



CEQA Referral Initial Study And Notice of Intent to Adopt a Negative Declaration

Date: August 14, 2024

To: Distribution List (See Attachment A)

From: Emily DeAnda, Associate Planner
Planning and Community Development

Subject: USE PERMIT APPLICATION NO. PLN2023-0039 – MD DIGESTER

Comment Period: August 14, 2024 – September 16, 2024

Respond By: September 16, 2024

Public Hearing Date: Not yet scheduled. A separate notice will be sent to you when a hearing is scheduled.

You may have previously received an Early Consultation Notice regarding this project, and your comments, if provided, were incorporated into the Initial Study. Based on all comments received, Stanislaus County anticipates adopting a Negative Declaration for this project. This referral provides notice of a 30-day comment period during which Responsible and Trustee Agencies and other interested parties may provide comments to this Department regarding our proposal to adopt the Negative Declaration.

All applicable project documents are available for review at: Stanislaus County Department of Planning and Community Development, 1010 10th Street, Suite 3400, Modesto, CA 95354. Please provide any additional comments to the above address or call us at (209) 525-6330 if you have any questions. Thank you.

Applicant: MD Digester, LLC

Project Location: 4900 Dodds Road, between 26 Mile Road and Victory Avenue, in the Valley Home area.

APN: 002-003-020

Williamson Act Contract: 1972-752

General Plan: Agriculture

Current Zoning: General Agriculture (A-2-40)

Project Description: Request to operate a methane digester to process dairy waste on a 482.4± acre parcel in the General Agriculture (A-2-40) zoning district. The methane digester will process dairy waste produced from the on-site dairy and from one off-site dairy. The project site is located at 4900 Dodds Road, between 26 Mile Road and Victory Avenue, near the border of Stanislaus County and San Joaquin County. The Planning Commission will consider adoption of a California Environmental Quality Act Negative Declaration for this project. APN: 002-003-020.

Full document with attachments available for viewing at:
<http://www.stancounty.com/planning/pl/act-projects.shtm>



USE PERMIT APPLICATION NO. PLN2023-0039 – MD DIGESTER

Attachment A

Distribution List

X	CA DEPT OF CONSERVATION Land Resources		STAN CO ALUC
X	CA DEPT OF FISH & WILDLIFE		STAN CO ANIMAL SERVICES
	CA DEPT OF FORESTRY (CAL FIRE)	X	STAN CO BUILDING PERMITS DIVISION
	CA DEPT OF TRANSPORTATION DIST 10	X	STAN CO CEO
X	CA OPR STATE CLEARINGHOUSE		STAN CO CSA
X	CA RWQCB CENTRAL VALLEY REGION	X	STAN CO DER
	CA STATE LANDS COMMISSION		STAN CO ERC
	CEMETERY DISTRICT	X	STAN CO FARM BUREAU
	CENTRAL VALLEY FLOOD PROTECTION	X	STAN CO HAZARDOUS MATERIALS
	CITY OF	X	STAN CO DER MILK AND DAIRY
	COMMUNITY SERVICES/SANITARY DIST	X	STAN CO PUBLIC WORKS
X	COOPERATIVE EXTENSION		STAN CO PUBLIC WORKS - SURVEY
X	COUNTY OF: SAN JOAQUIN		STAN CO RISK MANAGEMENT
X	DER - GROUNDWATER RESOURCES DIVISION	X	STAN CO SHERIFF
X	FIRE PROTECTION DIST: OAKDALE RURAL	X	STAN CO SUPERVISOR DIST 1: B. CONDIT
X	GSA: OAKDALE IRRIGATION DISTRICT	X	STAN COUNTY COUNSEL
	HOSPITAL DIST: OAK VALLEY		StanCOG
X	IRRIGATION DIST: OAKDALE	X	STANISLAUS FIRE PREVENTION BUREAU
X	IRRIGATION DIST: SAN JOAQUIN	X	STANISLAUS LAFCO
X	MOSQUITO DIST: EASTSIDE	X	STATE OF CA SWRCB – DIV OF DRINKING WATER DIST. 10
X	STANISLAUS COUNTY EMERGENCY MEDICAL SERVICES	X	SURROUNDING LAND OWNERS
X	MUNICIPAL ADVISORY COUNCIL: VALLEY HOME		INTERESTED PARTIES
X	PACIFIC GAS & ELECTRIC	X	TELEPHONE COMPANY: AT&T
	POSTMASTER:		TRIBAL CONTACTS (CA Government Code §65352.3)
	RAILROAD:		US ARMY CORPS OF ENGINEERS
X	SAN JOAQUIN VALLEY APCD	X	US FISH & WILDLIFE
X	SCHOOL DIST 1: VALLEY HOME JOINT		US MILITARY (SB 1462)
X	SCHOOL DIST 2: OAKDALE JOINT UNIFIED		USDA NRCS
	WORKFORCE DEVELOPMENT		WATER DIST:
X	STAN CO AG COMMISSIONER		

**STANISLAUS COUNTY
CEQA REFERRAL RESPONSE FORM**

TO: Stanislaus County Planning & Community Development
1010 10th Street, Suite 3400
Modesto, CA 95354

FROM: _____

SUBJECT: USE PERMIT APPLICATION NO. PLN2023-0039 – MD DIGESTER

Based on this agency's particular field(s) of expertise, it is our position the above described project:

- _____ Will not have a significant effect on the environment.
- _____ May have a significant effect on the environment.
- _____ No Comments.

Listed below are specific impacts which support our determination (e.g., traffic general, carrying capacity, soil types, air quality, etc.) – (attach additional sheet if necessary)

- 1.
- 2.
- 3.
- 4.

Listed below are possible mitigation measures for the above-listed impacts: *PLEASE BE SURE TO INCLUDE WHEN THE MITIGATION OR CONDITION NEEDS TO BE IMPLEMENTED (PRIOR TO RECORDING A MAP, PRIOR TO ISSUANCE OF A BUILDING PERMIT, ETC.):*

- 1.
- 2.
- 3.
- 4.

In addition, our agency has the following comments (attach additional sheets if necessary).

Response prepared by:

Name	Title	Date
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DEPARTMENT OF PLANNING AND COMMUNITY DEVELOPMENT

1010 10TH Street, Suite 3400, Modesto, CA 95354
Planning Phone: (209) 525-6330 Fax: (209) 525-5911
Building Phone: (209) 525-6557 Fax: (209) 525-7759

CEQA INITIAL STUDY

Adapted from CEQA Guidelines APPENDIX G Environmental Checklist Form, Final Text, January 1, 2020

1. **Project title:** Use Permit Application No. PLN2023-0039 – MD Digester
2. **Lead agency name and address:** Stanislaus County
1010 10th Street, Suite 3400
Modesto, CA 95354
3. **Contact person and phone number:** Emily DeAnda, Associate Planner
(209) 525-6330
4. **Project location:** 4900 Dodds Road, between 26 Mile Road and Victory Avenue, in the Valley Home area (APN: 002-003-020).
5. **Project sponsor's name and address:** Paolo Rossi, Opal Fuels dba MD Digester, LLC
One North Lexington Avenue
White Plains, New York 10601
6. **General Plan designation:** Agriculture
7. **Zoning:** General Agriculture (A-2-40)
8. **Description of project:**

Request to operate a methane digester on a 482.4± acre parcel located in the General Agriculture (A-2-40) zoning district. The methane digester will process waste produced from the on-site dairy (Hilltop Holsteins Dairy) and from an off-site dairy (A & A Cattle) adjoining the project site to the west, located at Assessor's Parcel Number (APN) 002-003-024. As part of this request, the following improvements and structures will be utilized across an 8± acre area on the project site: a 1.3± acre digester and associated equipment; a livestock water recycling system; biogas upgrading equipment; three natural gas generators; a backup/emergency flare; fire suppression water supply tank; a 360± square-foot office for overseeing operations and maintenance of the digester, and a 1,500± square-foot shop for storage of equipment accessory to the operation of the digester. The digester and associated equipment, office, and shop building are currently being constructed under building permits (BLD2022-0835 and BLD2023-1542) may only be used to process waste from the on-site dairy. The current request for the Use Permit is required in order to process waste from the off-site dairy. No new structures are proposed to be installed on the off-site dairy. No expansion of existing herd sizes will occur as a result of this project on either of the dairies.

A slurry of dairy waste from each dairy will be processed through the digester and associated equipment by a gas collection and water filtration system to convert greenhouse gases (GHG) to Renewable Natural Gas (RNG), which will be trucked off-site. The dairy waste slurry from the adjoining off-site dairy (APN: 002-003-024) will be pumped to the digester site via a private underground pipeline located across the project site, and not within the County right-of-way (ROW). Slurry coming out of the proposed digester will be piped back to each respective dairy pursuant to the quantities listed under each dairies' current wastewater management plan (WMP); no net increase of wastewater will result for either dairy as a result of the project. Manure solids will be filtered out by screen separators and equipment on each dairy prior to the slurry being sent through the pipelines to the digester. All manure solids will be used for normal dairy operations including bedding and crop fertilizer at each respective dairy.

The project site is currently improved with a dairy facility, residential, and accessory structures totaling 650,506± square feet of building space consisting of: four milk barns, a commodity barn, a bunker silo, three free stall barns, a

heifer/maternity barn, a hospital/horse barn, a carport, three agricultural storage buildings, three cattle shades, three single-family dwellings, a swimming pool, and a duplex with a garage. The remaining balance of the property is comprised of 405± acres planted in corn, wheat, forage crops and almonds. The South San Joaquin Irrigation District (SSJID) Canal and Oakdale Irrigation District's (OID) Howell Lateral cross the project site from north to south. OID's Fairbanks Lateral and Leitch Lateral cross from east to west on the project site. The project site receives irrigated water from SSJID, OID, and private irrigation wells.

The digester will operate 24 hours a day/seven days a week. A maximum of three employees are anticipated on-site for the operation and maintenance of the digester and associated biogas equipment. The third employee will be on-site as needed throughout the week during the same proposed hours of operation. In addition to three vehicle round-trips for the employees, the applicant anticipates up to three roundtrips per-day for trucks transporting RNG off-site to an existing pipeline connection in Helm, California where it will then be compressed and used as natural gas for fueling vehicles, and two truck trips per week for system maintenance and refueling the natural gas generators to be installed on-site. All truck trips will take place from 6:00 am to 5:00 pm. The project site is currently served by private wells and septic systems. The project site has existing access from County-maintained Dodds Road. The project site is enrolled in Williamson Act Contract No. 72-752 and will remain enrolled under contract if the project is approved.

- 9. Surrounding land uses and setting:** Grazing land, orchards, and row crops in all directions; the County of San Joaquin and a dairy facility to the west; the South San Joaquin Irrigation District wastewater treatment facility and solar farm to the northeast; Woodward Reservoir to the east; and scattered single-family dwellings to the west, south, and east.

- 10. Other public agencies whose approval is required (e.g., permits, financing approval, or participation agreement.):** Stanislaus County Department of Public Works
Stanislaus County Department of Environmental Resources
San Joaquin Valley Air Pollution Control District
Stanislaus County Planning and Community Development Department, Building Permits Division
Central Valley Regional Water Quality Control Board

- 11. Attachments:**

 - I. San Joaquin Valley Air Pollution Control District, Authority to Construct (ATC) Permit and Application Review, dated August 30, 2022.

ENVIRONMENTAL FACTORS POTENTIALLY AFFECTED:

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

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

DETERMINATION: (To be completed by the Lead Agency)

On the basis of this initial evaluation:

- I find that the proposed project **COULD NOT** have a significant effect on the environment, and a **NEGATIVE DECLARATION** will be prepared.
- I find that although the proposed project could have a significant effect on the environment, there will not be a significant effect in this case because revisions in the project have been made by or agreed to by the project proponent. A **MITIGATED NEGATIVE DECLARATION** will be prepared.
- I find that the proposed project **MAY** have a significant effect on the environment, and an **ENVIRONMENTAL IMPACT REPORT** is required.
- I find that the proposed project **MAY** have a “potentially significant impact” or “potentially significant unless mitigated” impact on the environment, but at least one effect 1) has been adequately analyzed in an earlier document pursuant to applicable legal standards, and 2) has been addressed by mitigation measures based on the earlier analysis as described on attached sheets. An **ENVIRONMENTAL IMPACT REPORT** is required, but it must analyze only the effects that remain to be addressed.
- I find that although the proposed project could have a significant effect on the environment, because all potentially significant effects (a) have been analyzed adequately in an earlier EIR or **NEGATIVE DECLARATION** pursuant to applicable standards, and (b) have been avoided or mitigated pursuant to that earlier EIR or **NEGATIVE DECLARATION**, including revisions or mitigation measures that are imposed upon the proposed project, nothing further is required.

Signature on File
Prepared by Emily DeAnda

August 7, 2024
Date

EVALUATION OF ENVIRONMENTAL IMPACTS:

- 1) A brief explanation is required for all answers except “No Impact” answers that are adequately supported by the information sources a lead agency cites in the parentheses following each question. A “No Impact” answer is adequately supported if the referenced information sources show that the impact simply does not apply to projects like the one involved (e.g., the project falls outside a fault rupture zone). A “No Impact” answer should be explained where it is based on project-specific factors as well as general standards (e.g., the project will not expose sensitive receptors to pollutants, based on a project-specific screening analysis).
- 2) All answers must take account of the whole action involved, including off-site as well as on-site, cumulative as well as project-level, indirect as well as direct, and construction as well as operational impacts.
- 3) Once the lead agency has determined that a particular physical impact may occur, then the checklist answers must indicate whether the impact is potentially significant, less than significant with mitigation, or less than significant. “Potentially Significant Impact” is appropriate if there is substantial evidence that an effect may be significant. If there are one or more “Potentially Significant Impact” entries when the determination is made, an EIR is required.
- 4) “Negative Declaration: Less Than Significant With Mitigation Incorporated” applies where the incorporation of mitigation measures has reduced an effect from “Potentially Significant Impact” to a “Less Than Significant Impact.” The lead agency must describe the mitigation measures, and briefly explain how they reduce the effect to a less than significant level (mitigation measures from Section XVII, “Earlier Analyses,” 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). References 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 significant 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 significant.

ISSUES

I. AESTHETICS – Except as provided in Public Resources Code Section 21099, could the project:	Potentially Significant Impact	Less Than Significant With Mitigation Included	Less Than Significant Impact	No Impact
a) Have a substantial adverse effect on a scenic vista?			X	
b) Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?			X	
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?			X	
d) Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?			X	

Discussion: The site itself is not considered to be a scenic resource or unique scenic vista. The only scenic designation in the County is along Interstate 5, which is not near the project site. The surrounding area is comprised of grazing land, orchards, and row crops in all directions; the County of San Joaquin and a dairy facility to the west; the South San Joaquin Irrigation District wastewater treatment facility and solar farm to the northeast; Woodward Reservoir to the east; and scattered single-family dwellings to the west, south, and east. Buildings in the surrounding area primarily consist of metal and wood agricultural and residential buildings. As part of this request, the following improvements and structures will be utilized on the project site: a 1.3± acre digester and associated equipment; a livestock water recycling system; biogas upgrading equipment; three natural gas generators; a backup/emergency flare; fire suppression water supply tank; a 360± square-foot office; and a 1,500± square-foot metal shop. Stanislaus County standards generally do not dictate the need or desire for architectural review of agricultural equipment or structure. The digester and associated equipment and shop building are currently being constructed under building permits (Building Permits No. BLD2022-0835 and BLD2023-1542) and at this time may only be used to process waste from the on-site dairy as an accessory use. As the site is already developed with a dairy facility consisting of metal freestanding barns, metal storage structures and dwellings constructed with wood and stucco buildings aesthetics associated with the project site are not anticipated to change as a result of this project, nor impact aesthetics of the greater surrounding area. No new structures are proposed to be installed on the off-site dairy that will be served by the digester. Standard conditions of approval will be added to this project to address glare from any on-site lighting. Conditions of approval will be added to the project requiring building permits for the office, to be obtained from the Stanislaus County Building Permits Division, and that all building permits for the proposed structures and equipment be finalized prior to operation.

No adverse impacts to the existing visual character of the site or its surroundings are anticipated.

Mitigation: None.

References: Application information; Stanislaus County Zoning Ordinance; the Stanislaus County General Plan; and Support Documentation¹.

II. AGRICULTURE AND FOREST 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:	Potentially Significant Impact	Less Than Significant With Mitigation Included	Less Than Significant Impact	No Impact
a) Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use?			X	
b) Conflict with existing zoning for agricultural use, or a Williamson Act contract?			X	
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))?				X
d) Result in the loss of forest land or conversion of forest land to non-forest use?				X
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?			X	

Discussion: The project site is currently enrolled in California Land Conservation Act (“Williamson Act”) Contract No. 72-752 and is classified as “Confined Animal Agriculture,” “Grazing Land,” and “Unique Farmland” by the California Department of Conservation’s Farmland Mapping and Monitoring Program. The United States Department of Agriculture Natural Resources Conservation Service (USDA NRCS) Web Soil Survey indicates that the project site is primarily comprised of San Joaquin sandy loam, with a grade of 4, 0 to 2 percent slopes (California Revised Storie Index Rating: 26); San Joaquin sandy loam, 2 to 5 percent slopes (California Revised Storie Index Rating: 24); and Cometa sandy loam, with a grade of 3, 2 to 8 percent slopes (California Revised Storie Index Rating: 51). The California Revised Storie Index is a rating system based on soil properties that dictate the potential for soils to be used for irrigated agricultural production in California. This rating system grades soils with an index rating of 24 and 26 as poor, and 51 as fair. Stanislaus County considers land that meets at least one of the following requirements to be prime farmland under the Uniform Rules: parcels comprised of Grade 1 or 2 soils; irrigated pastureland which supports livestock, used for the production of food and fiber; and land used for unprocessed agricultural plant production with an annual gross value of not less than eight hundred dollars per acre. The project site meets the definition of prime farmland under the County’s Uniform Rules as the parcel is used as a dairy facility and planted in 405± acres of corn, wheat, forage crops and almonds. The project site receives irrigated water from SSJID, OID, and private irrigation wells. The proposed project will not convert any Prime Farmland, Unique Farmland, or Farmland of Statewide Importance to non-agricultural use.

The project has a General Plan designation of Agriculture and zoning designation of General Agriculture (A-2-40) which allows dairies as a ministerially permitted agricultural use, unless a dairy is expanding and a new or modified permit, waiver, order, or waste discharge requirement is needed from the Regional Water Quality Control Board. In this case, the dairies included in the project are existing and are not proposed to be expanded. The use of a covered digester and equipment to process dairy manure is considered to be an accessory use if it is serving the on-site dairy and no herd expansion is proposed. However, the proposed digester will serve as a hub to process manure wastewater slurry from the on-site dairy as well as one off-site dairy located west of the project site. Due to the use of the digester for processing waste from multiple dairies, discretionary approval is required to permit the operation. . Within the A-2 zoning district, the County has determined that certain uses related to agricultural production are "necessary for a healthy agricultural economy" and can be permitted as a Tier One or Two Use Permit provided specific criteria can be met and if specific findings can be made.

County Code Section 21.20.045, in compliance with Government Code Section 51238.1, specifies that uses approved on contracted lands shall be consistent with three principles of compatibility. Those principles state that the proposed use shall not significantly compromise, displace, impair, or remove current or reasonably foreseeable agricultural operations on the subject contracted parcel(s) or on other contracted lands in the A-2 zoning district. The project as proposed is considered a Tier Two use. Within the A-2 zoning district, the County has determined Tier Two uses shall be evaluated on a case-by-case basis by the Planning Commission and/or Board of Supervisors to determine whether they are consistent with the principles of compatibility set forth in Section 21.20.045 of the County Code. Surrounding parcels in agricultural production that are also enrolled under the Williamson Act are adjacent to the project site on all sides and range in size from 523± acres to 21± acres and planted in row and forage crops, and almonds. During project review, this application was referred to the Department of Conservation (DOC) for review and input and no response has been received to date.

Buffer and Setback Guidelines are applicable to new or expanding uses approved in or adjacent to the General Agriculture (A-2-40) zoning district and are required to be designed to physically avoid conflicts between agricultural and non-agricultural uses. General Plan Amendment No. 2011-01 – *Revised Agricultural Buffers* was approved by the Board of Supervisors on December 20, 2011, to modify County requirements for buffers on agricultural projects. As this is a Tier Two use, if not considered people-intensive by the Planning Commission, the project is not subject to agricultural buffers. As mentioned previously, the proposed operation will be mostly automated and operate 24 hours a day for seven days a week, year-round. A maximum of three employees are anticipated on-site five days a week, from 6:00 a.m. to 5:00 p.m. The third employee will be on-site as needed throughout the week during the same proposed hours of operation. In addition to the three vehicle round trips for the employees, the applicant anticipates up to three roundtrips per-day for trucks transporting renewable natural gas (RNG) off-site to an existing pipeline connection in Helm, California where it will then be compressed and used as natural gas for fueling vehicles, and two truck trips per week for system maintenance and refueling the natural gas generators to be installed on-site. The project was referred to the Stanislaus County Agricultural Commissioner, and no comments have been received to date. Therefore, staff believes the project can be considered low people-intensive, thus not subject to the County's Agricultural Buffer requirements.

The project site is located within the boundaries of both the Oakdale Irrigation District (OID), and South San Joaquin Irrigation District (SSJID). The project was referred to OID which responded that all project improvements shall be constructed, placed, and/or installed outside the limits of OID's rights of way for the 60-foot-wide Fairbanks Lateral, 50-foot-wide Leitch Lateral, and 60-foot-wide Howell Lateral that run through the project site unless prior written approval is received by OID via a recorded encroachment permit. The project was also referred to SSJID which responded that the applicant has constructed improvements including a pipeline within the dedicated right-of-way of the SSJID's Main Canal that runs north to south bisecting the property. The District stated that the proposed plans for the project include surface and underground improvements as well as a construction driveway access point within their right-of-way which has not been authorized. The District commented requiring the applicant submit a revised set of plans that removes all proposed improvements and means of ingress and egress from the District's property. The District also commented that any drainage from the project site be contained on the applicant's property and shall not be designed to discharge or flow onto the District's right-of-way. Additionally, if there is any expansion of the proposed digester pipeline to be installed within or adjacent to the right-of-way for County-maintained Dodds Road, the District has requested that the applicant be required to coordinate with the District prior to approval or submittal of construction documents as the District maintains a potable water transmission pipeline within the vicinity of Dodds Road. The District requested the County halt any further permitting approval to the applicant where unauthorized trespass on District property is proposed. The applicant has been in contact with the SSJID following the comment letter received and will remove the unpermitted improvements from the ROW or

obtain the required encroachment permits if applicable and acceptable to the SSJID prior to operation of the digester hub. A condition of approval will be applied to the project requiring the applicant to comply with OID and SSJID's comments.

The surrounding area is comprised of grazing land, orchards and row crops in all directions; the County of San Joaquin and a dairy facility to the west; the South San Joaquin Irrigation District wastewater treatment facility and solar farm to the northeast; Woodward Reservoir to the east; and scattered single-family dwellings to the west, south, and east. The project site will continue to operate as a dairy and the proposed digester is located within an already disturbed portion of the project site associated with the dairy facility. Existing on-site farming and dairy operations are proposed to continue unaffected by the proposed request. Accordingly, the project is not anticipated to conflict with the ongoing agricultural use of the site or surrounding properties. The request is not expected to cause the conversion of farmland to non-agriculture use.

Based on the specific features and design of this project, it does not appear this project will impact the long-term productive agricultural capability of surrounding contracted lands in the A-2 zoning district. There is no indication this project will result in the removal of adjacent contracted land from agricultural use. No forest lands exist in Stanislaus County. The project will have less than significant impacts to Agriculture and Forest Resources.

Mitigation: None.

References: Application information; United States Department of Agriculture NRCS Web Soil Survey; California State Department of Conservation Farmland Mapping and Monitoring Program - Stanislaus County Farmland 2022; Referral response received from Oakdale Irrigation District, dated January 11, 2024; Referral response from South San Joaquin Irrigation District, dated February 2, 2024; Stanislaus County Zoning Ordinance (Title 21); Stanislaus County General Plan and Support Documentation¹.

III. AIR QUALITY: Where available, the significance criteria established by the applicable air quality management district or air pollution control district may be relied upon to make the following determinations. -- Would the project:	Potentially Significant Impact	Less Than Significant With Mitigation Included	Less Than Significant Impact	No Impact
a) Conflict with or obstruct implementation of the applicable air quality plan?			X	
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?			X	
c) Expose sensitive receptors to substantial pollutant concentrations?			X	
d) Result in other emissions (such as those odors adversely affecting a substantial number of people?			X	

Discussion: The proposed project is located within the San Joaquin Valley Air Basin (SJVAB) and, therefore, falls under the jurisdiction of the San Joaquin Valley Air Pollution Control District (SJVAPCD). In conjunction with the Stanislaus Council of Governments (StanCOG), the SJVAPCD is responsible for formulating and implementing air pollution control strategies. The SJVAPCD's most recent air quality plans are the 2007 PM10 (respirable particulate matter) Maintenance Plan, the 2008 PM2.5 (fine particulate matter) Plan, and the 2007 Ozone Plan. These plans establish a comprehensive air pollution control program leading to the attainment of state and federal air quality standards in the SJVAB, which has been classified as "extreme non-attainment" for ozone, "attainment" for respirable particulate matter (PM-10), and "non-attainment" for PM 2.5, as defined by the Federal Clean Air Act.

The project proposes to operate a methane digester on a 482.4± acre parcel located in the General Agriculture (A-2-40) zoning district. The methane digester will process waste produced from the on-site dairy (Hilltop Holsteins) and from an off-site dairy (A & A Cattle) adjoining the project site to the west, located at (APN: 002-003-024). As part of this request, the following improvements and structures will be utilized on the project site: a 1.3± acre digester and associated

equipment; a livestock water recycling system; biogas upgrading equipment; three natural gas generators; a backup/emergency flare; fire suppression water supply tank; a 360± square-foot office for overseeing operations and maintenance of the digester; and a 1,500± square-foot shop for the mechanical and electrical equipment and operation of the heat exchanger associated with the digester and biogas equipment. A slurry of dairy waste from each dairy will be processed through the digester and associated equipment by a gas collection and water filtration system to convert greenhouse gases (GHG) to Renewable Natural Gas (RNG), which will be trucked off-site.

The primary source of air pollutants generated by this project would be classified as being generated from "mobile" sources. Mobile sources would generally include dust from roads, farming, and automobile exhausts. Mobile sources are generally regulated by the Air Resources Board of the California EPA which sets emissions for vehicles and acts on issues regarding cleaner burning fuels and alternative fuel technologies. As such, the District has addressed most criteria air pollutants through basin wide programs and policies to prevent cumulative deterioration of air quality within the Basin.

The digester will operate 24 hours a day, seven days a week. A maximum of three employees are anticipated on-site five days a week, from 6:00 a.m. to 5:00 p.m. In addition to the three round vehicle trips for the employees, the applicant anticipates up to three roundtrips per-day for trucks transporting renewable natural gas (RNG) off-site to an existing pipeline connection in Helm, California where it will then be compressed and used as natural gas for fueling vehicles, and two truck trips per week for system maintenance and refueling the natural gas generators to be installed on-site.

A comment was received from SJVAPCD in response to the Early Consultation prepared for the proposed project indicating that construction and operation-related emissions for the project would have a less than significant impact on air quality and are not expected to exceed any of the District's annual emissions significant thresholds, including: 100 tons per-year of carbon monoxide (CO), ten tons per-year of oxides of nitrogen (NOx), ten tons per-year of reactive organic gases (ROG), 27 tons per-year of oxides of sulfur (SOx), 15 tons per-year of particulate matter of ten microns or less in size (PM10), or 15 tons per-year of particulate matter of 2.5 microns or less in size (PM2.5); however, the District indicated that the project should perform a Health Risk Assessment (HRA) to evaluate the project's health related impacts. Additionally, the District requested that an Ambient Air Quality Analysis (AAQA) be included if emissions of any pollutant exceed 100 pounds per-day. The Air District commented that an Authority to Construct (ATC) Permit and Permit to Operate (PTO) would be required for the project. Additionally, the project may be subject to the following District Rules: Regulation VIII (Fugitive PM10 Prohibitions), Rule 4102 Nuisance, Rules 4601 Architectural Coatings, and 4641 Cutback, Slow Cure, and Emulsified Asphalt, Paving and Maintenance Operations. A condition of approval will be placed on the project requiring that the applicant be in compliance with the District's rules and regulations prior to issuance of a building permit. As the project must comply with District regulations, the project's emissions would be less than significant for all criteria pollutants, would not be inconsistent with any applicable air quality attainment plans, and would result in less than significant impacts to air quality. The District recommended that the project utilize the cleanest available off-road construction equipment to reduce impacts from construction-related diesel exhaust emissions. The SJVAPCD also recommended the environmental document include a discussion on nuisance odors; however, Stanislaus County has adopted a Right-to-Farm Ordinance (§9.32.050) which states that inconveniences associated with agricultural operations, such as noise, odors, flies, dust, or fumes shall not be considered to be a nuisance if agricultural operations are consistent with accepted customs and standards.

In response to the Air District comments, the applicant provided documentation of an ATC permit which was issued on August 30, 2022 for the digester and associated equipment. A Risk Management Review (RMR) to determine the possible cancer and non-cancer health impacts of the digester and associated equipment, and an Ambient Air Quality Analysis were performed under the ATC by the Technical Services Division at the Air District. The RMR evaluated the potential risk to the population attributable to emissions of hazardous air pollutants from the project utilizing the California Air Pollution Control Officers Association's (CAPCOA) methodology which indicated the facility's prioritization score was greater than 1.0, exceeding the District's threshold and requiring a refined assessment to be performed. If a refined assessment is greater than one in a million but less than 20 in one million for carcinogenic impacts (Cancer Risk) and less than 1.0 for the Acute and Chronic hazard indices (non-carcinogenic) on a unit-by-unit basis, project basis and on a facility-wide basis, the proposed application is considered less than significant. For units that exceed a cancer risk of 1 in one million, Toxic Best Available Control Technology (TBACT) must be implemented. The refined assessment performed for the ATC for the project concluded that the cumulative acute and chronic indices for this project are below 1.0; and the cumulative cancer risk for this facility, including this project, is less than 20 in a million. In addition, the cancer risk for each unit in this project is less than 1.0 in a million; in accordance with the District's Risk Management Policy, the project is approved without the requirement for implementing TBACT and no significant impacts to health is anticipated as a result of the digester and associated equipment. An AAQA was also performed by the Air District for the project under the

ATC utilizing the Air Quality Dispersion Modeling (AERMOD) model which found that the project will not cause or contribute significantly to a violation of the State and National Ambient Air Quality Standards (AAQS) for PM10, PM2.5, volatile organic compound (VOC), nitrogen oxides (NOX), sulfur oxides (SOX), or carbon monoxide (CO).

Construction activities associated with the digester and equipment on the project site, and pipeline and transfer equipment on the off-site dairies under this request may require use of heavy-duty construction equipment. However, all construction activities are required to occur in compliance with all SJVAPCD regulations; therefore, construction emissions are anticipated to be less than significant without mitigation.

As required by CEQA Guidelines Section 15064.3, potential impacts regarding Air Quality should be evaluated using Vehicle Miles Traveled (VMT). Stanislaus County has currently not adopted any significance thresholds for VMT, and projects are treated on a case-by-case basis for evaluation under CEQA. However, the State of California - Office of Planning and Research (OPR) has issued guidelines regarding VMT significance under CEQA. The CEQA Guidelines identify vehicle miles traveled (VMT), which is the amount and distance of automobile travel attributable to a project, as the most appropriate measure of transportation impacts. According to the same technical advisory from OPR, projects that generate or attract fewer than 110 trips per-day generally may be assumed to cause a less-than significant transportation impact. The proposed project will not exceed the screening criteria for VMT analysis with a total of three vehicle roundtrips for three employees per-day, three roundtrips for three heavy-duty trucks to transport RNG off-site, and two roundtrips for two heavy-duty truck trips per week for system maintenance and refueling the natural gas generators. The operation will have a maximum of 16 one-way trips per-day if all vehicle and truck trips occur on the same day. As this is below the District's threshold of significance for vehicle and heavy truck trips, no significant impacts from vehicle and truck trips to air quality are anticipated.

The closest sensitive receptor to the project site is a single-family dwelling located on the adjacent dairy to the west that will be served by the digester under this proposal (APN: 002-003-024), which is located approximately .31 miles from the digester area on the project site, and the second closest receptor is a single-family dwelling located .38 miles from the digester area on a parcel to the east of the project site. Neither of the receptors are expected to be impacted by the project activities. Additionally, odors associated with construction are not expected to impact off-site receptors, as construction equipment and haul trucks will abide by best practices for equipment used during construction, and truck idling on-site.

As the project must comply with District regulations, the project's emissions would be less than significant for all criteria pollutants, would not be inconsistent with any applicable air quality attainment plans, and would result in less than significant impacts to air quality.

Mitigation: None.

References: Application information; San Joaquin Valley Air Pollution Control District - Regulation VIII Fugitive Dust/PM-10 Synopsis; www.valleyair.org; Governor's Office of Planning and Research Technical Advisory, December 2018; San Joaquin Valley Air Pollution Control District - Regulation VIII Fugitive Dust/PM-10 Synopsis; www.valleyair.org; San Joaquin Valley Air Pollution Control District, Authority to Construct (ATC) Permit and Application Review, dated August 30, 2022; CA Building Code; and the Stanislaus County General Plan and Support Documentation¹.

IV. BIOLOGICAL RESOURCES -- Would the project:	Potentially Significant Impact	Less Than Significant With Mitigation Included	Less Than Significant Impact	No Impact
a) Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service?			X	
b) Have a substantial adverse effect on any riparian habitat or other sensitive natural community			X	

identified in local or regional plans, policies, regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service?				
c) Have a substantial adverse effect on state or federally protected wetlands (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?			X	
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?			X	
e) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?			X	
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?			X	

Discussion: The project site is located within the Escalon Quad of the California Natural Diversity Database. There are 12 species which are state or federally listed, threatened, or identified as species of special concern or a candidate of special concern, or listed as on a watch list within this quad. These species include California tiger salamander – central California DPS, Swainson’s hawk, green sturgeon – southern DPS, Sacramento hitch, hardhead, steelhead – Central Valley DPS, chinook salmon – Central Valley fall/late fall-run ESU, valley elderberry longhorn beetle, western mastiff bat, Northern California legless lizard, and two plant species: Legenere, and Greenes tuctoria.

While the southeasternmost portion of the project site was recorded within an area where a siting of Legenere was documented in 1935-1937, the plant was searched for in 1938 and not found within a 5-mile radius due to agricultural operations leveling and irrigating the area for rice and dairy pasture. There are no reported sitings of any of the other aforementioned species listed within the Escalon Quad on the project site. There is a very low likelihood that these species are present on the project site as it has already been disturbed for agricultural purposes and developed with various residential structures and the dairy facility. The proposed project will take place on the northern half of the project site adjacent to existing lagoons used for the dairy.

An Early Consultation was referred to the California Department of Fish and Wildlife (formerly the Department of Fish and Game) and the U.S. Fish and Wildlife, and no responses were received. The project will not conflict with a Habitat Conservation Plan, a Natural Community Conservation Plan, or other locally approved conservation plans. Impacts to endangered species or habitats, locally designated species, or wildlife dispersal or migratory corridors are considered to be less than significant.

Mitigation: None.

References: Application information; California Department of Fish and Wildlife’s Natural Diversity Database Quad Species List; California Natural Diversity Database, Planning and Community Development GIS, accessed June 10, 2024; Stanislaus County General Plan and Support Documentation¹.

V. CULTURAL RESOURCES -- Would the project:	Potentially Significant Impact	Less Than Significant With Mitigation Included	Less Than Significant Impact	No Impact
a) Cause a substantial adverse change in the significance of a historical resource pursuant to in			X	

§ 15064.5?				
b) Cause a substantial adverse change in the significance of an archaeological resource pursuant to § 15064.5?			X	
c) Disturb any human remains, including those interred outside of formal cemeteries?			X	

Discussion: It does not appear this project will result in significant impacts to any archaeological or cultural resources. The project site is improved with a dairy facility, residential, and accessory structures totaling 650,506± square feet of building space consisting of four milk barns, a commodity barn, a bunker silo, three free stall barns, a heifer/maternity barn, a hospital/horse barn, a carport, three agricultural storage buildings, three cattle shades, three single-family dwellings, a swimming pool, and a duplex with a garage. The remaining balance of the project site is planted in 405± acres of corn, wheat, forage crops, and almonds. As part of this request, the following improvements and structures will be utilized on the project site: a 1.3± acre digester and associated equipment; a livestock water recycling system; biogas upgrading equipment; three natural gas generators; a backup/emergency flare; fire suppression water supply tank; a 360± square-foot office for overseeing operations and maintenance of the digester, and a 1,500± square-foot shop for equipment accessory to the operation of the digester. No new structures are proposed to be installed on the off-site dairy; however, an underground pipeline will be trenched eastward across the project site to A&A Dairy located on the adjoining parcel to the west, further identified as Assessor Parcel Number (APN: 002-003-024). Conditions of approval will be placed on the project, requiring that any construction activities shall be halted, if any resources are found, until appropriate agencies are contacted, and an archaeological survey is completed.

No significant impacts to cultural resources are anticipated to occur as a result of this project.

Mitigation: None.

References: Application information; Stanislaus County General Plan and Support Documentation¹.

VI. ENERGY – Would the project:	Potentially Significant Impact	Less Than Significant With Mitigation Included	Less Than Significant Impact	No Impact
a) Result in potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during project construction or operation?			X	
b) Conflict with or obstruct a state or local plan for renewable energy or energy efficiency?			X	

Discussion: The California Environmental Quality Act (CEQA) Guidelines Appendix F states that energy consuming equipment and processes, which will be used during construction or operation such as: energy requirements of the project by fuel type and end use, energy conservation equipment and design features, energy supplies that would serve the project, total estimated daily vehicle trips to be generated by the project, and the additional energy consumed per trip by mode, shall be taken into consideration when evaluating energy impacts. Additionally, the project’s compliance with applicable state or local energy legislation, policies, and standards must be considered.

As stated above in Section III - *Air Quality*, the proposal includes the use of a digester, associated equipment, office and shop building in order to process dairy waste produced from the on-site dairy and from an off-site dairy located just west of the project site (APN: 002-003-024), which will be piped in a slurry form via underground pipeline located across private property. The slurry of dairy waste from each dairy will be processed through the digester and associated equipment by a gas collection and water filtration system to convert greenhouse gases (GHG) to Renewable Natural Gas (RNG), which will be trucked off-site. A comment was received from the San Joaquin Valley Air Pollution Control District (SJVAPCD) in response to the Early Consultation referral for the project indicating that further review of the project’s potential impacts to

air quality should be conducted. The Air District commented that an Authority to Construct (ATC) Permit and Permit to Operate (PTO) would be required for the project. As discussed in Section III – Air Quality, the District conducted a Risk Management Review (RMR) and Ambient Air Quality Analysis (AAQA) under an ATC permit that was issued on August 30, 2022 for the proposed digester and associated equipment for the on-site dairy, and determined the project will not have significant impacts on health and will not cause or contribute significantly to a violation of the State and National Ambient Air Quality Standards (AAQS). The operation of the digester will be subject to a Permit to Operate (PTO) from the Air District. Additionally, within the District’s most recently comment letter, the project may be subject to the following District Rules: Regulation VIII (Fugitive PM10 Prohibitions), Rule 4102 Nuisance, Rules 4601 Architectural Coatings, and 4641 Cutback, Slow Cure, and Emulsified Asphalt, Paving and Maintenance Operations. A condition of approval will be placed on the project requiring that the applicant be in compliance with the District’s rules and regulations prior to operation. The District also recommended that the project utilize the cleanest available off-road construction equipment to reduce impacts from construction-related diesel exhaust emissions. The District’s comments will be applied to the project as conditions of approval.

All construction activities shall be in compliance Building permits will be required for the following proposed improvements and structures on the project site: a 1.3± acre digester and associated equipment; a livestock water recycling system; biogas upgrading equipment; three natural gas generators; a backup/emergency flare; fire suppression water supply tank; a 360± square-foot office, and a 1,500± square-foot shop. The digester and associated equipment, office, and shop building are currently being constructed under building permits (BLD2022-0835 and BLD2023-1542) and at this time may only be used to process waste from the on-site dairy, which is permitted ministerially. Conditions of approval will be added to the project requiring that a building permit be obtained for the proposed office and that all building permits, for the structures and equipment to be utilized under this request, be finalized by the Stanislaus County Building Permits Division prior to operation. Additionally, any future construction activities will be required to occur in compliance with all SJVAPCD regulations.

Energy consuming equipment and processes include construction equipment, trucks, and the employee vehicle. As discussed in Section III – Air Quality, these activities would not significantly increase Vehicle Miles Traveled (VMT), due to the number of vehicle trips not exceeding a total of 110 vehicle trips per-day. There will be a maximum total of 16 one-way vehicle and truck trips associated with employee, RNG, and maintenance vehicle and truck trips. The trucks and equipment to operate the digester are the main consumers of energy associated with this project but will be subject to applicable Air District regulations, including rules and regulations that increase energy efficiency. Consequently, emissions would be minimal. Therefore, consumption of energy resources would be less than significant without mitigation for the proposed project.

It does not appear that this project will result in significant impacts to the wasteful, inefficient, or unnecessary consumption of energy resources. Accordingly, the potential impacts to Energy are considered to be less than significant.

Mitigation: None.

References: Application information; CEQA Guidelines; San Joaquin Valley Air Pollution Control District – Regulation VIII Fugitive Dust/PM-10 Synopsis; www.valleyair.org; San Joaquin Valley Air Pollution Control District, Authority to Construct (ATC) Permit and Application Review, dated August 30, 2022; Referral response from the San Joaquin Valley Air Pollution Control District (SJVAPCD), dated January 18, 2024; Governor’s Office of Planning and Research Technical Advisory, December 2018; Title 16 of County Code; CA Building Code; Stanislaus County Zoning Ordinance (Title 21); Stanislaus County General Plan and Support Documentation¹.

VII. GEOLOGY AND SOILS – Would the project:	Potentially Significant Impact	Less Than Significant With Mitigation Included	Less Than Significant Impact	No Impact
a) Directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving:				
i) Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo			X	

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?			X	
iii) Seismic-related ground failure, including liquefaction?			X	
iv) Landslides?			X	
b) Result in substantial soil erosion or the loss of topsoil?			X	
c) Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction or collapse?			X	
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?			X	
e) Have soils incapable of adequately supporting the use of septic tanks or alternative waste water disposal systems where sewers are not available for the disposal of waste water?			X	
f) Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?			X	

Discussion: The United States Department of Agriculture Natural Resources Conservation Service (USDA NRCS) Web Soil Survey indicates that the parcel is primarily comprised of San Joaquin sandy loam, 0 to 2 percent slopes, San Joaquin sandy loam, 2 to 5 percent slopes, and Cometa sandy loam, 2 to 8 percent slopes. As contained in Chapter 5 of the General Plan Support Documentation, the areas of the County subject to significant geologic hazard are located in the Diablo Range, west of Interstate 5; however, as per the California Building Code, all of Stanislaus County is located within a geologic hazard zone (Seismic Design Category D, E, or F) and a soils test may be required at building permit application. Results from the soils test will determine if unstable or expansive soils are present. If such soils are present, special engineering of the structure will be required to compensate for the soil deficiency. Any structures resulting from this project will be designed and built according to building standards appropriate to withstand shaking for the area in which they are constructed. Any addition or expansion of a septic tank or alternative wastewater disposal system would require the approval of the Department of Environmental Resources (DER) through the building permit process, which also takes soil type into consideration within the specific design requirements. The project was referred to the Stanislaus County Department of Public Works which responded requiring the applicant to obtain a grading permit prior to the commencement of any grading, clearing, excavating, filling or other disturbance of natural terrain. DER, Public Works, and the Building Permits Division review and approve any building or grading permit to ensure their standards are met. The Department of Environmental Resources reviewed and approved the existing building permits issued for the associated digester, equipment, and shop under Building Permits (BLD2022-0835 and BLD2023-1542). Conditions of approval regarding DER, Public Works and the Building Permit Services Division’s requirements and standards will be applied to the project and will be triggered when the building permit for the office is applied for or if any future building or grading permit is requested.

The Department of Environmental Resources (DER) provided a response to the project requiring the applicants demonstrate and secure any necessary permits for the destruction/relocation of all on-site wastewater treatment systems (OWTS) and/or water wells impacted or proposed by this project, under the direction of the Stanislaus County Department of Environmental Resources (DER); any new building requiring an OWTS, shall be designed according to type and/or maximum occupancy of the proposed structure to the estimated waste/sewage design flow rate; prior to issuance of any grading or building permit, the applicant(s) shall submit a site plan that includes the location, layout and design of all existing and proposed OWTS and the future 100% expansion (replacement) areas; and that all applicable County Local

Agency Management Program (LAMP) standards and required setbacks are met. As previously mentioned, DER reviewed and approved the existing building permit issued for the associated digester, equipment, and shop. The comments received for the current proposal to use the digester to process waste from the on-site dairy and one off-site dairy will be applied as conditions of approval and required prior to issuance of any additional building permits.

The project site is not located near an active fault or within a high earthquake zone. Landslides are not likely due to the flat terrain of the area. Impacts to Geology and Soils are anticipated to be less than significant.

Mitigation: None.

References: Application information; United States Department of Agriculture NRCS Web Soil Survey; Referral response from the Department of Public Works, dated June 18, 2024; Referral response from the Department of Environmental Resources (DER) – Environmental Health Division, dated January 17, 2024; Stanislaus County General Plan and Support Documentation¹.

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

Discussion: The principal Greenhouse Gasses (GHGs) are carbon dioxide (CO₂), methane (CH₄), nitrous oxide (N₂O), sulfur hexafluoride (SF₆), perfluorocarbons (PFCs), hydrofluorocarbons (HFCs), and water vapor (H₂O). CO₂ is the reference gas for climate change because it is the predominant greenhouse gas emitted. To account for the varying warming potential of different GHGs, GHG emissions are often quantified and reported as CO₂ equivalents (CO₂e). In 2006, California passed the California Global Warming Solutions Act of 2006 (Assembly Bill [AB] No. 32), which requires the California Air Resources Board (ARB) design and implement emission limits, regulations, and other measures, such that feasible and cost-effective statewide GHG emissions are reduced to 1990 levels by 2020. Two additional bills, SB 350 and SB32, were passed in 2015 further amending the states Renewables Portfolio Standard (RPS) for electrical generation and amending the reduction targets to 40 percent of 1990 levels by 2030.

The project proposes to operate a methane digester within a 7.8± acre footprint on a 482.4± acre parcel located in the General Agriculture (A-2-40) zoning district. The methane digester will process dairy waste produced from the on-site dairy and from an off-site dairy located just west of the project site (APN: 002-003-024), which will be piped in a slurry form via underground pipeline located across private property. A slurry of dairy waste from each dairy will be processed through the digester and associated equipment by a gas collection and water filtration system to convert greenhouse gases (GHG) to Renewable Natural Gas (RNG), which will be trucked off-site. As part of this request, the following improvements and structures will be utilized on the project site: a 1.3± acre digester and associated equipment; a livestock water recycling system; biogas upgrading equipment; three natural gas generators; a backup/emergency flare; fire suppression water supply tank; a 360± square-foot operations and maintenance office, and a 1,500± square-foot shop. The digester and associated equipment, and shop building are currently being constructed under building permits (BLD2022-0835 and BLD2023-1542) and at this time may only be used to process waste from the on-site dairy. The project anticipates three vehicle round trips for the employees, up to three roundtrips per-day for trucks transporting renewable natural gas (RNG) off-site to an existing pipeline connection in Helm, California where it will then be compressed and used as natural gas for fueling vehicles, and two truck trips per week for system maintenance and refueling the natural gas generators to be installed on-site. No expansion of existing herd sizes will occur as a result of this project on either of the dairies.

The short-term emissions of GHGs during construction, primarily composed of CO₂, CH₄, and N₂O, would be the result of fuel combustion by construction equipment and motor vehicles. The other primary GHGs (HFCs, PFCs, and SF₆) are

typically associated with specific industrial sources and are not expected to be emitted by future construction at this project site. As described above in Section III - *Air Quality*, the use of heavy-duty construction equipment would be very limited; therefore, the emissions of CO₂ from future construction would be less than significant. Additionally, the construction of the digester and associated equipment, office and shop are subject to the mandatory planning and design, energy efficiency, water efficiency and conservation, material conservation and resources efficiency, and environmental quality measures, of the California Green Building Standards (CALGreen) Code (California Code of Regulations, Title 24, Part 11) which includes minimum statewide standards to significantly reduce GHG emissions from new construction. Construction activities associated with this project are considered to be less than significant as they are temporary in nature and are subject to meeting San Joaquin Valley Air Pollution Control District (SJVAPCD) standards for emissions.

Direct emissions of GHGs from the operation of the proposed project are primarily due to the employee vehicle trips, truck trips to transport RNG off-site and maintenance truck trips, and by the operation of the equipment. As required by California Environmental Quality Act (CEQA) Guidelines section 15064.3, potential impacts regarding Green House Gas Emissions should be evaluated using Vehicle Miles Traveled (VMT). The calculation of VMT is the number of cars/trucks multiplied by the distance traveled by each car/truck. Total vehicle trips as a result of this project will not exceed 110 trips per-day. As discussed above, the proposed project will generate a total of 16 one-way vehicle and truck trips per-day. The operation of the digester hub is anticipated to have a net reduction of GHGs as the methane captured by the digester and treated by the equipment will ultimately be used to power heavy duty trucks rather than using gasoline for the trucks.

This project was referred to the San Joaquin Valley Air Pollution Control District (SJVAPCD). As discussed in Section III – *Air Quality*, the District conducted a Risk Management Review (RMR) to determine health impacts and an Ambient Air Quality Analysis (AAQA) for the project under the Authority to Construct permit issued on August 30, 2024. The emissions estimates focused on criteria pollutants such as: Ozone (ROG), Carbon Monoxide (CO), Sulfur Dioxide (SO₂), Nitrogen Oxides (NO_x), Particulate Matter 10 (PM₁₀), and Particulate Matter 2.5 (PM_{2.5}), Toxic Air Contaminants (TACs), and also included estimates for CO₂, CH₄, N₂O, CO_{2e} associated with the operation of the project. The analysis found that expected emission increases for the project will be less than 100 pounds per-day for all pollutants. Following the Air District’s review of the emissions estimates, the project was found not to have significant health impacts, or the potential to significantly contribute to an exceedance of state or federal Ambient Air Quality Standards which include standards for GHGs. Based on the Air District’s referral response, a Permit to Operate (PTO) will be required to be obtained from the SJVAPCD for the proposed project prior to operation. The project may also be subject to other applicable Air District permits including but not limited to the following District Rules: Regulation VIII (Fugitive PM₁₀ Prohibitions), Rule 4102 Nuisance, Rules 4601 Architectural Coatings, and 4641 Cutback, Slow Cure, and Emulsified Asphalt, Paving and Maintenance Operations. Staff will include a condition of approval requiring the applicant to comply with all appropriate District rules and regulations regarding the operation of the digester and associated equipment on the project site. Consequently, GHG emissions associated with this project are considered to be less than significant.

Mitigation: None.

References: Application information; San Joaquin Valley Air Pollution Control District referral response, dated January 18, 2024; San Joaquin Valley Air Pollution Control District, Authority to Construct (ATC) Permit and Application Review, dated August 30, 2022; California Green Building Standards (CALGreen) Code (California Code of Regulations, Title 24, Part 11); ; Stanislaus County General Plan and Support Documentation¹.

IX. HAZARDS AND HAZARDOUS MATERIALS -- Would the project:	Potentially Significant Impact	Less Than Significant With Mitigation Included	Less Than Significant Impact	No Impact
a) Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?			X	
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?			X	

c) Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?			X	
d) Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment?			X	
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?				X
f) Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?			X	
g) Expose people or structures, either directly or indirectly, to a significant risk of loss, injury or death involving wildland fires?			X	

Discussion: The County Department of Environmental Resources (DER) is responsible for overseeing hazardous materials. A referral response from the Hazardous Materials Division of the Stanislaus County Department of Environmental Resources (DER) is requiring that the developer conduct a Phase I or Phase II study prior to the issuance of a grading permit. Additionally, the Hazardous Materials Division requested that they be contacted should any underground storage tanks, buried chemicals, buried refuse, or contaminated soil be discovered during grading or construction. The applicant will also be required to contact the Hazardous Materials Division for information regarding regulatory requirements for hazardous materials and/or wastes. These comments will be reflected through the application of a condition of approval. A referral response was also received from the Environmental Health Division of the Department of Environmental Resources (DER) requiring the applicants demonstrate and secure any necessary permits for the destruction/relocation of all on-site wastewater treatment systems (OWTS) and/or water wells impacted or proposed by this project); and that all applicable County Local Agency Management Program (LAMP) standards and required setbacks are maintained. The Department of Environmental Resources reviewed and approved the existing building permits issued for the associated digester, equipment, and shop under (BLD2022-0835 and BLD2023-1542), and will review any building permit for the office as well. The comments received for the current proposal to use the digester to process waste from the on-site dairy and one off-site dairy will be applied as conditions of approval and required prior to issuance of any building permits.

Animal waste resulting from daily operations from both dairies are managed through Waste Management Plans (WMPs) and Nutrient Management Plans (NMPs), which are reviewed by the Central Valley Regional Water Quality Control Board (CVRWQCB). An NMP and WMP describe the regulatory requirements for the facility, and together they serve as the primary tool to prevent groundwater contamination and to establish best management practices (BMP) for dairy waste management. The dairy waste slurry from the off-site dairy (APN: 002-003-024) directly to the west of the project site will be pumped to the digester site via a private underground pipeline not within the County right-of-way. Slurry coming out of the digester will be piped back to each respective dairy pursuant to the quantities listed under each dairies' current wastewater management plan (WMP); no net increase of wastewater will be applied to any of the dairies. Manure solids will be filtered out by screen separators and equipment on each dairy prior to the slurry being sent through the pipelines to the digester. All manure solids will be used for normal dairy operations including bedding and crop fertilizer at each respective dairy. The project was referred to Regional Water which responded that all wastewater discharges must comply with the Antidegradation Policy (State Water Board Resolution 68-16) and the Antidegradation Implementation Policy contained in the Basin Plan. Antidegradation analysis is a mandatory element in the National Pollutant Discharge Elimination System (NPDES) and land discharge Waste Discharge Requirements (WDRs) permitting processes. Regional Water commented that the environmental review document should evaluate potential impacts to both surface and groundwater quality. Under CEQA, the CVRWQCB is a responsible state agency with the statutory responsibility to protect water quality in California's Central Valley. Current dairy facilities are able to comply with Regional Water and obtain coverage under the Order No. R5-2010-0130, Waste Discharge Requirements General Order for Dairies with

Manure Anaerobic Digester or Co-Digester Facilities (Dairy Digester General Order) if the dairy facility has a digester on-site in order to comply with Regional Water regulations. During the review of the building permits for the digester, associated equipment, and shop (BLD2022-0835 and BLD2023-1542), Regional Water issued a letter on May 19, 2023 regarding their review of the construction of the pond for the proposed digester and specified the dairy is currently covered under the Dairy Digester General Order. The pond for the digester under this request is under the Dairy Digester General Order and subject to report all monitoring data collected regarding the performance of the digester's collection system in the Dairy's annual reports in order to comply with Regional Water regulations. Regional Water also commented that the project as proposed will be required to obtain coverage under the General Permit for Storm Water Discharges Associated with Construction and Land Disturbance Activities (Construction General Permit) as the proposal will disturb one or more acres of soil. Conditions of approval will be placed on the project reflecting Regional Water's comments, and that the applicant contact Regional Water in order to comply with any rules, regulations, required amendments for the WMPs or NMPs for either dairy, or to obtain any applicable permits from their department.

Pesticide exposure is a risk in areas located in the vicinity of agriculture. Sources of exposure include contaminated groundwater from drift from spray applications. Application of sprays is strictly controlled by the Agricultural Commissioner and can only be accomplished after first obtaining permits. Additionally, agricultural buffers are intended to reduce the risk of spray exposure to surrounding people.

Buffer and Setback Guidelines are applicable to new or expanding uses approved in or adjacent to the General Agriculture (A-2) zoning district and are required to be designed to physically avoid conflicts between agricultural and non-agricultural uses. General Plan Amendment No. 2011-01 Revised Agricultural Buffers was approved by the Board of Supervisors on December 20, 2011, to modify County requirements for buffers on agricultural projects. As this is a Tier Two use, if not considered people-intensive by the Planning Commission, the project is not subject to agricultural buffers. The proposed establishment will be mostly automated and will operate 24 hours a day, seven days a week, year-round. A maximum of three employees are anticipated on-site five days a week, from 6:00 a.m. to 5:00 p.m. Three round trips for trucks transporting RNG off-site per-day are anticipated for the operation, as well as two round trips per week for heavy duty trucks for system maintenance and refueling the natural gas generators to be installed on-site. The project was referred to the Stanislaus County Agricultural Commissioner, and no comments have been received to date. Therefore, staff believes the project can be considered low people intensive, thus not subject to the County's Agricultural Buffer requirements.

The project site is not listed on the EnviroStor database managed by the CA Department of Toxic Substances Control or within the vicinity of any airport. The site is located in a Local Responsibility Area (LRA) for fire protection and is served by Oakdale Rural Fire Protection District. The project was referred to the District, and no comments have been received to date. The project site is not within the vicinity of any airstrip or wildlands.

No significant impacts associated with hazards or hazardous materials are anticipated to occur as a result of the proposed project.

Mitigation: None.

References: Application information; Referral response from the Department of Environmental Resources Hazardous Materials Division, dated January 18, 2022; Referral response from the Department of Environmental Resources - Health Division, dated January 17, 2024; Referral response from the Central Valley Regional Water Quality Control Board, dated January 17, 2024; Letter received from the Central Valley Regional Water Quality Control Board, dated May 19, 2023; Department of Toxic Substances Control's data management system (EnviroStar); Stanislaus County General Plan and Support Documentation¹.

X. HYDROLOGY AND WATER QUALITY -- Would the project:	Potentially Significant Impact	Less Than Significant With Mitigation Included	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?			X	

<p>b) Substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin?</p>			<p>X</p>	
<p>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:</p>				
<p>i) result in substantial erosion or siltation on- or off-site;</p>			<p>X</p>	
<p>ii) substantially increase the rate of amount of surface runoff in a manner which would result in flooding on- or off-site.</p>			<p>X</p>	
<p>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</p>			<p>X</p>	
<p>iv) impede or redirect flood flows?</p>			<p>X</p>	
<p>d) In flood hazard, tsunami, or seiche zones, risk release of pollutants due to project inundation?</p>			<p>X</p>	
<p>e) Conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan?</p>			<p>X</p>	

Discussion: Areas subject to flooding have been identified in accordance with the Federal Emergency Management Act (FEMA). The project site is located in FEMA Flood Zone X, which includes areas determined to be outside the 0.2 percent annual chance floodplains. The project proposes to handle stormwater drainage overland. A grading, drainage, and erosion/sediment control plan for the project was submitted for the building permits for the digester, associated equipment, and shop under Building Permits (BLD2022-0835 and BLD2023-1542), which have been issued but not yet finalized. These building permits were subject to Public Works review and Standards and Specifications, as well as the submittal of a Storm Water Pollution Prevention Plan (SWPPP) prior to the approval of the grading plan. Accordingly, runoff associated with the construction at the proposed project site was reviewed as part of the grading review process and required to be maintained on-site. All construction was reviewed under the Building Permit process and was reviewed and approved by the Department of Environmental Resources (DER) and required to adhere to current Local Agency Management Program (LAMP) standards. LAMP standards include minimum setback from wells to prevent negative impacts to groundwater quality. The site is currently served by private septic systems and well. No new wells are proposed as part of this request. Any future wells constructed on-site will be subject to review under the County’s Well Permitting Program, which will determine whether a new well will require environmental review. The project was referred to DER, which requires that the applicants demonstrate and secure any necessary permits for the destruction/relocation of all on-site wastewater treatment systems (OWTS) and/or water wells impacted or proposed by this project; and that all applicable County Local Agency Management Program (LAMP) standards and required setbacks are maintained. All applicable standards under Public Works and the DER will be addressed under the building permit review process for the office as well. These comments will be applied as conditions of approval and required prior to issuance of any building permits.

As discussed in Section IX – *Hazards and Hazardous Materials*, the project was referred to Regional Water which responded that all wastewater discharges must comply with the Antidegradation Policy (State Water Board Resolution 68-16) and the Antidegradation Implementation Policy contained in the Basin Plan. Antidegradation analysis is a mandatory element in the National Pollutant Discharge Elimination System (NPDES) and land discharge Waste Discharge Requirements (WDRs) permitting processes. Regional Water commented that the environmental review document should evaluate potential impacts to both surface and groundwater quality. The primary regulatory program for implementing water quality standards is the federal National Pollutant Discharge Elimination System (NPDES) Program. The United States Environmental Protection Agency (EPA) has delegated NPDES enforcement and administration to the State of California Regional Water Quality Control Board (RWQCB). The Central Valley RWQCB (Regional Water)

administers the federal NPDES program for dairies within Stanislaus County. Current dairy facilities are able to comply with Regional Water and obtain coverage under the Order No. R5-2010-0130, Waste Discharge Requirements General Order for Dairies with Manure Anaerobic Digester or Co-Digester Facilities (Dairy Digester General Order) if the dairy facility has a digester on-site. During the review of the building permits for the digester, associated equipment, and shop (BLD2022-0835 and BLD2023-1542), Regional Water issued a letter regarding their review of the construction of the pond for the proposed digester and specified the dairy is currently covered under the Dairy Digester General Order. The pond for the digester under this request is under the Dairy Digester General Order and subject to report all monitoring data collected regarding the performance of the digester's collection system in the Dairy's annual reports in order to comply with Regional Water. Animal waste resulting from daily operations from both dairies are managed through Waste Management Plans (WMPs) and Nutrient Management Plans (NMPs), which are reviewed by Regional Water. An NMP and WMP describe the regulatory requirements for the facility, and together they serve as the primary tool to prevent groundwater contamination and to establish best management practices (BMP) for dairy waste management. The dairy waste slurry from the off-site dairy (APN: 002-003-024) to the west of the project site will be pumped to the digester site via a private underground pipeline not within the County right-of-way. Slurry coming out of the digester will be piped back to each respective dairy pursuant to the quantities listed under each dairies' current wastewater management plan (WMP); no net increase of wastewater will be applied to any of the dairies. No expansion of existing herd sizes will occur as a result of this project on either of the dairies associated with the use of the proposed digester; however, the WMPs and NMPs of the dairies utilizing the digester may be required to be amended to make facility modifications as necessary to protect surface water, improve storage capacity, and improve the facilities nitrogen balances before all infrastructure changes are completed. In addition, BMPs intended to minimize surface water discharges and subsurface discharges at dairies are required. Regional Water also commented that the project as proposed will be required to obtain coverage under the General Permit for Storm Water Discharges Associated with Construction and Land Disturbance Activities (Construction General Permit) as the proposal will disturb one or more acres of soil. Conditions of approval will be added to the project requiring the applicant and associated dairies to comply with all applicable rules, regulations and design standards Regional Water may require of the project in order to address ground water quality.

The Sustainable Groundwater Management Act (SGMA) was passed in 2014 with the goal of ensuring the long-term sustainable management of California's groundwater resources. SGMA requires agencies throughout California to meet certain requirements including forming Groundwater Sustainability Agencies (GSA), developing Groundwater Sustainability Plans (GSP), and achieving balanced groundwater levels within 20 years. The site is located in the Eastern San Joaquin Subbasin GSA. The Eastern San Joaquin Subbasin GSA GSP was approved by the Department of Water Resources on March 3, 2023. The GSA prepared their annual report for Eastern San Joaquin Subbasin addressing groundwater and surface water conditions during Water Year (WY) 2022 and submitted the report to DWR in March, 2023. Total groundwater extractions in the Eastern San Joaquin Subbasin during WY 2022 were approximately 818,507 AF. This total is based on both direct measurements by local water agencies and estimates for private agricultural and domestic pumping. During WY 2022, agricultural groundwater extraction accounts for 94.6 percent (774,653 AF) of the total pumping in the Eastern San Joaquin Subbasin, while urban groundwater extraction accounts for the remaining 5.4 percent (43,854 AF). The proposed dairy and associated digester is subject to the requirements of the GSP for the region which was adopted to minimize impacts to groundwater supplies.

The Department of Environmental Resources - Groundwater Resources Division provided a referral response for the project requesting clarification of the water source to demonstrate that the water supply will be sufficient for the needs of the project. The applicant has clarified that the site is improved with existing septic systems and wells and does not propose additional wells on-site under this request.

The California Safe Drinking Water Act (California Health and Safety Code (CHSC) Section 116275(h)) defines a Public Water System as a system for the provision of water for human consumption through pipes or other constructed conveyances that has 15 or more service connections or regularly serves at least 25 individuals daily at least 60 days out of the year. A public water system includes the following:

1. Any collection, treatment, storage, and distribution facilities under control of the operator of the system that are used primarily in connection with the system.
2. Any collection or pretreatment storage facilities not under the control of the operator that are used primarily in connection with the system.

3. Any water system that treats water on behalf of one or more public water systems for the purpose of rendering it safe for human consumption.

The project was referred to the Department of Environmental Resources (DER) – Environmental Health Division which responded with requirements to submit a water system evaluation for the project to determine if the project would meet the definition of a public water system. A water system evaluation was submitted and reviewed by Department of Environmental Resources (DER) – Health Division. DER indicated that the private wells on the project site do not currently meet the definition of a Public Water System as defined in CHSC Section 116275(h). However, DER requested that the applicant contacts DER if the water system ever meets the definition of a public water system. If the existing well is ever required to become a Public Water System, the applicant must submit an application for a water supply permit with the associated technical report to Stanislaus County DER which will determine if the well water meets State mandated standards for water quality and must also obtain concurrence from the State of California Water Resources Control Board (SWRCB), Drinking Water Division, in accordance to CHSC Section 116527 (SB1263). If the well water does not meet State standards, the applicant may need to either drill a new well or install a water treatment system for the current well. This requirement will be added as a condition of approval for the project.

The project site is located within the boundaries of both the Oakdale Irrigation District (OID), and South San Joaquin Irrigation District (SSJID). The project site receives irrigated water from SSJID, OID, and private irrigation wells. The project was referred to OID which responded that all project improvements shall be constructed, placed, and/or installed outside the limits of OID's rights of way for the 60-foot-wide Fairbanks Lateral, 50-foot-wide Leitch Lateral, and 60-foot-wide Howell Lateral that run through the project site unless prior written approval is received by OID via a recorded encroachment permit. The project was also referred to SSJID which responded that the applicant has constructed improvements including a pipeline within the dedicated right-of-way of the SSJID's Main Canal that runs north to south bisecting the property. The District stated that the proposed plans for the project include surface and underground improvements as well as a construction driveway access point within their right-of-way which has not been authorized. The District commented requiring the applicant submit a revised set of plans that removes all proposed improvements and means of ingress and egress from the District's property, and that any drainage from the project site be contained on the applicant's property and shall not be designed to discharge or flow onto the District's right-of-way. Additionally, if there is any expansion of the proposed digester pipeline to be installed within or adjacent to the right-of-way for County-maintained Dodds Road, the District has requested that the applicant be required to coordinate with the District prior to approval or submittal of construction documents as the District maintains a potable water transmission pipeline within the vicinity of Dodds Road. The District requested the County halt any further permitting approval to the applicant where unauthorized trespass on District property is proposed. The applicant has been in contact with the SSJID following the comment letter received and will remove the unpermitted improvements from the ROW or obtain the required encroachment permits if applicable and acceptable to the SSJID prior to operation of the digester hub. A condition of approval will be applied to the project requiring the applicant to comply with OID and SSJID's comments.

As a result of the conditions of approval required for this project, impacts associated with drainage, water quality, and runoff are expected to have a less than significant impact.

Mitigation: None.

References: Application information; Referral response from the Department of Environmental Resources - Environmental Health Division, dated January 17, 2024; Email received from the Department of Environmental Resources – Health Division, dated June 20, 2024; East San Joaquin Subbasin Groundwater Sustainability Plan, www.esjgroundwater.org/Documents/GSP, accessed on June 12, 2024; Eastern San Joaquin Groundwater Subbasin: Water Year 2022 Annual Report, March 2023; Referral form the Department of Environmental Resources Environmental Health Division, dated January 17, 2024; Referral response received from Oakdale Irrigation District, dated January 11, 2024; Referral response received from South San Joaquin Irrigation District, dated February 2, 2024; Stanislaus County General Plan and Support Documentation¹.

XI. LAND USE AND PLANNING -- Would the project:	Potentially Significant Impact	Less Than Significant With Mitigation Included	Less Than Significant Impact	No Impact
a) Physically divide an established community?			X	
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?			X	

Discussion: The project site has a General Plan designation of Agriculture and zoning designation of General Agriculture with a 40-acre minimum (A-2-40) which allows dairies as a ministerially permitted agricultural use, unless a dairy is expanding and a new or modified permit, waiver, order, or waste discharge requirement is needed from the Regional Water Quality Control Board. The project site is currently improved with Hilltop Holsteins Dairy which has been permitted to operate under building permits. In this case the dairies included in the project are existing and are not proposing to expand under this request. The use of a covered digester and equipment to process dairy manure is considered an accessory use if it is serving the on-site dairy and no herd expansion is proposed. However, in this case, the proposed digester will serve as a hub to process manure wastewater slurry from the on-site dairy as well as one off-site dairy located to the west of the project site on (APN: 002-003-024). While the digester is currently under construction under Building Permit No. 2022-0835, it will only be permitted for processing the on-site dairy's wastewater until the current request for a Tier Two Use Permit is obtained to allow processing of waste from multiple dairies.

Within the A-2 zoning district, the County has determined that certain uses related to agricultural production are "necessary for a healthy agricultural economy" and can be permitted as a Tier One or Two Use Permit provided specific criteria can be met and if specific findings can be made. Those findings include that the establishment, as proposed, will not be substantially detrimental to, or in conflict with, the agricultural use of other property in the vicinity; that the use is necessary and desirable for such establishment to be located within the agricultural area as opposed to areas zoned for commercial or industrial usage; and that it will not create a concentration of commercial and industrial uses in the vicinity. While this type of use, a methane digester hub, is not explicitly identified as a Tier Two use, staff has determined that it is a mix of an agricultural service establishment and agricultural processing facility. An Agricultural Service Establishment is defined by Section 21.12.030 of the Stanislaus County Zoning Ordinance as meaning "a business engaging in activities designed to aid production agriculture. Service does not include the provision of tangible goods except those sold directly to farmers and used specifically to aid in production of farm animals or crops. Nor does service include any business which has the primary function of manufacturing products." Production agriculture is defined by Section 21.12.495 as meaning "agriculture for the purpose of producing any and all plant and animal commodities for commercial purposes." Section 21.20.030(B)(3)(a) recognizes agricultural service establishments as a Tier Two use when primarily engaging in the provision of agricultural services to farmers and when such establishments are designed to serve the immediately surrounding area as opposed to having a widespread service area. Section 21.20.030(B)(b) of the Stanislaus County Zoning Ordinance allows agricultural processing facilities under a Tier Two Use Permit provided that: the plant or facility is operated in conjunction with, or as a part of, a bona fide agricultural production operation; at least fifty percent of the produce to be processed is grown on the premises or on property located in Stanislaus County in the same ownership or lease; and the number of full-time, year-round employees involved in the processing shall not exceed ten, and the number of part-time, seasonal employees shall not exceed twenty.

The project itself directly relates to the production of commercial agricultural products on the subject contracted parcel and on neighboring lands. A maximum of three employees are anticipated on-site for the operation and maintenance of the digester and associated biogas equipment. There are no non-agricultural commercial or industrial uses except for the following uses within 1± mile of the project site: a PG&E electrical substation adjacent to the project site to the west; the South San Joaquin Irrigation District's water treatment plant located to the northeast of the project site across Dodds Road, approximately 270± feet from the project site, on (APNs: 002-001-075 and 002-001-076); and Woodward Reservoir approximately one mile to the east of the project site. The proposed project will not displace any existing on-site farming or dairy operations.

The project site is currently enrolled in California Land Conservation Act (“Williamson Act”) Contract No. 72-752. County Code Section 21.20.045, in compliance with Government Code Section 51238.1, specifies that uses approved on contracted lands shall be consistent with three principles of compatibility. Those principles state that the proposed use shall not significantly compromise, displace, impair or remove current or reasonably foreseeable agricultural operations on the subject contracted parcel or parcels or on other contracted lands in the A-2 zoning district. The project as proposed is considered a Tier Two use. Within the A-2 zoning district, the County has determined Tier Two uses shall be evaluated on a case-by-case basis by the Planning Commission and/or Board of Supervisors to determine whether they are consistent with the principles of compatibility set forth in Section 21.20.045 of the County Code. Surrounding parcels in agricultural production that are also enrolled under the Williamson Act are adjacent to the project site on all sides and range in size from 523± acres to 21± acres and planted in row and forage crops, and almonds. It is not anticipated that the proposed project will impact agricultural operations on the project site or surrounding parcels.

Buffer and Setback Guidelines are applicable to new or expanding uses approved in or adjacent to the General Agriculture (A-2) zoning district and are required to be designed to physically avoid conflicts between agricultural and non-agricultural uses. General Plan Amendment No. 2011-01 Revised Agricultural Buffers was approved by the Board of Supervisors on December 20, 2011, to modify County requirements for buffers on agricultural projects. As this is a Tier Two use, if not considered people-intensive by the Planning Commission, the project is not subject to agricultural buffers. The proposed establishment will be mostly automated and will operate 24 hours a day, seven days a week, year-round. Three employees will be on-site five days a week, from 6:00 a.m. to 5:00 p.m. In addition to the three vehicle round trips for the employees, the applicant anticipates up to three round trips per-day for trucks transporting renewable natural gas (RNG) off-site to an existing pipeline connection in Helm, California where it will then be compressed and used as natural gas for fueling vehicles, and two truck trips per week for system maintenance and refueling the natural gas generators to be installed on-site. The project was referred to the Stanislaus County Agricultural Commissioner’s Office which did not comment on the project.

The project will not physically divide an established community nor conflict with any habitat conservation plans.

Mitigation: None.

References: Application information; Stanislaus County Zoning Ordinance (Title 21); Stanislaus County General Plan and Support Documentation¹.

XII. MINERAL RESOURCES -- Would the project:	Potentially Significant Impact	Less Than Significant With Mitigation Included	Less Than Significant Impact	No Impact
a) Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state?			X	
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?			X	

Discussion: The location of all commercially viable mineral resources in Stanislaus County has been mapped by the State Division of Mines and Geology in Special Report 173. There are no known significant resources on the site, nor is the project site located in a geological area known to produce resources.

Mitigation: None.

References: Application information; Stanislaus County General Plan and Support Documentation¹.

XIII. NOISE -- Would the project result in:	Potentially Significant	Less Than Significant	Less Than Significant	No Impact
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	Impact	With Mitigation Included	Impact	
a) Generation of a substantial temporary or permanent increase in ambient noise levels in the vicinity of the project in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?			X	
b) Generation of excessive groundborne vibration or groundborne noise levels?			X	
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?			X	

Discussion: The Stanislaus County General Plan identifies noise levels up to 75 dB Ldn (or CNEL) as the normally acceptable level of noise for agricultural uses. The Stanislaus County General Plan identifies noise levels for residential or other noise-sensitive land uses of up to 55 hourly Leq, dBA and 75 Lmax, dBA from 7 a.m. to 10 p.m. and 45 hourly Leq, dBA and 65 Lmax, dBA from 10 p.m. to 7 a.m. Pure tone noises, such as music, shall be reduced by five dBA; however, when ambient noise levels exceed the standards, the standards shall be increased to the ambient noise levels. The closest sensitive receptor to the project site is a single-family dwelling located on the adjacent dairy to the west that will be served by the digester under this proposal (APN: 002-003-024), which is located approximately .31 miles from the digester area on the project site, and the second closest receptor is a single-family dwelling located .38 miles from the digester area on a parcel to the east of the project site. Noise impacts associated with on-site activities and traffic are not anticipated to exceed the normally acceptable level of noise. Additionally, agricultural activity, as defined within the County’s Right to Farm Ordinance (Section 9.32.010(B) of the County Code) such as the operation of a digester is exempt from the Stanislaus County Noise Control Ordinance (Ord. CS 1070 §2, 2010). The site itself is impacted by noise generated by vehicular traffic on Dodds Road and neighboring agricultural operations.

The site is not located within an airport land use plan. Impacts associated with noise are considered to be less than significant.

Mitigation: None.

References: Application information; Stanislaus County Noise Control Ordinance (Title 10); Stanislaus County General Plan and Support Documentation¹.

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

Discussion: The site is not included in the vacant sites inventory for the 2016 Stanislaus County Housing Element, which covers the 5th cycle Regional Housing Needs Allocation (RHNA) or the draft 2023 6th cycle RHNA for the county and will therefore not impact the County’s ability to meet their RHNA. No population growth will be induced, nor will any existing housing be displaced as a result of this project.

Mitigation: None.

References: Application information; Stanislaus County General Plan and Support Documentation¹.

XV. PUBLIC SERVICES --	Potentially Significant Impact	Less Than Significant With Mitigation Included	Less Than Significant Impact	No Impact
a) Would the project result in the substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for any of the public services:				
Fire protection?			X	
Police protection?			X	
Schools?			X	
Parks?			X	
Other public facilities?			X	

Discussion: This project was circulated to all applicable school, fire, police, and public works departments and districts including Valley Home Joint School District, Oakdale Joint Unified School District, Oakdale Rural Fire Protection District, Stanislaus County Sheriff’s Office, and the Stanislaus County Public Works Department during the Early Consultation referral period and no concerns were identified with regard to public services. The County has adopted Public Facilities Fees, as well as Fire Facility Fees on behalf of the appropriate fire district, to address impacts to public services. School Districts also have their own adopted fees. All facility fees are required to be paid at the time of building permit issuance.

It is not anticipated that the project would substantially affect the level of service on Dodds Road. The project was referred to the Stanislaus County Department of Public Works, which has requested conditions of approval to address driveway approaches installed according to Public Works’ Specifications, restrictions on loading, parking, unloading within the County right-of-way, that the storage depth outside of any gate be adequate for trucks coming off the road, that entry vehicles shall not block any travel lane or shoulder, and that if storage depth is inadequate, it may require fencing to be moved further into the property or a deceleration lane be installed. The developer will be required to install or pay for the installation of any signs and/or markings, if warranted. Additionally, Public Works has requested roadway dedications for Dodds Road. Currently, Dodds Road is classified as a 60-foot-wide local road. The required half-width of Dodds Road is 30-feet south of the centerline of the roadway; however, the existing right-of-way is only 10-feet south of the centerline. The remaining 20-feet south of the centerline shall be dedicated as an irrevocable offer of dedication. Additionally, the existing fence along the frontage of the property is within the ultimate right-of-way. Public Works has specified that the existing fence may remain until such time as Public Works notifies the owner of the property of the need to accept the irrevocable offer of dedication for road widening purposes. Removal of any improvements and modifications to accommodate the removal of the fence and any other improvements within the ultimate right-of-way shall be the responsibility of the property owner. Public Works shall give the property owner a minimum of one year’s notice before it can accept the irrevocable offer of dedication. Conditions of Approval reflecting Public Works’ requests and requirements will be added to the project.

The project site is located within the boundaries of both the Oakdale Irrigation District (OID), and South San Joaquin Irrigation District (SSJID). The project site receives irrigated water from SSJID, OID, and private irrigation wells. The

project was referred to OID who responded that all project improvements shall be constructed, placed, and/or installed outside the limits of OID’s rights of way for the 60-foot-wide Fairbanks Lateral, 50-foot-wide Leitch Lateral, and 60-foot-wide Howell Lateral that run through the project site unless prior written approval is received by OID via a recorded encroachment permit. The project was also referred to SSJID which responded that the applicant has constructed improvements including a pipeline within the dedicated right-of-way of the SSJID’s Main Canal that runs north to south bisecting the property. The District stated that the proposed plans for the project include surface and underground improvements as well as a construction driveway access point within their right-of-way which has not been authorized. The District commented requiring the applicant submit a revised set of plans that removes all proposed improvements and means of ingress and egress from the District’s property, and that any drainage from the project site be contained on the applicant’s property and shall not be designed to discharge or flow onto the District’s right-of-way. Additionally, if there is any expansion of the proposed digester pipeline to be installed within or adjacent to the right-of-way for County-maintained Dodds Road, the District has requested that the applicant be required to coordinate with the District prior to approval or submittal of construction documents as the District maintains a potable water transmission pipeline within the vicinity of Dodds Road. The District requested the County halt any further permitting approval to the applicant where unauthorized trespass on District property is proposed. The applicant has been in contact with the SSJID following the comment letter received and will remove the unpermitted improvements from the ROW or obtain the required encroachment permits if applicable and acceptable to the SSJID prior to operation of the digester hub. A condition of approval will be applied to the project requiring the applicant to comply with OID and SSJID’s comments.

Mitigation: None.

References: Application information; Referral response received from Oakdale Irrigation District, dated January 11, 2024; Referral response received from South San Joaquin Irrigation District, dated February 2, 2024; Referral response received from Stanislaus County Public Works Department, dated June 18, 2024; Stanislaus County General Plan and Support Documentation¹.

XVI. RECREATION --	Potentially Significant Impact	Less Than Significant With Mitigation Included	Less Than Significant Impact	No Impact
a) Would the project increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?			X	
b) Does the project include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment?			X	

Discussion: This project will not increase demands for recreational facilities, as such impacts typically are associated with residential development.

Mitigation: None.

References: Application information; Stanislaus County General Plan and Support Documentation¹.

XVII. TRANSPORTATION -- Would the project:	Potentially Significant Impact	Less Than Significant With Mitigation Included	Less Than Significant Impact	No Impact
a) Conflict with a program plan, ordinance or policy addressing the circulation system, including transit, roadway, bicycle and pedestrian facilities?			X	
b) Would the project conflict or be inconsistent with CEQA Guidelines section 15064.3, subdivision (b)?			X	
c) Substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?			X	
d) Result in inadequate emergency access?			X	

Discussion: The site has access to County-maintained Dodds Road which is classified as 60-foot-wide local road via a horseshoe shaped gravel driveway with a width of 40± feet for each driveway opening onto Dodds Road on the west side of the project site; and a 38± foot-wide gravel driveway located at the middle of the project site’s frontage off Dodds Road.

It is not anticipated that the project would substantially affect the level of service on Dodds Road. The project was referred to the Stanislaus County Department of Public Works, which has requested conditions of approval to address driveway approaches installed according to Public Works’ Specifications, restrictions on loading, parking, unloading within the County right-of-way, that the storage depth outside of any gate be adequate for trucks coming off the road, that entry vehicles shall not block any travel lane or shoulder, and that if storage depth is inadequate, it may require fencing to be moved further into the property or a deceleration lane be installed. The developer will be required to install or pay for the installation of any signs and/or markings, if warranted. Additionally, Public Works has requested roadway dedications for Dodds Road. Currently, Dodds Road is classified as a 60-foot-wide local road. The required half-width of Dodds Road is 30-feet south of the centerline of the roadway; however, the existing ROW is only 10-feet south of the centerline. The remaining 20-feet south of the centerline shall be dedicated as an irrevocable offer of dedication. Additionally, the existing fence along the frontage of the property is within the ultimate ROW. Public Works has specified that the existing fence may remain until such time as Public Works notifies the owner of the property of the need to accept the irrevocable offer of dedication for road widening purposes. Removal of any improvements and modifications to accommodate the removal of the fence and any other improvements within the ultimate ROW shall be the responsibility of the property owner. Public Works shall give the property owner a minimum of one year’s notice before it can accept the irrevocable offer of dedication. Conditions of Approval reflecting Public Works’ requests and requirements will be added to the project.

Section 15064.3 of the CEQA Guidelines establishes specific considerations for evaluating a project’s transportation impacts. The CEQA Guidelines identify vehicle miles traveled (VMT), which is the amount and distance of automobile travel attributable to a project, as the most appropriate measure of transportation impacts. A technical advisory on evaluating clarified the definition of automobiles as referring to on-road passenger vehicles, specifically cars and light trucks. While heavy trucks are not considered in the definition of automobiles for which VMT is calculated for, heavy duty truck VMT could be included for modeling convenience. According to the same technical advisory from OPR, projects that generate or attract fewer than 110 trips per-day generally may be assumed to cause a less-than significant transportation impact. The applicant anticipates 16 total one-way vehicle and truck trips associated with this request. The VMT increase associated with the proposed project is less-than significant as the number of vehicle trips will not exceed 110 per-day.

The project site is located within the boundaries of both the Oakdale Irrigation District (OID), and South San Joaquin Irrigation District (SSJID). The project was referred to OID which responded that all project improvements shall be constructed, placed, and/or installed outside the limits of OID’s rights of way for the 60-foot-wide Fairbanks Lateral, 50-foot-wide Leitch Lateral, and 60-foot-wide Howell Lateral that run through the project site unless prior written approval is received by OID via a recorded encroachment permit. The project was also referred to SSJID which responded that the

applicant has constructed improvements including a pipeline within the dedicated right-of-way of the SSJID's Main Canal that runs north to south bisecting the property. The District stated that the proposed plans for the project include surface and underground improvements as well as a construction driveway access point within their right-of-way which has not been authorized. The District commented requiring the applicant submit a revised set of plans that removes all proposed improvements and means of ingress and egress from the District's property, and that any drainage from the project site be contained on the applicant's property and shall not be designed to discharge or flow onto the District's right-of-way. Additionally, if there is any expansion of the proposed digester pipeline to be installed within or adjacent to the right-of-way for County-maintained Dodds Road, the District has requested that the applicant be required to coordinate with the District prior to approval or submittal of construction documents as the District maintains a potable water transmission pipeline within the vicinity of Dodds Road. The District requested the County halt any further permitting approval to the applicant where unauthorized trespass on District property is proposed. The applicant has been in contact with the SSJID following the comment letter received and will remove the unpermitted improvements from the ROW or obtain the required encroachment permits if applicable and acceptable to the SSJID prior to operation of the digester hub. A condition of approval will be applied to the project requiring the applicant to comply with OID and SSJID's comments.

Transportation impacts associated with the project are considered to be less than significant.

Mitigation: None.

References: Application information; Governor's Office of Planning and Research Technical Advisory, December 2018; Referral response received from Oakdale Irrigation District, dated January 11, 2024; Referral response received from South San Joaquin Irrigation District, dated February 2, 2024; Referral response received from Stanislaus County Department of Public Works, dated June 18, 2024; Stanislaus County General Plan and Support Documentation¹.

XVIII. TRIBAL CULTURAL RESOURCES -- Would the project:	Potentially Significant Impact	Less Than Significant With Mitigation Included	Less Than Significant Impact	No Impact
a) 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:			X	
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			X	
ii) A resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set for the in subdivision (c) of Public Resource 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.			X	

Discussion: It does not appear that this project will result in significant impacts to any archaeological or cultural resources. The project site is already improved with multiple buildings. In accordance with SB 18 and AB 52, this project was not referred to the tribes listed with the Native American Heritage Commission (NAHC) as the project is not a General Plan Amendment and no tribes have requested consultation or project referral noticing. While the site is already

developed, if any resources are found during future construction, construction activities would halt until a qualified survey takes place and the appropriate authorities are notified.

No significant impacts to Tribal Cultural resources are anticipated to occur as a result of this project.

Mitigation: None.

References: Application information; Stanislaus County General Plan and Support Documentation¹.

XIX. UTILITIES AND SERVICE SYSTEMS -- Would the project:	Potentially Significant Impact	Less Than Significant With Mitigation Included	Less Than Significant Impact	No Impact
a) Require or result in the relocation or construction of new or expanded water, wastewater treatment or storm water drainage, electric power, natural gas, or telecommunications facilities, the construction or relocation of which could cause significant environmental effects?			X	
b) Have sufficient water supplies available to serve the project and reasonably foreseeable future development during normal, dry and multiple dry years?			X	
c) Result in a determination by the wastewater treatment provider which serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments?			X	
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?			X	
e) Comply with federal, state, and local management and reduction statutes and regulations related to solid waste?			X	

Discussion: Limitations on providing services have not been identified. The project site is currently developed with existing wells and septic facilities. The Department of Public Works provided a referral response stating that a grading, drainage, and erosion/sediment control plan for the project shall be submitted for any building permit that will create a larger or smaller building footprint. A Storm Water Pollution Prevention Plan (SWPPP) will be required for future construction prior to the approval of any grading permit. These comments will be applied as conditions of approval. There are no additional wells proposed as part of this request. If in the future the facility results in the formation of a new Public Water System, then the project site will be subject to all applicable rules, regulations and standards as discussed above in the Hydrology and Water Quality Section of this document. A referral response received from DER requested the applicants demonstrate and secure any necessary permits for the destruction/relocation of all on-site wastewater treatment systems (OWTS) and/or water wells impacted or proposed by this project; and that all applicable County Local Agency Management Program (LAMP) standards and required setbacks are maintained. These comments will be applied as conditions of approval and required prior to issuance of any building permits.

The project site is located within the boundaries of both the Oakdale Irrigation District (OID), and South San Joaquin Irrigation District (SSJID). The project site receives irrigated water from SSJID, OID, and private irrigation wells. The project was referred to OID which responded that all project improvements shall be constructed, placed, and/or installed outside the limits of OID's rights of way for the 60-foot-wide Fairbanks Lateral, 50-foot-wide Leitch Lateral, and 60-foot-wide Howell Lateral that run through the project site unless prior written approval is received by OID via a recorded encroachment permit. The project was also referred to SSJID which responded that the applicant has constructed

improvements including a pipeline within the dedicated right-of-way of the SSJID’s Main Canal that runs north to south bisecting the property. The District stated that the proposed plans for the project include surface and underground improvements as well as a construction driveway access point within their right-of-way which has not been authorized. The District commented requiring the applicant submit a revised set of plans that removes all proposed improvements and means of ingress and egress from the District’s property, and that any drainage from the project site be contained on the applicant’s property and shall not be designed to discharge or flow onto the District’s right-of-way. Additionally, if there is any expansion of the proposed digester pipeline to be installed within or adjacent to the right-of-way for County-maintained Dodds Road, the District has requested that the applicant be required to coordinate with the District prior to approval or submittal of construction documents as the District maintains a potable water transmission pipeline within the vicinity of Dodds Road. The District requested the County halt any further permitting approval to the applicant where unauthorized trespass on District property is proposed. The applicant has been in contact with the SSJID following the comment letter received and will remove the unpermitted improvements from the ROW or obtain the required encroachment permits if applicable and acceptable to the SSJID prior to operation of the digester hub. A condition of approval will be applied to the project requiring the applicant to comply with OID and SSJID’s comments.

The project was referred to the Central Valley Regional Water Quality Control Board (CVRWQCB) which requires the project as proposed to obtain coverage under the General Permit for Storm Water Discharges Associated with Construction and Land Disturbance Activities (Construction General Permit) as the proposal will disturb one or more acres of soil. A condition of approval will be placed on the project that reflecting Regional Water’s comments and that the applicant contact Regional Water in order to apply for and obtain any applicable permits for their department.

The project was also referred to PG&E and AT&T and no response has been received to date.

Impacts to utilities and services are considered to be less than significant.

Mitigation: None.

References: Application information; Referral response received from Oakdale Irrigation District, dated January 11, 2024; Referral response received from South San Joaquin Irrigation District, dated February 2, 2024; Referral response received from Central Valley Regional Water Quality Control Board, dated January 17, 2024; Referral response received from Stanislaus County Department of Environmental Resources (DER) – Environmental Health Division, dated January 17, 2024; Stanislaus County General Plan and Support Documentation¹.

XX. WILDFIRE – If located in or near state responsibility areas or lands classified as very high fire hazard severity zones, would the project:	Potentially Significant Impact	Less Than Significant With Mitigation Included	Less Than Significant Impact	No Impact
a) Substantially impair an adopted emergency response plan or emergency evacuation plan?			X	
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?			X	
c) Require the installation of 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?			X	
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?			X	

Discussion: The Stanislaus County Local Hazard Mitigation Plan identifies risks posed by disasters and identifies ways to minimize damage from those disasters. The terrain of the site is relatively flat, and the site has access to a County-maintained road. The site is located in a Local Responsibility Area (LRA) for fire protection and is served by Oakdale Rural Fire Protection District. The project was referred to the District, and no comments have been received to date. California Building and Fire Code establishes minimum standards for the protection of life and property by increasing the ability of a building to resist intrusion of flame and burning embers. The building permits for the digester, associated equipment, and shop were reviewed by the County’s Building Permit Services Division and Fire Prevention Bureau to ensure all State of California Building and Fire Code requirements are met prior to construction under (BLD2022-0835 and BLD2023-1542) for the digester to serve the on-site dairy. Any additional building permit for the proposed office will be subject to review by the Building Permit Services Division and Fire Prevention Bureau as well, and all applicable standards will be required to be met. The digester will serve the existing dairy and one off-site dairy as part of this request. Wildfire risk and risks associated with postfire land changes are considered to be less-than significant.

Mitigation: None.

References: Application information; California Fire Code Title 24, Part 9; California Building Code Title 24, Part 2, Chapter 7; Stanislaus County Local Hazard Mitigation Plan; Stanislaus County General Plan and Support Documentation¹.

XXI. MANDATORY FINDINGS OF SIGNIFICANCE --	Potentially Significant Impact	Less Than Significant With Mitigation Included	Less Than Significant Impact	No Impact
a) Does the project have the potential to substantially degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, substantially reduce the number or restrict the range of a rare or endangered plant or animal or eliminate important examples of the major periods of California history or prehistory?			X	
b) Does the project have impacts that are individually limited, but cumulatively considerable? (“Cumulatively considerable” means that the incremental effects of a project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects.)			X	
c) Does the project have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly?			X	

Discussion: The project site has a General Plan designation of Agriculture and zoning designation of General Agriculture with a 40-acre minimum (A-2-40) which allows dairies as a ministerially permitted agricultural use, unless a dairy is expanding and a new or modified permit, waiver, order, or waste discharge requirement is needed from the Regional Water Quality Control Board. The project site is currently improved with Hilltop Holsteins Dairy which has been permitted to operate under building permits. In this case, the dairies included in the project are existing and are not proposing to expand under this request. The use of a covered digester and equipment to process dairy manure is considered an accessory use if it is serving the on-site dairy and no herd expansion is proposed. However, in this case, the proposed digester will serve as a hub to process manure wastewater slurry from the on-site dairy as well as one off-site dairy located to the west of the project site on (APN: 002-003-024). While the digester is currently under construction

under Building Permit No. 2022-0835, it will only be permitted for processing the on-site dairy's wastewater until the current request for a Tier Two Use Permit is obtained to allow processing of waste from multiple dairies.

There are no non-agricultural commercial or industrial uses except for the following uses within 1± mile of the project site: a PG&E electrical substation adjacent to the project site to the west; the South San Joaquin Irrigation District's water treatment plant located to the northeast of the project site across Dodds Road, approximately 270± feet from the project site, on (APNs 002-001-075 and 002-001-076); and Woodward Reservoir approximately one mile to the east of the project site. The proposed project will not displace any existing on-site farming or dairy operations.

The project site is currently enrolled in California Land Conservation Act ("Williamson Act") Contract No. 72-752. It is not anticipated that the proposed project will impact agricultural operations on the project site or the surrounding parcels that are also under contract and in agricultural production.

The project will not conflict with a Habitat Conservation Plan, a Natural Community Conservation Plan, or other locally approved conservation plans. Impacts to endangered species or habitats, locally designated species, or wildlife dispersal or migratory corridors are considered to be less than significant.

It does not appear that this project will result in significant impacts to any archaeological or cultural resources. The project site is already developed, and no new construction is proposed. The project site has already been disturbed. Standard conditions of approval regarding the discovery of cultural resources during any future construction resulting from this request will be added to the project.

The project will not physically divide an established community. The surrounding area is comprised of grazing land, orchards, and row crops in all directions; the County of San Joaquin and a dairy facility to the west; the South San Joaquin Irrigation District wastewater treatment facility and solar farm to the northeast; Woodward Reservoir to the east; and scattered single-family dwellings to the west, south, and east. Any development of the surrounding area would be subject to the permitted uses of the A-2 Zoning District or would require additional land use entitlements and environmental review. Additionally, all of the immediately surrounding parcels located adjacent to the project site are restricted by Williamson Act Contracts and are limited to the uses found to be compatible with the Williamson Act. Any uses beyond those uses permitted in the A-2 zoning district would require a General Plan Amendment and rezoning of the property which would be evaluated through additional environmental review which would take into consideration impacts from the loss of farmland and the potential for farmland conversion and cumulative impacts to the surrounding area. Any additional request for expansion for the agricultural service establishment under this request, may be subject to further land use entitlement review.

The proposed project will generate a low amount of vehicle trips with a total of one vehicle round-trip per-day. As this is below the threshold of significance for vehicle and heavy truck trips as discussed in Section XVII - Transportation, no significant impacts to transportation from the 16 one-way truck and vehicle trips are anticipated.

Review of this project has not indicated any features which might significantly impact the environmental quality of the site and/or the surrounding area.

Mitigation: None.

References: Initial Study; Stanislaus County General Plan and Support Documentation¹.

¹Stanislaus County General Plan and Support Documentation adopted in August 23, 2016, as amended. **Housing Element** adopted on April 5, 2016.

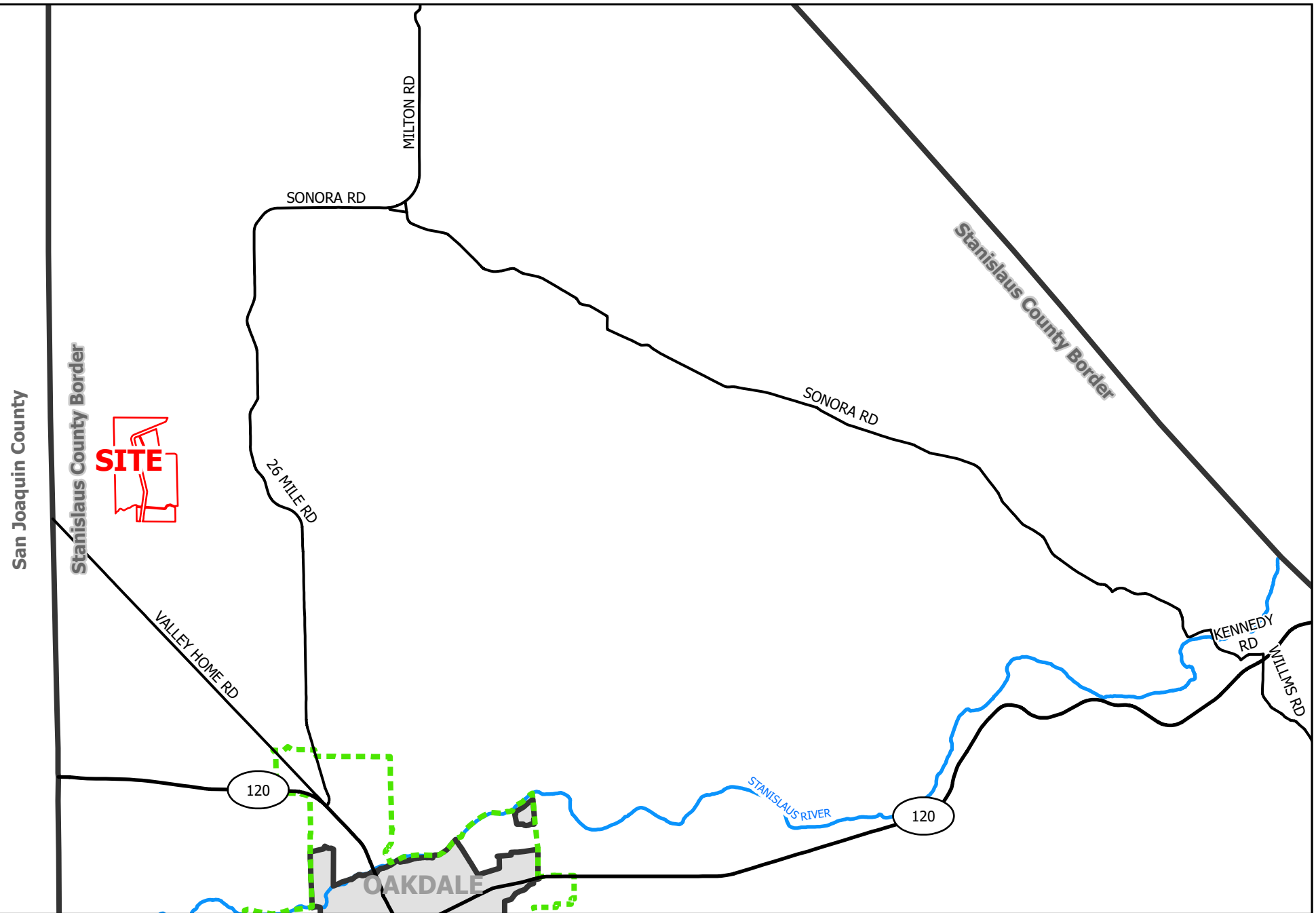
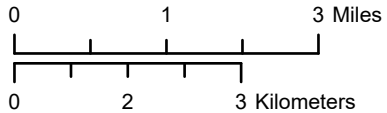
MD DIGESTER

UP PLN2023-0039

AREA MAP

LEGEND

- Highway
- Major Road
- Project Site
- Sphere of Influence
- Stanislaus County Border
- River









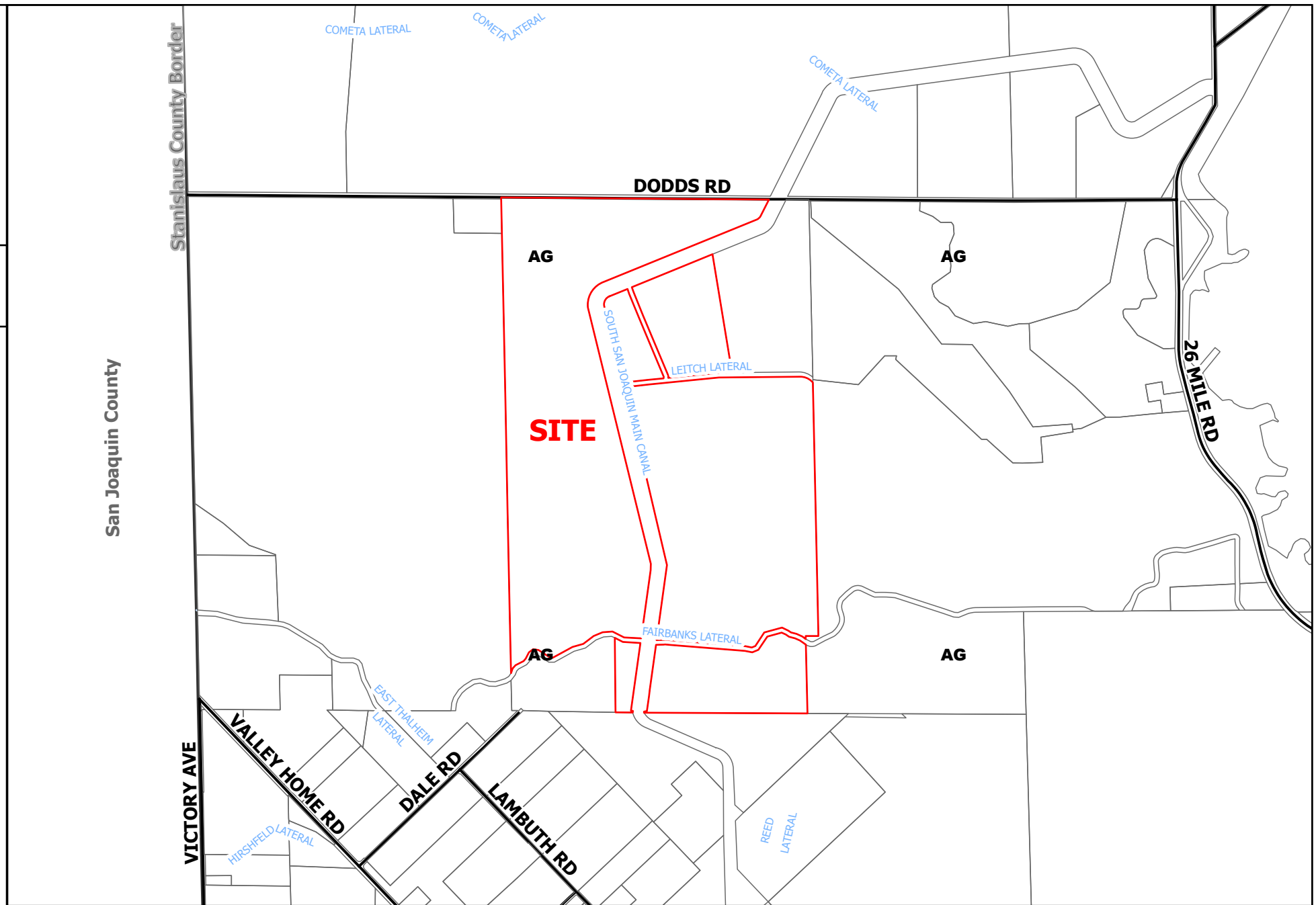
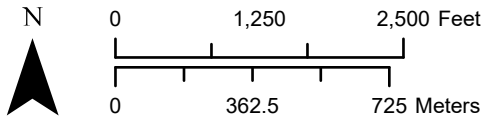
MD DIGESTER

UP PLN2023-0039

GENERAL PLAN

LEGEND

-  Project Site
-  Parcel
-  Agriculture
-  Street
-  Canal
-  Stanislaus County Border










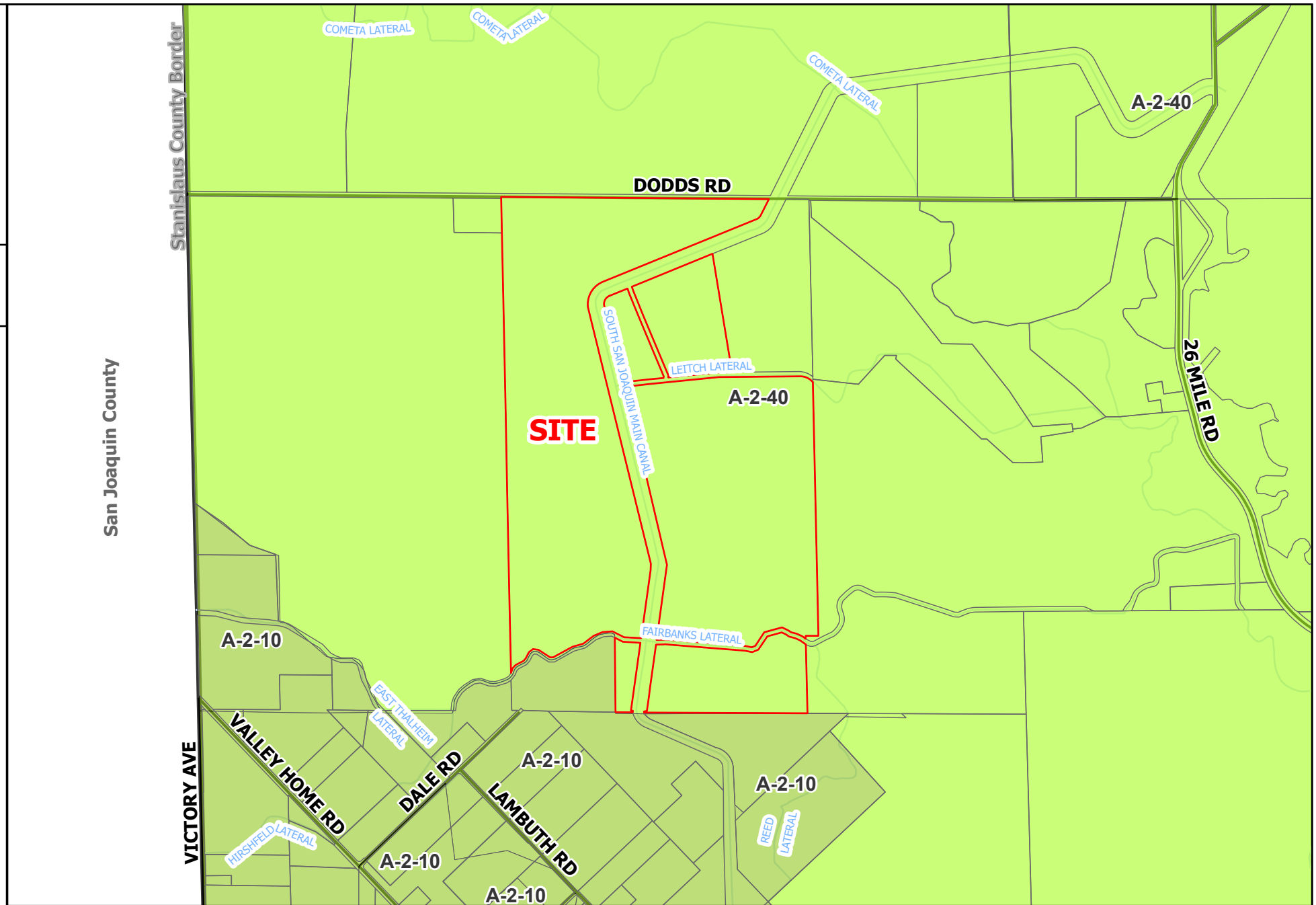
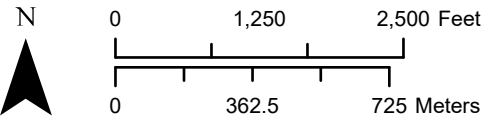
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UP PLN2023-0039

ZONING

LEGEND

-  Project Site
-  Parcel
-  General Agriculture 10 Acre
-  General Agriculture 40 Acre
-  Street
-  Canal
-  Stanislaus County Border








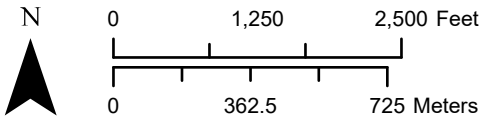
MD DIGESTER

UP PLN2023-0039

2023 AERIAL AREA MAP

LEGEND

-  Project Site
-  Parcel
-  Street
-  Canal
-  Stanislaus County Border







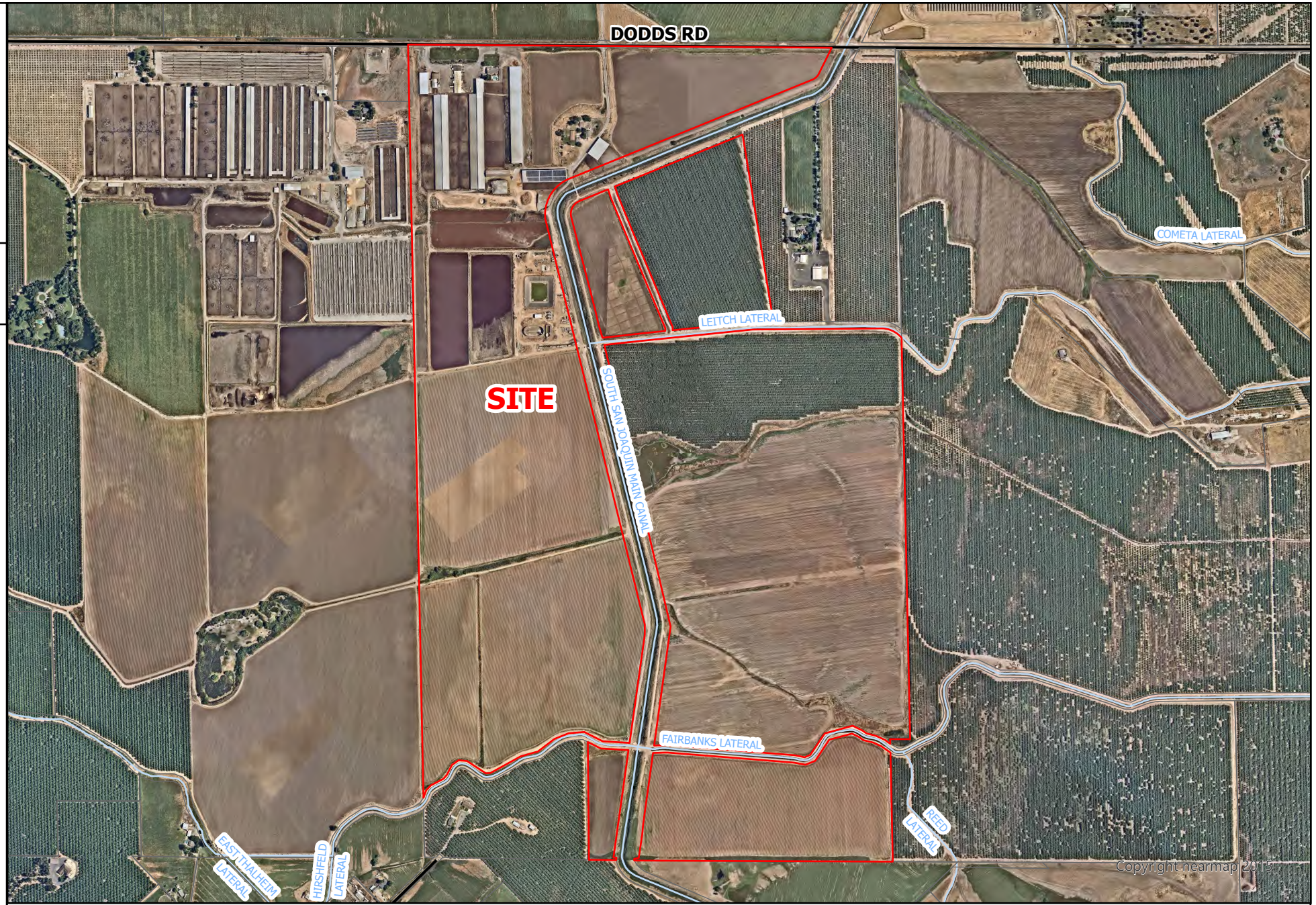
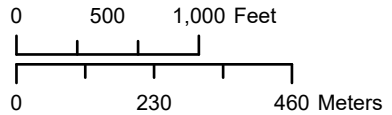
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UP PLN2023-0039

2023 AERIAL SITE MAP

LEGEND

-  Project Site
-  Parcel
-  Street
-  Canal









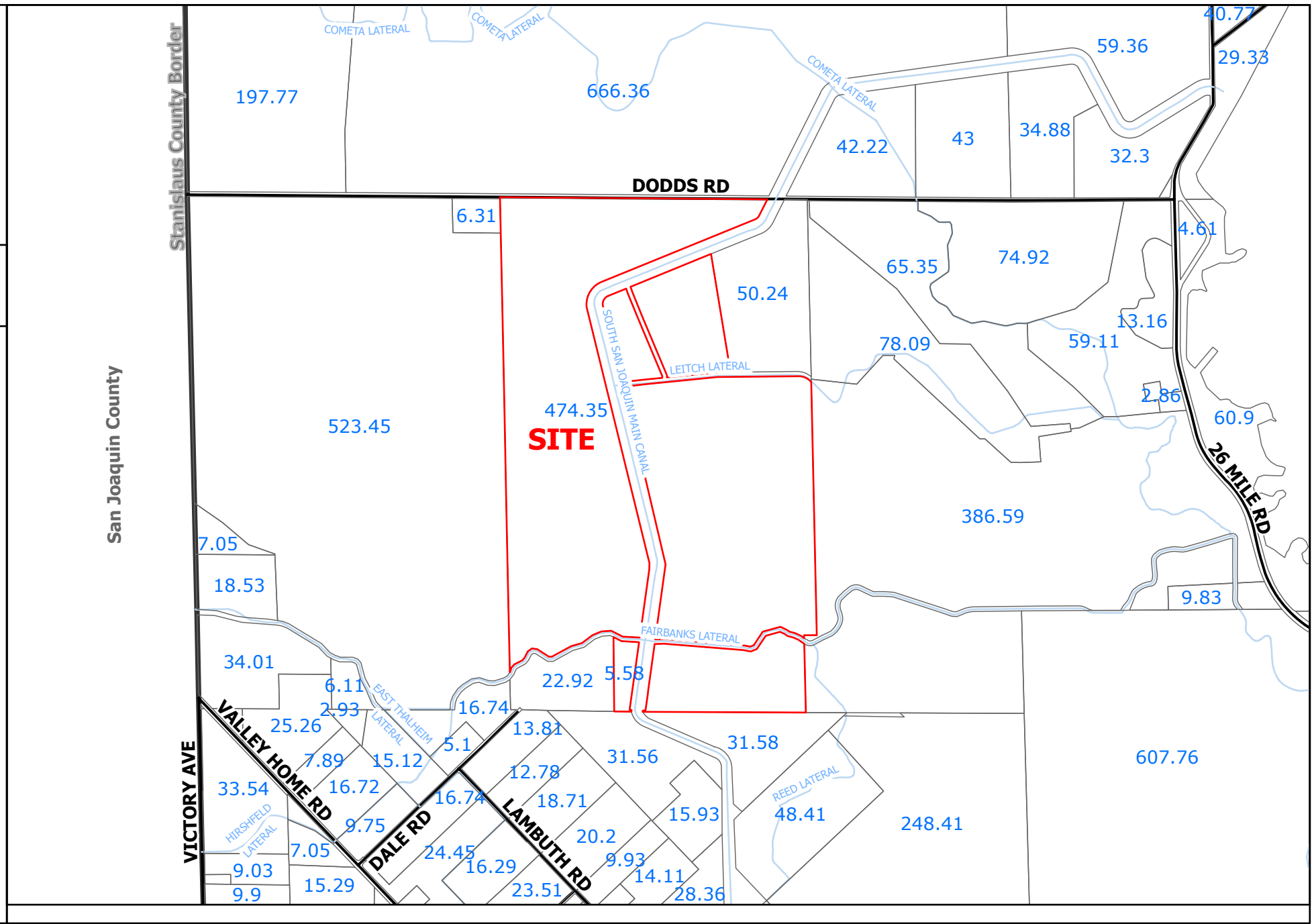
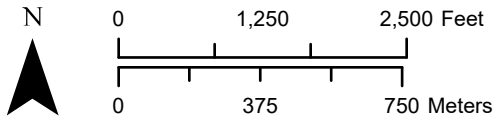
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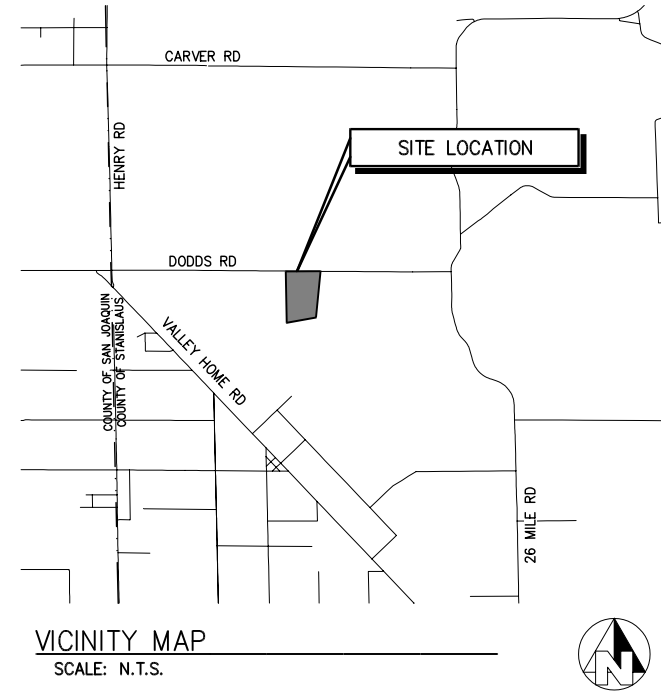
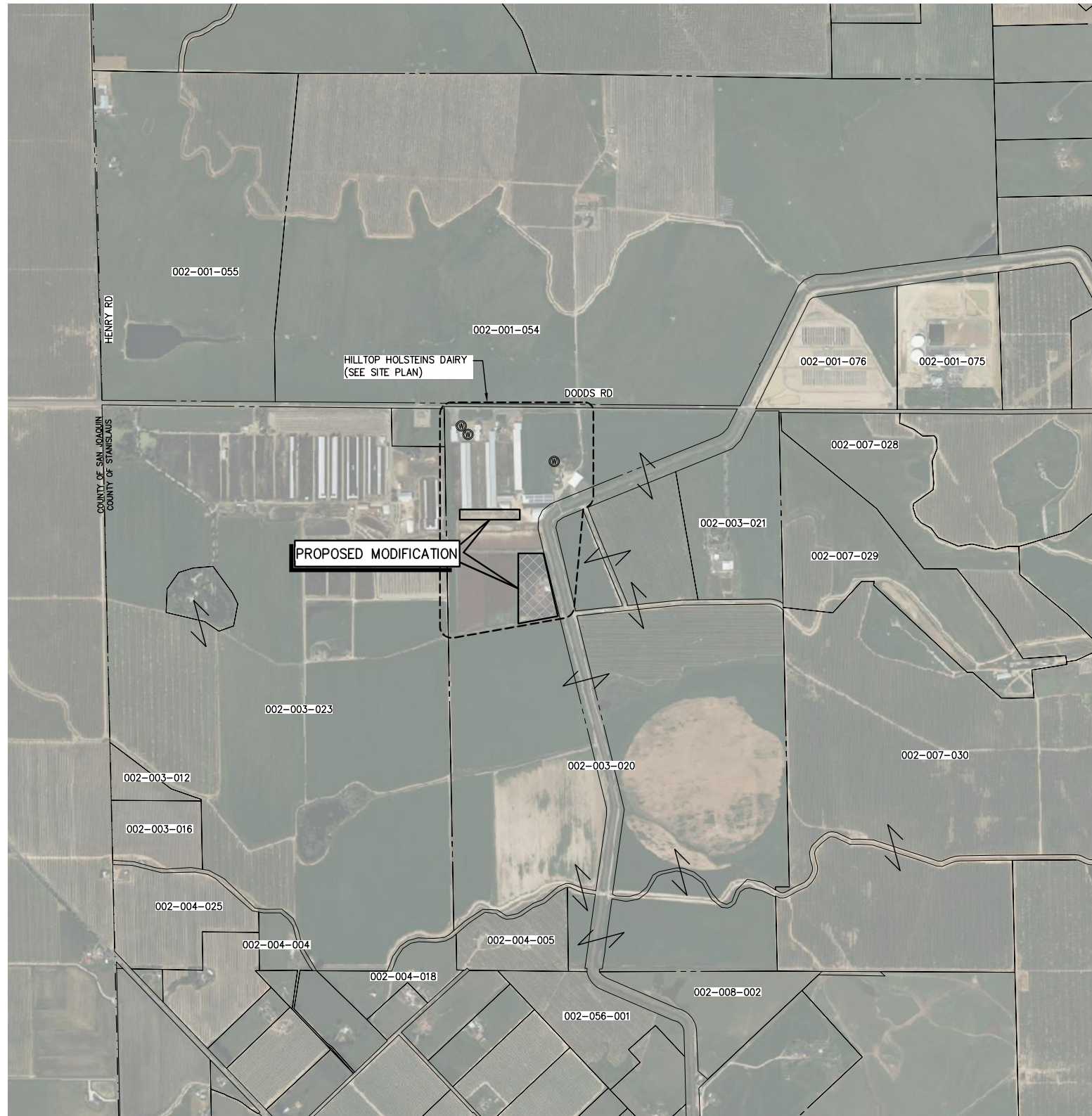
UP PLN2023-0039

ACREAGE MAP

LEGEND

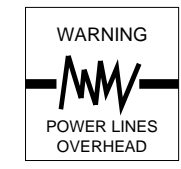
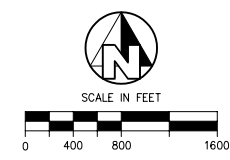
-  Project Site
-  Acres
-  Parcel
-  Canal
-  Street
-  Stanislaus County Border





SITE DATA		
OWNER:	HILLTOP HOLSTEINS DAIRY 4900 E. DODDS RD, OAKDALE, CA 95361	209-847-6625
JURISDICTION:	STANISLAUS COUNTY	
ZONE:	AGRICULTURE	
SITE AREA:	482.4 ACRES	
A.P.N.:	002-003-020	
SITE ADDRESS:	4900 E. DODDS RD, OAKDALE, CA 95361	
SEISMIC CAT:	D, SOIL SITE CLASS D, IMPORTANCE FACTOR: 1	
WATER:	DOMESTIC WELL	
SEWER:	SEPTIC	
GAS:	LPG	
ELECTRIC:	PG&E	

SITE LEGEND	
	EXISTING DIRT ROAD
	APPROXIMATE PROPERTY LINE
	PROPOSED MODIFICATION
	EXISTING IRRIGATION WELL & MIXING POINT
	EXISTING DOMESTIC WELL



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**FOR PERMITTING
NOT FOR CONSTRUCTION**
5/11/2023

FOR REVIEW ONLY

MD DIGGER
SIERRA RENEWABLE COUNTY
STANISLAUS COUNTY
GENERAL
LAND USE

PROVOST & PRITCHARD
CONSULTING GROUP
All Employees Ownes' Company
130 NORTH GARDEN STREET
VISALIA, CALIFORNIA 93291-6362
559/636-1166 FAX 559/636-1177
www.ppeng.com

DESIGN ENGINEER:
E. CAMINATA
LICENSE NO:
88473

DRAFTED BY: DPJ CHECKED BY: SCB

DATE: 5/11/2023

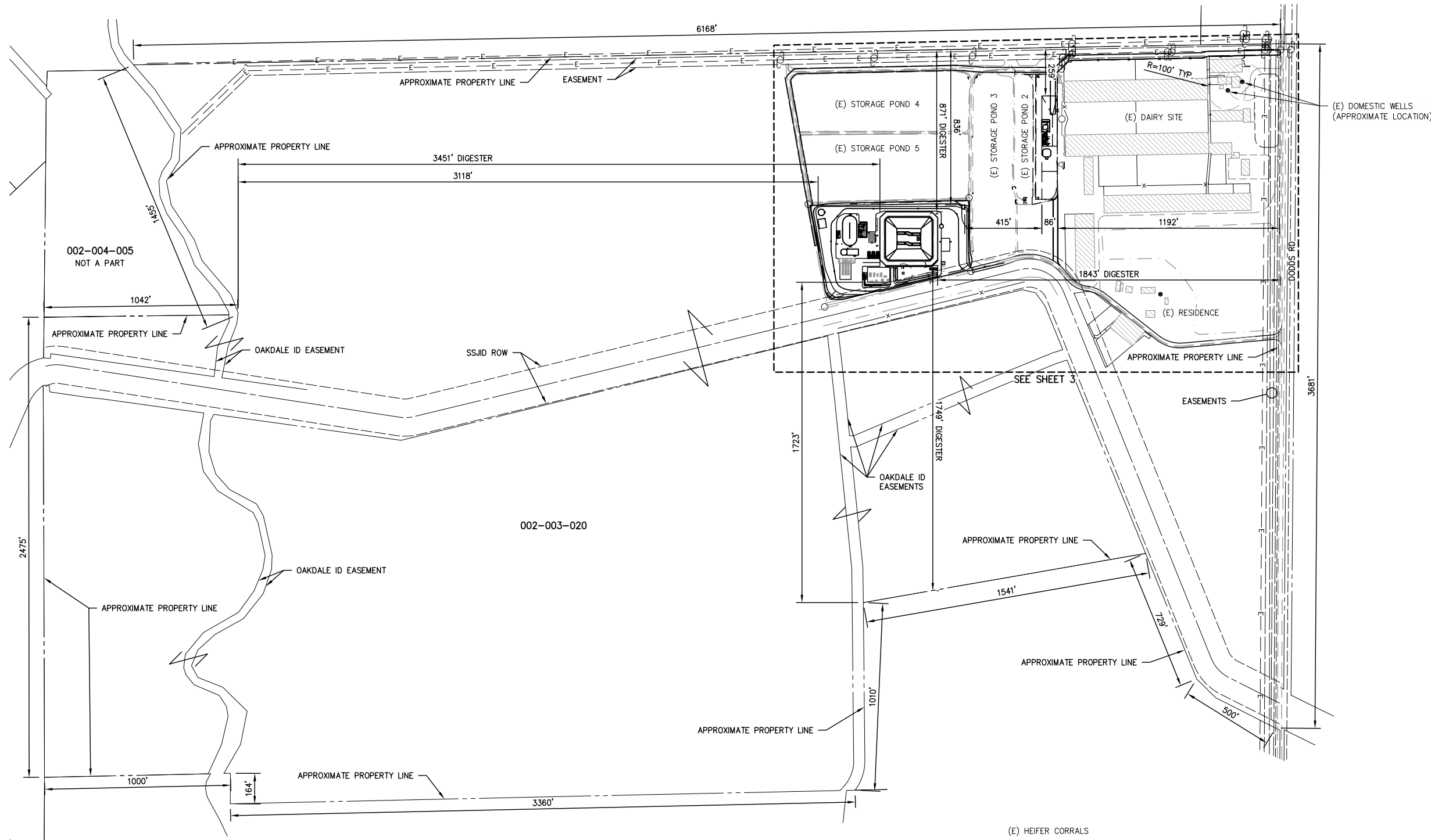
JOB NO: 364520002

PROJECT NO:

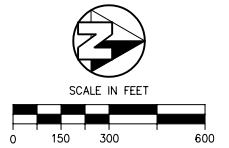
PHASE:

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ORIGINAL SCALE SHOWN IS
ONE INCH. ADJUST SCALE FOR
REDUCED OR ENLARGED PLANS.

SHEET **1**
1 OF **3**



SITE LEGEND	
- - - - -	APPROX. PROPERTY LINE
- x - - -	FENCE LINE
- - - - -	EXISTING GROUND FEATURE
	PROPOSED STRUCTURE
	EXISTING STRUCTURE



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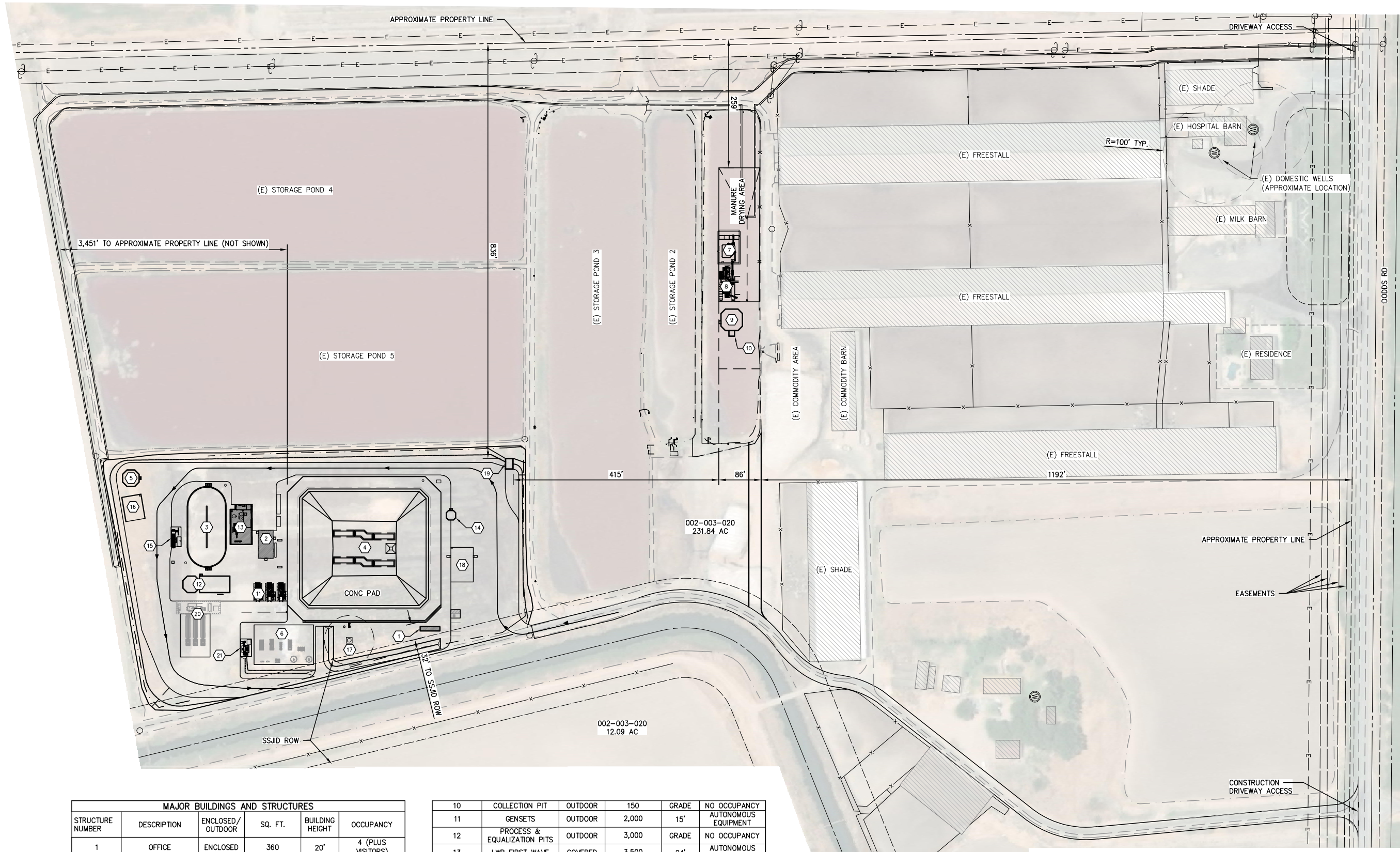
FOR REVIEW ONLY

MD DIGESTER
 SIERRA RENEWABLE ORGANICS
 STANISLAUS COUNTY
 GENERAL
 SITE MAP 1

PROVOST & PRITCHARD
 CONSULTING ENGINEERS
 ALL EMPLOYEES OWNERS COMPANY
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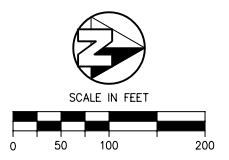
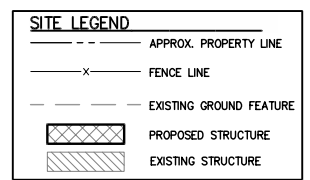
DESIGN ENGINEER: E. CAMINATA LICENSE NO: 88473	CHECKED BY: SCB
DATE: 5/11/2023	
JOB NO: 364520002	
PROJECT NO:	
PHASE:	
ORIGINAL SCALE SHOWN IS ONE INCH. ADJUST SCALE FOR REDUCED OR ENLARGED PLANS.	
SHEET 2	
2 OF 3	

5/11/2023 3:43 PM \\ppeng.com\gzdata\clients\Sierra Renewable Organics\364520002-MD Digester\300 CAD\340 Sheet Site\STAN CNTY PERMIT\2 SITE MAP 1.dwg -Danny Jorge



MAJOR BUILDINGS AND STRUCTURES					
STRUCTURE NUMBER	DESCRIPTION	ENCLOSED/OUTDOOR	SQ. FT.	BUILDING HEIGHT	OCCUPANCY
1	OFFICE	ENCLOSED	360	20'	4 (PLUS VISITORS)
2	SHOP	ENCLOSED	1,500	20'	USAGE
3	HYDROLIZER	OUTDOOR	5,650	12'	NO OCCUPANCY
4	DISGESTER	OUTDOOR	57,600	GRADE	NO OCCUPANCY
5	DONOR LIQUID MANURE RECEIVING	OUTDOOR	1,020	GRADE	NO OCCUPANCY
6	GAS EQUIPMENT	OUTDOOR	11,000	30'	AUTONOMOUS EQUIPMENT
7	BEDDING SEPARATION	ENCLOSED	3,000	24'	AUTONOMOUS EQUIPMENT
8	SCREEN SEPARATORS	OUTDOOR	3,000	30'	AUTONOMOUS EQUIPMENT
9	FLUSH PIT	OUTDOOR	1,800	GRADE	NO OCCUPANCY

10	COLLECTION PIT	OUTDOOR	150	GRADE	NO OCCUPANCY
11	GENSETS	OUTDOOR	2,000	15'	AUTONOMOUS EQUIPMENT
12	PROCESS & EQUALIZATION PITS	OUTDOOR	3,000	GRADE	NO OCCUPANCY
13	LWR FIRST WAVE	COVERED	3,500	24'	AUTONOMOUS EQUIPMENT
14	DIGESTER OUTLET	OUTDOOR	350	GRADE	NO OCCUPANCY
15	BIOFEEDER	OUTDOOR	800	20'	NO OCCUPANCY
16	DONOR SOLID MANURE RECEIVING	OUTDOOR	2,000	GRADE	NO OCCUPANCY
17	EMERGENCY FLARE	OUTDOOR	315	30'	NO OCCUPANCY
18	DONOR LIQUID MANURE SHIPMENT	OUTDOOR	3,200	GRADE	NO OCCUPANCY
19	DRAIN PIT	OUTDOOR	350	GRADE	NO OCCUPANCY
20	TRUCK LOADING REGENERATIVE THERMO OXIDIZER	OUTDOOR	7,500	15'	NO OCCUPANCY
21	FLUSH PIT	OUTDOOR	780	30'	AUTONOMOUS EQUIPMENT



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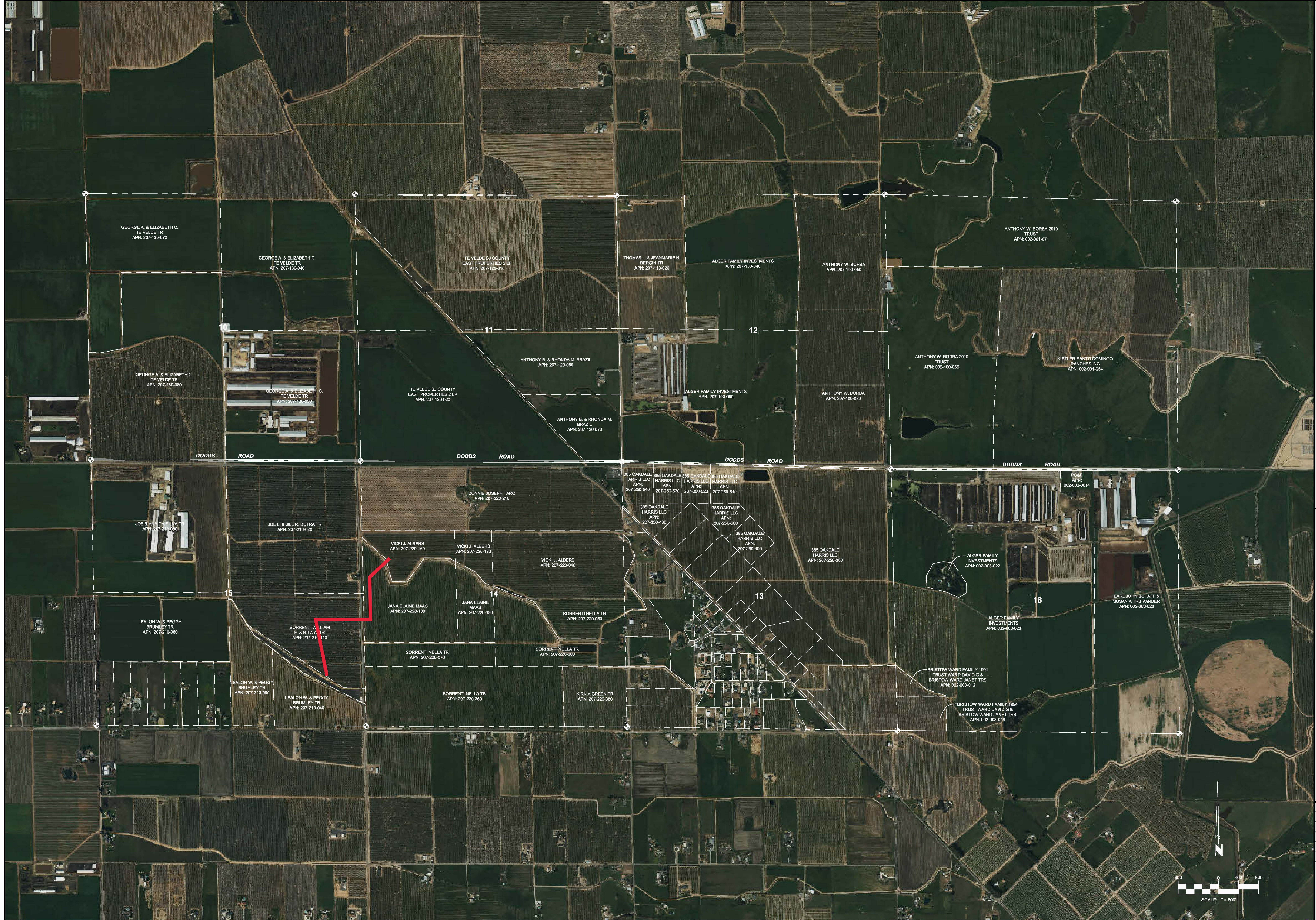
FOR REVIEW ONLY

MD DIGESTER
SIERRA RENEWABLE ORGANICS
STANISLAUS COUNTY
GENERAL
SITE MAP 2

EST. 1968
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CONSULTING GROUP
401 Empire Center Company
100 NORTH GARDEN STREET
VISALIA, CALIFORNIA 93291-6362
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SHEET **3**
3 OF 3

5/11/2023 3:44 PM \\ppeng.com\gzetao\clients\Sierra Renewable Organics-364520002-MD Digester\300 CAD\340 Sheet_Site\STAN CNTY PERMIT\3 SITE MAP 2.dwg -Danny Jorge



**DODDS RD BASE MAP
STANISLAUS COUNTY, CA.**

JOB No.:	2214.22
FILE:	BASE MAP
DATE:	04/26/2022
DRAWN BY:	AHD
CHECKED BY:	MED
SCALE:	1"=800'
SHEET	





August 30, 2022

Ignacio Sanchez
MD Digester
1588 N Batavia St
Orange, CA 92867

RE: Notice of Final Action - Authority to Construct
Facility Number: N-9880
Project Number: N-1220044

Dear Mr. Sanchez:

The Air Pollution Control Officer has issued the Authority to Construct permits to MD Digester for a digester system equipped with a backup flare and regenerative thermal oxidizer (ATC N-9880-1-1), at 4900 E Dodds Rd in Oakdale. Enclosed are the Authority to Construct permits and a copy of the notice of final action that has been posted on the District's website (www.valleyair.org).

Notice of the District's preliminary decision to issue the Authority to Construct permits was posted on July 26, 2022. The District's analysis of the proposal was also sent to CARB on July 26, 2022. No comments were received following the District's preliminary decision on this project.

Also enclosed is an invoice for the engineering evaluation fees pursuant to District Rule 3010. Please remit the amount owed, along with a copy of the attached invoice, within 60 days.

Samir Sheikh
Executive Director/Air Pollution Control Officer

Northern Region
4800 Enterprise Way
Modesto, CA 95356-8718
Tel: (209) 557-6400 FAX: (209) 557-6475

Central Region (Main Office)
1990 E. Gettysburg Avenue
Fresno, CA 93726-0244
Tel: (559) 230-6000 FAX: (559) 230-6061

Southern Region
34946 Flyover Court
Bakersfield, CA 93308-9725
Tel: (661) 392-5500 FAX: (661) 392-5585

Mr. Ignacio Sanchez
Page 2

Thank you for your cooperation in this matter. If you have any questions, please contact Mr. Nick Peirce at (209) 557-6400.

Sincerely,

A handwritten signature in black ink, appearing to read "Brian Clements", written in a cursive style.

Brian Clements
Director of Permit Services

BC:mr

Enclosures

cc: Courtney Graham, CARB (w/ enclosure) via email



Facility # N-9880
MD DIGESTER LLC
1588 N BATAVIA ST STE 1C
ORANGE, CA 92867

AUTHORITY TO CONSTRUCT (ATC)

QUICK START GUIDE

1. **Pay Invoice:** Please pay enclosed invoice before due date.
2. **Fully Understand ATC:** Make sure you understand ALL conditions in the ATC prior to construction, modification and/or operation.
3. **Follow ATC:** You must construct, modify and/or operate your equipment as specified on the ATC. Any unspecified changes may require a new ATC.
4. **Notify District:** You must notify the District's Compliance Department, at the telephone numbers below, upon start-up and/or operation under the ATC. Please record the date construction or modification commenced and the date the equipment began operation under the ATC. You may NOT operate your equipment until you have notified the District's Compliance Department. A startup inspection may be required prior to receiving your Permit to Operate.
5. **Source Test:** Schedule and perform any required source testing. See http://www.valleyair.org/busind/comply/source_testing.htm for source testing resources.
6. **Maintain Records:** Maintain all records required by ATC. Records are reviewed during every inspection (or upon request) and must be retained for at least 5 years. Sample record keeping forms can be found at http://www.valleyair.org/busind/comply/compliance_forms.htm.

By operating in compliance, you are doing your part to improve air quality for all Valley residents.

**For assistance, please contact District Compliance staff at
any of the telephone numbers listed below.**

Samir Sheikh

Executive Director/Air Pollution Control Officer

Northern Region
4800 Enterprise Way
Modesto, CA 95356-8718
Tel: (209) 557-6400 FAX: (209) 557-6475

Central Region (Main Office)
1990 E. Gettysburg Avenue
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Southern Region
34946 Flyover Court
Bakersfield, CA 93308-9725
Tel: (661) 392-5500 FAX: (661) 392-5585

AUTHORITY TO CONSTRUCT

PERMIT NO: N-9880-1-1

ISSUANCE DATE: 08/30/2022

LEGAL OWNER OR OPERATOR: MD DIGESTER LLC
MAILING ADDRESS: 1588 N BATAVIA ST STE 1C
ORANGE, CA 92867

LOCATION: 4900 E DODDS ROAD
OAKDALE, CA 95361

EQUIPMENT DESCRIPTION:

MODIFICATION OF: DIGESTER SYSTEM CONSISTING OF TWO COVERED DIGESTER LAGOONS, ONE LAGOON, ONE HYDROLYZER, ONE 37.468 MMBTU/HR DIGESTER GAS-FIRED BACKUP FLARE, PERMIT EXEMPT BOILERS (NATURAL GAS-FIRED, 5 MMBTU/HR OR LESS), AND A DIGESTER GAS UPGRADING OPERATION CONSISTING OF FEED GAS BLOWERS, COMPRESSORS, COOLERS, CHILLERS, IRON SPONGE H₂S REMOVAL, A MEMBRANE CO₂ REMOVAL SYSTEM, PRODUCT GAS COMPRESSORS, AND A 1.25 MMBTU/HR TRITON 4.95 NATURAL GAS-FIRED REGENERATIVE THERMAL OXIDIZER (RTO): DECREASE BACKUP FLARE HEAT INPUT RATING TO 34.4 MMBTU/HR, AND INCREASE HEAT INPUT RATING TO 2.0 MMBTU/HR. POST PROJECT DESCRIPTION TO READ: DIGESTER SYSTEM CONSISTING OF TWO COVERED DIGESTER LAGOONS, ONE LAGOON, ONE HYDROLYZER, ONE 34.4 MMBTU/HR DIGESTER GAS-FIRED BACKUP FLARE, PERMIT EXEMPT BOILERS (NATURAL GAS-FIRED, 5 MMBTU/HR OR LESS), AND A DIGESTER GAS UPGRADING OPERATION CONSISTING OF FEED GAS BLOWERS, COMPRESSORS, COOLERS, CHILLERS, H₂S SCRUBBER, A MEMBRANE CO₂ REMOVAL SYSTEM, PRODUCT GAS COMPRESSORS, AND A 2.0 MMBTU/HR TRITON 6.95 NATURAL GAS-FIRED REGENERATIVE THERMAL OXIDIZER (RTO)

CONDITIONS

1. All equipment shall be maintained in good operating condition and shall be operated in a manner to minimize emissions of air contaminants into the atmosphere. [District Rule 2201]
2. No air contaminant shall be released into the atmosphere which causes a public nuisance. [District Rule 4102]
3. No air contaminant shall be discharged into the atmosphere for a period or periods aggregating more than three minutes in any one hour which is as dark as, or darker than, Ringelmann 1 or 20% opacity. [District Rule 4101]
4. Particulate matter emissions shall not exceed 0.1 grains/dscf in concentration. [District Rule 4201]

CONDITIONS CONTINUE ON NEXT PAGE

YOU MUST NOTIFY THE DISTRICT COMPLIANCE DIVISION AT (209) 557-6400 WHEN CONSTRUCTION IS COMPLETED AND PRIOR TO OPERATING THE EQUIPMENT OR MODIFICATIONS AUTHORIZED BY THIS AUTHORITY TO CONSTRUCT. This is NOT a PERMIT TO OPERATE. Approval or denial of a PERMIT TO OPERATE will be made after an inspection to verify that the equipment has been constructed in accordance with the approved plans, specifications and conditions of this Authority to Construct, and to determine if the equipment can be operated in compliance with all Rules and Regulations of the San Joaquin Valley Unified Air Pollution Control District. Unless construction has commenced pursuant to Rule 2050, this Authority to Construct shall expire and application shall be cancelled two years from the date of issuance. The applicant is responsible for complying with all laws, ordinances and regulations of all other governmental agencies which may pertain to the above equipment.

Samir Sheikh, Executive Director / APCO



Brian Clements, Director of Permit Services

N-9880-1-1 : Aug 30 2022 8:44AM - ROBINSOM : Joint Inspection NOT Required

5. The exhaust stacks of the flare and RTO shall vent vertically upward. The vertical exhaust flow shall not be impeded by a rain cap (flapper ok), roof overhang, or any other obstruction. [District Rule 4102]
6. The VOC content of the digester gas produced by the digester system shall not exceed 10% by weight. [District Rule 2201]
7. The flare shall be operated only for testing and maintenance, backup, and emergency purposes. [District Rule 2201]
8. The maximum amount of gas combusted by the flare shall not exceed 44.48 million standard cubic feet (MMscf) per year. [District Rules 2201, 4102, and 4311]
9. The flare shall be equipped with an operational, non-resettable, totalizing mass or volumetric flow meter or other District-approved alternative method to measure the quantity of digester gas flared. [District Rules 2201 and 4311]
10. Emissions rates from the combustion of digester gas in the flare shall not exceed any of the following limits: 0.06 lb-NO_x/MMBtu, 2.04 lb-SO_x/MMBtu, 0.025 lb-PM₁₀/MMBtu, 0.0793 lb-CO/MMBtu, or 0.006 lb-VOC/MMBtu. [District Rule 2201]
11. The sulfur content of the digester gas combusted in the flare shall not exceed 7,000 ppmv as H₂S. The applicant may utilize an averaging period of up to 24 hours in length for demonstration of compliance with the fuel sulfur content limit. [District Rules 2201 and 4801]
12. The sulfur content of the digester gas combusted in this flare shall be monitored and recorded at least once every calendar quarter in which a digester gas sulfur content analysis is not performed. If quarterly monitoring shows a violation of the sulfur content limit of this permit, monthly monitoring will be required until six consecutive months of monitoring show compliance with the sulfur content limit. Once compliance with the sulfur content limit is shown for six consecutive months, then the monitoring frequency may return to quarterly. Monitoring of the sulfur content of the digester gas flared shall not be required if the flare does not operate during that period. Records of the results of monitoring of the digester gas sulfur content shall be maintained. [District Rule 2201]
13. Monitoring of the digester gas sulfur content shall be performed using gas detection tubes calibrated for H₂S; a Testo 350 XL portable emission monitor; a continuous fuel gas monitor that meets the requirements specified in SCAQMD Rule 431.1, Attachment A; District-approved source test methods, including EPA Method 15, ASTM Method D1072, D4084, and D5504; District-approved in-line H₂S monitors; or an alternative method approved by the District. Prior to utilization of in-line monitors to demonstrate compliance with the digester gas sulfur content limit of this permit, the permittee shall submit details of the proposed monitoring system, including the make, model, and detection limits, to the District and obtain District approval for the proposed monitor(s). [District Rule 2201]
14. A flame shall be present at all times whenever combustible gases are vented through the flare. [District Rules 2201 and 4311]
15. The flare outlet shall be equipped with an automatic ignition system, or shall operate with a pilot flame present at all times when combustible gases are vented through the flare, except during purge periods for automatic-ignition equipped flares. [District Rules 2201 and 4311]
16. Unless the flare is equipped with a flow-sensing ignition system, the flare shall be equipped and operated with a heat sensing device such as a thermocouple, ultraviolet beam sensor, infrared sensor, or an equivalent device, capable of continuously detecting at least one pilot flame. [District Rules 2201 and 4311]
17. Flares that use flow-sensing automatic ignition systems and which do not use a continuous flame pilot shall use purge gas for purging. [District Rules 2201 and 4311]
18. Open flares (air-assisted, steam-assisted, or non-assisted) in which the flare gas pressure is less than 5 psig shall be operated in such a manner that meets the provisions of 40 CFR 60.18. [District Rules 2201 and 4311]
19. Upon request, the operator of an open flare in which the flare gas pressure is less than 5 psig shall make available records that demonstrate compliance with the provisions of 40 CFR 60.18, (c)(3) through (c)(5). [District Rules 2201 and 4311]
20. The sulfur content of the digester tail gas combusted in the RTO shall not exceed 4 ppmv (equivalent to 0.0016 lb-SO_x/MMBtu). [District Rule 2201 and 4801]
21. Only PUC quality natural gas shall be used in the RTO as supplemental fuel. [District Rules 2201 and 4801]

CONDITIONS CONTINUE ON NEXT PAGE

22. The RTO shall be operated with a combustion chamber temperature of no less than 1600 degrees F and the retention time shall be no less than 0.5 seconds. [District Rule 2201]
23. The RTO shall be heated to the proper operating temperature prior to introducing the contaminated air stream. [District Rules 2201 and 4104]
24. Emissions from the RTO shall not exceed any of the following limits: 0.04 lb-NO_x/MMBtu, 0.00285 lb-SO_x/MMBtu, 0.0075 lb-PM₁₀/MMBtu, 0.0824 lb-CO/MMBtu, or 0.0054 lb-VOC/MMBtu. [District Rule 2201]
25. The RTO temperature shall be monitored and recorded utilizing a continuous monitoring and recording device. The monitoring and recording device shall be maintained in proper operating condition at all times. [District Rule 2201]
26. Permittee shall maintain annual records of the amount of gas combusted by the flare, in million standard cubic feet (MMscf). [District Rules 1070 and 2201]
27. All records shall be maintained and retained for a minimum of five (5) years, and shall be made available for District inspection upon request. Records may be maintained and submitted in an electronic format approved by the District. [District Rules 1070, 2201, and 4311]
28. This permit does not authorize the violation of any conditions established for this facility in the Conditional Use Permit (CUP), Special Use Permit (SUP), Site Approval, Site Plan Review (SPR), or other approval documents issued by a local, state, or federal agency. [Public Resources Code 21000-21177: California Environmental Quality Act]

July 27, 2022

Ignacio Sanchez
MD Digester LLC
1588 N Batavia St
Orange, CA 92867

Re: Notice of Preliminary Decision - Authority to Construct
Facility Number: N-9880
Project Number: N-1220044

Dear Mr. Sanchez:

Enclosed for your review and comment is the District's analysis of MD Digester LLC's application for an Authority to Construct for a digester system equipped with a backup flare and a regenerative thermal oxidizer (ATC N-9880-1-1), at 4900 E Dodds Rd in Oakdale, CA.

The notice of preliminary decision for this project has been posted on the District's website (www.valleyair.org). After addressing all comments made during the 30-day public notice period, the District intends to issue the Authority to Construct. Please submit your written comments on this project within the 30-day public comment period, as specified in the enclosed public notice.

Thank you for your cooperation in this matter. If you have any questions regarding this matter, please contact Mr. Matthew Robinson of Permit Services at (209) 557-6454.

Sincerely,



Brian Clements
Director of Permit Services

BC:mr

Enclosures

cc: Courtney Graham, CARB (w/ enclosure) via email

Samir Sheikh
Executive Director/Air Pollution Control Officer

Northern Region
4800 Enterprise Way
Modesto, CA 95356-8718
Tel: (209) 557-6400 FAX: (209) 557-6475

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Southern Region
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Bakersfield, CA 93308-9725
Tel: (661) 392-5500 FAX: (661) 392-5585

San Joaquin Valley Air Pollution Control District

Authority to Construct Application Review

Digester System with Backup Flare, RTO and Digester Gas Upgrading Operation

Facility Name: MD Digester LLC
Mailing Address: 1588 N Batavia St, Ste 1C
Orange, CA 92867
Contact Person: Suparna Chakladar
Telephone: (951) 833 4153
E-Mail: Schakladar@opalfuels.com
Application #s: N-9880-1-1
Project #: N-1220044
Deemed Complete: February 14, 2022

Date: June 1, 2022
Engineer: Matthew Robinson
Lead Engineer: James Harader

I. Proposal

MD Digester LLC has proposed modifications to the equipment and operational parameters of the digester gas upgrading system recently authorized under Authority to Construct (ATC) permit N-9880-1-0 in project N-1204220. Consequently, the permit for the digester system incorporating these changes to the digester gas upgrading system will be re-evaluated as new equipment under ATC N-9880-1-1 under this project. The applicant is not proposing any changes to the 3 associated natural gas-fired IC engines (ATCs N-9880-2-0, '-3-0, and '-4-0) that were previously issued under project N-1204220. The proposal for the digester gas system is included below:

The digester system consists of two covered digester lagoons, a hydrolyzer to combine and homogenize the feedstock, a digester gas-fired backup flare, a digester gas upgrading system, and permit exempt boilers that are fired on natural gas and have a maximum heat input less than 5.0 MMBtu/hr (ATC N-9880-1-0). The captured digester gas from the digester system will be treated and purified onsite to pipeline quality renewable natural gas (RNG) in the proposed digester gas upgrading operation consisting of feed gas blowers, compressors, coolers, chillers, iron sponge H₂S removal, a membrane CO₂ removal system, and product gas compressors served by a regenerative thermal oxidizer (RTO).

During normal operation the digester system will capture biogas produced from decomposition of liquid manure, send it to the digester gas upgrading operation that will be built next to the new digester system, and purify that biogas to pipeline quality RNG for injection into the PG&E statewide grid via a point of pipeline interconnection for delivery to the end users. Unusable "tail-gas" is oxidized through the RTO. During

backup operation, produced biogas that cannot be received by the upgrading operation is diverted to the flare.

The proposed digester system and upgrading operation will be constructed on open land leased from an existing dairy, Hilltop Holsteins (N-6706), and will receive liquid manure from the dairy. The two digester lagoons are newly constructed and will receive liquid manure from Hilltop Holsteins. Liquid manure routed to the digester and upgrading operation reduces the amount routed to Hilltop Holsteins' liquid manure system, which otherwise operates independently from the proposed digester system. Therefore, the liquid manure system is not being modified and an ATC is not required for Hilltop Holsteins.

MD Digester LLC and Hilltop Holsteins are separate companies that will work together for the construction and operation of the proposed project. MD Digester LLC has indicated that the dairy and the digester facility will be separately owned and operate as separate businesses. The following is a summary of the information provided by the applicant. The proposed digester system and digester gas upgrading operation will be owned, installed, operated, maintained, and repaired if necessary by MD Digester LLC. The responsibility of the dairy will be limited to providing the manure feedstock and disposing of the effluent, which the dairy already must do for compliance with local water quality regulations. MD Digester LLC will not be involved in the dairy's primary activity, the production of milk. MD Digester LLC will be solely responsible for ensuring that the digester system and digester gas upgrading operation comply with all applicable air quality regulations. Because the dairy at the site will be separately owned and operated from the proposed digester system and upgrading operation, and will have different two-digit Standard Industrial Classification (SIC) codes (Industry Group 02: Agricultural Production – Livestocks and Animal Specialties for the dairy vs. Industry Group 49: Electric, Gas, And Sanitary Services for the digester system and proposed equipment in this project), pursuant to Section 3.39 of District Rule 2201, the proposed equipment will not be part of the dairy agricultural stationary source. Therefore, the proposed operation and equipment will be permitted as a separate non-agricultural stationary source (Facility N-9880).

The facility has not installed the equipment authorized by ATC N-9880-1-0. Instead, MD Digester has proposed to modify the equipment and assumptions of permit N-9880-1-0. Proposed modifications are summarized in the table below:

Description	Previous	Current
RTO heat input rating (MMBtu/hr)	1.25	2.0 MMBtu/hr
RTO NOx (lb/MMBtu)	0.022	0.04
Flare heat input rating (MMBtu/hr)	37.465	34.4
Flare Maximum Operation (hr/year)	200 non-emergency	750
Flare SOx (lb/MMBtu)	0.35	2.03
Flare PM10 (lb/MMBtu)	0.015	0.025
Flare CO (lb/MMBtu)	0.046	0.0793

Since ATC N-9880-1-0 cannot and will not be implemented, ATC N-9880-1-1 will supercede it.

II. Applicable Rules

Rule 2020	Exemptions (12/18/14)
Rule 2201	New and Modified Stationary Source Review Rule (8/15/19)
Rule 2410	Prevention of Significant Deterioration (6/16/11)
Rule 2520	Federally Mandated Operating Permits (8/15/19)
Rule 4001	New Source Performance Standards (4/14/99)
Rule 4002	National Emissions Standards for Hazardous Air Pollutants (5/20/04)
Rule 4101	Visible Emissions (2/17/05)
Rule 4102	Nuisance (12/17/92)
Rule 4201	Particulate Matter Concentration (12/17/92)
Rule 4301	Fuel Burning Equipment (12/17/92)
Rule 4311	Flares (12/17/20)
Rule 4801	Sulfur Compounds (12/17/92)
CH&SC 41700	Health Risk Assessment
CH&SC 42301.6	School Notice

Public Resources Code 21000-21177: California Environmental Quality Act (CEQA)
California Code of Regulations, Title 14, Division 6, Chapter 3, Sections 15000-15387: CEQA
Guidelines

III. Project Location

The facility is located at 4900 E. Dodds Rd in Oakdale, CA. The equipment is not located within 1,000 feet of the outer boundary of a K-12 school. Therefore, the public notification requirement of California Health and Safety Code 42301.6 is not applicable to this project.

IV. Process Description

N-9880-1-1 (Digester System)

A digester is a sealed basin or tank that is designed to accelerate and control the decomposition of organic matter by microorganisms in the absence of oxygen. Anaerobic decomposition results in the conversion of organic compounds in the substrate into methane (CH₄), carbon dioxide (CO₂), and water rather than intermediate Volatile Organic Compounds (VOCs). The gas generated by this process is known as biogas, waste gas, or digester gas. In addition to methane and carbon dioxide, biogas may also contain small amounts of Nitrogen (N₂), Oxygen (O₂), Hydrogen Sulfide (H₂S), and Ammonia (NH₃). Digester gas may also include trace amounts of various VOCs that remain from incomplete digestion of the volatile solids in the incoming substrate. Because digester gas is mostly composed of methane, the main component of natural gas, the gas produced in the digester can be cleaned to remove H₂S and other impurities and used as fuel.

The proposed digester system will be designed to process the manure generated by the cattle at Hilltop Holsteins and will capture fugitive methane that is currently being released from the uncovered lagoon and storage ponds at the dairy. The manure will be flushed from the milking parlor and the cow housing areas at the dairy and the manure will be pumped via an underground piping system to a hydrolyzer where the waste stream will be adjusted to the proper solids content (9-15% solids) and then pumped into the new digester system. Excess manure liquid from the reception pits will be sent to a separated liquids pit where the liquid will be available for the dairy to use in the flush system. The effluent from the digester will be pumped to a solids separation area where the fibrous solids will be separated from the liquid digester effluent. After the fibrous solids have been separated, the liquid digester effluent will be pumped back to the separated liquids pit to be used in the flush system. Excess liquid from the separated liquids pit will flow to the existing dairy storage ponds to be used to fertilize adjacent cropland.

The effluent leaving the digester will be sent to a solids separation area where it will be pumped over a two stage slope screen separator for separation of the digested manure fiber solids from the liquid. The digested solids will be returned to the dairy for use as bedding for the cattle at the dairy or stored for use as a soil amendment. The liquid effluent from the mechanical separators will be directed to the separated liquids pit for reuse in the dairy flush system. The existing dairy storage ponds will be utilized for capture of any overflow from the separated liquids. The dairy will continue to use the existing storage ponds to irrigate and fertilize adjacent cropland.

V. Equipment Listing

Pre-Project Equipment Description

N-9880-1-0: DIGESTER SYSTEM CONSISTING OF TWO COVERED DIGESTER LAGOONS, ONE LAGOON, ONE HYDROLYZER, ONE 37.468 MMBTU/HR DIGESTER GAS-FIRED BACKUP FLARE, PERMIT EXEMPT BOILERS (NATURAL GAS-FIRED, 5 MMBTU/HR OR LESS), AND A DIGESTER GAS UPGRADING OPERATION CONSISTING OF FEED GAS BLOWERS, COMPRESSORS, COOLERS, CHILLERS, IRON SPONGE H₂S REMOVAL, A MEMBRANE CO₂ REMOVAL SYSTEM, PRODUCT GAS COMPRESSORS, AND A 1.25 MMBTU/HR TRITON 4.95 NATURAL GAS-FIRED REGENERATIVE THERMAL OXIDIZER (RTO)

Modification

N-9880-1-1: MODIFICATION OF: DIGESTER SYSTEM CONSISTING OF TWO COVERED DIGESTER LAGOONS, ONE LAGOON, ONE HYDROLYZER, ONE 37.468 MMBTU/HR DIGESTER GAS-FIRED BACKUP FLARE, PERMIT EXEMPT BOILERS (NATURAL GAS-FIRED, 5 MMBTU/HR OR LESS), AND A DIGESTER GAS UPGRADING OPERATION CONSISTING OF FEED GAS BLOWERS, COMPRESSORS, COOLERS, CHILLERS, IRON SPONGE H₂S REMOVAL, A MEMBRANE CO₂ REMOVAL SYSTEM, PRODUCT GAS COMPRESSORS, AND A 1.25 MMBTU/HR TRITON 4.95 NATURAL GAS-FIRED REGENERATIVE THERMAL OXIDIZER (RTO): DECREASE BACKUP FLARE HEAT INPUT

RATING TO 34.4 MMBTU/HR, INCREASE RTO HEAT INPUT RATING TO 2.0 MMBTU/HR, INCREASE THE BACKUP FLARE HOURS OF OPERATION TO 750 HOURS/YEAR, AND REVISE THE EMISSION FACTORS FOR THE BACKUP FLARE AND RTO.

Post-Project Equipment Description

N-9880-1-1: DIGESTER SYSTEM CONSISTING OF TWO COVERED DIGESTER LAGOONS, ONE LAGOON, ONE HYDROLYZER, ONE 34.4 MMBTU/HR DIGESTER GAS-FIRED BACKUP FLARE, PERMIT EXEMPT BOILERS (NATURAL GAS-FIRED, 5 MMBTU/HR OR LESS), AND A DIGESTER GAS UPGRADING OPERATION CONSISTING OF FEED GAS BLOWERS, COMPRESSORS, COOLERS, CHILLERS, H₂S SCRUBBER, A MEMBRANE CO₂ REMOVAL SYSTEM, PRODUCT GAS COMPRESSORS, AND A 2.0 MMBTU/HR CATALYTIC PRODUCTS INTERNATIONAL NATURAL GAS-FIRED REGENERATIVE THERMAL OXIDIZER (RTO)

VI. Emission Control Technology Evaluation

N-9880-1-1

Digester System

As previously discussed, a digester system is a sealed basin or tank that is designed to accelerate and control the decomposition of organic matter by microorganisms in the absence of oxygen. Anaerobic digestion results in greater conversion of organic compounds in the substrate into methane (CH₄), carbon dioxide (CO₂), and water rather than intermediate Volatile Organic Compounds (VOCs). Because construction of the digester system will allow the liquid manure to be anaerobically treated as opposed to being processed through an open lagoon, construction of the digester is intended to reduce VOC emissions from the dairy's liquid manure handling system.

Under normal operation, produced digester gas is assumed 100% captured and routed to the upgrading operation served by the RTO. In limited circumstances when the produced digester gas cannot be received by the upgrading operation, it is vented to the backup flare.

The flare and RTO are considered emissions control devices and the products of combustion, which includes oxides of nitrogen (NO_x), oxides of sulfur (SO_x), particulate matter less than 10 microns (PM₁₀) and less than 2.5 microns (PM_{2.5}), and carbon monoxide (CO) emissions are secondary pollutants.

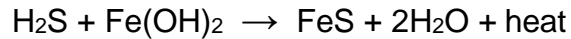
Normal Operation – Digester Gas Upgrading

H₂S Removal

An H₂S scrubber reduces H₂S prior to further processing in the gas upgrading plant.

An iron sponge scrubber is composed of vessel(s) containing iron sponge, which consists of a hydrated form of iron oxide infused onto wood shavings. The wood shavings serve only as

a carrier for the iron oxide powder. The iron oxide infused into the wood surface will not wash off or migrate with the gas. As the gas passes through the iron sponge material, the H₂S is removed by the following chemical reaction producing black iron sulfide and water:



For the iron sponge to perform effectively, it must be maintained within a defined range of sufficient moisture content. This requirement is typically satisfied if the gas is saturated with water vapor, as is frequently the case with biogas. If the iron sponge becomes dry, moisture can be added and it will remain effective.

The scrubber consists of enclosed vessels filled with iron sponge or other dry media for removal of H₂S. The digester gas flows through the scrubber and then to a dryer and chiller to remove moisture. For continuous operation, there will be a secondary unit that will be brought online at specified times or when monitoring indicates that the primary unit is nearing saturation. Valves can be arranged so either bed can operate while the other is serviced. The useful life of the iron sponge vessels will vary depending on the inlet concentration of H₂S, the flow rate, and the mass in the vessels. Before a scrubber is completely spent, it must be regenerated or replaced. The spent scrubber vessels will be sent to a regeneration facility or to an appropriate disposal facility.

CO₂ Membrane

Pursuant to Newpoint Gas, LLC¹, carbon dioxide membranes operate on the principle of selective permeation. Each gas component has a specific permeation rate. The rate of permeation is determined by the rate which a component dissolves into the membrane surface and the rate at which it diffuses through the membrane.

The components with higher permeation rates (such as CO₂, H₂, and H₂S) will permeate faster through the membrane module than components with lower permeation rates (such as N₂, C₁, C₂ and heavier hydrocarbons). For example, carbon dioxide is a “fast,” more permeable, gas than methane. When a stream consisting of these two gases contacts the membrane, the carbon dioxide will permeate through the fiber at a faster rate than the methane. Thus, the feed stream is separated into a methane-rich (residual) stream on the exterior of the membrane fiber and a carbon dioxide-rich (permeate) stream on the interior of the membrane fiber.

The primary driving force of the separation is the differential partial pressure of the permeating component. Therefore, the pressure difference between the feed gas and permeate gas and the concentration of the permeating component determine the product purity and the amount of carbon dioxide membrane surface required.

This system is a closed system and the waste tail gas created in this project will be sent to be combusted in the RTO.

¹ <https://www.newpointgas.com/services/carbon-dioxide-co2-removal/>

RTO

The portion of the raw digester gas that cannot be otherwise collected in the gas upgrading operation, either by purification to PUC quality natural gas or capture with sorbent, is called the waste tail gas. The RTO receives waste tail gas and serves as a control device for residual H₂S, NH₃, and VOC. The RTO exhausts to atmosphere.

Backup Operation – Venting to Flare

Raw Digester Gas-Fired Flare

The proposed digester system is equipped with a backup/emergency flare to which mitigates risks of vented excess raw digester gas in cases when the upgrading equipment is not operating due to breakdown or maintenance. The flare oxidizes components of the biogas (i.e. H₂S, NH₃, VOC) to less harmful compounds. As the upgrading operation serves the primary purpose of the proposal and is expected to be properly maintained, operation of the flare is limited herein to 750 hr/year.

Fugitive Emissions

Previous analyses of digester gas have consistently demonstrated that the non-exempt VOC content of digester gas is very low (less than 1% by weight). District Policy SSP 2015 – Procedures for Quantifying Fugitive VOC Emissions at Petroleum and SOCOMI (Synthetic Organic Chemical Manufacturing Industry) Facilities specifies that fugitive VOC emissions are not assessed for piping and components handling fluid streams with a VOC content of 10% or less by weight. Therefore, because of the very low VOC content of the digester gas, fugitive VOC emissions from the digester system and associated equipment are assumed to be negligible, consistent with District Policy SSP 2015 (9/15/2005).

VII. General Calculations

A. Assumptions

N-9880-1-1

Digester System and Upgrading Equipment:

- MD Digester LLC (Facility N-9880) and Hilltop Holsteins (Facility N-6706) are separate stationary sources at the same site.
- PM emissions from the handling of separated solids for the digester system are considered negligible because of the high moisture content of separated manure solids.
- All emissions from the manure processed in the digester system are allocated to the liquid manure handling system at the dairy because the manure for the digester system will be taken from the flush system at the dairy and the effluent from the digester system will be returned to the dairy for use.
- The proposed digester system will reduce potential VOC emissions from manure generated by the cattle at the dairy. Manure that is currently stored in an uncovered lagoon and ponds will instead be placed in covered digester lagoons at the MD Digester LLC facility, thereby decreasing volatilization of compounds from the manure. In the digester, most VOCs present will be converted to methane (an exempt organic

compound) and carbon dioxide further reducing the potential for VOC emissions. The results of digester gas analyses have consistently demonstrated very low VOC content (less than 1% by weight). District Policy SSP 2015 specifies that fugitive VOC emissions are not assessed for piping and components handling fluid streams with a VOC content of 10% or less by weight. Therefore, consistent with District Policy SSP 2015, the VOC content of the digester gas will be limited by permit condition to no more than 10% by weight and the fugitive VOC emissions from the digester system will be assumed to be negligible.

- To streamline emission calculations, PM_{2.5} emissions are assumed to be equal to PM₁₀ emissions.
- Digester gas properties:
 - Higher Heating Value = 580 Btu/scf (per applicant)
 - F-factor = 9,100 dscf/MMBtu (dry, adjusted to 60 °F), (Estimated based on previous digester gas fuel analyses for source tests)
 - Maximum VOC content = 0.5% by weight
 - Molar specific volume = 379.5 scf/lb-mol (at 60°F)
- Natural gas properties:
- F-factor = 8,578 dscf/MMBtu (dry, adjusted to 60 °F), per 40 CFR 60, Appendix B
- Molecular weights:
 - NO_x (as NO₂) = 46 lb/lb-mol
 - CO₂ = 44 lb/lb-mol
 - NH₃ = 17 lb/lb-mol
 - VOC (as CH₄) = 16 lb/lb-mol
 - SO_x (as SO₂) = 64.06 lb/lb-mol

Backup flare:

- Flare operation is limited to 750 hr/year.
- Maximum flare gas flow rate = 57,360 scf/hr, hence maximum daily (i.e. 24-hour) flaring rate = 1.38 MMscf/day (equivalent to 34.4 MMBtu/hr and 825.6 MMBtu/day @ 580 Btu/scf) (per applicant)
- Flaring will be limited to a maximum of 44.48 MMscf/year (equivalent to 25,800 MMBtu/year @ 580 Btu/scf) calculated as follows:
 - Per applicant, the gas upgrading equipment will be running a majority of the time, hence flare operation shall not exceed 750 hours/year to satisfy the HRA/AAQA requirements discussed in more detail in the Rule 4102 Compliance section):
 - 750 hrs/year x 34.4 MMBtu/hr = 25,800 MMBtu/year
 - 25,800 MMBtu/year ÷ 580 Btu/scf = 44.48 MMscf/year
- Flare VOC destruction efficiency = 98%.²

Digester Gas Upgrading Operation Served by RTO:

- Maximum waste tail gas venting rate from the CO₂ membrane to the RTO = 276 scfm (per applicant)
- 100% of waste tail gas vented to the RTO

² AP-42, Draft Section 2.4, Municipal Solid Waste Landfills, (October 2008). The value stated (97.7%) has been rounded to 98% as discussed in the BACT determination (Appendix D).

B. Emission Factors

N-9880-1-1

Digester System and Upgrading Equipment:

- Previous analyses of digester gas have consistently demonstrated that the VOC content of digester gas is very low (less than 1% by weight). District Policy SSP 2015 – Procedures for Quantifying Fugitive VOC Emissions at Petroleum and SOCOMI (Synthetic Organic Chemical Manufacturing Industry) Facilities specifies that fugitive VOC emissions are not assessed for piping and components handling fluid streams with a VOC content of 10% or less by weight. Therefore, because of the very low VOC content of the digester gas, fugitive VOC emissions from the digester system and associated equipment are assumed to be negligible, consistent with District Policy SSP 2015.

Backup Flare

- The NO_x emission factor (0.06 lb/MMBtu) is based on the Industry Standard NO_x emission factor for biogas flares³ and District practice for permitting biogas flares.
- The SO_x emission factor (2.03 lb/MMBtu) is based on the maximum sulfur content of the dairy digester gas proposed by the applicant (7,000 ppmv as H₂S).
- The emission factors for PM (0.025 lb/MMBtu) and CO (0.0793 lb/MMBtu) are based on the values given for landfill gas-fired flares in AP-42, Section 2.4 Municipal Solid Waste Landfills (1998).
- The VOC emission factor for the digester gas-fired flare (0.006 lb/MMBtu) is based on the VOC emission for landfill gas and digester gas-fired flares (2.50 g/MMBtu or 0.0055 lb/MMBtu) from the California Air Resources Board (ARB) Low Carbon Fuel Standard (LCFS) pathways for the production of LCFS fuels from landfill gas and digester gas,⁴ and was also assumed to be similar to the AP-42 VOC emission factor for digester gas-fired turbines (0.0058 lb/MMBtu). The assumption that the AP-42 VOC emission factor for the digester gas-fired flare is similar to digester gas-fired turbines is conservative because AP-42, Draft Section 2.4 Municipal Solid Waste Landfills (October 2008) lists a typical VOC control efficiency of 97.7% for landfill gas-fired flares compared to 94.4% for landfill gas-fired turbines and greater VOC control efficiency would result in lower VOC emissions. Additionally, as noted above, the VOC content of dairy digester gas is generally negligible to very low; therefore, using a VOC emission factor of 0.006 lb/MMBtu will result in a reasonably conservative estimate of VOC emissions from the digester gas backup flare.

³ John Zink® has previously indicated that the industry standard NO_x emission factor for biogas flares is 0.06 lb-NO_x/MMBtu. See: John Zink (March 1998) Ultra-Low Emission Enclosed Landfill Gas Flare – A Full Scale Factory Test. Presented at the **Solid Waste Association of North America (SWANA)** 21nd Annual Landfill Gas Symposium, Austin, Texas, March 1998. https://www.johnzinkhamworthy.com/wp-content/uploads/tp_UltraLowEmission.pdf. John Zink® also stated that one of their standard flares is expected to comply with the 0.06 lb-NO_x/MMBtu emission limit when flaring low Btu gas from a digester gas refining process. See: Sacramento Metropolitan Air Quality management District (SMAQMD) BACT determination for flaring low Btu digester gas (July 25, 2017): <http://www.airquality.org/StationarySources/Documents/Flare%20Waste%20Gas%20Low%20BTU%20BACT%20140.pdf>

⁴ Examples of ARB Low Carbon Fuel Standard (LCFS) pathways for landfill gas and digester gas are available at: https://www.arb.ca.gov/fuels/lcfs/092309lcfs_lfg_ing.pdf and <https://www.arb.ca.gov/fuels/lcfs/2a2b/apps/www2bm-rpt-082514.pdf> ; Also see: <https://www.arb.ca.gov/fuels/lcfs/2a2b/2a-2b-apps.htm>

Post-Project Emissions Factors for Backup Flare			
Pollutant	lb/MMBtu	lb/scf*	Source
NO _x	0.06	3.48 x 10 ⁻⁵	Industry Standard/District Practice for Permitting Biogas Flares
SO _x	2.04	-	7,000 ppmvd in flared gas (Proposed by Applicant, see mass balance equation below)
PM ₁₀	0.025	1.45 x 10 ⁻⁵	AP-42 Table 2.4.4 (1998) (Value for Landfill Gas Flares)
CO	0.0793	4.60 x 10 ⁻⁵	AP-42 Table 2.4.4 (1998) (Value for Landfill Gas Flares)
VOC	0.006		Based on ARB LCFS Pathway Biogas Flare VOC EF/Also Conservatively Assumed to be similar to Digester Gas-Fired Turbines

*lb/scf equivalent = lb/MMBtu x 0.000580 MMBtu/scf

SO_x – 7,000 ppmvd H₂S in flared gas

$$\frac{7,000 \text{ ft}^3 \text{ H}_2\text{S}}{10^6 \text{ ft}^3} \times \frac{32.06 \text{ lb} - \text{S}}{\text{lb} - \text{mol H}_2\text{S}} \times \frac{\text{lb} - \text{mol}}{379.5 \text{ ft}^3} \times \frac{64.06 \text{ lb} - \text{SO}_2}{32.06 \text{ lb} - \text{S}} \times \frac{1 \text{ ft}^3}{580 \text{ Btu}} \times \frac{10^6 \text{ Btu}}{\text{MMBtu}} = 2.037 \frac{\text{lb} - \text{SO}_x}{\text{MMBtu}}$$

Digester Gas Upgrading Operation

The tail-gas from the digester gas upgrading equipment has an H₂S content of less than 4 ppm (equivalent to 0.0016 lb-SO_x/MMBtu). Thus, worst-case SO_x emissions from the RTO serving the digester gas upgrading equipment occurs when the unit is fired solely on natural gas, which has a higher emission factor of 0.00285 lb/MMBtu.

Emission Factors for Natural Gas-Fired RTO		
Pollutant	Post-Project Emission Factors (EF2)	Source
NO _x	0.04 lb-NO _x /MMBtu	Manufacturer's specification
SO _x	0.00285 lb-SO _x /MMBtu	District Policy APR 1720
PM ₁₀	0.0075 lb-PM ₁₀ /MMBtu	AP-42 (07/98) Table 1.4-2
CO	0.0824 lb-CO/MMBtu	AP-42 (07/98) Table 1.4-1
VOC	0.0054 lb-VOC/MMBtu	AP-42 (07/98) Table 1.4-2

C. Calculations

1. Pre-Project Potential to Emit (PE1)

As discussed in section I above, ATC N-9880-1-0 will not be implemented into a PTO, but will be superseded by the proposed design changes of ATC N-9880-1-1. Since '-1-0 is unable to be implemented, PE1 is considered to be zero for all pollutants.

2. Post-Project Potential to Emit (PE2)

N-9880-1-1

Digester System with Backup Flare:

$$\text{Daily PE} = \text{EF (lb/MMBtu)} \times \text{Heat Input (MMBtu/hr)} \times \text{Op. Sched. (hr/day)}$$

Annual PE = EF (lb/MMBtu) × Annual Heat Input (MMBtu/yr)

Daily PE2 for the Digester System with Backup Flare							
Pollutant	Emission Factor (lb/MMBtu)	x	Hourly Heat Input of Gas Flared (MMBtu/hr)	x	Daily Hours of Operation (hr/day)	=	Daily PE2 (lb/day)
NO _x	0.06	x	34.4	x	24	=	49.5
SO _x	2.04	x	34.4	x	24	=	1,684.2
PM ₁₀	0.025	x	34.4	x	24	=	20.6
CO	0.0793	x	34.4	x	24	=	65.5
VOC	0.006	x	34.4	x	24	=	5.0

Annual PE2 for the Digester System with Backup Flare					
Pollutant	Emission Factor (lb/MMBtu)	x	Annual Heat Input of Gas Flared (MMBtu/yr)	=	PE2 (lb/year)
NO _x	0.06	x	25,800	=	1,548
SO _x	2.04	x	25,800	=	52,632
PM ₁₀	0.025	x	25,800	=	645
CO	0.0793	x	25,800	=	2,046
VOC	0.006	x	25,800	=	155

Digester Gas Upgrading Operation Served by an RTO

The PE for each pollutant is calculated with the following equation:

PE = EF (lb/MMBtu) × Heat Input (MMBtu/hr) × Op. Sched. (hr/day)

RTO Daily PE2								
NO _x	0.04	(lb/MMBtu)	x	2.0	(MMBtu/hr)	x	24	(hr/day) = 1.9 (lb/day)
SO _x	0.00285	(lb/MMBtu)	x	2.0	(MMBtu/hr)	x	24	(hr/day) = 0.1 (lb/day)
PM ₁₀	0.0075	(lb/MMBtu)	x	2.0	(MMBtu/hr)	x	24	(hr/day) = 0.4 (lb/day)
CO	0.0824	(lb/MMBtu)	x	2.0	(MMBtu/hr)	x	24	(hr/day) = 4.0 (lb/day)
VOC	0.0054	(lb/MMBtu)	x	2.0	(MMBtu/hr)	x	24	(hr/day) = 0.3 (lb/day)

RTO Annual PE2								
NO _x	0.04	(lb/MMBtu)	x	2.0	(MMBtu/hr)	x	8,760	(hr/year) = 701 (lb/year)
SO _x	0.00285	(lb/MMBtu)	x	2.0	(MMBtu/hr)	x	8,760	(hr/year) = 50 (lb/year)
PM ₁₀	0.0075	(lb/MMBtu)	x	2.0	(MMBtu/hr)	x	8,760	(hr/year) = 131 (lb/year)
CO	0.0824	(lb/MMBtu)	x	2.0	(MMBtu/hr)	x	8,760	(hr/year) = 1,444 (lb/year)
VOC	0.0054	(lb/MMBtu)	x	2.0	(MMBtu/hr)	x	8,760	(hr/year) = 95 (lb/year)

While typical operation will not involve simultaneous operation of the backup flare and RTO, maintenance or testing of either component might require both to operate simultaneously. Therefore, as a worst case conservative estimate, the total potential emissions will be estimated assuming the backup flare operates 750 hours/yr and the digester gas upgrade system operates 8,760 hours/yr.

Total Emissions for N-9880-1-1

Total Daily PE2 Summary for N-9880-1-1			
Pollutant	Backup Flare (lb/day)	RTO (lb/day)	Total PE (lb/day)
NO _x	49.5	1.9	51.4
SO _x	1,684.2	0.1	1,684.3
PM ₁₀	20.6	0.4	21.0
CO	65.5	4.0	69.5
VOC	5.0	0.3	5.3

Total Annual PE2 Summary for N-9880-1-1			
Pollutant	Backup Flare (lb/year)	RTO (lb/year)	Total PE (lb/year)
NO _x	1,548	701	2,249
SO _x	52,632	50	52,682
PM ₁₀	645	131	776
CO	2,046	1,444	3,490
VOC	155	95	250

3. Pre-Project Stationary Source Potential to Emit (SSPE1)

Pursuant to District Rule 2201, the SSPE1 is the Potential to Emit (PE) from all units with valid Authorities to Construct (ATC) or Permits to Operate (PTO) at the Stationary Source and the quantity of Emission Reduction Credits (ERC) which have been banked since September 19, 1991 for Actual Emissions Reductions (AER) that have occurred at the source, and which have not been used on-site.

Valid ATCs, PTOs, and ERCs at this Stationary Source are summarized in the table below. As ATC N-9880-1-0 cannot be implemented and will be superseded by N-9880-1-1, it is not included in SSPE1.

SSPE1 (lb/year)						
Permit Unit	NO _x	SO _x	PM ₁₀	CO	VOC	NH ₃
N-9880-2-0	730	116	122	8,107	1,013	567
N-9880-3-0	730	116	122	8,107	1,013	567
N-9880-4-0	730	116	122	8,107	1,013	567
SSPE1	2,190	348	366	24,321	3,039	1,701

4. Post-Project Stationary Source Potential to Emit (SSPE2)

Pursuant to District Rule 2201, the SSPE2 is the PE from all units with valid ATCs or PTOs at the Stationary Source and the quantity of ERCs which have been banked since September 19, 1991 for AER that have occurred at the source, and which have not been used on-site.

SSPE2 (lb/year)						
Permit Unit	NO _x	SO _x	PM ₁₀	CO	VOC	NH ₃
N-9354-1-1	2,249	52,682	776	3,490	250	0
N-9354-2-0	730	116	122	8,107	1,013	567
N-9354-3-0	730	116	122	8,107	1,013	567
N-9354-4-0	730	116	122	8,107	1,013	567
SSPE2	4,439	53,030	1,142	27,811	3,289	1,701

5. Major Source Determination

Rule 2201 Major Source Determination:

Pursuant to District Rule 2201, a Major Source is a stationary source with a SSPE2 equal to or exceeding one or more of the following threshold values. For the purposes of determining major source status the following shall not be included:

- any ERCs associated with the stationary source
- Emissions from non-road IC engines (i.e. IC engines at a particular site at the facility for less than 12 months), pursuant to the Clean Air Act, Title 3, Section 302, US Codes 7602(j) and (z)
- Fugitive emissions, except for the specific source categories specified in 40 CFR 70.2

Rule 2201 Major Source Determination (lb/year)						
	NO _x	SO _x	PM ₁₀	PM _{2.5}	CO	VOC
SSPE1	2,190	348	366	366	24,321	3,039
SSPE2	4,439	53,030	1,142	1,142	27,811	3,289
Major Source Threshold	20,000	140,000	140,000	140,000	200,000	20,000
Major Source?	No	No	No	No	No	No

Note: PM2.5 assumed to be equal to PM10

As seen in the table above, the facility is not an existing Major Source and is not becoming a Major Source as a result of this project.

Rule 2410 Major Source Determination:

The facility or the equipment evaluated under this project is not listed as one of the categories specified in 40 CFR 52.21 (b)(1)(iii). Therefore the PSD Major Source threshold is 250 tpy for any regulated NSR pollutant.

PSD Major Source Determination (tons/year)						
	NO ₂	VOC	SO ₂	CO	PM	PM ₁₀
Estimated Facility PE before Project Increase	1.1	1.5	0.2	12	0.2	0.2
PSD Major Source Thresholds	250	250	250	250	250	250
PSD Major Source?	No	No	No	No	No	No

As shown above, the facility is not an existing PSD major source for any regulated NSR pollutant expected to be emitted at this facility.

6. Baseline Emissions (BE)

The BE calculation (in lb/year) is performed pollutant-by-pollutant for each unit within the project to calculate the QNEC, and if applicable, to determine the amount of offsets required.

Pursuant to District Rule 2201, BE = PE1 for:

- Any unit located at a non-Major Source,
- Any Highly-Utilized Emissions Unit, located at a Major Source,
- Any Fully-Offset Emissions Unit, located at a Major Source, or
- Any Clean Emissions Unit, located at a Major Source.

Otherwise,

BE = Historic Actual Emissions (HAE), calculated pursuant to District Rule 2201.

Since this unit is located at a non-major source, BE = PE1 = 0 for all pollutants.

6. SB 288 Major Modification

40 CFR Part 51.165 defines a SB 288 Major Modification as any physical change in or change in the method of operation of a major stationary source that would result in a significant net emissions increase of any pollutant subject to regulation under the Act.

Since this facility is not a major source for any of the pollutants addressed in this project, this project does not constitute an SB 288 major modification and no further discussion is required.

7. Federal Major Modification / New Major Source

Federal Major Modification

District Rule 2201 states that a Federal Major Modification is the same as a “Major Modification” as defined in 40 CFR 51.165 and part D of Title I of the CAA.

As defined in 40 CFR 51.165, Section (a)(1)(v) and part D of Title I of the CAA, a Federal Major Modification is any physical change in or change in the method of operation of a major stationary source that would result in a significant net emissions increase of any pollutant subject to regulation under the Act. The significant net emission increase threshold for each criteria pollutant is included in Rule 2201.

Since this facility is not a Major Source for any pollutants, this project does not constitute a Federal Major Modification and no further discussion is required.

New Major Source

As demonstrated above, this facility is not becoming a Major Source as a result of this project, therefore, this facility is not a New Major Source pursuant to 40 CFR 51.165 a(1)(iv)(A)(3).

8. Rule 2410 – Prevention of Significant Deterioration (PSD) Applicability Determination

Rule 2410 applies to any pollutant regulated under the Clean Air Act, except those for which the District has been classified nonattainment. The pollutants which must be addressed in the PSD applicability determination for sources located in the SJV and which are emitted in this project are: (See 52.21 (b) (23) definition of significant)

- NO2 (as a primary pollutant)
- SO2 (as a primary pollutant)
- CO
- PM
- PM10

I. Project Emissions Increase - New Major Source Determination

The post-project potentials to emit from all new and modified units are compared to the PSD major source thresholds to determine if the project constitutes a new major source subject to PSD requirements.

The facility or the equipment evaluated under this project is not listed as one of the categories specified in 40 CFR 52.21 (b)(1)(i). The PSD Major Source threshold is 250 tpy for any regulated NSR pollutant.

PSD Major Source Determination: Potential to Emit (tons/year)						
	NO₂	VOC	SO₂	CO	PM	PM₁₀
Total PE from New and Modified Units	1.12	0.13	26.34	1.75	0.39	0.39
PSD Major Source threshold	250	250	250	250	250	250
New PSD Major Source?	No	No	No	No	No	No

As shown in the table above, the potential to emit for the project, by itself, does not exceed any PSD major source threshold. Therefore Rule 2410 is not applicable and no further analysis is required.

9. Quarterly Net Emissions Change (QNEC)

The QNEC is calculated solely to establish emissions that are used to complete the District’s PAS emissions profile screen. Detailed QNEC calculations are included in Appendix E.

VIII. Compliance Determination

Rule 2020 Exemptions

Boilers

Pursuant to Section 6.1.1 of this Rule, a permit is not required for boilers that have a maximum heat input rating of 5.0 MMBtu/hr or less and is equipped to be fired exclusively with natural gas containing 5% by weight of hydrocarbons heavier than butane and no more than 1.0 gr-S/100 scf. Since the proposed boilers are fired solely on PUC-quality natural gas with a maximum heat input less than 5.0 MMBtu/hr, they are exempt from permitting and NSR requirements.

Manure Dryers

Additionally, pursuant to Section 6.19 of this Rule, a permit is not required for a low emitting unit which does not cause a significant health risk to the public. Section 3.10 of this Rule defines a low emitting unit as an emissions unit with an uncontrolled emissions rate of each air contaminant, less than or equal to two pounds per day, or if greater than two pounds per day, is less than or equal to 75 pounds per year. The PE for the dryer is calculated below:

Emission Factors:

Burner Emission Factors		
Operation	Emission Rate	Source
Natural gas combustion in the burner	0.10 lb-NO _x /MMBtu	AP-42, Table 1.4-1 & -2 (7/98)
	0.00285 lb-SO _x /MMBtu	APR-1720 (12/01)
	0.0076 lb-PM ₁₀ /MMBtu	AP-42, Table 1.4-1 & -2 (7/98)
	0.084 lb-CO/MMBtu	AP-42, Table 1.4-1 & -2 (7/98)
	0.0055 lb-VOC/MMBtu	AP-42, Table 1.4-1 & -2 (7/98)

Potential to Emit:

Daily PE₂ from the dryer is calculated using the following equation and summarized in the table below.

$$PE_{2\text{Dryer}} (\text{lb/day}) = EF (\text{lb/MMBtu}) \times \text{Maximum Heat Input (MMBtu/day)}$$

Daily PE2 Natural Gas-Fired Dryer			
Pollutant	EF (lb/MMBtu)	Max Heat Input (MMBtu/day)	PE2 (lb/day)
NO _x	0.1	20	2.0
SO _x	0.00285	20	0.1
PM ₁₀	0.0076	20	0.2
CO	0.084	20	1.7
VOC	0.0055	20	0.1

As shown above, emissions from the dryer does not exceed two pounds per day for any air contaminant with a daily limit of 20 MMBtu/day and as shown in Appendix D, the operation does not cause a significant health impact to the public. Therefore, the dryer is exempt from permitting and NSR requirements. An exemption will be issued under a separate cover letter.

Rule 2201 New and Modified Stationary Source Review Rule

A. Best Available Control Technology (BACT)

1. BACT Applicability

Pursuant to District Rule 2201, Section 4.1, BACT requirements are triggered on a pollutant-by-pollutant basis and on an emissions unit-by-emissions unit basis. Unless specifically exempted by Rule 2201, BACT shall be required for the following actions*:

- a. Any new emissions unit with a potential to emit exceeding two pounds per day,
- b. The relocation from one Stationary Source to another of an existing emissions unit with a potential to emit exceeding two pounds per day,
- c. Modifications to an existing emissions unit with a valid Permit to Operate resulting in an Adjusted Increase in Permitted Emissions (AIPE) exceeding two pounds per day, and/or
- d. Any new or modified emissions unit, in a stationary source project, which results in an SB 288 Major Modification or a Federal Major Modification, as defined by the rule.

*Except for CO emissions from a new or modified emissions unit at a Stationary Source with an SSPE2 of less than 200,000 pounds per year of CO.

a. New emissions units – PE > 2 lb/day

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The proposed operation is considered as two emissions units as discussed below.

Digester System and Backup Flare

Under normal operation all biogas is routed to the upgrading operation and there are no emissions from the digester system. If the upgrading operation is unable to accept produced biogas it vented to the backup flare. Emissions via the backup flare are of two categories: combustion products from the natural gas fuel, and emissions originating from the decomposition of manure within the digester.

The flare is an emissions control device used to mitigate risks from the gas from the digester system. Per Section 3.46.2 of District Rule 1020, an emissions control device is not a source operation; consequently, it does not meet the definition of an emission unit per Section 3.17 of District Rule 2201. Therefore, emissions from natural gas combustion in the flare are not subject to BACT.

The emissions originating from the decomposition of liquid manure have previously been accounted for in the host dairy's liquid manure handling permit (N-6706-3-2) which includes open lagoons. Though the digester permit of this project and the pre-existing liquid manure handling permit will be active simultaneously and each permitted to process the the full volume produced by the dairy, the overall volume of liquid manure is unchanged. Thus, the magnitude of emissions from decomposition

of liquid manure is not expected to vary from current levels.

The sulfur concentration of the liquid manure is dependent on the dietary requirements of the dairy cows. The PE of sulfur compounds associated with this project, in this project in the form of SO_x, are expected to be of similar magnitude as the displaced PE of sulfur compounds from the lagoons. The displaced potential H₂S of the lagoon and potential SO_x of this project exist in a precursor-secondary air contaminant relationship. Despite the accelerated oxidation provided by the flare, displaced H₂S emissions from the lagoons would have naturally oxidized to a similar amount of SO_x in the environment. Precursor-secondary pollutants are allowed simultaneous consideration for new source review purposes (per Section 3.31 of District Rule 2201,). Similarly, precursor-secondary relationships exist for other emissions displaced from the existing lagoons and the NO_x and PM₁₀ of this project. Therefore, the NO_x, SO_x, and PM₁₀ resulting from combustion of biogas in the backup flare are not considered new emissions and are not subject to BACT.

Though PE of VOC from the digester also displaces PE from the pre-existing liquid manure handling permits, the design of the digester may be optimized to maximize gaseous hydrocarbon production (primarily the exempt organic compound methane). Thus the PE of VOC from the digester (controlled with 98% efficiency by the flare) may reflect increased emissions and is subject to BACT. The controlled emissions exceed 2.0 lb-VOC/day, thus BACT is triggered.

Potential emissions of CO are greater than 2 lb/day. However, BACT is not triggered for CO since the SSPE₂ for CO is not greater than 200,000 lb/year, as demonstrated in Section VII.C.5 above.

Digester Gas Upgrading Operation Served by an RTO

The applicant proposes to install a digester gas upgrading operation served by an RTO to control H₂S, VOC, and NH₃ emissions. The control device (RTO) has emissions greater than 2.0 lb/day; however, the source operation (digester gas upgrading operation) will not have any emissions greater than 2.0 lb/day; therefore, BACT is not triggered by this source operation.

b. Relocation of emissions units – PE > 2 lb/day

As discussed in Section I above, there are no emissions units being relocated from one stationary source to another; therefore BACT is not triggered.

c. Modification of emissions units – AIPE > 2 lb/day

As discussed in Section I above, there are no emissions units being modified; therefore BACT is not triggered.

d. SB 288/Federal Major Modification

As discussed in Sections VII.C.7 and VII.C.8 above, this project does not constitute an SB 288 and/or Federal Major Modification for any pollutant. Therefore BACT is not triggered for any pollutant.

2. BACT Guideline

Digester System and Backup Flare

BACT Guideline 5.8.12 applies to dairy manure digesters with backup/emergency flares (see Appendix B).

3. Top-Down BACT Analysis

Per Permit Services Policies and Procedures for BACT, a Top-Down BACT analysis shall be performed as a part of the application review for each application subject to the BACT requirements pursuant to the District’s NSR Rule.

Digester System and Backup Flare

Pursuant to the attached BACT Determination (see Appendix C), BACT has been satisfied with the following:

VOC: 98% control efficiency

B. Offsets

1. Offset Applicability

Pursuant to District Rule 2201, Section 4.5, offset requirements shall be triggered on a pollutant by pollutant basis and shall be required if the SSPE2 equals or exceeds the offset threshold levels in Table 4-1 of Rule 2201.

The SSPE2 is compared to the offset thresholds in the following table.

Offset Determination (lb/year)					
	NO _x	SO _x	PM ₁₀	CO	VOC
SSPE2	4,439	53,030	1,142	27,811	3,289
Offset Thresholds	20,000	54,750	29,200	200,000	20,000
Offsets Triggered?	No	No	No	No	No

2. Quantity of District Offsets Required

As discussed above, the SSPE2 is not greater than the offset thresholds for all pollutants; therefore, District offsets are not triggered. In addition, as demonstrated above, this project does not trigger Federal Major Modification or New Major Source requirements. In conclusion, offsets will not be required for this project and no further discussion is required.

C. Public Notification

1. Applicability

Pursuant to District Rule 2201, Section 5.4, public noticing is required for:

- a. New Major Sources, Federal Major Modifications, and SB 288 Major Modifications,
- b. Any new emissions unit with a Potential to Emit greater than 100 pounds during any one day for any one pollutant,
- c. Any project which results in the offset thresholds being surpassed,
- d. Any project with an SSIPE of greater than 20,000 lb/year for any pollutant, and/or
- e. Any project which results in a Title V significant permit modification

a. New Major Sources, Federal Major Modifications, and SB 288 Major Modifications

As shown in Section VII.C.5 above, the SSPE2 of this new facility is not greater than the Major Source threshold for any pollutant. Therefore, this new facility is not a New Major Source and public noticing for this project for New Major Source, Federal Major Modification, or SB 288 Major Modification purposes is not required.

b. PE > 100 lb/day

Applications which include a new emissions unit with a PE greater than 100 pounds during any one day for any pollutant will trigger public noticing requirements. As seen in Section VII.C.2 above, this project includes a new digester system with a backup flare which has daily emissions greater than 100 lb/day for SO_x, therefore public noticing for PE > 100 lb/day purposes is required.

c. Offset Threshold

Public notification is required if the pre-project Stationary Source Potential to Emit (SSPE1) is increased to a level exceeding the offset threshold levels. The following table compares the SSPE1 with the SSPE2 in order to determine if any offset thresholds have been surpassed with this project.

Offset Thresholds				
Pollutant	SSPE1 (lb/year)	SSPE2 (lb/year)	Offset Threshold	Public Notice Required?
NO _x	2,190	4,439	20,000 lb/year	No
SO _x	348	53,030	54,750 lb/year	No
PM ₁₀	366	1,142	29,200 lb/year	No
CO	24,321	27,811	200,000 lb/year	No
VOC	3,039	3,289	20,000 lb/year	No

As demonstrated above, there were no thresholds surpassed with this project; therefore public noticing is not required for offset purposes.

d. SSIPE > 20,000 lb/year

Public notification is required for any permitting action that results in a SSIPE of more than 20,000 lb/year of any affected pollutant. According to District policy, the SSIPE = SSPE2 – SSPE1. The SSIPE is compared to the SSIPE Public Notice thresholds in the following table.

SSIPE Public Notice Thresholds					
Pollutant	SSPE2 (lb/year)	SSPE1 (lb/year)	SSIPE (lb/year)	SSIPE Public Notice Threshold	Public Notice Required?
NO _x	4,439	2,190	2,249	20,000 lb/year	No
SO _x	53,030	348	52,682	20,000 lb/year	Yes
PM ₁₀	1,142	366	776	20,000 lb/year	No
CO	27,811	24,321	3,490	20,000 lb/year	No
VOC	3,289	3,039	250	20,000 lb/year	No
NH ₃	1,701	1,701	0	20,000 lb/year	No

As demonstrated above, the SSIPE for SO_x was greater than 20,000 lb/year; therefore public noticing for SSIPE purposes is required.

e. Title V Significant Permit Modification

Since this facility does not have a Title V operating permit, this change is not a Title V significant modification, and therefore public noticing is not required.

2. Public Notice Action

As discussed above, public noticing is required for this project for SO_x emissions in excess of 100 lb/day and an increase in SO_x emissions in excess 20,000 lb/year. Therefore, public notice documents will be submitted to the California Air Resources Board (CARB) and a public notice will be electronically published on the District's website prior to the issuance of the ATC for this equipment.

D. Daily Emission Limits (DELs)

DELs and other enforceable conditions are required by Rule 2201 to restrict a unit's maximum daily emissions, to a level at or below the emissions associated with the maximum design capacity. The DEL must be contained in the latest ATC and contained in or enforced by the latest PTO and enforceable, in a practicable manner, on a daily basis. DELs are also required to enforce the applicability of BACT.

Proposed Rule 2201 (DEL) Conditions:

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- {271} All equipment shall be maintained in good operating condition and shall be operated in a manner to minimize emissions of air contaminants into the atmosphere. [District Rule 2201]
- The VOC content of the digester gas produced by the digester system shall not exceed 10% by weight. [District Rule 2201]
- The sulfur content of the digester gas combusted in the flare shall not exceed 7,000 ppmv as H₂S. The permittee may utilize an averaging period of up to 24 hours in length for demonstration of compliance with the fuel sulfur content limit. [District Rules 2201 and 4801]
- A flame shall be present at all times whenever combustible gases are vented through the flare. [District Rules 2201 and 4311]
- The flare outlet shall be equipped with an automatic ignition system, or shall operate with a pilot flame present at all times when combustible gases are vented through the flare, except during purge periods for automatic-ignition equipped flares. [District Rules 2201 and 4311]
- The flare shall be equipped with an operational, non-resettable, totalizing mass or volumetric flow meter or other District-approved alternative method to measure the quantity of digester gas flared. [District Rules 2201 and 4311]
- Unless the flare is equipped with a flow-sensing ignition system, the flare shall be equipped and operated with a heat sensing device such as a thermocouple, ultraviolet beam sensor, infrared sensor, or an equivalent device, capable of continuously detecting at least one pilot flame. [District Rules 2201 and 4311]
- The flare shall be operated only for testing and maintenance, backup, and emergency purposes. [District Rule 2201]

- Flares that use flow-sensing automatic ignition systems and which do not use a continuous flame pilot shall use purge gas for purging. [District Rules 2201 and 4311]
- Open flares (air-assisted, steam-assisted, or non-assisted) in which the flare gas pressure is less than 5 psig shall be operated in such a manner that meets the provisions of 40 CFR 60.18. [District Rules 2201 and 4311]
- Upon request, the operator of an open flare in which the flare gas pressure is less than 5 psig shall make available records that demonstrate compliance with the provisions of 40 CFR 60.18, (c)(3) through (c)(5). [District Rules 2201 and 4311]
- Emissions rates from the combustion of digester gas in the flare shall not exceed any of the following limits: 0.06 lb-NO_x/MMBtu, 2.04 lb-SO_x/MMBtu, 0.025 lb-PM₁₀/MMBtu, 0.0793 lb-CO/MMBtu, or 0.006 lb-VOC/MMBtu. [District Rule 2201]
- Only PUC quality natural gas shall be used in the RTO as supplemental fuel. [District Rules 2201 and 4801]
- The RTO shall be operated with a combustion chamber temperature of no less than 1600 degrees F and the retention time shall be no less than 0.5 seconds. [District Rule 2201]
- The RTO shall be heated to the proper operating temperature prior to introducing the contaminated air stream. [District Rules 2201 and 4104]
- Emissions from the RTO shall not exceed any of the following limits: 0.04 lb-NO_x/MMBtu, 0.00285 lb-SO_x/MMBtu, 0.0075 lb-PM₁₀/MMBtu, 0.0824 lb-CO/MMBtu, or 0.0054 lb-VOC/MMBtu. [District Rule 2201]

Since the flare can operate a maximum capacity for 24 hours/day, no daily limit is required; however, since the flare's annual operation is limited, the following condition will be included as a mechanism to ensure compliance:

- The maximum amount of gas combusted by the flare shall not exceed 44.48 million standard cubic feet (MMscf) per year. [District Rules 2201, 4102, and 4311]

E. Compliance Assurance

1. Source Testing

N-9880-1-1

Pursuant to District Policy APR 1705, source testing is required for units equipped with afterburner, thermal incinerator, or catalytic incinerator for controlling VOCs. The RTO proposed in this project is not used to control VOCs; therefore, source testing of the RTO is not required. Additionally, source testing is not required for any other unit in this operation.

2. Monitoring

N-9880-1-1

Because of the variable content of digester gas, monitoring of the fuel sulfur content will be required. The following conditions will be placed on the permit as a mechanism to ensure compliance:

- The sulfur content of the digester gas combusted in this flare shall be monitored and recorded at least once every calendar quarter in which a digester gas sulfur content analysis is not performed. If quarterly monitoring shows a violation of the sulfur content limit of this permit, monthly monitoring will be required until six consecutive months of monitoring show compliance with the sulfur content limit. Once compliance with the sulfur content limit is shown for six consecutive months, then the monitoring frequency may return to quarterly. Monitoring of the sulfur content of the digester gas flared shall not be required if the flare does not operate during that period. Records of the results of monitoring of the digester gas sulfur content shall be maintained. [District Rule 2201]
- Monitoring of the digester gas sulfur content shall be performed using gas detection tubes calibrated for H₂S; a Testo 350 XL portable emission monitor; a continuous fuel gas monitor that meets the requirements specified in SCAQMD Rule 431.1, Attachment A; District-approved source test methods, including EPA Method 15, ASTM Method D1072, D4084, and D5504; District-approved in-line H₂S monitors; or an alternative method approved by the District. Prior to utilization of in-line monitors to demonstrate compliance with the digester gas sulfur content limit of this permit, the permittee shall submit details of the proposed monitoring system, including the make, model, and detection limits, to the District and obtain District approval for the proposed monitor(s). [District Rule 2201]

Additionally, the following condition will be placed on the permit as a mechanism to ensure compliance:

- The RTO temperature shall be monitored and recorded utilizing a continuous monitoring and recording device. The monitoring and recording device shall be maintained in proper operating condition at all times. [District Rule 2201]

3. Recordkeeping

Recordkeeping is required to demonstrate compliance with the offset, public notification and daily emission limit requirements of Rule 2201. The following conditions are listed on the permit to operate:

N-9880-1-1

- Permittee shall maintain annual records of the amount of gas combusted by the flare, in million standard cubic feet (MMscf). [District Rules 1070 and 2201]
- The sulfur content of the digester gas combusted in this flare shall be monitored and recorded at least once every calendar quarter in which a digester gas sulfur content

analysis is not performed. If quarterly monitoring shows a violation of the sulfur content limit of this permit, monthly monitoring will be required until six consecutive months of monitoring show compliance with the sulfur content limit. Once compliance with the sulfur content limit is shown for six consecutive months, then the monitoring frequency may return to quarterly. Monitoring of the sulfur content of the digester gas flared shall not be required if the flare does not operate during that period. Records of the results of monitoring of the digester gas sulfur content shall be maintained. [District Rule 2201]

- The RTO temperature shall be monitored and recorded utilizing a continuous monitoring and recording device. The monitoring and recording device shall be maintained in proper operating condition at all times. [District Rule 2201]
- All records shall be maintained and retained for a minimum of five (5) years, and shall be made available for District inspection upon request. Records may be maintained and submitted in an electronic format approved by the District. [District Rules 1070, 2201, and 4311]

4. Reporting

No reporting is required to demonstrate compliance with Rule 2201.

F. Ambient Air Quality Analysis (AAQA)

Section 4.14 of District Rule 2201 requires that an AAQA be conducted for the purpose of determining whether a new or modified Stationary Source will cause or make worse a violation of an air quality standard. The District's Technical Services Division conducted the required analysis. Refer to Appendix D of this document for the AAQA summary sheet.

Though this project only included modifications of permit unit 1, since the prior iteration had not been implemented it is considered part of the larger project including permit units 2-4. As such, permit units 1-4 were included in HRA and AAQA consideration for this project.

The proposed location is in an attainment area for NO_x, CO, and SO_x. As shown by the AAQA summary sheet the proposed equipment will not cause a violation of an air quality standard for NO_x, CO, or SO_x.

The proposed location is in a non-attainment area for the state's PM₁₀ as well as federal and state PM_{2.5} thresholds. As shown by the AAQA summary sheet the proposed equipment will not cause a violation of an air quality standard for PM₁₀ and PM_{2.5}.

Rule 2410 Prevention of Significant Deterioration

As shown in Section VII.C.9 above, this project does not result in a new PSD major source or PSD major modification. No further discussion is required.

Rule 2520 Federally Mandated Operating Permits

Since this facility's potential emissions do not exceed any major source thresholds of Rule 2201, this facility is not a major source, and Rule 2520 does not apply.

Rule 4001 New Source Performance Standards (NSPS)

This rule incorporates NSPS from Part 60, Chapter 1, Title 40, Code of Federal Regulations (CFR); and applies to all new sources of air pollution and modifications of existing sources of air pollution listed in 40 CFR Part 60.

No subparts of 40 CFR Part 60 apply to digester gas-fired flares or natural gas-fired RTOs. Therefore, no discussion is required for permit unit N-9880-1.

Rule 4002 National Emission Standards for Hazardous Air Pollutants (NESHAPs)

This rule incorporates NESHAPs from Part 61, Chapter I, Subchapter C, Title 40, CFR and the NESHAPs from Part 63, Chapter I, Subchapter C, Title 40, CFR; and applies to all sources of hazardous air pollution listed in 40 CFR Part 61 or 40 CFR Part 63.

No subparts of 40 CFR Part 61 or Part 63 apply to digester gas-fired flares or natural gas-fired RTOs. Therefore, no discussion is required for permit unit N-9880-1.

Rule 4101 Visible Emissions

Rule 4101 states that no person shall discharge into the atmosphere emissions of any air contaminant aggregating more than 3 minutes in any hour which is as dark as or darker than Ringelmann 1 (or 20% opacity).

Since the flare will only combust digester gas, visible emissions are not expected to exceed Ringelmann 1 or 20% opacity.

Additionally, as the RTO will be fired solely on natural gas fuel, visible emissions are not expected to exceed Ringelmann 1 or 20% opacity. Also, based on past District inspections of natural gas-fired RTOs and IC engines, compliance is expected. The following condition will be listed on the permits as a mechanism to enforce compliance:

N-9880-1-1:

- {15} No air contaminant shall be discharged into the atmosphere for a period or periods aggregating more than three minutes in any one hour which is as dark as, or darker than, Ringelmann 1 or 20% opacity. [District Rule 4101]

Rule 4102 Nuisance

Rule 4102 prohibits discharge of air contaminants which could cause injury, detriment, nuisance or annoyance to the public. Public nuisance conditions are not expected as a result of these operations, provided the equipment is well maintained. Therefore, compliance with this rule is

expected. The following conditions will be included on each permit in this project as a mechanism to enforce compliance.

- {98} No air contaminant shall be released into the atmosphere which causes a public nuisance. [District Rule 4102]

California Health & Safety Code 41700 (Health Risk Assessment)

District Policy APR 1905 – *Risk Management Policy for Permitting New and Modified Sources* specifies that for an increase in emissions associated with a proposed new source or modification, the District perform an analysis to determine the possible impact to the nearest resident or worksite.

District policy APR 1905 also specifies that the increase in emissions associated with a proposed new source or modification of an existing source shall not result in an increase in cancer risk greater than the District’s significance level (20 in a million) and shall not result in acute and/or chronic risk indices greater than 1.

Though this project only included modifications of permit unit 1, since the prior iteration had not been implemented it is considered part of the larger project including permit units 2 through 4. As such, the emissions from permit units 1 through 4 were included in the AAQA consideration for this project.

According to the Technical Services Memo for this project, the total facility prioritization score including this project was greater than one. Therefore, an HRA was required to determine the short-term acute and long-term chronic exposure from this project.

The resulting prioritization score, acute hazard index, chronic hazard index, and cancer risk for this project is shown below.

Health Risk Assessment Summary	
	Worst Case Potential
Prioritization Score	>1
Cancer Risk	0.00206 in a million
Acute Hazard Index*	0.00
Chronic Hazard Index*	0.00
T-BACT Required?	No

* The Maximum Individual Cancer Risk, Acute and Chronic Hazard Indices supercede the risk from Unit 1-0 since PE2 emissions from Unit 1-1 were included in this analysis.

Discussion of T-BACT

BACT for toxic emission control (T-BACT) is required if the cancer risk exceeds one in one million. As demonstrated above, T-BACT is not required for this project because the HRA

indicates that the risk is not above the District’s thresholds for triggering T-BACT requirements; therefore, compliance with the District’s Risk Management Policy is expected.

In accordance with District policy APR 1905, no further analysis is required, and compliance with District Rule 4102 requirements is expected.

See Appendix D: Health Risk Assessment Summary

The following permit conditions are required to ensure compliance with the assumptions made for the risk management review:

N-9880-1-1:

- {1898} The exhaust stack shall vent vertically upward. The vertical exhaust flow shall not be impeded by a rain cap (flapper ok), roof overhang, or any other obstruction. [District Rule 4102]
- The maximum amount of gas combusted by the flare shall not exceed 44.48 million standard cubic feet (MMscf) per year. [District Rules 2201, 4102, and 4311]

Rule 4201 Particulate Matter Concentration

Section 3.1 prohibits discharge of dust, fumes, or total particulate matter into the atmosphere from any single source operation in excess of 0.1 grain per dry standard cubic foot.

Section 3.1 prohibits discharge of dust, fumes, or total particulate matter into the atmosphere from any single source operation in excess of 0.1 grain per dry standard cubic foot.

N-9880-1-1:

Digester System and Backup/Emergency Flare

For the following calculation, PM₁₀ is conservatively assumed to be 100% of PM.

$$\begin{aligned}
 PM \text{ Concentration} &= \frac{0.025 \text{ lb} - PM}{MMBtu} \times \frac{MMBtu}{9,100 \text{ dscf}} \times \frac{7,000 \text{ grain}}{\text{lb}} \\
 &= \frac{0.019 \text{ grain} - PM}{\text{dscf}} < \frac{0.1 \text{ grain} - PM}{\text{dscf}}
 \end{aligned}$$

Since 0.019 grain-PM/dscf is less than 0.1 grain-PM/dscf, the flare is expected to comply with this rule.

Natural Gas-Fired RTO

For the following calculation, PM₁₀ is conservatively assumed to be 100% of PM.

$$\begin{aligned}
 PM \text{ Concentration} &= \frac{0.0075 \text{ lb} - PM}{MMBtu} \times \frac{MMBtu}{8,578 \text{ dscf}} \times \frac{7,000 \text{ grain}}{\text{lb}} \\
 &= \frac{0.006 \text{ grain} - PM}{\text{dscf}} < \frac{0.1 \text{ grain} - PM}{\text{dscf}}
 \end{aligned}$$

Since 0.006 grain-PM/dscf is less than 0.1 grain-PM/dscf, compliance with this rule is expected.

Rule 4311 Flares

The purpose of this rule to limit the emissions of volatile organic compounds (VOC), oxides of nitrogen (NO_x), and sulfur oxides (SO_x) from the operation of flares.

The proposed backup flare listed under ATC N-9880-1-1 is subject to Rule 4311. The requirements of Rule 4311 that apply to the proposed backup flare are discussed below.

Section 5.0 - Requirements

Pursuant to Section 5.1, flares that are permitted to operate only during an emergency are not subject to the requirements of Sections 5.7, 5.8, 5.9 and 5.10. The proposed backup flare will be permitted allowing limited operation during times that are not emergencies. Therefore, this section does not apply to the proposed flare.

Pursuant to Section 5.2, flares that are operated 200 hours or less per calendar year as specified in the Permit to Operate, or with an annual throughput limit equivalent to 200 hours per year at flare rating (MMBtu/hr) as specified in the Permit to Operate, are exempt from the requirements of Sections 5.9 and 5.10 provided that one of the following two conditions are satisfied.

- 5.2.1 For the 200 hours per year validation, the operator shall use a calibrated non-resettable totalizing time meter or equivalent method approved in writing by the APCO;
- or
- 5.2.2 For the annual throughput limit equivalent to 200 hours per year validation, the operator shall use a calibrated fuel meter or equivalent method approved in writing by the APCO.

The proposed backup flare may operate more than 200 hours/year. Therefore, this exemption does not apply and the flare is subject to 5.9 and 5.10.

Section 5.3 requires that a flame always be present in the flare whenever combustible gases are present. The following condition will be included on the ATC as a mechanism to ensure compliance:

- A flame shall be present at all times in the flare whenever combustible gases are vented through the flare. [District Rules 2201 and 4311]

Section 5.4 requires that the flare be equipped with either an automatic ignition system or operated with a continuous pilot. Per the applicant, this unit is equipped with an automatic ignition system. The following condition will be included on the ATC as a mechanism to ensure compliance:

- The flare outlet shall be equipped with an automatic ignition system, or shall operate with a pilot flame present at all times when combustible gases are vented through the flare, except during purge periods for automatic-ignition equipped flares. [District Rules 2201 and 4311]

Section 5.5 requires that, except for flares equipped with a flow-sensing ignition system, flares must be equipped with a device to monitor and confirm operation of the pilot flame. The following condition will be included on the ATC as a mechanism to ensure compliance:

- Unless the flare is equipped with a flow-sensing ignition system, the flare shall be equipped and operated with a heat sensing device such as a thermocouple, ultraviolet beam sensor, infrared sensor, or an equivalent device, capable of continuously detecting at least one pilot flame. [District Rules 2201 and 4311]

Section 5.6 requires that flares that use flow-sensing automatic ignition systems and which do not use a continuous flame pilot must use purge gas for purging. The following condition will be included on the ATC as a mechanism to ensure compliance:

- Flares that use flow-sensing automatic ignition systems and which do not use a continuous flame pilot shall use purge gas for purging. [District Rules 2201 and 4311]

Section 5.7 requires open flares (air-assisted, steam-assisted, or non-assisted) in which the flare gas pressure is less than 5 psig to be operated in such a manner that meets the provisions of 40 CFR 60.18. The following condition will be included on the ATC as a mechanism to ensure compliance:

- Open flares (air-assisted, steam-assisted, or non-assisted) in which the flare gas pressure is less than 5 psig shall be operated in such a manner that meets the provisions of 40 CFR 60.18. [District Rules 2201 and 4311]

Section 5.8 establishes emission limits for ground-level enclosed flares. The proposed flare is not a ground level enclosed flare. Therefore, the requirements of Section 5.8 are not applicable to the proposed flare.

Section 5.9 requires that digester flares with throughputs $\leq 100,000$ MMBtu/year and located at non-Major Sources must meet certain emission limits, or complete specified alternative requirements. The prescribed emission limits for a Flares at Digester Operations are compared to proposed emissions below:

Rule 4311, Section 5.9 Emission Requirements (Table 3)			
Pollutant	N-9880-1 Proposed	Rule Requirement	Meets Limit
VOC (lb/MMBtu)	0.006	N/A	N/A

NOx (lb/MMBtu)	0.06	≤ 0.06	Yes
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The proposed flare meets the requirements of Table 3, thus compliance with Section 5.9 is expected. The following condition will be included on the ATC as a mechanism to ensure compliance:

- Emissions rates from the combustion of digester gas in the flare shall not exceed any of the following limits: 0.06 lb-NOx/MMBtu, 2.04 lb-SOx/MMBtu, 0.025 lb-PM10/MMBtu, 0.0793 lb-CO/MMBtu, or 0.006 lb-VOC/MMBtu. [District Rule 2201, 4311]

Section 5.10 applies to operators of flares that opt to comply with section 5.9.1. The proposed equipment meets the requirements of Table 3, thus is not subject to 5.9.1, and therefore, 5.10.

Section 5.11 prohibits flaring unless it is consistent with an approved flare minimization plan (FMP), pursuant to Section 6.5 or is caused by an emergency and is necessary to prevent an accident, hazard, or release of vent gas directly to the atmosphere. Section 6.5 specifies that a flare minimization plan is required for refinery flares and flares at a major source. The proposed flare is not a refinery flare and is not at a major source. Therefore, a flare minimization plan is not required and this section does not apply.

Section 5.12 establishes SO₂ emission reduction standards for petroleum refinery flares. The proposed flare is not a petroleum refinery flare. Therefore, this section does not apply.

Section 5.13 requires the operator of a flare subject to flare minimization requirements pursuant to Section 5.11 to monitor the vent gas flow to the flare with a flow measuring device and to maintain records pursuant to Section 6.1.7. Flares that the operator can verify, based on permit conditions, are not capable of producing reportable flare events pursuant to Section 6.2.2 shall not be required to monitor vent gas flow to the flare. As discussed above, the proposed flare is not subject to flare minimization requirements pursuant to Section 5.11. Therefore, this section does not apply.

Section 5.14 requires the operator of a flare subject to the annual throughput thresholds in Table 2 to monitor the vent gas flow rate to the flare with a flow measuring device. Flares that the operator can verify are not capable of exceeding the annual throughput thresholds are not required to monitor the vent gas flow to the flare. Since the flare is not physically capable of flaring enough gas to exceed the threshold in Table 2, this section does not apply.

Section 5.15 requires the operator of a petroleum refinery or a flare with a flaring capacity equal to or greater than 50 MMBtu/hr to monitor the flare pursuant to Sections 6.6, 6.7, 6.8, 6.9, and 6.10. The proposed flare is not a petroleum refinery flare. Therefore, this section does not apply.

Section 6.0 - Administrative Requirements

Section 6.1 requires the operator of a flare to maintain certain records for five years. The following conditions will be placed on the permit to ensure compliance:

- All records shall be maintained and retained on-site for a minimum of five (5) years, and shall be made available for District inspection upon request. [District Rules 1070, 2201, 4311]

Section 6.1 also states that the operator of a flare subject to this rule shall maintain the following records:

- 6.1.1 Copy of the compliance determination conducted pursuant to Section 6.4.1
- 6.1.2 Copy of the source testing result conducted pursuant to Section 6.4.2
- 6.1.3 For flares used during an emergency, record of the duration of flare operation, amount of gas burned, and the nature of the emergency situation
- 6.1.4 Operators claiming an exemption pursuant to Section 4.3 shall record annual throughput, material usage, or other information necessary to demonstrate an exemption under that section
- 6.1.5 A copy of the approved flare minimization plan pursuant to Section 6.5
- 6.1.6 Where applicable, a copy of annual reports submitted to the APCO pursuant to Section 6.2
- 6.1.7 Where applicable, monitoring data collected pursuant to Sections 5.10, 6.6, 6.7, 6.8, 6.9, and 6.10

The proposed flare is not subject to any of the sections or requirements listed above; therefore, these recordkeeping requirements are not applicable.

Section 6.2.1 requires the operator of a flare subject to flare minimization plans pursuant to Section 5.8 to notify the APCO of an unplanned flaring event within 24 hours after the start of the next business day or within 24 hours of their discovery, whichever occurs first. As discussed above, the proposed flare is not subject to flare minimization requirements pursuant to Section 5.8. Therefore, this section does not apply.

Section 6.2.2 states that effective on and after July 1, 2012, and annually thereafter, the operator of a flare subject to flare minimization plans pursuant to Section 5.11 shall submit an annual report to the APCO that summarizes all Reportable Flaring Events as defined Section 3.0 that occurred during the previous 12 month period. As discussed above, the proposed flare is not subject to flare minimization requirements pursuant to Section 5.11. Therefore, this section does not apply.

Section 6.2.3 states that effective on and after July 1, 2012, and annually thereafter, the operator of a flare subject to flare monitoring requirements pursuant to Sections 5.13, 5.14, 6.6, 6.7, 6.8, 6.9, and 6.10, as appropriate, shall submit an annual report to the APCO within 30 days following the end of each 12 month period. The proposed flare is not a petroleum refinery flare and is not located at a major source. Therefore, the flare is not subject to the requirements of Sections 5.13, 5.14, 6.6, 6.7, 6.8, 6.9, and 6.10 and the requirements of this section are not applicable.

Section 6.3 specifies test methods to demonstrate compliance with Rule 4311. The proposed flare is not a ground level enclosed flare and is not subject the testing or monitoring requirements of this section; therefore, this section does not apply.

Section 6.4.1 requires the operator of flares that are subject to Section 5.6 to make available to the APCO upon request the compliance determination records that demonstrate compliance

with the provisions of 40 CFR 60.18, (c)(3) through (c)(5). The following condition will be included on the ATC to ensure compliance with the requirements of Section 6.4.1:

- Upon request, the operator of an open flare in which the flare gas pressure is less than 5 psig shall make available records that demonstrate compliance with the provisions of 40 CFR 60.18, (c)(3) through (c)(5). [District Rules 2201 and 4311]

Section 6.4.2 requires the operator of ground-level enclosed flares, or flares subject to the emission limits in Table 3 to conduct source testing at least once every 12 months to demonstrate compliance with Section 5.8. As discussed above, the proposed flare is not a ground level enclosed flare and is not subject to the emission limits in Table 3; therefore, this section does not apply.

Section 6.5 specifies requirements for operators of flares that are subject to the flare minimization plan (FMP) provisions of District Rule 4311. As discussed above, the proposed flare is not subject to flare minimization requirements pursuant to Section 5.8. Therefore, this section does not apply.

Sections 6.6, 6.7, 6.8, 6.9, and 6.10 require additional monitoring for petroleum refinery flares and any flare located at a major source. The proposed flare is not a petroleum refinery flare and is not located at a major source. Therefore, these sections do not apply.

Compliance with the requirements of this Rule 4311 is expected.

Rule 4801 Sulfur Compounds

The purpose of this District Rule 4801 is to limit the emissions of sulfur compounds. The limit is that sulfur compound emissions (as SO₂) shall not exceed 0.2% by volume. Using the ideal gas equation, the sulfur compound emissions are calculated as follows:

$$\text{Volume of SO}_x \text{ as (SO}_2\text{)} = (n \times R \times T) \div P$$

Where:

N = moles SO_x

T = standard temperature: 60 °F or 520 °R

R = universal gas constant: $\frac{10.73 \text{ psi} \cdot \text{ft}^3}{\text{lb} \cdot \text{mol} \cdot \text{°R}}$

N-9880-1-1:

Digester System and Backup/Emergency Flare

To demonstrate compliance with the sulfur compound emission limit of Rule 4801, the maximum sulfur compound emissions from the flare will be calculated using the maximum sulfur content allowed for the digester gas.

$$\frac{2.04 \text{ lb-SO}_x}{\text{MMBtu}} \times \frac{\text{MMBtu}}{9,100 \text{ scf-exhaust}} \times \frac{\text{lb-mol}}{64 \text{ lb-SO}_2} \times \frac{10.73 \text{ psi-ft}^3}{\text{lb-mol} \cdot \text{°R}} \times \frac{520 \text{ °R}}{14.7 \text{ psi}} \times 10^6 = 1,330 \text{ ppmv}$$

Since 1,330 ppmv is less than 2000 ppmv, the flare is expected to comply with Rule 4801.

Natural Gas-Fired RTO

To demonstrate compliance with the sulfur compound emission limit of Rule 4801, the maximum sulfur compound emissions from the RTO will be calculated using the maximum sulfur content allowed for the natural gas, which is 0.00285 lb-SO_x/MMBtu.

$$\frac{0.00285 \text{ lb}}{\text{MMBtu}} \times \frac{1 \text{ MMBtu}}{8,578 \text{ scf}} \times \frac{1 \text{ lb-mol}}{64 \text{ lb-SO}_2} \times \frac{10.73 \text{ psi-ft}^3}{\text{lb-mol-}^\circ\text{R}} \times \frac{520 \text{ }^\circ\text{R}}{14.7 \text{ psi}} \times 1,000,000 \text{ ppm} = 1.97 \text{ ppmv}$$

Since 1.97 ppmv is less than 2000 ppmv, the RTO is expected to comply with Rule 4801.

N-9880-1-1:

- The sulfur content of the digester gas combusted in the flare shall not exceed 7,000 ppmv as H₂S. The applicant may utilize an averaging period of up to 24 hours in length for demonstration of compliance with the fuel sulfur content limit. [District Rules 2201 and 4801]
- Only PUC quality natural gas shall be used in the RTO as supplemental fuel. [District Rules 2201 and 4801]

California Health & Safety Code 42301.6 (School Notice)

The District has verified that this site is not located within 1,000 feet of a school. Therefore, pursuant to California Health and Safety Code 42301.6, a school notice is not required.

California Environmental Quality Act (CEQA)

CEQA requires each public agency to adopt objectives, criteria, and specific procedures consistent with CEQA Statutes and the CEQA Guidelines for administering its responsibilities under CEQA, including the orderly evaluation of projects and preparation of environmental documents. The District adopted its *Environmental Review Guidelines* (ERG) in 2001. The basic purposes of CEQA are to:

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

Greenhouse Gas (GHG) Significance Determination

It is determined that another agency has prepared an environmental review document for the project. The District is a Responsible Agency for the project because of its discretionary approval power over the project via its Permits Rule (Rule 2010) and New Source Review Rule (Rule 2201), (CEQA Guidelines §15381). As a Responsible Agency, the District is limited to mitigating or avoiding impacts for which it has statutory authority.

The District does not have statutory authority for regulating greenhouse gas emissions. The District has determined that the applicant is responsible for implementing greenhouse gas mitigation measures, if any, imposed by the Lead Agency.

District CEQA Findings

The County of San Joaquin (County) is the public agency having principal responsibility for approving the project. As such, the County served as the Lead Agency (CCR §15367). In approving the project, the Lead Agency prepared and adopted a Mitigated Negative Declaration. The Lead agency filed a Notice of Determination, stating that the environmental document was adopted pursuant to the provisions of CEQA and concluding that the project would not have a significant effect on the environment.

The District is a Responsible Agency for the project because of its discretionary approval power over the project via its Permits Rule (Rule 2010) and New Source Review Rule (Rule 2201), (CCR §15381). As a Responsible Agency the District complies with CEQA by considering the environmental document prepared by the Lead Agency, and by reaching its own conclusion on whether and how to approve the project (CCR §15096). The District has considered the Lead Agency's environmental document. Furthermore, the District has conducted an engineering evaluation of the project, this document, which demonstrates that Stationary Source emissions from the project would be below the District's thresholds of significance for criteria pollutants. Thus, the District finds that through a combination of project design elements, compliance with applicable District rules and regulations, and compliance with District air permit conditions, project specific stationary source emissions will have a less than significant impact on air quality. The District does not have authority over any of the other project impacts and has, therefore, determined that no additional findings are required (CEQA Guidelines §15096(h)).

Indemnification Agreement/Letter of Credit Determination

According to District Policy APR 2010 (CEQA Implementation Policy), when the District is the Lead or Responsible Agency for CEQA purposes, an indemnification agreement and/or a letter of credit may be required. The decision to require an indemnity agreement and/or a letter of credit is based on a case-by-case analysis of a particular project's potential for litigation risk, which in turn may be based on a project's potential to generate public concern, its potential for significant impacts, and the project proponent's ability to pay for the costs of litigation without a letter of credit, among other factors.

The criteria pollutant emissions and toxic air contaminant emissions associated with the proposed project are not significant, and there is minimal potential for public concern for this particular type of facility/operation. Therefore, an Indemnification Agreement and/or a Letter of Credit will not be required for this project in the absence of expressed public concern.

IX. Recommendation

Compliance with all applicable rules and regulations is expected. Pending a successful NSR Public Noticing period, issue ATCs N-9880-1-1 subject to the permit conditions on the attached draft ATCs in Appendix A.

X. Billing Information

Annual Permit Fees			
Permit Number	Fee Schedule	Fee Description	Annual Fee
N-9880-1-1	3020-02-H	36.4 MMBtu/hr	\$1,238

Appendices

- A: Draft ATCs
- B: BACT Guideline
- C: BACT Analysis
- D: HRA and AAQA Summary
- E: Quarterly Net Emissions Change

APPENDIX A
Draft ATCs

*San Joaquin Valley
Air Pollution Control District*

AUTHORITY TO CONSTRUCT

ISSUANCE DATE: DRAFT
DRAFT

PERMIT NO: N-9880-1-1

LEGAL OWNER OR OPERATOR: MD DIGESTER LLC
MAILING ADDRESS: 1588 N BATAVIA ST STE 1C
ORANGE, CA 92867

LOCATION: 4900 E DODDS ROAD
OAKDALE, CA 95361

EQUIPMENT DESCRIPTION:

MODIFICATION OF: DIGESTER SYSTEM CONSISTING OF TWO COVERED DIGESTER LAGOONS, ONE LAGOON, ONE HYDROLYZER, ONE 37.468 MMBTU/HR DIGESTER GAS-FIRED BACKUP FLARE, PERMIT EXEMPT BOILERS (NATURAL GAS-FIRED, 5 MMBTU/HR OR LESS), AND A DIGESTER GAS UPGRADING OPERATION CONSISTING OF FEED GAS BLOWERS, COMPRESSORS, COOLERS, CHILLERS, IRON SPONGE H₂S REMOVAL, A MEMBRANE CO₂ REMOVAL SYSTEM, PRODUCT GAS COMPRESSORS, AND A 1.25 MMBTU/HR TRITON 4.95 NATURAL GAS-FIRED REGENERATIVE THERMAL OXIDIZER (RTO): DECREASE BACKUP FLARE HEAT INPUT RATING TO 34.4 MMBTU/HR, AND INCREASE HEAT INPUT RATING TO 2.0 MMBTU/HR. POST PROJECT DESCRIPTION TO READ: DIGESTER SYSTEM CONSISTING OF TWO COVERED DIGESTER LAGOONS, ONE LAGOON, ONE HYDROLYZER, ONE 34.4 MMBTU/HR DIGESTER GAS-FIRED BACKUP FLARE, PERMIT EXEMPT BOILERS (NATURAL GAS-FIRED, 5 MMBTU/HR OR LESS), AND A DIGESTER GAS UPGRADING OPERATION CONSISTING OF FEED GAS BLOWERS, COMPRESSORS, COOLERS, CHILLERS, H₂S SCRUBBER, A MEMBRANE CO₂ REMOVAL SYSTEM, PRODUCT GAS COMPRESSORS, AND A 2.0 MMBTU/HR TRITON 6.95 NATURAL GAS-FIRED REGENERATIVE THERMAL OXIDIZER (RTO)

CONDITIONS

1. {271} All equipment shall be maintained in good operating condition and shall be operated in a manner to minimize emissions of air contaminants into the atmosphere. [District Rule 2201]
2. {98} No air contaminant shall be released into the atmosphere which causes a public nuisance. [District Rule 4102]
3. {15} No air contaminant shall be discharged into the atmosphere for a period or periods aggregating more than three minutes in any one hour which is as dark as, or darker than, Ringelmann 1 or 20% opacity. [District Rule 4101]
4. {14} Particulate matter emissions shall not exceed 0.1 grains/dscf in concentration. [District Rule 4201]

CONDITIONS CONTINUE ON NEXT PAGE

YOU MUST NOTIFY THE DISTRICT COMPLIANCE DIVISION AT (209) 557-6400 WHEN CONSTRUCTION IS COMPLETED AND PRIOR TO OPERATING THE EQUIPMENT OR MODIFICATIONS AUTHORIZED BY THIS AUTHORITY TO CONSTRUCT. This is NOT a PERMIT TO OPERATE. Approval or denial of a PERMIT TO OPERATE will be made after an inspection to verify that the equipment has been constructed in accordance with the approved plans, specifications and conditions of this Authority to Construct, and to determine if the equipment can be operated in compliance with all Rules and Regulations of the San Joaquin Valley Unified Air Pollution Control District. Unless construction has commenced pursuant to Rule 2050, this Authority to Construct shall expire and application shall be cancelled two years from the date of issuance. The applicant is responsible for complying with all laws, ordinances and regulations of all other governmental agencies which may pertain to the above equipment.

Samir Sheikh, Executive Director / APCO

Brian Clements, Director of Permit Services

N-9880-1-1 : Jul 12 2022 9:45AM - ROBINSON : Joint Inspection NOT Required

Northern Regional Office • 4800 Enterprise Way • Modesto, CA 95356-8718 • (209) 557-6400 • Fax (209) 557-6475

5. The exhaust stacks of the flare and RTO shall vent vertically upward. The vertical exhaust flow shall not be impeded by a rain cap (flapper ok), roof overhang, or any other obstruction. [District Rule 4102]
6. The VOC content of the digester gas produced by the digester system shall not exceed 10% by weight. [District Rule 2201]
7. The flare shall be operated only for testing and maintenance, backup, and emergency purposes. [District Rule 2201]
8. The maximum amount of gas combusted by the flare shall not exceed 44.48 million standard cubic feet (MMscf) per year. [District Rules 2201, 4102, and 4311]
9. The flare shall be equipped with an operational, non-resettable, totalizing mass or volumetric flow meter or other District-approved alternative method to measure the quantity of digester gas flared. [District Rules 2201 and 4311]
10. Emissions rates from the combustion of digester gas in the flare shall not exceed any of the following limits: 0.06 lb-NO_x/MMBtu, 2.04 lb-SO_x/MMBtu, 0.025 lb-PM₁₀/MMBtu, 0.0793 lb-CO/MMBtu, or 0.006 lb-VOC/MMBtu. [District Rule 2201]
11. The sulfur content of the digester gas combusted in the flare shall not exceed 7,000 ppmv as H₂S. The applicant may utilize an averaging period of up to 24 hours in length for demonstration of compliance with the fuel sulfur content limit. [District Rules 2201 and 4801]
12. The sulfur content of the digester gas combusted in this flare shall be monitored and recorded at least once every calendar quarter in which a digester gas sulfur content analysis is not performed. If quarterly monitoring shows a violation of the sulfur content limit of this permit, monthly monitoring will be required until six consecutive months of monitoring show compliance with the sulfur content limit. Once compliance with the sulfur content limit is shown for six consecutive months, then the monitoring frequency may return to quarterly. Monitoring of the sulfur content of the digester gas flared shall not be required if the flare does not operate during that period. Records of the results of monitoring of the digester gas sulfur content shall be maintained. [District Rule 2201]
13. Monitoring of the digester gas sulfur content shall be performed using gas detection tubes calibrated for H₂S; a Testo 350 XL portable emission monitor; a continuous fuel gas monitor that meets the requirements specified in SCAQMD Rule 431.1, Attachment A; District-approved source test methods, including EPA Method 15, ASTM Method D1072, D4084, and D5504; District-approved in-line H₂S monitors; or an alternative method approved by the District. Prior to utilization of in-line monitors to demonstrate compliance with the digester gas sulfur content limit of this permit, the permittee shall submit details of the proposed monitoring system, including the make, model, and detection limits, to the District and obtain District approval for the proposed monitor(s). [District Rule 2201]
14. A flame shall be present at all times whenever combustible gases are vented through the flare. [District Rules 2201 and 4311]
15. The flare outlet shall be equipped with an automatic ignition system, or shall operate with a pilot flame present at all times when combustible gases are vented through the flare, except during purge periods for automatic-ignition equipped flares. [District Rules 2201 and 4311]
16. Unless the flare is equipped with a flow-sensing ignition system, the flare shall be equipped and operated with a heat sensing device such as a thermocouple, ultraviolet beam sensor, infrared sensor, or an equivalent device, capable of continuously detecting at least one pilot flame. [District Rules 2201 and 4311]
17. Flares that use flow-sensing automatic ignition systems and which do not use a continuous flame pilot shall use purge gas for purging. [District Rules 2201 and 4311]
18. Open flares (air-assisted, steam-assisted, or non-assisted) in which the flare gas pressure is less than 5 psig shall be operated in such a manner that meets the provisions of 40 CFR 60.18. [District Rules 2201 and 4311]
19. Upon request, the operator of an open flare in which the flare gas pressure is less than 5 psig shall make available records that demonstrate compliance with the provisions of 40 CFR 60.18, (c)(3) through (c)(5). [District Rules 2201 and 4311]
20. The sulfur content of the digester tail gas combusted in the RTO shall not exceed 4 ppmv (equivalent to 0.0016 lb-SO_x/MMBtu). [District Rule 2201 and 4801]
21. Only PUC quality natural gas shall be used in the RTO as supplemental fuel. [District Rules 2201 and 4801]

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CONDITIONS CONTINUE ON NEXT PAGE

22. The RTO shall be operated with a combustion chamber temperature of no less than 1600 degrees F and the retention time shall be no less than 0.5 seconds. [District Rule 2201]
23. The RTO shall be heated to the proper operating temperature prior to introducing the contaminated air stream. [District Rules 2201 and 4104]
24. Emissions from the RTO shall not exceed any of the following limits: 0.04 lb-NO_x/MMBtu, 0.00285 lb-SO_x/MMBtu, 0.0075 lb-PM₁₀/MMBtu, 0.0824 lb-CO/MMBtu, or 0.0054 lb-VOC/MMBtu. [District Rule 2201]
25. The RTO temperature shall be monitored and recorded utilizing a continuous monitoring and recording device. The monitoring and recording device shall be maintained in proper operating condition at all times. [District Rule 2201]
26. Permittee shall maintain annual records of the amount of gas combusted by the flare, in million standard cubic feet (MMscf). [District Rules 1070 and 2201]
27. All records shall be maintained and retained for a minimum of five (5) years, and shall be made available for District inspection upon request. Records may be maintained and submitted in an electronic format approved by the District. [District Rules 1070, 2201, and 4311]
28. {3658} This permit does not authorize the violation of any conditions established for this facility in the Conditional Use Permit (CUP), Special Use Permit (SUP), Site Approval, Site Plan Review (SPR), or other approval documents issued by a local, state, or federal agency. [Public Resources Code 21000-21177: California Environmental Quality Act]

DRAFT

APPENDIX B
BACT Guideline

San Joaquin Valley
Unified Air Pollution Control District

Best Available Control Technology (BACT) Guideline 5.8.12*

Last Update: 8/2/2018

Dairy Manure Digester with Backup/Emergency Flare

Pollutant	Achieved in Practice or contained in the SIP	Technologically Feasible	Alternate Basic Equipment
VOC	Open flare (98% control efficiency)	Ultra-low emissions (ULE) enclosed flare (99% control efficiency)	

BACT is the most stringent control technique for the emissions unit and class of source. Control techniques that are not achieved in practice or contained in a State Implementation Plan must be cost effective as well as feasible. Economic analysis to demonstrate cost effectiveness is required for all determinations that are not achieved in practice or contained in an EPA approved State Implementation Plan.

***This is a Summary Page for this Class of Source**

APPENDIX C
BACT Analysis

BACT Analysis for Dairy Manure Digester with Backup/Emergency Flare

Top-Down BACT Analysis for VOC Emissions

Step 1 - Identify all control technologies

The following options were identified to reduce VOC emissions:

- 1) Open flare (98% control efficiency) (Achieved in Practice)
- 2) Ultra-low emissions (ULE) enclosed flare (Technologically Feasible)

Step 2 - Eliminate technologically infeasible options

There are no technologically infeasible options to eliminate from step 1.

Step 3 - Rank remaining options by control effectiveness

- 1) Ultra-low emissions (ULE) enclosed flare (99% control efficiency) (Technologically Feasible)
- 2) Open flare (98% control efficiency) (Achieved in Practice)

Step 4 - Cost Effectiveness Analysis

Option 1: Ultra-low emissions (ULE) enclosed flare (99% control efficiency) (Technologically Feasible)

Emissions of VOC from the ULE (99% control) in comparison to an open flare (98% control) will be used to determine if this option is cost-effective.

Uncontrolled VOC emission rate is back calculated from the controlled emission factor and open flare control efficiency as shown below:

$$\text{Uncontrolled VOC emission rate} = (0.006 \text{ lb/MMBtu}) / (1 - 0.98) = 0.3 \text{ lb/MMBtu}$$

Controlled VOC emission rate of the ULE is calculated from the uncontrolled rate, above, and the required control efficiency as shown below:

$$\text{ULE VOC emission rate} = (0.3 \text{ lb/MMBtu}) \times (1 - 0.99) = 0.003 \text{ lb/MMBtu}$$

Reduction in VOC emission achieved by the ULE over the open flare is calculated as shown below:

$$\begin{aligned} \text{VOC reduction} &= [(0.006 - 0.003) \text{ lb/MMBtu}] \times 34.4 \text{ MMBtu/hr} \times 750 \text{ hrs/yr} \times (1 \\ &\quad \text{ton}/2,000 \text{ lb}) \\ &= 0.0387 \text{ tons-VOC/year} \end{aligned}$$

Cost

Several flare manufacturers were contacted for cost estimates in Project C-1162454, which was finalized in November 2018, which was for a similar operation, but with a

smaller flare (12.25 MMBtu/hr vs 34.4 MMBtu/hr). Cost information was also obtained for the development of Rule 4311 for a 16.5 MMBtu/hr flare. A summary of the cost estimates received are summarized below:

Emission Factors for Natural Gas-Fired RTO		
Flare Size	Installed Cost	Source
12 MMBtu/hr	\$240,000	Project C-11692454: Aereon Representative
13 MMBtu/hr	\$355,000	Project C-11692454: John Zink Representative
16.5 MMBtu/hr	\$361,858	District Rule 4311 Staff Report

Since these costs are for flares less than half the size of the proposed flare, these cost estimates are conservative estimates for this project. Therefore, the lowest cost listed above, \$240,000 will be used for this analysis, excluding any adjustment for inflation.

Pursuant to District Policy APR 1305, section F (6/1/21), the incremental capital cost for the purchase of the flare will be spread over the expected life of the flare using the capital recovery equation. The expected life of the flare will be estimated at 10 years. A 4% interest rate is assumed in the equation and the assumption will be made that the equipment has no salvage value at the end of the ten-year cycle.

$$A = [P \times i(1+i)^n] / [(1+i)^n - 1]$$

Where: A = Annual Cost
P = Present Value
I = Interest Rate (4%)
N = Equipment Life (10 years)
A = $[\$240,000 \times 0.04(1.04)^{10}] / [(1.04)^{10} - 1]$
= \$29,589/year

No operation costs are included at this time. If the technology is determined to not be cost effective based on the capital costs alone, then consideration of the operation costs will not be necessary, since such additional costs would only remove the technology even further from the cost effectiveness threshold.

Value of VOC Reduction

Per the version of APR 1305 that was in effect when this project was deemed complete, Section C (6/1/21) the cost effectiveness threshold for VOC reductions is \$22,600/ton. The value of the VOC reduction achieved with ULE instead of open flare is calculated below.

$$\begin{aligned} \text{Value of VOC Reduction} &= (0.0387 \text{ ton-VOC/year} \times \$22,600/\text{ton-VOC}) \\ &= \$874.62/\text{year} \end{aligned}$$

Cost Effectiveness of VOC Reduction

As shown above, the annualized capital cost of this alternate option (\$29,589/yr) exceeds the value of the VOC emission reductions (\$875/yr). Therefore, this option is not cost effective and is being removed from consideration.

Option 2: Open flare (98% control efficiency) (Achieved in Practice)

This has been identified as achieved in practice and has been proposed by the applicant. Therefore, the option required and is not subject to a cost analysis.

Step 5 - Select BACT

Pursuant to the above BACT Analysis, BACT for VOC emissions from the proposed flare is an open flare with a 98% control efficiency. The applicant has proposed an enclosed flare with a 98% control efficiency. Though the proposed flare is enclosed, rather than open as mentioned in the guideline, it has the manufacturers guaranteed to have a 98% or greater control efficiency in this application. The District's primary intention with BACT guidelines is reduction in emissions, regardless of method used to achieve said reduction. Therefore, the BACT requirements for VOC are satisfied.

APPENDIX D
HRA and AAQA Summary

San Joaquin Valley Air Pollution Control District Risk Management Review and Ambient Air Quality Analysis

REVISED

To: Matthew Robinson – Permit Services
 From: Keanu Morin – Technical Services
 Date: July 8, 2022
 Facility Name: MD Digester LLC
 Location: 4900 E. Dodds Road, Oakdale, CA
 Application #(s): N-9880-1-1
 Project #: N-1220044

1. Summary

1.1 RMR

Units	Prioritization Score	Acute Hazard Index	Chronic Hazard Index	Maximum Individual Cancer Risk	T-BACT Required	Special Permit Requirements
1-1 ¹	1.07	0.00	0.00	2.06E-08	No	Yes
Project Totals	1.07	0.00	0.00	2.06E-08		
Facility Totals	>1	0.08	0.03	1.73E-06		

Notes:

- The Maximum Individual Cancer Risk, Acute and Chronic Hazard Indices supercede the risk from Unit 1-0 since PE2 emissions from Unit 1-1 were included in this analysis.

1.2 AAQA

Pollutant	Air Quality Standard (State/Federal)				
	1 Hour	3 Hours	8 Hours	24 Hours	Annual
CO	Pass		Pass		
NO _x	Pass				Pass
SO _x	Pass ⁵	Pass		Pass	Pass
PM10				Pass ³	Pass ³
PM2.5				Pass ⁴	Pass ⁴

Notes:

- Results were taken from the attached AAQA Report.
- The criteria pollutants are below EPA's level of significance as found in 40 CFR Part 51.165 (b)(2) unless otherwise noted below.
- Modeled PM10 concentrations were below the District SIL for non-fugitive sources of 5 µg/m³ for the 24-hour average concentration and 1 µg/m³ for the annual concentration.
- Modeled PM2.5 concentrations were below the District SIL for non-fugitive sources of 1.2 µg/m³ for the 24-hour average concentration and 0.2 µg/m³ for the annual concentration.
- Pursuant to District Policy APR-1925, a Tier 2 analysis using the 3-year average of the annual 99th percentile of the 1-hour daily maximum concentrations to demonstrate compliance with the 1-hour SO_x standard.
-

To ensure that human health risks will not exceed District allowable levels; the following shall be included as requirements for:

Unit # 1-1

1. The exhaust stack shall vent vertically upward. The vertical exhaust flow shall not be impeded by a rain cap (flapper ok), roof overhang, or any other obstruction.

2. Project Description

Technical Services received a request on March 14, 2022 to perform a Risk Management Review (RMR) and Ambient Air Quality Analysis (AAQA) for the following:

- Unit -1-1: MODIFICATION OF: DIGESTER SYSTEM CONSISTING OF TWO COVERED DIGESTER LAGOONS, ONE LAGOON, ONE HYDROLYZER, ONE 37.468 MMBTU/HR DIGESTER GAS-FIRED BACKUP FLARE, PERMIT EXEMPT BOILERS (NATURAL GAS-FIRED, 5 MMBTU/HR OR LESS), AND A DIGESTER GAS UPGRADING OPERATION CONSISTING OF FEED GAS BLOWERS, COMPRESSORS, COOLERS, CHILLERS, IRON SPONGE H₂S REMOVAL, A MEMBRANE CO₂ REMOVAL SYSTEM, PRODUCT GAS COMPRESSORS, AND A 1.25 MMBTU/HR TRITON 4.95 NATURAL GAS-FIRED REGENERATIVE THERMAL OXIDIZER (RTO): DECREASE BACKUP FLARE HEAT INPUT RATING TO 33.3 MMBTU/HR, AND INCREASE HEAT INPUT RATING TO 2.0 MMBTU/HR. POST PROJECT DESCRIPTION TO READ: DIGESTER SYSTEM CONSISTING OF TWO COVERED DIGESTER LAGOONS, ONE LAGOON, ONE HYDROLYZER, ONE 33.3 MMBTU/HR DIGESTER GAS-FIRED BACKUP FLARE, PERMIT EXEMPT BOILERS (NATURAL GAS-FIRED, 5 MMBTU/HR OR LESS), AND A DIGESTER GAS UPGRADING OPERATION CONSISTING OF FEED GAS BLOWERS, COMPRESSORS, COOLERS, CHILLERS, IRON SPONGE H₂S REMOVAL, A MEMBRANE CO₂ REMOVAL SYSTEM, PRODUCT GAS COMPRESSORS, AND A 2.0 MMBTU/HR TRITON 6.95 NATURAL GAS-FIRED REGENERATIVE THERMAL OXIDIZER (RTO)

For the AAQA, the emissions from units 2-0 to 4-0 from project N-1204220 were included with this project since their ATCs have not yet been implemented. This is to insure that the revised project does not cause or contribute to an exceedance of any ambient air quality standard.

- Unit -2-0: 770 BHP 2G ENERGY MODEL AVUS 500PLUS NATURAL GAS-FIRED LEAN-BURN IC ENGINE WITH A SELECTIVE CATALYTIC REDUCTION (SCR) SYSTEM POWERING AN ELECTRICAL GENERATOR AND PROVIDING HEAT FOR THE DIGESTER SYSTEM
- Unit -3-0: 770 BHP 2G ENERGY MODEL AVUS 500PLUS NATURAL GAS-FIRED LEAN-BURN IC ENGINE WITH A SELECTIVE CATALYTIC REDUCTION (SCR) SYSTEM POWERING AN ELECTRICAL GENERATOR AND PROVIDING HEAT FOR THE DIGESTER SYSTEM
- Unit -4-0: 770 BHP 2G ENERGY MODEL AVUS 500PLUS NATURAL GAS-FIRED LEAN-BURN IC ENGINE WITH A SELECTIVE CATALYTIC REDUCTION (SCR) SYSTEM POWERING AN ELECTRICAL GENERATOR AND PROVIDING HEAT FOR THE DIGESTER SYSTEM

3. RMR Report

3.1 Analysis

The District performed an analysis pursuant to the District's Risk Management Policy for Permitting New and Modified Sources (APR 1905, May 28, 2015) to determine the possible cancer and non-cancer health impact to the nearest resident or worksite. This policy requires that an assessment be performed on a unit by unit basis, project basis, and on a facility-wide basis. If a preliminary prioritization analysis demonstrates that:

- A unit's prioritization score is less than the District's significance threshold and;
- The project's prioritization score is less than the District's significance threshold and;
- The facility's total prioritization score is less than the District's significance threshold

Then, generally no further analysis is required.

The District's significant prioritization score threshold is defined as being equal to or greater than 1.0. If a preliminary analysis demonstrates that either the unit(s) or the project's or the facility's total prioritization score is greater than the District threshold, a screening or a refined assessment is required

If a refined assessment is greater than one in a million but less than 20 in one million for carcinogenic impacts (Cancer Risk) and less than 1.0 for the Acute and Chronic hazard indices (Non-Carcinogenic) on a unit by unit basis, project basis and on a facility-wide basis the proposed application is considered less than significant. For unit's that exceed a cancer risk of 1 in one million, Toxic Best Available Control Technology (TBACT) must be implemented.

Toxic emissions for this project were calculated using the following methods:

- Toxic emissions for Unit 1 Flare were calculated using 2001 Ventura County's Air Pollution Control District's emission factors for Natural Gas Fired external combustion and based on the Dairy Biomethane characterization in Pipeline Quality Biomethane: North American Guidance Document for Introduction of Dairy Waste Derived Biomethane Into Existing Natural Gas Networks (2009).

These emissions were input into the San Joaquin Valley APCD's Hazard Assessment and Reporting Program (SHARP). In accordance with the District's Risk Management Policy, risks from the proposed unit's toxic emissions were prioritized using the procedure in the 2016 CAPCOA Facility Prioritization Guidelines. The prioritization score for this proposed facility was greater than 1.0 (see RMR Summary Table). Therefore, a refined health risk assessment was required.

The AERMOD model was used, with the parameters outlined below and meteorological data for 2013-2017 from Stockton (rural dispersion coefficient selected) to determine the dispersion factors (i.e., the predicted concentration or X divided by the normalized source strength or Q) for a receptor grid. These dispersion factors were input into the SHARP Program, which then used the Air Dispersion Modeling and Risk Tool (ADMRT) of the Hot Spots Analysis and Reporting Program Version 2 (HARP 2) to calculate the chronic and acute hazard indices and the carcinogenic risk for the project.

The following parameters were used for the review:

Source Process Rates					
Unit ID	Process ID	Process Material	Process Units	Hourly Process Rate	Annual Process Rate
1-1	1	Bioqas (Flare)	MMscf.	0.057	44.50
1-1	2	Bioqas (RTO)	MMscf.	0.022	196.05

Point Source Parameters						
Unit ID	Unit Description	Release Height (m)	Temp. (°K)	Exit Velocity (m/sec)	Stack Diameter (m)	Vertical/Horizontal/Capped
1-1	Flare	4.94	811	11.89	1.46	Vertical
1-1	RTO	9.144	533	16.51	0.508	Vertical

4. AAQA Report

The District modeled the impact of the proposed project on the National Ambient Air Quality Standard (NAAQS) and/or California Ambient Air Quality Standard (CAAQS) in accordance with District Policy APR-1925 (Policy for District Rule 2201 AAQA Modeling) and EPA's Guideline for Air Quality Modeling (Appendix W of 40 CFR Part 51). The District uses a progressive three level approach to perform AAQAs. The first level (Level 1) uses a very conservative approach. If this analysis indicates a likely exceedance of an AAQS or Significant Impact Level (SIL), the analysis proceeds to the second level (Level 2) which implements a more refined approach. For the 1-hour NO₂ standard, there is also a third level that can be implemented if the Level 2 analysis indicates a likely exceedance of an AAQS or SIL.

The modeling analyses predicts the maximum air quality impacts using the appropriate emissions for each standard's averaging period. Required model inputs for a refined AAQA include background ambient air quality data, land characteristics, meteorological inputs, a receptor grid, and source parameters including emissions. These inputs are described in the sections that follow.

Ambient air concentrations of criteria pollutants are recorded at monitoring stations throughout the San Joaquin Valley. Monitoring stations may not measure all necessary pollutants, so background data may need to be collected from multiple sources. The following stations were used for this evaluation:

Monitoring Stations				
Pollutant	Station Name	County	City	Measurement Year
CO	Modesto-14th Street	Stanislaus	Modesto	2018
NOx	Turlock	Stanislaus	Turlock	2018
PM10	Modesto-14th Street	Stanislaus	Modesto	2018
PM2.5	Modesto-14th Street	Stanislaus	Modesto	2018
SOx	Fresno - Garland	Fresno	Fresno	2018

Technical Services performed modeling for directly emitted criteria pollutants with the emission rates below:

Emission Rates (lbs/hour)						
Unit ID	Process	NOx	SOx	CO	PM10	PM2.5
1-1	1	2.06	70.18	2.73	0.86	0.86
1-1	2	0.08	0.01	0.16	0.02	0.02
2-0	1	0.12	0.02	1.00	0.02	0.02
3-0	1	0.12	0.02	1.00	0.02	0.02
4-0	1	0.12	0.02	1.00	0.02	0.02

Emission Rates (lbs/year)						
Unit ID	Process	NOx	SOx	CO	PM10	PM2.5
1-1	1	1,547	52,631	2,047	644	644
1-1	2	701	50	1,444	131	131
2-0	1	1,041	149	8,922	149	149
3-0	1	1,041	149	8,922	149	149
4-0	1	1,041	149	8,922	149	149

The AERMOD model was used to determine if emissions from the project would cause or contribute to an exceedance of any state or federal air quality standard. The parameters outlined below and meteorological data for 2013-2017 from Stockton (rural dispersion coefficient selected) were used for the analysis:

The following parameters were used for the review:

Point Source Parameters						
Unit ID	Unit Description	Release Height (m)	Temp. (°K)	Exit Velocity (m/sec)	Stack Diameter (m)	Vertical/Horizontal/Capped
1-1	Flare	4.94	811	11.89	1.46	Vertical
1-1	RTO	9.144	533	16.51	0.508	Vertical
2-0	770 BHP NG ICE	10.06	735	16.24	0.27	Vertical
3-0	770 BHP NG ICE	10.06	735	16.24	0.27	Vertical
4-0	770 BHP NG ICE	10.06	735	16.24	0.27	Vertical

5. Conclusion

5.1 RMR

The cumulative acute and chronic indices for this facility, including this project, are below 1.0; and the cumulative cancer risk for this facility, including this project, is less than 20 in a million. In addition, the cancer risk for each unit in this project is less than 1.0 in a million. **In accordance with the District's Risk Management Policy, the project is approved without Toxic Best Available Control Technology (T-BACT).**

To ensure that human health risks will not exceed District allowable levels; the permit requirements listed on page 1 of this report must be included for this proposed unit.

These conclusions are based on the data provided by the applicant and the project engineer. Therefore, this analysis is valid only as long as the proposed data and parameters do not change.

5.2 AAQA

The emissions from the proposed equipment will not cause or contribute significantly to a violation of the State and National AAQS.

6. Attachments

- A. Modeling request from the project engineer
- B. Additional information from the applicant/project engineer
- C. Prioritization score w/ toxic emissions summary
- D. Facility Summary
- E. AAQA results

APPENDIX E

Quarterly Net Emissions Change (QNEC)

Quarterly Net Emissions Change (QNEC)

The Quarterly Net Emissions Change is used to complete the emission profile screen for the District's PAS database. The QNEC shall be calculated as follows:

QNEC = PE2 - PE1, where:

QNEC = Quarterly Net Emissions Change for each emissions unit, lb/qtr.

PE2 = Post-Project Potential to Emit for each emissions unit, lb/qtr.

PE1 = Pre-Project Potential to Emit for each emissions unit, lb/qtr.

Using the values in Sections VII.C.2 and VII.C.1 in the evaluation above, quarterly PE2 and quarterly PE1 can be calculated as follows:

$PE2_{quarterly} = PE2_{annual} \div 4 \text{ quarters/year}$

$PE1_{quarterly} = PE1_{annual} \div 4 \text{ quarters/year}$

Quarterly NEC [QNEC] for N-9880-1-1			
Pollutant	PE2 (lb/yr)	PE1 (lb/yr)	QNEC (lb/qtr)
NO _x	2,249	0	562.25
SO _x	52,682	0	13,170.5
PM ₁₀	776	0	194
CO	3,490	0	872.5
VOC	250	0	62.5