAIN ALIGNMENT WITH ALTERNATES | DRAWING NO. 9 OF 12 |
| LAKESIDE DIGESTER GAS (DG) UPGRADE FACILITY 15662 7TH AVE, HANFORD, CALIFORNIA-93230 | |



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ENERGY WORKS

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ENGINEER:



BIOGAS
ENGINEERING

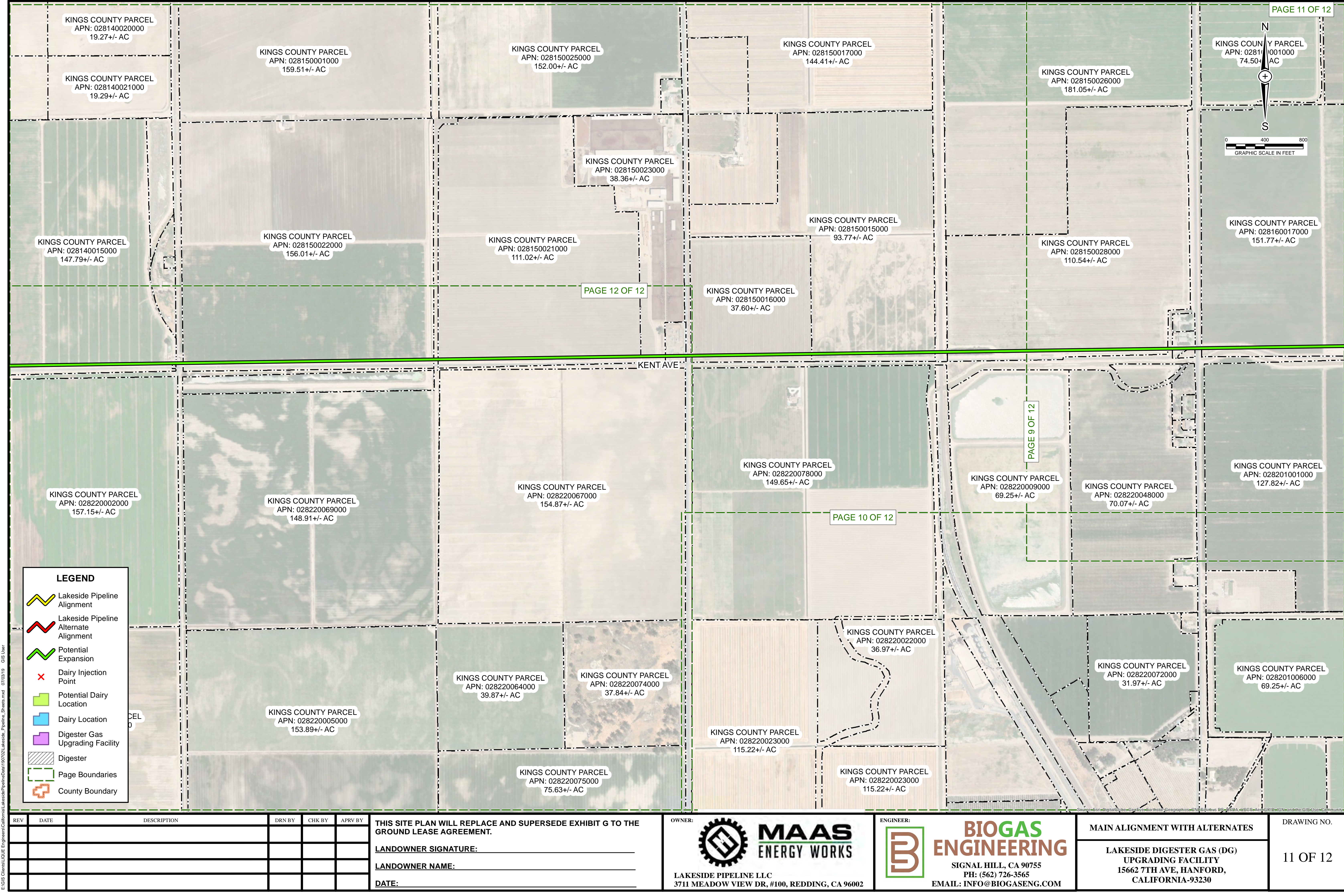
SIGNAL HILL, CA 90755
PH: (562) 726-3565
EMAIL: INFO@BIOGASENG.COM

MAIN ALIGNMENT WITH ALTERNATES

LAKESIDE DIGESTER GAS (DG)
UPGRADING FACILITY
15662 7TH AVE, HANFORD,
CALIFORNIA-93230

DRAWING NO.

10 OF 12



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ENGINEERING

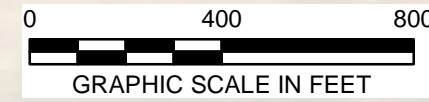
SIGNAL HILL, CA 90755
PH: (562) 726-3565
EMAIL: INFO@BIOGASENG.COM

MAIN ALIGNMENT WITH ALTERNATES

LAKESIDE DIGESTER GAS (DG)
UPGRADING FACILITY
15662 7TH AVE, HANFORD,
CALIFORNIA-93230

DRAWING NO.

11 OF 12



KINGS COUNTY PARCEL
APN: 028140003000
161.13+/- AC

KINGS COUNTY PARCEL
APN: 028140013000
311.81+/- AC

KINGS COUNTY PARCEL
APN: 028140015000
147.79+/- AC

KINGS COUNTY PARCEL
APN: 028150022000
156.01+/- AC

KINGS COUNTY PARCEL
APN: 028150021000
111.02+/- AC

KENT AVE

KINGS COUNTY PARCEL
APN: 028230009000
157.58+/- AC

KINGS COUNTY PARCEL
APN: 028220001000
155.64+/- AC

KINGS COUNTY PARCEL
APN: 028220002000
157.15+/- AC

KINGS COUNTY PARCEL
APN: 028220069000
148.91+/- AC

KINGS COUNTY PARCEL
APN: 028220067000
154.87+/- AC

KINGS COUNTY PARCEL
APN: 028220064000
39.87+/- AC

KINGS COUNTY PARCEL
APN: 028220074000
37.84+/- AC

KINGS COUNTY PARCEL
APN: 028230010000
134.27+/- AC

KINGS COUNTY PARCEL
APN: 028220076000
159.33+/- AC

KINGS COUNTY PARCEL
APN: 028220077000
157.16+/- AC

KINGS COUNTY PARCEL
APN: 028220005000
153.89+/- AC

KINGS COUNTY PARCEL
APN: 028220075000
75.63+/- AC

PAGE 11 OF 12

KANSAS AVE

KINGS COUNTY PARCEL
APN: 028220038000
36.85+/- AC

KINGS COUNTY PARCEL
APN: 028220062000
43.57+/- AC

KINGS COUNTY PARCEL
APN: 028220063000
28.27+/- AC

KINGS COUNTY PARCEL
APN: 028220073000
627.70+/- AC

KINGS COUNTY PARCEL
APN: 028220080000
280.26+/- AC

KINGS COUNTY PARCEL
APN: 028220036000
80.85+/- AC

KINGS COUNTY PARCEL
APN: 028230047000
337.29+/- AC

Martin Family
Centralized
Digester

LEGEND

- Lakeside Pipeline Alignment
- Lakeside Pipeline Alternate Alignment
- Potential Expansion
- Dairy Injection Point
- Potential Dairy Location
- Dairy Location
- Digester Gas Upgrading Facility
- Digester
- Page Boundaries
- County Boundary

E:\GIS Clients\LIQUE Engineers\California\Lakeside\Pipeline\Drawings\190720\Lakeside_Pipeline_Sheets.mxd 07/20/19 GIS User

| REV | DATE | DESCRIPTION | DRN BY | CHK BY | APRV BY |
|-----|------|-------------|--------|--------|---------|
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |

THIS SITE PLAN WILL REPLACE AND SUPERSEDE EXHIBIT G TO THE GROUND LEASE AGREEMENT.

LANDOWNER SIGNATURE: _____

LANDOWNER NAME: _____

DATE: _____

OWNER:



MAAS
ENERGY WORKS

LAKESIDE PIPELINE LLC
3711 MEADOW VIEW DR, #100, REDDING, CA 96002

ENGINEER:



BIOGAS
ENGINEERING

SIGNAL HILL, CA 90755
PH: (562) 726-3565
EMAIL: INFO@BIOGASENG.COM

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DRAWING NO.

12 OF 12