DRAFT INITIAL STUDY AND
MITIGATED NEGATIVE DECLARATION

WATER SYSTEM IMPROVEMENT AND TREATMENT PROJECT

WASCO, CALIFORNIA

JANUARY 2023

DRAFT INITIAL STUDY AND MITIGATED NEGATIVE DECLARATION

WATER SYSTEM IMPROVEMENT AND TREATMENT PROJECT

Consultant:

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January 2023

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Project #220205

NOTICE OF PUBLIC HEARING AND INTENT TO ADOPT A MITIGATED NEGATIVE DECLARATION

This is to advise that the City of Wasco Community Development Planning Division has prepared a Mitigated Negative Declaration for the Project identified below that is scheduled to be heard at the City of Wasco City Council Meeting on Tuesday, **March 21, 2023**

PLEASE BE ADVISED that the City of Wasco will consider adopting the Mitigated Negative Declaration at the City Council meeting to be held on March 21, 2023. Presentations will be made at approximately 5:15 p.m. Action on items on the City Council agenda will occur after the presentations. The meeting will be held in the Wasco City Hall located at 746 8th Street, in Wasco, CA 93280.

Project Name

Water System Improvement and Treatment Project

Project Location

Various sites within Wasco city limits – see Figure 1-2.

Project Description

The Water System Improvement and Treatment Project (Project) includes drilling four new municipal water wells to replace existing water supply wells that exceed the State of California maximum contaminant level (MCL) threshold for 1,2,3-trichloropropane (1,2,3-TCP) of 0.005-micrograms per liter (mg/L), and occasionally the threshold for nitrates of 10 mg/L for nitrate as nitrogen (N).

In addition, the City will install a new Granular Activated Carbon (GAC) treatment system at the existing Well No. 12 facility to remove 1,2,3-TCP; rehabilitate the existing City Well No. 2; construct two 1.0 million gallon welded steel storage tanks and booster pump stations; and install an AMI system for remote read metering. All work will be done within the city limits of the City of Wasco. This work will involve drilling, constructing, and developing four new water supply wells and equipping each of those replacement wells with a pump, motor, discharge piping, electrical and controls, and site development. The work to install the GAC system at Well No. 12 will include furnishing and installing treatment vessels, piping, and electrical and controls. The four existing well sites that are being replaced will be abandoned of all pump equipment, piping, electrical, and appurtenances. The wells will be abandoned by filling with concrete and performing all work in accordance with the County of Kern and the applicable State requirements. The property being used for new Well No. 17 will also be re-zoned from R-1-6 Low Density Residential (6,000 sq. ft. lot) to P-F (Public Facilities).

The document and documents referenced in the Initial Study/Mitigated Negative Declaration are available for review at Wasco City Hall located at 746 8th Street, Wasco, CA 93280.

As mandated by the California Environmental Quality Act (CEQA), the public review period for this document was 30 days (CEQA Section 15073[b]). The public review period began on Thursday January 26, 2023, and ended on February 27, 2023. For further information, please contact Jaymie Brauer at (661) 616-2600 or jaymie.brauer@qkinc.com.

Notice of Completion & Environmental Document Transmittal

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

SCH #

Project Title: Wasco Water System Improvement Project

Lead Agency: City of Wasco | Contact Person: Maria Lara
Mailing Address: 746 8th Street | Phone: (661) 758-7250
City: Wasco | Zip: 93280 | County: Kern

Project Location: County: Kern | City/Nearest Community: Wasco
Cross Streets: multiple sites- see attached table | Zip Code: 93280
Longitude/Latitude (degrees, minutes and seconds): ____° ____′ ____″ N / ____° ____′ ____″ W Total Acres: ____
Assessor's Parcel No.: multiple parcels (see Table 1 attached) | Section: multiple | Twp.: ____ | Range: ____ | Base: ____
Within 2 Miles: State Hwy #: 43, 46 | Waterways: NA
Airports: Wasco-Kern County Airport | Railways: Wasco Station | Schools: Wasco High School, John L. Prueitt Elementary School, K

Document Type:

CEQA: ☐ NOP ☐ Early Cons ☐ Neg Dec ☒ Mit Neg Dec ☐ Draft EIR ☐ Supplement/Subsequent EIR (Prior SCH No.) ____ Other: ____
NEPA: ☐ NOI ☐ EA ☐ Draft EIS ☐ FONSI
Other: ☐ Joint Document ☐ Final Document ☐ Other: ____

Local Action Type:

☐ General Plan Update ☐ General Plan Amendment ☐ General Plan Element ☐ Community Plan
☐ Specific Plan ☐ Master Plan ☐ Planned Unit Development ☐ Site Plan
☒ Rezone ☐ Prezone ☐ Use Permit ☐ Land Division (Subdivision, etc.)
☐ Annexation ☐ Redevelopment ☐ Coastal Permit ☒ Other: Development Project

Development Type:

☐ Residential: Units ____ Acres ____
☐ Office: Sq.ft. ____ Acres ____ Employees____
☐ Commercial: Sq.ft. ____ Acres ____ Employees____
☐ Industrial: Sq.ft. ____ Acres ____ Employees____
☐ Educational: ____
☐ Recreational: ____
☒ Water Facilities: Type Public Water System MGD Four new wells
☐ Transportation: Type ____
☐ Mining: Mineral ____
☐ Power: Type ____ MW ____
☐ Waste Treatment: Type ____ MGD ____
☐ Hazardous Waste: Type ____
☒ Other: Improvements to existing public water well system.

Project Issues Discussed in Document:

☒ Aesthetic/Visual ☒ Agricultural Land ☒ Air Quality ☒ Archeological/Historical ☒ Biological Resources ☐ Coastal Zone ☒ Drainage/Absorption ☐ Economic/Jobs
☐ Fiscal ☒ Flood Plain/Flooding ☒ Forest Land/Fire Hazard ☒ Geologic/Seismic ☒ Minerals ☒ Noise ☒ Population/Housing Balance ☒ Public Services/Facilities
☒ Recreation/Parks ☐ Schools/Universities ☒ Septic Systems ☒ Sewer Capacity ☒ Soil Erosion/Compaction/Grading ☒ Solid Waste ☒ Toxic/Hazardous ☒ Traffic/Circulation
☒ Vegetation ☒ Water Quality ☒ Water Supply/Groundwater ☒ Wetland/Riparian ☒ Growth Inducement ☒ Land Use ☐ Cumulative Effects ☐ Other: ____

Present Land Use/Zoning/General Plan Designation:

See Attached

Project Description: *(please use a separate page if necessary)*

The Water System Improvement and Treatment Project (Project) includes drilling four new municipal water wells to replace existing water supply wells that exceed the California maximum contaminant level threshold for 1,2,3-trichloropropane (1,2,3-TCP) of 0.005-micrograms per liter (mg/L), and occasionally the threshold for nitrates of 10 mg/L for nitrate as nitrogen (N). The property being used for new Well No. 17 will also be re-zoned from R-1-6 Low Density Residential (6,000 sq. ft. lot) to P-F (Public Facilities).

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

Reviewing Agencies Checklist

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

_____	Air Resources Board	_____	Office of Historic Preservation
_____	Boating & Waterways, Department of	_____	Office of Public School Construction
_____	California Emergency Management Agency	_____	Parks & Recreation, Department of
_____	California Highway Patrol	_____	Pesticide Regulation, Department of
_____	Caltrans District # _____	_____	Public Utilities Commission
_____	Caltrans Division of Aeronautics	X	Regional WQCB # 5f
_____	Caltrans Planning	_____	Resources Agency
_____	Central Valley Flood Protection Board	_____	Resources Recycling and Recovery, Department of
_____	Coachella Valley Mtns. Conservancy	_____	S.F. Bay Conservation & Development Comm.
_____	Coastal Commission	_____	San Gabriel & Lower L.A. Rivers & Mtns. Conservancy
_____	Colorado River Board	_____	San Joaquin River Conservancy
_____	Conservation, Department of	_____	Santa Monica Mtns. Conservancy
_____	Corrections, Department of	_____	State Lands Commission
_____	Delta Protection Commission	_____	SWRCB: Clean Water Grants
_____	Education, Department of	X	SWRCB: Water Quality
_____	Energy Commission	_____	SWRCB: Water Rights
X	Fish & Game Region # 4	_____	Tahoe Regional Planning Agency
_____	Food & Agriculture, Department of	X	Toxic Substances Control, Department of
_____	Forestry and Fire Protection, Department of	X	Water Resources, Department of
_____	General Services, Department of		
_____	Health Services, Department of	X	Other: • San Joaquin Valley Air Pollution Control District
_____	Housing & Community Development	x	Other: SWRCB - Drinking Water
X	Native American Heritage Commission		

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

Starting Date January 26, 2023 Ending Date February 27, 2023

Lead Agency (Complete if applicable):

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

Signature of Lead Agency Representative: Maria Lara **Date:** 1/26/2023

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

Table 1
Project Components

Well	Component Locations	Proposed Components	Site (acres)
No. 15	Northwest corner of J Street and 9th Street in Section 7, T27S, R25E, M.D.B.&M	New well	Approximately one acre
No. 16	Poso Drive and Martin Street in Section 14, T27S, R24E, M.D.B.&M	New well and tank	Approximately two-acres
No. 17	Central Avenue and Filburn Avenue in Section 14, T27S, R24E, M.D.B.&M	New well and tank	Approximately one-acre
No. 18	Northwest corner of Central Avenue and Margalo Street in Section 2, T27S, R24E, M.D.B.&M	New well	Approximately two-acres
No. 12	South side of McCombs Road in Section 1, T27S, R24E, M.D.B.&M	Treatment to remove 1,2,3-TCP from the raw water	Approximately 20,000 square feet at existing well site
No. 2	North side of Highway 46 and west of Leonard Avenue in Section 4, T27S, R24E, M.D.B.&M	Rehabilitate existing well	Approximately 1 acre to the existing well site
Near No. 13	Booth property located south of Poso Drive and east of Wasco Avenue in Section 18, T27S, R25E, M.D.B.&M.	Construct storage tank and booster pumping station	Approximately two-acres
	City-wide	Advanced Metering Infrastructure (AMI) system – includes installation of a meter interface unit at each service meter and the wireless transmission	
	City-wide	Modify and update the existing City SCADA system to include above components.	
No. 7, 8, 10, 11		Abandoned in accordance with Kern County and applicable State standards.	Well No. 7 – 0.15 acres Well No. 8 – 0.15 acres Well No. 10 – 0.20 acres Well No. 11 – 0.10 acres

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LIST OF ACRONYMS AND ABBREVIATIONS

ALCUP	Airport Land Use Compatibility Plan
AMI	Advanced Metering Infrastructure
APN	Assessor's Parcel Number
AWWA	American Water Works Association
BMPs	Best Management Practices
BSA	biological survey area
CalGEM	Geologic Energy Management Division
CARB	California Air Resources Board
CDFG	California Department of Fish and Game
CEQA	California Environmental Quality Act
CH&SC	California Health & Safety Code
CNDDB	California Natural Diversity Database
CNPS	California Native Plant Society
CRWQCB	California Regional Water Quality Control Board
CWA	Clean Water Act
DWR	Department of Water Resources
EOP	Emergency Operations Plan
EOP	Emergency Operations Plan
EPA	Environmental Protection Agency
FEIR	Final Environmental Impact Report
FEMA	Federal Emergency Management Agency
FHWA	Federal Highway Administration
FMMP	Farmland Mapping and Monitoring Program
FTA	Federal Transit Administration
GAC	Granular Activated Carbon
gpm	gallons per minute
GSA	Groundwater Sustainability Agency
GSP	Groundwater Sustainability Plan
HARP2	Hotspot Analysis and Reporting Program
HI	hazard index
hp	horsepower
IpaC	Information for Planning and Consultation
IS	Initial Study
KGSP	Kern Groundwater Sustainability Plan
LRA	Local Responsibility Area
MBTA	Migratory Bird Treaty Act
MCL	maximum contaminant level
mg	milligram
MJHMP	Multi-Jurisdictional Hazard Mitigation Plan
MMRP	Mitigation Monitoring and Reporting Program
MND	Mitigated Negative Declaration
mph	miles per hour
MRZs	Mineral Resource Zones

NAAQS	National Ambient Air Quality Standards
NAHC	Native American Heritage Commission
NHD	National Hydrography Database
NPDES	National Pollutant Discharge Elimination System
NSR	new source review
NWI	National Wetlands Inventory
PG&E	Pacific Gas and Electric Company
PLC	Programmable Logic Controller
PLC	Programmable Logic Controller
PPV	peak particle velocity
PRC	Public Resources Code
PSD	Prevention of Significant Deterioration
PVC	Polyvinyl Chloride
RCP	Reinforced Concrete Pipe
SCADA	Supervisory Control and Data Acquisition
SGMA	Sustainable Groundwater Management Act
SIL	significant impact levels
SJKF	San Joaquin kit fox
SJVAB	San Joaquin Valley Air Basin
SJVAPCD	San Joaquin Valley Air Pollution Control District
SPAL	Small Project Analysis Level
SPAL	Small Project Analysis Level
SR	State Route
SWPPP	Stormwater Pollution Prevention Plan
TACs	toxic air contaminants
TCP	trichloropropane
USACE	United States Army Corps of Engineers
USFWS	United States Fish and Wildlife Service
VMT	vehicle miles traveled
WEAT	Worker Environmental Awareness Training
µg/L	micrograms per liter

MITIGATED NEGATIVE DECLARATION

As Lead Agency under the California Environmental Quality Act (CEQA), the City of Wasco Community Development Planning Division has reviewed the Project described below to determine whether it could have a significant effect on the environment because of its development. In accordance with CEQA Guidelines Section 15382, "[s]ignificant effect on the environment" means a substantial, or potentially substantial, adverse change in any of the physical conditions within the area affected by the Project, including land, air, water, minerals, flora, fauna, ambient noise, and objects of historic or aesthetic significance.

Project Name

Water System Improvement and Treatment Project

Project Location

Various sites within Wasco city limits – see Figure 1-2.

Project Description

The Water System Improvement and Treatment Project (Project) includes drilling four new municipal water wells to replace existing water supply wells that exceed the State of California maximum contaminant level (MCL) threshold for 1,2,3-trichloropropane (1,2,3-TCP) of 0.005-micrograms per liter (mg/L), and occasionally the threshold for nitrates of 10 mg/L for nitrate as nitrogen (N).

The four existing well sites that are being replaced will be abandoned of all pump equipment, piping, electrical, and appurtenances. The wells will be abandoned by filling with concrete and performing all work in accordance with the County of Kern and the applicable State requirements. See Table 1 for the location and description of each proposed Project component.

Project Components

NEW PRODUCTION WELLS

Well No. 15

Construction of Well No. 15 includes the following:

- A test well will initially be constructed to an approximate depth of 900 feet in order to evaluate water quality in the underlying aquifer.
- A production well is planned to be drilled to an approximate depth of 1,300 feet and will be equipped with a vertical turbine pump and vertical hollow shaft electric motor and variable speed drive. The site will be fenced with a six-foot-tall masonry block wall with a chain-link drive and personnel gates.

- The well site will be surfaced with ¾ inches of Class II aggregate base, with the limits being the block wall and fencing and also three inches of asphalt paving along driveway corridors from the access gates to the well, chlorine building, generator, and electrical building. The well site will include an electrical meter main, motor control center, and Programmable Logic Controller (PLC) and will be installed on a concrete foundation inside a climate-controlled masonry block building. The well facility will also include a pad-mount emergency backup diesel generator.
- The well discharge piping will be a 10-inch-diameter steel piping with valves, flow meter, appurtenances, and a 3,000-gallon hydropneumatic pressure vessel. An 11-foot by 11-foot concrete foundation will be constructed for a 12.5 percent sodium hypochlorite storage tank and chemical feed pump.
- The chlorine tank and injection pump will be enclosed in a steel structure for shade and security.
- The well discharge piping will transition below ground and to 12-inch C900 PVC pipe prior to leaving the site. The 12-inch C900 Polyvinyl Chloride (PVC) piping will cross 9th Street and be installed east along 9th Street to the point of connection with the existing City distribution system. The approximate length of the off-site 12-inch water main is 225 feet. Site rainwater will drain to an on-site drainage system that terminates in an approximate 550,000-gallon retention basin.
- The site drainage system will also be connected to the City drainage system by installing an 18-inch Reinforced Concrete Pipe (RCP) storm drain line west along 9th Street to the point of connection to the existing City storm drain system in H Street. The approximate length of the off-site 18-inch storm drain line is 700 feet.

Well No. 16

Construction of Well No. 16 includes the following:

- A test well will initially be constructed to an approximate depth of 900 feet in order to evaluate water quality in the underlying aquifer.
- A production well is planned to be drilled to an approximate depth of 1,300 feet and will be equipped with a vertical turbine pump and vertical hollow shaft electric motor and variable speed drive.
- The site will be fenced with a six-foot-tall masonry block wall with a chain-link drive and personnel gates.
- Off-site improvements will be made along Poso Drive, Martin Street, and Garden Street adjacent to the well site to install curb and gutter, sidewalk, drive approaches, and asphalt pavement.
- The well site will be graded to drain to an on-site retention basin.
- The well site will be surfaced with ¾ inches of Class II aggregate base, with the limits being the block wall and fencing and also three inches of asphalt paving along driveway corridors from the access gates to the well, chlorine building, generator, and electrical building.

- The well site will include an electrical meter main, motor control center, and PLC and will be installed on a concrete foundation inside a climate-controlled masonry block building.
- The well facility will also include a pad-mount emergency backup diesel generator.
- The well discharge piping will be 10-inch-diameter steel piping with valves, flow meter, and appurtenances, and will discharge into a 1 million gallon storage tank.
- An 11-foot by 11-foot concrete foundation will be constructed for a 12.5 percent sodium hypochlorite storage tank and chemical feed pump to disinfect the raw water prior to storing it in the tank. The chlorine tank and injection pump will be enclosed in a steel structure for shade and security. The 1.0 MG storage tank will be constructed in accordance with American Water Works Association (AWWA) D100 standards, be approximately 80 feet in diameter by 28 feet tall, and will be painted a neutral color to blend in with the surrounding area. The water from the storage tank will be conveyed to the City distribution system with a booster pump station.
- The booster pump station will consist of three horizontal centrifugal booster pumps, each rated for 500 gallons per minute (gpm) and 40 horsepower (hp) with variable speed drives, steel piping, valves, a flow meter, appurtenances, and a 3,000 gallon hydropneumatic tank.
- The booster pump discharge piping will transition below ground to 12-inch C900 PVC pipe prior to leaving the site. The 12-inch C900 PVC piping will connect to the existing City distribution system in Poso Drive. The approximate length of the off-site 12-inch water main is 125 feet.
- Site rainwater will drain to an on-site drainage system that terminates in an approximate 270,000-gallon retention basin. The site drainage system will also be connected to the City drainage system by installing an 18-inch RCP storm drain line to connect to the existing City storm drain system in Poso Drive. The approximate length of the off-site 18-inch storm drain line is 50 feet.

Well No. 17

Construction of Well No. 17 includes the following:

- The well site will be graded to drain to an on-site retention basin.
- A test well will initially be constructed to an approximate depth of 900 feet in order to evaluate water quality in the underlying aquifer.
- A production well is planned to be drilled to an approximate depth of 1,300 feet and will be equipped with a vertical turbine pump and vertical hollow shaft electric motor and variable speed drive.
- The site will be fenced with a 6-foot-tall masonry block wall with a chain-link drive and personnel gates. The well site will be surfaced with ¾ inches of Class II aggregate base, with the limits being the block wall and fencing and also three inches of asphalt paving along driveway corridors from the access gates to the well, chlorine building, generator, and electrical building.

- The well site will include an electrical meter main, motor control center, and PLC and will be installed on a concrete foundation inside a climate-controlled masonry block building.
- The well facility will also include a pad-mount emergency backup diesel generator. The well discharge piping will be 10-inch-diameter steel piping with valves, a flow meter, appurtenances, and a 3,000-gallon hydropneumatic pressure vessel.
- An 11-foot by 11-foot concrete foundation will be constructed for a 12.5 percent sodium hypochlorite storage tank and chemical feed pump. The chlorine tank and injection pump will be enclosed in a steel structure for shade and security.
- The well discharge piping will transition below ground and to 12-inch C900 PVC pipe prior to leaving the site. The 12-inch C900 PVC piping will connect to the existing City distribution system on Filburn Street. The approximate length of the off-site 12-inch water main is 195 feet.
- The site drainage system will be connected to the City drainage system by installing approximately 555 feet of 18-inch RCP storm drain line on-site to connect to the existing City storm drain system that underlies the well site property.
- The property will be re-zoned from R-1-6 Low Density Residential (6,000 sq. ft. lot) to P-F (Public Facilities).

Well No. 18

Construction of Well No. 18 includes the following:

- The well site will be graded to drain to an on-site retention basin.
- A test well will initially be constructed to an approximate depth of 900 feet in order to evaluate water quality in the underlying aquifer.
- A production well is planned to be drilled to an approximate depth of 1,300 feet and will be equipped with a vertical turbine pump and vertical hollow shaft electric motor and variable speed drive.
- The site will be fenced with a six-foot-tall masonry block wall with chain-link drive and personnel gates. The well site will be surfaced with ¾ inches of Class II aggregate base, with the limits being the block wall and fencing and also three inches of asphalt paving along driveway corridors from the access gates to the well, chlorine building, generator, and electrical building.
- The well site will include an electrical meter main, motor control center, and PLC and will be installed on a concrete foundation inside a climate-controlled masonry block building.
- The well facility will also include a pad-mount emergency backup diesel generator.
- The well discharge piping will be 10-inch-diameter steel piping with valves, a flow meter, appurtenances, and a 3,000-gallon hydropneumatic pressure vessel. An 11-foot by 11-foot concrete foundation will be constructed for a 12.5 percent sodium hypochlorite storage tank and chemical feed pump. The chlorine tank and injection pump will be enclosed in a steel structure for shade and security.
- The well discharge piping will transition below ground and to 12-inch C900 PVC pipe prior to leaving the site. The 12-inch C900 PVC piping will connect to the existing City

distribution system on Central Avenue and Margalo Street. The approximate length of the off-site 12-inch water main is 250 feet.

- The site drainage system will be connected to the City drainage system by installing an 18-inch RCP storm drain line to connect to the existing City storm drain system on Central Avenue and Margalo Street. The approximate length of the off-site 18-inch storm drain line is 1,500 feet.

The production well drilling phase will involve the drilling of four municipal water wells and is anticipated to involve approximately 12 months. Each production well will involve approximately 60 working days to construct, with the well drilling activity taking place 24 hours per day, seven days per week for approximately 30 of those working days. It is anticipated that the following pieces of equipment would be used during construction activities:

- Well Drilling Rig
- Mud Pits
- Backhoe
- Loader
- Forklift

TEST WELLS

The Project includes the drilling of four new test water wells and is anticipated to involve approximately nine months. Each test well will take approximately 35 working days to construct, with drilling activities taking place between the hours of 6:30 a.m. to 4:30 p.m., Monday thru Friday. It is anticipated that the following pieces of equipment would be used during construction activities:

- Test Well Drilling Rig
- Backhoe
- Loader

The well equipping and site development phase will involve the equipping of four municipal water wells and is anticipated to involve approximately 24 months. However, equipment will not run continually or on a daily basis throughout this entire construction period. It is anticipated that the following heavy pieces of equipment would be used for approximately 200 working days during construction activities:

- Excavator
- Loader
- Backhoe
- Crane
- Concrete Trucks
- Roller

- Generator
- Air Compressor
- Small Tools
- Service Truck

UPGRADES TO EXISTING WELLS

Well No. 12

The existing City Well No. 12 has 1,2,3-TCP levels that exceed the State's MCL. The City will install a GAC treatment to remove 1,2,3-TCP from the raw water.

- The work will involve subgrade preparation and site earthwork, the construction of a reinforced concrete foundation for the treatment vessels, modifications to the existing well discharge piping, and installation of influent, effluent, and backwash steel piping, valves, flowmeters, and appurtenances.
- Four 10-foot-diameter by 22-foot tall GAC vessels will be installed on a concrete foundation. Each vessel will be filled with approximately 21,000 lbs of carbon for the removal of 1,2,3-TCP.
- Exhausted media will be transported off-site and regenerated at an approved facility.
- A blow-down pipeline will be installed for flushing the well and backwashing when necessary. The blow-down pipeline is a 12-inch C900 PVC pipeline to be installed east along McCombs Avenue and south along Annin Avenue to an existing City retention basin.
- A 35-foot-long cased crossing, 24-inch-diameter steel casing pipe, will be installed for the blow-down line across Annin Avenue. The approximate length of the off-site blow-down pipeline is 3,500 feet.
- In addition, the treatment site will include an 8-feet by 14-feet wood building for a nitrate analyzer, an 11-foot by 13-foot concrete foundation and chain-link enclosure for a chlorine storage tank and chemical feed pump, electrical and control modifications, and ¾ inches of Class II aggregate base well site ground cover.

The installation of the Well No. 12 treatment system is anticipated to involve approximately 11 months. It is anticipated that the following pieces of equipment would be used during approximately 80 working days of construction activities:

- Excavator
- Loader
- Backhoe
- Crane
- Concrete Trucks
- Boring Machine
- Roller
- Generator

- Air Compressor
- Small Tools
- Service Truck

Well No. 2

This well has been out of service and inoperable for several years. The City intends to rehabilitate this well and utilize it for potable water service. The work includes replacing the vertical turbine pump, vertical hollow shaft electric motor, well discharge piping, hydropneumatic tank, electrical, and controls.

- The well site will be re-graded and a six-foot-tall masonry block wall with chain-link drive and personnel gates will be installed.
- The well site will be surfaced with ¾ inches of Class II aggregate base, with the limits being the block wall and fencing and also three inches of asphalt paving along driveway corridors from the access gates to the well, chlorine building, generator, and electrical building.
- The well site will include an electrical meter main, motor control center, and PLC and will be installed on a concrete foundation inside a climate-controlled masonry block building.
- The well facility will also include a pad-mount emergency backup diesel generator. The well discharge piping will be 10-inch-diameter steel piping with valves, a flow meter, appurtenances, and a 3,000-gallon hydropneumatic pressure vessel.
- An 11-foot by 11-foot concrete foundation will be constructed for a 12.5 percent sodium hypochlorite storage tank and chemical feed pump. The chlorine tank and injection pump will be enclosed in a steel structure for shade and security.
- The well discharge piping will transition below ground and to 12-inch C900 PVC pipe prior to leaving the site. The 12-inch C900 PVC piping will connect to the existing City distribution system on Leonard Avenue. The approximate length of the off-site 12-inch water main is 50 feet. The site drainage system will be connected to an on-site retention basin.

The rehabilitation of the existing Well No. 2 and the site development for that facility is anticipated to involve approximately 16 months. It is anticipated that the following pieces of equipment would be used during approximately 100 working days of construction activities:

- Excavator
- Loader
- Backhoe
- Crane
- Concrete Trucks
- Roller
- Generator

- Air Compressor
- Small Tools
- Service Truck

Storage Tank and Booster Pump Station

A new storage tank and booster pumping station will be constructed. The 1.0 MG storage tank will be filled by a dedicated pipeline from the existing Well No. 13.

- The 1.0 MG storage tank will be constructed in accordance with AWWA D100, be approximately 80 feet in diameter by 28 feet tall, and will be painted a neutral color to blend in with the surrounding area.
- The water from the storage tank will be conveyed to the City distribution system with a booster pump station.
- The booster pump station will consist of three horizontal centrifugal booster pumps, each rated for 500 gpm and 40 hp with variable speed drives, steel piping, valves, a flow meter, appurtenances, and a 6,000 gallon hydropneumatic tank.
- The pump station will be constructed in a fashion to allow for future expansion to a 3,500 gpm total capacity.
- The booster pump discharge piping will transition below ground to 12-inch C900 PVC pipe prior to leaving the site. The 12-inch C900 PVC piping will connect to the existing City distribution system on Wasco Avenue. The approximate length of the off-site 12-inch water main is 300 feet.

The construction of 1.0 MG storage tanks and booster pump stations is anticipated to be approximately 11 months. However, it is expected that the following pieces of equipment would be used during approximately 80 working days of construction activities:

- Excavator
- Loader
- Backhoe
- Crane
- Concrete Trucks
- Roller
- Generator
- Air Compressor
- Small Tools
- Service Truck

Advanced Metering Infrastructure (AMI) System

An AMI will be installed throughout the City to remotely collect customer water usage data in real-time for each of the water service meters. This will include the installation of a meter interface unit at each service meter throughout the City and the wireless transmission of data

to the City via a fixed network. The majority of the work will include the installation of software program upgrades to existing meter boxes. The Project will also include the installation of 5,173 new service meters and an AMI remote metering system. It is anticipated that this task will take approximately 55 months; approximately 500 new meters will be upgraded every three months.

City SCADA System

In addition, the existing City SCADA system will be modified and updated to include the above-noted water system improvements, including, but not limited to, the four new water well facilities, two new 1.0 MG storage tanks and booster pumping stations, the Well No. 12 1,2,3-TCP treatment, and the Well No. 2 facility.

The Project will include SCADA system upgrades with the addition of each of the above-noted Project components and is anticipated to involve approximately three months. It is anticipated that the following pieces of equipment would be used during construction activities:

- Generator
- Small Tools
- Service Truck

Wells to be Abandoned

Upon completion of the Project, the existing wells that are being replaced – Wells No. 7, No. 8, No. 10, and No. 11, will be abandoned in accordance with the Kern County and applicable State Standards.

The well abandonments are anticipated to involve approximately two months. It is anticipated that the following pieces of equipment would be used during construction activities:

- Loader
- Backhoe
- Crane
- Concrete Trucks
- Generator
- Air Compressor
- Small Tools
- Service Truck

Table 1
Project Components

Well	Component Locations	Proposed Components	Site (acres)
No. 15	Northwest corner of J Street and 9th Street in Section 7, T27S, R25E, M.D.B.&M	New well	Approximately one acre
No. 16	Poso Drive and Martin Street in Section 14, T27S, R24E, M.D.B.&M	New well and tank	Approximately two-acres
No. 17	Central Avenue and Filburn Avenue in Section 14, T27S, R24E, M.D.B.&M	New well and tank	Approximately one-acre
No. 18	Northwest corner of Central Avenue and Margalo Street in Section 2, T27S, R24E, M.D.B.&M	New well	Approximately two-acres
No. 12	South side of McCombs Road in Section 1, T27S, R24E, M.D.B.&M	Treatment to remove 1,2,3-TCP from the raw water	Approximately 20,000 square feet at existing well site
No. 2	North side of Highway 46 and west of Leonard Avenue in Section 4, T27S, R24E, M.D.B.&M	Rehabilitate existing well	Approximately 1 acre to the existing well site
Near No. 13	Booth property located south of Poso Drive and east of Wasco Avenue in Section 18, T27S, R25E, M.D.B.&M.	Construct storage tank and booster pumping station	Approximately two-acres
	City-wide	Advanced Metering Infrastructure (AMI) system – includes installation of a meter interface unit at each service meter and the wireless transmission	
	City-wide	Modify and update the existing City SCADA system to include above components.	
No. 7, 8, 10, 11		Abandoned in accordance with Kern County and applicable State standards.	Well No. 7 – 0.15 acres Well No. 8 – 0.15 acres Well No. 10 – 0.20 acres Well No. 11 – 0.10 acres

Construction of the Project is anticipated to span an approximate 4.5-year period. Several of the Project components will be constructed concurrently with other work. The document and documents referenced in the Initial Study/Mitigated Negative Declaration are available for review at Wasco City Hall located at 746 8th Street, in Wasco, CA 93280.

As mandated by the California Environmental Quality Act (CEQA), the public review period for this document was 30 days (CEQA Section 15073[b]). The public review period began on

Thursday, January 26, 2023, and ended on Monday, February 27, 2023. For further information, please contact Jaymie Brauer at 661-616-2600 or jaymie.brauer@qkinc.com.]

Mailing Address and Phone Number of Contact Person

City of Wasco Community Development Planning Division
764 E Street
Wasco, CA 93280
Contact Person: Maria Lara
Phone: (661) 758-7250

Findings

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

Mitigation Measures Included in the Project to Avoid Potentially Significant Effects

MM BIO-1 (for new Well Sites No. 16, No. 17, No. 18, and No. 19): Within 14 days prior to the start of Project ground-disturbing activities, a pre-construction survey with a 500-foot buffer, where land access is permitted, shall be conducted by a qualified biologist knowledgeable in the identification of special-status species such as San Joaquin kit fox (SJKF), burrowing owl (WEBO), etc. If dens/burrows/nests that could support any of these special-status species are discovered during the pre-construction survey, the avoidance buffers outlined below shall be established, and den or burrow monitoring will be conducted in accordance with the California Department of Fish and Game (CDFG) *Staff Report on Burrowing Owl Mitigation* (CDFG, 2012) and *USFWS Standardized Recommendations for Protection of the Endangered San Joaquin Kit Fox Prior to or During Ground Disturbance*.

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

Den(s) or burrow(s) may be monitored using trail cameras or tracking medium such as diatomaceous earth. If no species are detected for a minimum of four consecutive days/nights, the den or burrow may be burrow-scoped and plugged with a filled sandbag under the direct supervision of a qualified and approved CDFW biologist. All tunnels must be examined for animal presence before plugging with a sandbag to ensure no burrowing owls, kit foxes, or other animals are hiding inside.

No work shall occur within these buffers unless the biologist approves and monitors the activity. A copy of the pre-construction survey report shall be submitted to the Lead Agency as evidence of compliance.

SJKF

Potential or Atypical den – 50 feet
Known den – 100 feet
Natal Den –Contact CDFW for consultation

MM BIO-2: The following avoidance and minimization measures shall be implemented during all phases of the Project to reduce the potential for impact from the Project. They are modified from the *U.S. Fish and Wildlife Service Standardized Recommendations for Protection of the Endangered SJKF Prior to or During Ground Disturbance* (USFWS, 2011, Appendix F).

a. All food-related trash items such as wrappers, cans, bottles, and food scraps shall be disposed of in securely closed containers. All food-related trash items such as wrappers, cans, bottles, and food scraps shall be disposed of in securely closed containers and removed at least once a week from the construction or Project site.
b. Construction-related vehicle traffic shall be restricted to established roads and predetermined ingress and egress corridors, staging, and parking areas. Vehicle speeds shall not exceed 20 miles per hour (mph) within the Project site.
c. To prevent inadvertent entrapment of kit fox or other animals during construction, the contractor shall cover all excavated, steep-walled holes or trenches more than two feet deep at the close of each workday with plywood or similar materials. If holes or trenches cannot be covered, one or more escape ramps constructed of earthen fill or wooden planks shall be installed in the trench. Before such holes or trenches are filled, the contractor shall thoroughly inspect them for entrapped animals. All construction-related pipes, culverts, or similar structures with a diameter of four inches or greater that are stored on the Project site shall be thoroughly inspected for wildlife before the pipe is subsequently buried, capped, or otherwise used or moved in any way. If at any time an entrapped or injured kit fox is discovered, work in the immediate area shall be temporarily halted, and USFWS and CDFW shall be consulted.
d. Kit foxes are attracted to den-like structures such as pipes and may enter stored pipes and become trapped or injured. All construction pipes, culverts, or similar structures with a diameter of four inches or greater that are stored at a construction site for one or more overnight periods shall be thoroughly inspected for kit foxes before the pipe is subsequently buried, capped, or otherwise used or moved in any way. If a kit fox is

discovered inside a pipe, that section of pipe shall not be moved until the USFWS and CDFW have been consulted. If necessary, and under the direct supervision of the biologist, the pipe may be moved only once to remove it from the path of construction activity until the fox has escaped.

e. No pets, such as dogs or cats, shall be permitted on the Project sites to prevent harassment, mortality of kit foxes, or destruction of dens.
f. Use of anti-coagulant rodenticides and herbicides in Project sites shall be restricted. This is necessary to prevent primary or secondary poisoning of kit foxes and the depletion of prey populations on which they depend. All uses of such compounds shall observe labels and other restrictions mandated by the U.S. Environmental Protection Agency, California Department of Food and Agriculture, and other State and federal legislation, as well as additional Project-related restrictions deemed necessary by the USFWS and CDFW. If rodent control must be conducted, zinc phosphide shall be used because of the proven lower risk to kit foxes.
g. A representative shall be appointed by the Project proponent who will be the contact source for any employee or contractor who might inadvertently kill or injure a kit fox or who finds a dead, injured, or entrapped kit fox. The representative shall be identified during the employee education program, and their name and telephone number shall be provided to the USFWS.
h. The Sacramento Fish and Wildlife Office of USFWS and CDFW shall be notified in writing within three working days of the accidental death or injury to a SJKF during Project-related activities. Notification must include the date, time, and location of the incident or of the finding of a dead or injured animal and any other pertinent information. The USFWS contact is the Chief of the Division of Endangered Species at the addresses and telephone numbers below. The CDFW contact can be reached at (559) 243-4014 and R4CESA@wildlifeca.gov.
i. All sightings of the SJKF shall be reported to the California Natural Diversity Database (CNDDB). A copy of the reporting form and a topographic map clearly marked with the location of where the kit fox was observed shall also be provided to the Service at the address below.
j. Any Project-related information required by the USFWS or questions concerning the above conditions or their implementation may be directed in writing to the U.S. Fish and Wildlife Service at Endangered Species Division, 2800 Cottage Way, Suite W 2605, Sacramento, California 95825-1846, phone: (916) 414-6620 or (916) 414-6600.
k. New sightings of SJKF should be reported to the CNDDB.

MM BIO-3 (for new Well Sites No. 16, No. 17, No. 18, and No. 19): If all Project activities are completed outside of the Swainson's hawk nesting season (February 15 through August 31), this mitigation measure does not apply.

Nesting surveys for the Swainson's hawks shall be conducted in accordance with the protocol outlined in the *Recommended Timing and Methodology for Swainson's Hawk Nesting Surveys in California's Central Valley* (CDFG, 2000). If potential Swainson's hawk nests or nesting substrates are located within 0.5 miles of the Project site, then those nests

or substrates must be monitored for activity on a routine and repeating basis throughout the breeding season or until Swainson's hawks or other raptor species are verified to be using them. The protocol recommends that the following visits be made to each nest or nesting site: one visit from January 1–March 20 to identify potential nest sites, three visits from March 20–April 5, three visits from April 5–April 20, and three visits during June 10–July 30. A fewer number of visits may be permissible if deemed adequate by the City after consultation with a qualified biologist. To meet the minimum level of protection for the species, surveys shall be completed for at least two survey periods immediately prior to Project-related ground-disturbance activities. If Swainson's hawks are not found to nest within the BSA, then no further action is warranted.

MM BIO-4 (for new Well Sites No. 16, No. 17, No. 18, and No. 19): If an active Swainson's hawk nest is discovered at any time within 0.5 miles of active construction, a qualified biologist shall complete an assessment of the potential for current construction activities to impact the nest. The assessment will consider the type of construction activities, the location of construction relative to the nest, the visibility of construction activities from the nest location, and other existing disturbances in the area that are not related to the construction activities of this Project. Based on this assessment, the biologist shall determine if construction activities can proceed and the level of nest monitoring required. Construction activities shall not occur within 500 feet of an active nest but depending upon conditions at the site, this distance may be reduced. Full-time monitoring to evaluate the effects of construction activities on nesting Swainson's hawks may be required. The qualified biologist shall have the authority to stop work if it is determined that Project construction is disturbing the nest. These buffers may need to increase depending on the sensitivity of the nest location, the sensitivity of the nesting Swainson's hawk to disturbances, and the discretion of the qualified biologist.

MM BIO-5 (for new Well Sites No. 16, No. 17, No. 18, and No. 19): If construction is planned outside the nesting period for raptors (other than burrowing owl) and migratory birds (February 1 to August 15), no mitigation shall be required. If construction is planned during the nesting season for migratory birds and raptors, a pre-construction survey to identify active bird nests shall be conducted by a qualified biologist to evaluate the site and a 250-foot buffer for migratory birds and a 500-foot buffer for raptors. If nesting birds are identified during the survey, active raptor nests shall be avoided by 500 feet, and all other migratory bird nests shall be avoided by 250 feet. Avoidance buffers may be reduced if a qualified on-site monitor determines that encroachment into the buffer area is not affecting nest building, the rearing of young, or otherwise affecting the breeding behaviors of the resident birds. Because nesting birds can establish new nests or produce a second or even third clutch at any time during the nesting season, nesting bird surveys shall be repeated every 30 days as construction activities are occurring throughout the nesting season.

No construction or earth-moving activity shall occur within a non-disturbance buffer until it is determined by a qualified biologist that the young have fledged (left the nest) and have attained sufficient flight skills to avoid Project construction areas. Once the migratory birds or raptors have completed nesting, and the young have fledged, disturbance buffers will no longer be needed and may be removed, and monitoring may cease.

MM BIO-6 (for new Well Sites No. 16, No. 17, No. 18, and No. 19): Prior to the initiation of construction activities, all construction personnel shall attend a Worker Environmental Awareness Training program developed and presented by a qualified biologist. It shall include the components described below:

a. Information on the life history and identification of special-status species that may occur or that may be affected by Project activities. The program shall also discuss the legal protection status of each such species, the definition of "take" under the FESA and CESA, measures the Project proponent/operator shall implement to protect the species, reporting requirements, specific measures for workers to avoid take of special-status plant and wildlife species, and penalties for violation of the requirements outlined in the CEQA mitigation measures and agency permit requirements.

MM CUL-1: If prehistoric or historic-era cultural materials are encountered during construction activities, all work in the immediate vicinity of the find shall halt until a qualified archaeologist can evaluate the find and make recommendations. Cultural resource materials may include prehistoric resources such as flaked and ground stone tools and debris, shell, bone, ceramics, and fire-affected rock, as well as historic resources such as glass, metal, wood, brick, or structural remnants. If the qualified archaeologist determines that the discovery represents a potentially significant cultural resource, additional investigations may be required to mitigate adverse impacts from Project implementation. These additional studies may include avoidance, testing, and evaluation or data recovery excavation. Implementation of the mitigation measure below would ensure that the proposed Project would not cause a substantial adverse change in the significance of a historical resource.

MM CUL-2: If human remains are discovered during construction or operational activities, further excavation or disturbance shall be prohibited pursuant to Section 7050.5 of the California Health and Safety Code. The specific protocol, guidelines, and channels of communication outlined by the Native American Heritage Commission, in accordance with Section 7050.5 of the Health and Safety Code, Section 5097.98 of the Public Resources Code (Chapter 1492, Statutes of 1982, Senate Bill 297), and Senate Bill 447 (Chapter 44, Statutes of 1987), shall be followed. Section 7050.5(c) shall guide the potential Native American involvement, in the event of a discovery of human remains, at the direction of the county coroner.

MM GEO-1: If any paleontological resources are encountered during ground-disturbance activities, all work within 25 feet of the find shall halt until a qualified paleontologist, as defined by the Society of Vertebrate Paleontology Standard Procedures for the Assessment and Mitigation of Adverse Impacts to Paleontological Resources (2010), can evaluate the find and make recommendations regarding treatment. Paleontological resource materials may include resources such as fossils, plant impressions, or animal tracks preserved in rock. The qualified paleontologist shall contact the Natural History Museum of Los Angeles County or another appropriate facility regarding any discoveries of paleontological resources.

If the qualified paleontologist determines that the discovery represents a potentially significant paleontological resource, additional investigations and fossil recovery may be required to mitigate adverse impacts from Project implementation. If avoidance is not feasible, the paleontological resources shall be evaluated for their significance. If the resources are not significant, avoidance is not necessary. If the resources are significant, they shall be avoided to ensure no adverse effects, or such effects must be mitigated. Construction in that area shall not resume until the resource-appropriate measures are recommended, or the materials are determined to be less than significant. If the resource is significant and fossil recovery is the identified form of treatment, then the fossil shall be deposited in an accredited and permanent scientific institution. Copies of all correspondence and reports shall be submitted to the Lead Agency.

MM NSE-1: During construction, the contractor shall implement the following measures:

a. All stationary construction equipment on the Project site shall be located so that noise-emitting objects or equipment face away from any potential sensitive receptors.
b. The construction contractor shall ensure that all construction equipment is equipped with manufacturer-approved mufflers and baffles. During construction, stationary construction equipment shall be placed such that emitted noise is directed away from sensitive noise receivers.
c. Construction activities shall take place during daylight hours, when feasible.

SECTION 1 - INTRODUCTION

1.1 - Overview

The City of Wasco Community Development Planning Division (City) is proposing new water wells and water system improvements throughout the City (Project) in Kern County in the San Joaquin Valley, California. Figure 1-1 is a map of the regional location, and Figure 1-2 shows the Project location.

1.2 - California Environmental Quality Act

The City is the Lead Agency for this Project pursuant to the CEQA Guidelines (Public Resources Code Section 15000 et seq.). The Environmental Checklist (CEQA Guidelines Appendix G) or Initial Study (IS) (see *Section 3 – Initial Study*) provides analysis that examines the potential environmental effects of the construction and operation of the Project. Section 15063 of the CEQA Guidelines requires the Lead Agency to prepare an IS to determine whether a discretionary Project will have a significant effect on the environment. A Mitigated Negative Declaration (MND) is appropriate when an IS has been prepared, and a determination can be made that no significant environmental effects will occur because revisions to the Project have been made or mitigation measures will be implemented that reduce all potentially significant impacts to less-than-significant levels. The content of an MND is the same as a Negative Declaration, with the addition of identified mitigation measures and a Mitigation Monitoring and Reporting Program (MMRP) (see *Section 6 – Mitigation Monitoring and Reporting Program*).

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

1.3 - Impact Terminology

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

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

1.4 - Document Organization and Contents

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

- *Section 1 – Introduction:* This section provides an overview of CEQA requirements, intended uses of the IS/MND, document organization, and a list of regulations that have been incorporated by reference.
- *Section 2– Project Description:* This section describes the Project and provides data on the site's location.
- *Section 3 – Initial Study:* This section contains the evaluation of 21 different environmental resource factors contained in Appendix G of the CEQA Guidelines. Each environmental resource factor is analyzed to determine whether the proposed Project would have an impact. One of four findings is made which include: no impact, less-than-significant impact, less than significant with mitigation, or significant and unavoidable. If the evaluation results in a finding of significant and unavoidable for any of the 21 environmental resource factors, then an Environmental Impact Report will be required.
- *Section 4 – List of Preparers:* This section identifies the individuals who prepared the IS/MND.
- *Section 5 – Bibliography:* This section contains a full list of references that were used in the preparation of this IS/MND.
- *Section 6 – Mitigation Monitoring and Reporting Program:* This section contains the Mitigation Monitoring and Reporting Program.

1.5 - Incorporated by Reference

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

- California Department of Water Resources- Water Well Standards
- City of Wasco General Plan 2040
- City of Wasco General Plan FEIR
- Wasco Municipal Code - Title 17 Zoning Ordinance
- Kern County Airport Land Use Compatibility Plan
- Kern County Emergency Operations Plan

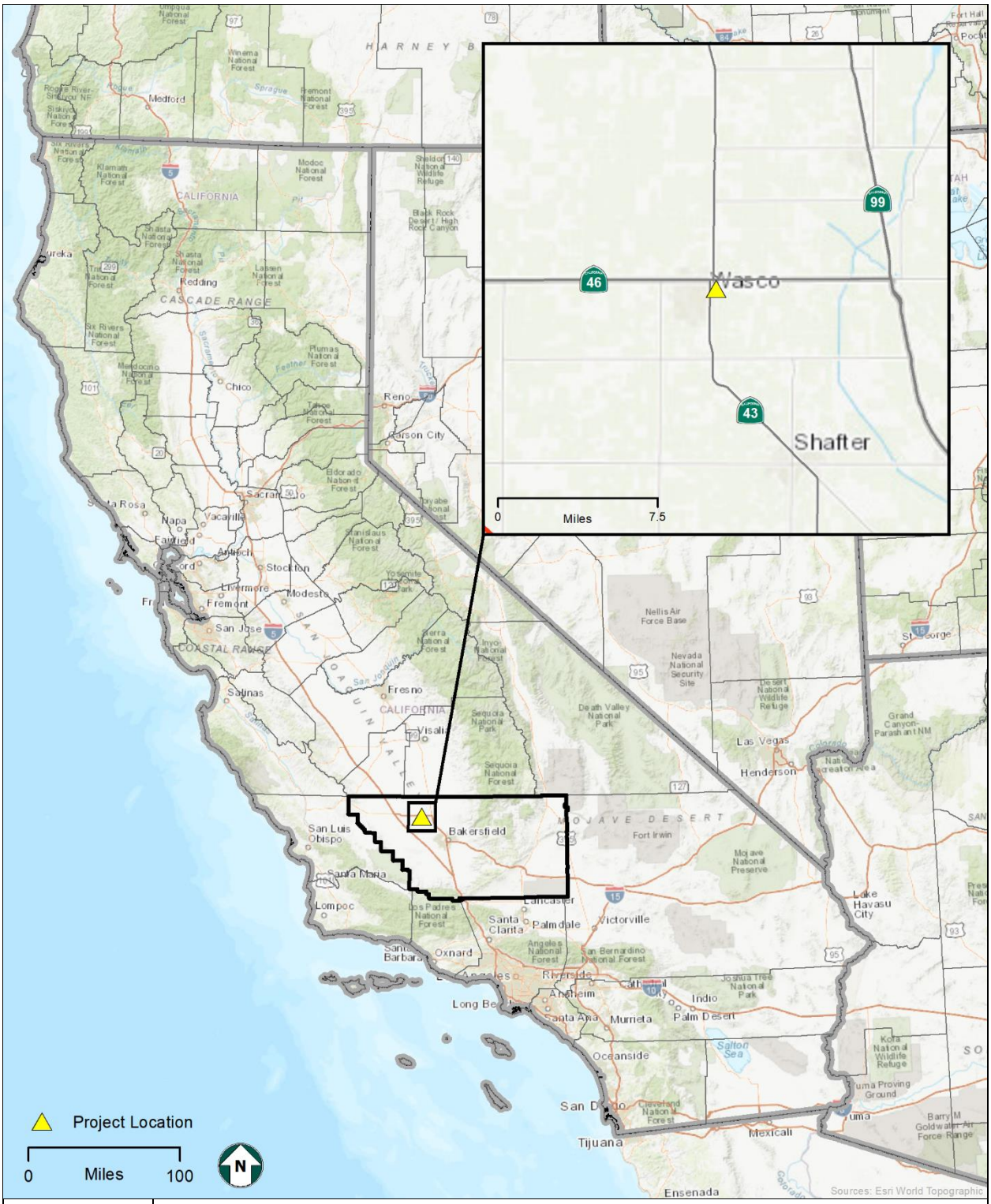


Figure 1-1
Regional Location

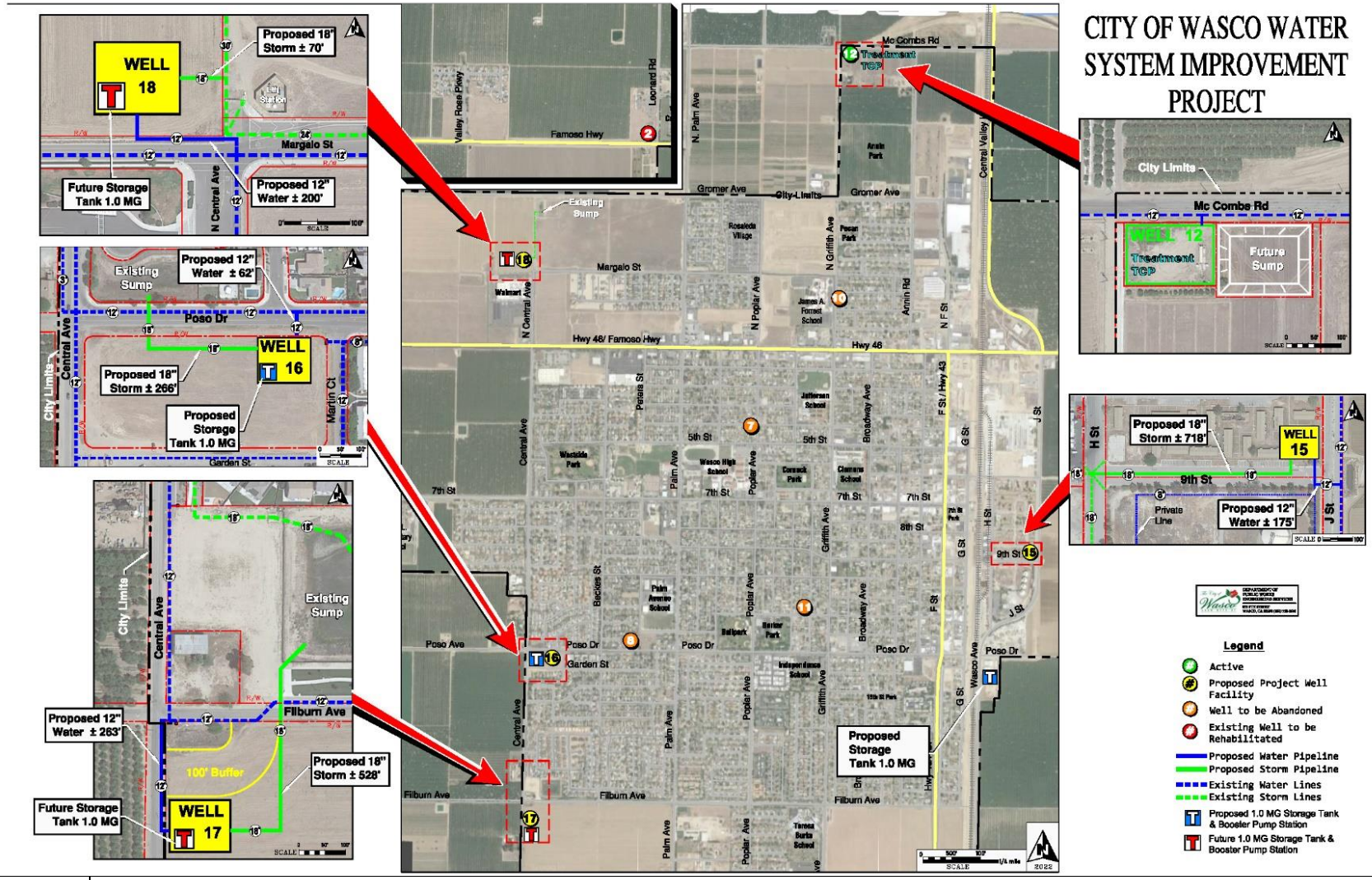


Figure 1-2
Project Sites

SECTION 2 - PROJECT DESCRIPTION

2.1 - Introduction

The City of Wasco Community Development Planning Division (City, as Lead Agency) proposes the Water System Improvement and Treatment Project (Project) within the City of Wasco, in the northwest portion of Kern County, California. Figure 1-1 shows the Project's regional location and Figure 1-2 shows the locations of the Project components.

2.2 - Project Location

The Project site is located throughout the City of Wasco. The Project component's locations are listed in Table 2-1 below.

Table 2-1
Project Components

Well	Component Locations	Proposed Project	Site (acres)
No. 15	Northwest corner of J Street and 9th Street in Section 7, T27S, R25E, M.D.B.&M	New well	Approximately two-acres
No. 16	Poso Drive and Martin Street in Section 14, T27S, R24E, M.D.B.&M	New well and tank	Approximately two-acres
No. 17	Central Avenue and Filburn Avenue in Section 14, T27S, R24E, M.D.B.&M	New well and tank Rezone from R-1-6 to P-F	Approximately one-acre
No. 18	Northwest corner of Central Avenue and Margalo Street in Section 2, T27S, R24E, M.D.B.&M	New well	Approximately two-acres
No. 12	South side of McCombs Road in Section 1, T27S, R24E, M.D.B.&M	Treatment to remove 1,2,3-TCP from the raw water	Approximately 20,000 square feet of work to existing well site
No. 2	North side of Highway 46 and west of Leonard Avenue in Section 4, T27S, R24E, M.D.B.&M	Rehabilitate existing well	Approximately 1-acre to existing well site
Near No. 13	Booth property located south of Poso Drive and east of Wasco Avenue in Section 18, T27S, R25E, M.D.B.&M.	Construct storage tank and booster pumping station	Approximately two-acres
	City-wide	Advanced Metering Infrastructure (AMI) system – includes installation of a meter interface unit at each service meter and the wireless transmission.	
	City-wide	Modify and update the existing City SCADA system to include above components.	

Well	Component Locations	Proposed Project	Site (acres)
No. 7, 8, 10, 11		Destroy in accordance with Kern County and applicable State standards.	Well No. 7 – 0.15 acres Well No. 8 – 0.15 acres Well No. 10 – 0.20 acres Well No. 11 – 0.10 acres

2.3 - Project Environment

The various Project components are located in different areas within the City. Table 2-2 outlines each component, the Assessor's Parcel Number (APN), current City General Plan map code designations/zone classifications, and surrounding land uses.

Table 2-2
Project Site and Surrounding Land Uses

Project Component	APN	Zoning/Land Use	Surrounding Zoning/ Land Use
Proposed Well #15	030-030-01	Heavy Industrial	**N:** Heavy Industrial **E:** Heavy Industrial **S**: Heavy Industrial **W:** Heavy Industrial
Proposed Tank & Well #16	490-010-04	R-2 Medium Density Residential	**N:** R-1-6 Low Density Residential, 6,000 sq. ft. lot **E:** R-2 Medium Density Residential **S:** R-1-6 Low Density Residential, 6,000 sq. ft. lot **W:** County Land
Proposed Well #17	490-020-04	R-1-6 Low Density Residential (6,000 sq. ft. lot)	**N:** Open Space **E:** R-1-6 Low Density Residential 6,000 sq. ft. lot **S:** County Land **W:** County Land
Proposed Well #18	487-010-11	R-1-6 Low Density Residential (6,000 sq. ft. lot)	**N:** County Land **E:** R-1-6 Low Density Residential, 6,000 sq. ft. lot **S:** R-3 High Density Residential and C-R Community Retail Commercial **W:** County Land
Proposed Tank	072-240-07	Heavy Industrial	**N:** Heavy Industrial **E:** Heavy Industrial **S**: Heavy Industrial **W:** Service Commercial
Proposed Treatment TCP	487-010-59	Public Facilities	**N:** County Land

Project Component	APN	Zoning/Land Use	Surrounding Zoning/ Land Use
			E: Rural Residential **S:** Rural Residential **W:** County Land
Well Rehabilitation (#2)	487-050-24	Community Retail Commercial	**N:** Exclusive Agriculture **E:** Public Facilities **S:** Public Facilities **W:** Exclusive Agriculture
Well #7 (to be abandoned)	029-070-27	R-1-6 Low Density Residential (6,000 sq. ft. lot)	**N:** R-1-6 Low Density Residential, 6,000 sq. ft. lot **E:** R-1-6 Low Density Residential, 6,000 sq. ft. lot **S:** R-1-6 Low Density Residential, 6,000 sq. ft. lot **W:** R-1-6 Low Density Residential, 6,000 sq. ft. lot
Well #8 (to be abandoned)	488-020-19	R-2 Medium Density Residential	**N:** R-1-6 Low Density Residential, 6,000 sq. ft. lot **E:** R-2 Medium Density Residential **S:** R-1-6 Low Density Residential, 6,000 sq. ft. lot **W:** R-1-6 Low Density Residential, 6,000 sq. ft. lot
Well #10 (to be abandoned)	487-221-02	R-1-6 Low Density Residential (6,000 sq. ft. lot)	**N:** R-1-6 Low Density Residential, 6,000 sq. ft. lot **E:** R-1-6 Low Density Residential, 6,000 sq. ft. lot **S:** R-1-6 Low Density Residential, 6,000 sq. ft. lot **W:** Public Facilities
Well #11 (to be abandoned)	029-391-05	R-1-6 Low Density Residential (6,000 sq. ft. lot)	**N:** R-1-6 Low Density Residential, 6,000 sq. ft. lot **E:** R-1-6 Low Density Residential, 6,000 sq. ft. lot **S:** R-2 Medium Density Residential **W:** R-1-6 Low Density Residential, 6,000 sq. ft. lot

2.4 - Proposed Project

The Water System Improvement and Treatment Project (Project) includes drilling four new municipal water wells to replace existing water supply wells that exceed the State of California maximum contaminant level (MCL) threshold for 1,2,3-trichloropropane (1,2,3-TCP) of 0.005-micrograms per liter (mg/L), and occasionally the threshold for nitrates of 10 mg/L for nitrate as nitrogen (N).

The four existing well sites that are being replaced will be abandoned of all pump equipment, piping, electrical, and appurtenances. The wells will be abandoned by filling with concrete and performing all work in accordance with the County of Kern and the applicable State

requirements. See Table 1 for the location and description of each proposed Project component.

Project Components

NEW PRODUCTION WELLS

Well No. 15

Construction of Well No. 15 includes the following:

- A test well will initially be constructed to an approximate depth of 900 feet in order to evaluate water quality in the underlying aquifer.
- A production well is planned to be drilled to an approximate depth of 1,300 feet and will be equipped with a vertical turbine pump and vertical hollow shaft electric motor and variable speed drive. The site will be fenced with a six-foot-tall masonry block wall with a chain-link drive and personnel gates.
- The well site will be surfaced with ¾" Class II aggregate base, with the limits being the block wall and fencing and also three inches of asphalt paving along driveway corridors from the access gates to the well, chlorine building, generator, and electrical building. The well site will include an electrical meter main, motor control center, and Programmable Logic Controller (PLC) and will be installed on a concrete foundation inside a climate-controlled masonry block building. The well facility will also include a pad-mount emergency backup diesel generator.
- The well discharge piping will be a 10-inch-diameter steel piping with valves, flow meter, appurtenances, and a 3,000-gallon hydropneumatic pressure vessel. An 11-foot by 11-foot concrete foundation will be constructed for a 12.5 percent sodium hypochlorite storage tank and chemical feed pump.
- The chlorine tank and injection pump will be enclosed in a steel structure for shade and security.
- The well discharge piping will transition below ground and to 12-inch C900 PVC pipe prior to leaving the site. The 12-inch C900 Polyvinyl Chloride (PVC) piping will cross 9th Street and be installed east along 9th Street to the point of connection with the existing City distribution system. The approximate length of the off-site 12-inch water main is 225 feet. Site rainwater will drain to an on-site drainage system that terminates in an approximate 550,000-gallon retention basin.
- The site drainage system will also be connected to the City drainage system by installing an 18-inch Reinforced Concrete Pipe (RCP) storm drain line west along 9th Street to the point of connection to the existing City storm drain system in H Street. The approximate length of the off-site 18-inch storm drain line is 700 feet.

Well No. 16

Construction of Well No. 16 includes the following:

- A test well will initially be constructed to an approximate depth of 900 feet in order to evaluate water quality in the underlying aquifer.
- A production well is planned to be drilled to an approximate depth of 1,300 feet and will be equipped with a vertical turbine pump and vertical hollow shaft electric motor and variable speed drive.
- The site will be fenced with a six-foot-tall masonry block wall with a chain-link drive and personnel gates.
- Off-site improvements will be made along Poso Drive, Martin Street, and Garden Street adjacent to the well site to install curb and gutter, sidewalk, drive approaches, and asphalt pavement.
- The well site will be graded to drain to an on-site retention basin.
- The well site will be surfaced with ¾ inches of Class II aggregate base, with the limits being the block wall and fencing and also three inches of asphalt paving along driveway corridors from the access gates to the well, chlorine building, generator, and electrical building.
- The well site will include an electrical meter main, motor control center, and PLC and will be installed on a concrete foundation inside a climate-controlled masonry block building.
- The well facility will also include a pad-mount emergency backup diesel generator.
- The well discharge piping will be 10-inch-diameter steel piping with valves, flow meter, and appurtenances, and will discharge into a 1.0 million gallons storage tank.
- An 11-foot by 11-foot concrete foundation will be constructed for a 12.5 percent sodium hypochlorite storage tank and chemical feed pump to disinfect the raw water prior to storing it in the tank. The chlorine tank and injection pump will be enclosed in a steel structure for shade and security. The 1.0 MG storage tank will be constructed in accordance with American Water Works Association (AWWA) D100 standards, be approximately 80 feet in diameter by 28 feet tall, and will be painted a neutral color to blend in with the surrounding area. The water from the storage tank will be conveyed to the City distribution system with a booster pump station.
- The booster pump station will consist of three horizontal centrifugal booster pumps, each rated for 500 gallons per minute (gpm) and 40 horsepower (hp) with variable speed drives, steel piping, valves, a flow meter, appurtenances, and a 3,000 gpm hydropneumatic tank.
- The booster pump discharge piping will transition below ground to 12-inch C900 PVC pipe prior to leaving the site. The 12-inch C900 PVC piping will connect to the existing City distribution system in Poso Drive. The approximate length of the off-site 12-inch water main is 125 feet.
- Site rainwater will drain to an on-site drainage system that terminates in an approximate 270,000-gallon retention basin. The site drainage system will also be connected to the City drainage system by installing an 18-inch RCP storm drain line to connect to the existing City storm drain system in Poso Drive. The approximate length of the off-site 18-inch storm drain line is 50 feet.

Well No. 17

Construction of Well No. 17 includes the following:

- The well site will be graded to drain to an on-site retention basin.
- A test well will initially be constructed to an approximate depth of 900 feet in order to evaluate water quality in the underlying aquifer.
- A production well is planned to be drilled to an approximate depth of 1,300 feet and will be equipped with a vertical turbine pump and vertical hollow shaft electric motor and variable speed drive.
- The site will be fenced with a 6-foot-tall masonry block wall with a chain-link drive and personnel gates. The well site will be surfaced with ¾" Class II aggregate base, with the limits being the block wall and fencing and also three inches of asphalt paving along driveway corridors from the access gates to the well, chlorine building, generator, and electrical building.
- The well site will include an electrical meter main, motor control center, and PLC and will be installed on a concrete foundation inside a climate-controlled masonry block building.
- The well facility will also include a pad-mount emergency backup diesel generator. The well discharge piping will be 10-inch-diameter steel piping with valves, a flow meter, appurtenances, and a 3,000-gallon hydropneumatic pressure vessel.
- An 11-foot by 11-foot concrete foundation will be constructed for a 12.5 percent sodium hypochlorite storage tank and chemical feed pump. The chlorine tank and injection pump will be enclosed in a steel structure for shade and security.
- The well discharge piping will transition below ground and to 12-inch C900 PVC pipe prior to leaving the site. The 12-inch C900 PVC piping will connect to the existing City distribution system on Filburn Street. The approximate length of the off-site 12-inch water main is 195 feet.
- The site drainage system will be connected to the City drainage system by installing approximately 555 feet of 18-inch RCP storm drain line on-site to connect to the existing City storm drain system that underlies the well site property.

Well No. 18

Construction of Well No. 18 includes the following:

- The well site will be graded to drain to an on-site retention basin.
- A test well will initially be constructed to an approximate depth of 900 feet in order to evaluate water quality in the underlying aquifer.
- A production well is planned to be drilled to an approximate depth of 1,300 feet and will be equipped with a vertical turbine pump and vertical hollow shaft electric motor and variable speed drive.
- The site will be fenced with a six-foot-tall masonry block wall with chain-link drive and personnel gates. The well site will be surfaced with ¾" Class II aggregate base, with the limits being the block wall and fencing and also three inches of asphalt paving

along driveway corridors from the access gates to the well, chlorine building, generator, and electrical building.

- The well site will include an electrical meter main, motor control center, and PLC and will be installed on a concrete foundation inside a climate-controlled masonry block building.
- The well facility will also include a pad-mount emergency backup diesel generator.
- The well discharge piping will be 10-inch-diameter steel piping with valves, a flow meter, appurtenances, and a 3,000-gallon hydropneumatic pressure vessel. An 11-foot by 11-foot concrete foundation will be constructed for a 12.5 percent sodium hypochlorite storage tank and chemical feed pump. The chlorine tank and injection pump will be enclosed in a steel structure for shade and security.
- The well discharge piping will transition below ground and to 12-inch C900 PVC pipe prior to leaving the site. The 12-inch C900 PVC piping will connect to the existing City distribution system on Central Avenue and Margalo Street. The approximate length of the off-site 12-inch water main is 250 feet.
- The site drainage system will be connected to the City drainage system by installing an 18-inch RCP storm drain line to connect to the existing City storm drain system on Central Avenue and Margalo Street. The approximate length of the off-site 18-inch storm drain line is 1500 feet.

The production well drilling phase will involve the drilling of four municipal water wells and is anticipated to involve approximately 12 months. Each production well will involve approximately 60 working days to construct, with the well drilling activity taking place 24 hours per day, seven days per week for approximately 30 of those working days. It is anticipated that the following pieces of equipment would be used during construction activities:

- Well Drilling Rig
- Mud Pits
- Backhoe
- Loader
- Forklift

TEST WELLS

The Project includes the drilling of four new test water wells and is anticipated to involve approximately nine months. Each test well will take approximately 35 working days to construct, with drilling activities taking place between the hours of 6:30 a.m. to 4:30 p.m., Monday thru Friday. It is anticipated that the following pieces of equipment would be used during construction activities:

- Test Well Drilling Rig
- Backhoe
- Loader

The well equipping and site development phase will involve the equipping of four municipal water wells and is anticipated to involve approximately 24 months. However, equipment will not run continually or on a daily basis throughout this entire construction period. It is anticipated that the following heavy pieces of equipment would be used for approximately 200 working days during construction activities:

- Excavator
- Loader
- Backhoe
- Crane
- Concrete Trucks
- Roller
- Generator
- Air Compressor
- Small Tools
- Service Truck

UPGRADES TO EXISTING WELLS

Well No. 12

The existing City Well No. 12 has 1,2,3-TCP levels that exceed the State's MCL. The City will install a GAC treatment to remove 1,2,3-TCP from the raw water.

- The work will involve subgrade preparation and site earthwork, the construction of a reinforced concrete foundation for the treatment vessels, modifications to the existing well discharge piping, and installation of influent, effluent, and backwash steel piping, valves, flowmeters, and appurtenances.
- Four 10-foot-diameter by 22-foot tall GAC vessels will be installed on a concrete foundation. Each vessel will be filled with approximately 21,000 lbs of carbon for the removal of 1,2,3-TCP.
- Exhausted media will be transported off-site and regenerated at an approved facility.
- A blow-down pipeline will be installed for flushing the well and backwashing when necessary. The blow-down pipeline is a 12-inch C900 PVC pipeline to be installed east along McCombs Avenue and south along Annin Avenue to an existing City retention basin.
- A 35-foot-long cased crossing, 24-inch-diameter steel casing pipe, will be installed for the blow-down line across Annin Avenue. The approximate length of the off-site blow-down pipeline is 3,500 feet.
- In addition, the treatment site will include an 8-feet by 14-feet wood building for a nitrate analyzer, an 11-foot by 13-foot concrete foundation and chain-link enclosure for a chlorine storage tank and chemical feed pump, electrical and control modifications, and ¾" Class II aggregate base well site ground cover.

The installation of the Well No. 12 treatment system is anticipated to involve approximately 11 months. It is anticipated that the following pieces of equipment would be used during approximately 80 working days of construction activities:

- Excavator
- Loader
- Backhoe
- Crane
- Concrete Trucks
- Boring Machine
- Roller
- Generator
- Air Compressor
- Small Tools
- Service Truck

Well No. 2

This well has been out of service and inoperable for several years. The City intends to rehabilitate this well and utilize it for potable water service. The work includes replacing the vertical turbine pump, vertical hollow shaft electric motor, well discharge piping, hydropneumatic tank, electrical, and controls.

- The well site will be re-graded and a six-foot-tall masonry block wall with chain-link drive and personnel gates will be installed.
- The well site will be surfaced with ¾" Class II aggregate base, with the limits being the block wall and fencing and also three inches of asphalt paving along driveway corridors from the access gates to the well, chlorine building, generator, and electrical building.
- The well site will include an electrical meter main, motor control center, and PLC and will be installed on a concrete foundation inside a climate-controlled masonry block building.
- The well facility will also include a pad-mount emergency backup diesel generator. The well discharge piping will be 10-inch-diameter steel piping with valves, a flow meter, appurtenances, and a 3,000-gallon hydropneumatic pressure vessel.
- An 11-foot by 11-foot concrete foundation will be constructed for a 12.5 percent sodium hypochlorite storage tank and chemical feed pump. The chlorine tank and injection pump will be enclosed in a steel structure for shade and security.
- The well discharge piping will transition below ground and to 12-inch C900 PVC pipe prior to leaving the site. The 12-inch C900 PVC piping will connect to the existing City distribution system on Leonard Avenue. The approximate length of the off-site 12-inch water main is 50 feet. The site drainage system will be connected to an on-site retention basin.

The rehabilitation of the existing Well No. 2 and the site development for that facility is anticipated to involve approximately 16 months. It is anticipated that the following pieces of equipment would be used during approximately 100 working days of construction activities:

- Excavator
- Loader
- Backhoe
- Crane
- Concrete Trucks
- Roller
- Generator
- Air Compressor
- Small Tools
- Service Truck

Storage Tank and Booster Pump Station

A new storage tank and booster pumping station will be constructed. The 1.0 MG storage tank will be filled by a dedicated pipeline from the existing Well No. 13.

- The 1.0 MG storage tank will be constructed in accordance with AWWA D100, be approximately 80 feet in diameter by 28 feet tall, and will be painted a neutral color to blend in with the surrounding area.
- The water from the storage tank will be conveyed to the City distribution system with a booster pump station.
- The booster pump station will consist of three horizontal centrifugal booster pumps, each rated for 500 gpm and 40 hp with variable speed drives, steel piping, valves, a flow meter, appurtenances, and a 6,000 gpm hydropneumatic tank.
- The pump station will be constructed in a fashion to allow for future expansion to a 3,500 gpm total capacity.
- The booster pump discharge piping will transition below ground to 12-inch C900 PVC pipe prior to leaving the site. The 12-inch C900 PVC piping will connect to the existing City distribution system on Wasco Avenue. The approximate length of the off-site 12-inch water main is 300 feet.

The construction of 1.0 MG storage tanks and booster pump stations is anticipated to be approximately 11 months. However, it is expected that the following pieces of equipment would be used during approximately 80 working days of construction activities:

- Excavator
- Loader
- Backhoe
- Crane

- Concrete Trucks
- Roller
- Generator
- Air Compressor
- Small Tools
- Service Truck

Advanced Metering Infrastructure (AMI) System

An AMI will be installed throughout the City to remotely collect customer water usage data in real-time for each of the water service meters. This will include the installation of a meter interface unit at each service meter throughout the City and the wireless transmission of data to the City via a fixed network. The majority of the work will include the installation of software program upgrades to existing meter boxes. The Project will also include the installation of 5,173 new service meters and an AMI remote metering system. It is anticipated that this task will take approximately 55 months; approximately 500 new meters will be upgraded every three months.

City SCADA System

In addition, the existing City SCADA system will be modified and updated to include the above-noted water system improvements, including, but not limited to, the four new water well facilities, two new 1.0 MG storage tanks and booster pumping stations, the Well No. 12 1,2,3-TCP treatment, and the Well No. 2 facility.

The Project will include SCADA system upgrades with the addition of each of the above-noted Project components and is anticipated to involve approximately three months. It is anticipated that the following pieces of equipment would be used during construction activities:

- Generator
- Small Tools
- Service Truck

Wells to be Abandoned

Upon completion of the Project, the existing wells that are being replaced – Wells No. 7, No. 8, No. 10, and No. 11, will be destroyed in accordance with the Kern County and applicable State Standards.

The well abandonments are anticipated to involve approximately two months. It is anticipated that the following pieces of equipment would be used during construction activities:

- Loader

- Backhoe
- Crane
- Concrete Trucks
- Generator
- Air Compressor
- Small Tools
- Service Truck

Construction of the Project is anticipated to span an approximate 4.5-year period. Several of the Project components will be constructed concurrently with other work.

Change in Land Use Designation and Zone District

As a part of this Project, the City will change the current land use designation and zone district of the Well No. 17 property from R-1-6 Low Density Residential (6,000 sq. ft. lot) to P-F (Public Facilities). This will allow the City to utilize the property for city-related purposes.

SECTION 3 - INITIAL STUDY

3.1 - Environmental Checklist

1. **Project Title:**

   Water System Improvement Project

2. **Lead Agency Name and Address:**

   City of Wasco Community Development Planning Division
   764 E Street
   Wasco, CA 93280

3. **Contact Person and Phone Number:**

   Keri Cobb
   (661) 758-7211

4. **Project Location:**

   Please see Section 3.2.

5. **General Plan Designation:**

   Please see Section 3.3.

6. **Zoning:**

   Please see Section 3.3

7. **Description of Project:**

   Please see Section 3.4.

8. **Surrounding Land Uses and Setting:**

   Please see Section 3.3

9. **Other Public Agencies Whose Approval May be Required:**

   - Central Valley Regional Water Quality Control Board
   - California Department of Water Resources
   - California State Water Resources Control Board
   - San Joaquin Valley Air Pollution Control District

3.2 - 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 and 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

3.3 - Determination

On the basis of this initial evaluation:

☐ I find that the proposed Project COULD NOT have a significant effect on the environment, and a NEGATIVE DECLARATION will be prepared.

☒ I find that although the proposed Project could have a significant effect on the environment, there will not be a significant effect in this case because revisions in the Project have been made by or agreed to by the Project proponent. A MITIGATED NEGATIVE DECLARATION will be prepared.

☐ I find that the proposed Project MAY have a significant effect on the environment, and an ENVIRONMENTAL IMPACT REPORT is required.

☐ I find that the proposed Project MAY have a “potentially significant impact” or “potentially significant unless mitigated” impact on the environment, but at least one effect (a) has been adequately analyzed in an earlier document pursuant to applicable legal standards, and (b) has been addressed by mitigation measures based on the earlier analysis as described on attached sheets. An ENVIRONMENT IMPACT REPORT is required, but it must analyze only the effects that remain to be addressed.

☐ I find that although the proposed Project could have a significant effect on the environment, because all potentially significant effects (a) have been analyzed

adequately in an earlier EIR or NEGATIVE DECLARATION pursuant to applicable standards, and (b) have been avoided or mitigated pursuant to that earlier EIR or NEGATIVE DECLARATION, including revisions or mitigation measures that are imposed upon the proposed Project, nothing further is required.

Maria Lara	*1/26/2023*
Signature	Date
Maria Lara	
Printed Name	For

3.4 - Evaluation of Environmental Impacts

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

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

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

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

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

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

    b. Impacts Adequately Addressed. Identify which effects from the above checklist were within the scope of and adequately analyzed in an earlier document pursuant to applicable legal standards, and state whether such effects were addressed by mitigation measures based on the earlier analysis.

    c. Mitigation Measures. For effects that are "Less than Significant with Mitigation Measures Incorporated," describe the mitigation measures which were incorporated or refined from the earlier document and the extent to which they address site-specific conditions for the Project.

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

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

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

9. The explanation of each issue should identify:

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

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

		Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less-than-Significant Impact	No Impact
3.4.1 - AESTHETICS					
Except as provided in Public Resources Code Section 21099, would the Project:					
a.	Have a substantial adverse effect on a scenic vista?	☐	☐	☐	☒
b.	Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?	☐	☐	☐	☒
c.	In non-urbanized area, substantially degrade the existing visual character or quality of public views of the site and its surroundings? If the Project is in an urbanized area, would the Project conflict with applicable zoning and other regulations governing scenic quality?	☐	☐	☒	☐
d.	Create a new source of substantial light or glare that would adversely affect day or nighttime views in the area?	☐	☐	☒	☐

Discussion

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

The City of Wasco General Plan does not list any scenic viewpoints within the City (City of Wasco, 2016). No known aesthetic resources exist on or near the sites. The sites are not within or in the vicinity of a city, county, or State identified scenic vista. Furthermore, the development of the Project would not block or preclude views of any area containing importance or what would be considered visually appealing landforms. Therefore, no scenic resources or vistas will be affected.

MITIGATION MEASURE(S)

No mitigation is required.

LEVEL OF SIGNIFICANCE

There would be ***no impact.***

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

See Impact #3.4.1a above.

The Project does not lie near or within a State Designated or Eligible State Scenic Highway (California Department of Transportation, 2023). The nearest Eligible Scenic Highway is State Route (SR) 190, approximately 34 miles northwest of the City. The Project does not include the removal of trees determined to be scenic or of scenic value, the destruction of rock outcroppings or degradation of any historic building(s). Therefore, the Project would have no impact.

MITIGATION MEASURE(S)

No mitigation is required.

LEVEL OF SIGNIFICANCE

There would be *no impact.*

Impact #3.4.1c – In non-urbanized area, substantially degrade the existing visual character or quality of public views of the site and its surroundings? If the Project is in an urbanized area, would the Project conflict with applicable zoning and other regulations governing scenic quality?

The Project includes sites in areas considered non-urbanized and those in more developed, urbanized areas. The Project will not result in development that is substantially different than surrounding land uses. The new water storage tanks will be approximately 28 feet tall. However, they will be installed in an area that is either relatively sparsely developed or undeveloped, with few sensitive receptors which might view the tanks. For the proposed new wells, a six-foot-tall masonry block wall with a chain-link fence will be constructed. However, the new wells will be constructed on sites that have few nearby sensitive receptors. The upgrades to existing well sites will not be substantially changed in visual appearance and will not alter the visual character of the site.

The Project's appearance would not substantially degrade the visual character of the site and would be similar to the existing developments surrounding the Project site. Therefore, the Project would result in a less-than-significant impact on the visual quality of the area.

MITIGATION MEASURE(S)

No mitigation is required.

LEVEL OF SIGNIFICANCE

Impacts would be *less than significant*.

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

Construction of the proposed Project would generally occur during daytime hours, typically from 7:00 a.m. to 6:00 p.m. Drilling activities are continual and, therefore, would be conducted on a 24-hour schedule. However, all lighting would be directed downward and shielded to focus illumination on the desired work areas only to prevent light spillage onto adjacent properties. Because lighting used to illuminate work areas would be shielded and focused downward, the potential for lighting to affect any residents adversely is minimal. Increased truck traffic and the transport of construction materials to the Project site would also be minimal and temporary in nature. Construction activity would focus on specific areas on the sites, and any sources of glare would not be stationary for a prolonged period of time. Therefore, construction of the proposed Project would not create a new source of substantial glare that would affect daytime views in the area.

Once constructed, the Project will include security lighting on motion detectors or increase lighting beyond the present levels at the existing well sites that would spill over onto surrounding uses. With the compliance of the Wasco Zoning Ordinance and other applicable local development standards, the proposed Project would not create new sources of substantial light or glare that would adversely affect day or nighttime views in the area. Therefore, the Project would have a less-than-significant impact.

MITIGATION MEASURE(S)

No mitigation is required.

LEVEL OF SIGNIFICANCE

Impacts would be *less than significant*.

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

3.4.2 - AGRICULTURE AND FORESTRY RESOURCES

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

a.	Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use?	☐	☐	☒	☐
b.	Conflict with existing zoning for agricultural use or a Williamson Act contract?	☐	☐	☐	☒
c.	Conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code Section 12220(g)), timberland (as defined by Public Resources Code Section 4526), or timberland zoned Timberland Production (as defined by Government Code Section 51104(g))?	☐	☐	☐	☒
d.	Result in the loss of forest land or conversion of forest land to non-forest use?	☐	☐	☐	☒
e.	Involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland, to non-agricultural use or conversion of forest land to non-forest use?	☐	☐	☒	☐

Discussion

Impact #3.4.2a – Would the Project convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use?

The Farmland Mapping and Monitoring Program (FMMP) designation of the Project components is listed below (California Department of Conservation, 2022):

Existing Wells No. 7, 8, 10, 11: Urban and Built-Up Land
Storage Tank Near Well No. 13: Urban and Built-Up Land
Existing Well No. 2: Prime Farmland
Well No. 15: Urban and Built-Up Land
Well No. 16 and tank: Vacant or Disturbed Land
Well No. 17: Prime Farmland
Well No. 18: Prime Farmland

The Project sites and surrounding area are currently zoned for non-agricultural uses and, as such, would have been previously analyzed when the land was originally converted. Additionally, Wells No. 2, 8, 10, 11, 12, and 13 are already existing. New Well No. 16 is on land that is classified as Urban and Built-Up. Therefore, there would be no impact related to these Project components.

New Wells No. 17 and 18 are on land that is classified as Prime Farmland. However, these sites are approximately one acre in size, and the loss of such a minimal amount of Prime Farmland would be considered less than significant.

MITIGATION MEASURE(S)

No mitigation is required.

LEVEL OF SIGNIFICANCE

There would be ***no impact***.

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

The Project sites are not subject to a Williamson Act land use contract, according to data available from the California Department of Conservation. As noted in Table 2-2, none of the Project sites are zoned for agricultural use. Therefore, the construction of the Project would not result in a conflict with existing zoning for agricultural use or a Williamson Act contract, and there would be no impact.

MITIGATION MEASURE(S)

No mitigation is required.

LEVEL OF SIGNIFICANCE

Impacts would be ***no impact***.

Impact #3.4.2c – Would the Project conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code Section 12220(g)), timberland (as defined by Public Resources Code Section 4526), or timberland zoned Timberland Production (as defined by Government Code Section 51104(g))?

The Public Resources Code (PRC) Section 12220(g) and Section 4526 defines "Forest land" as land that can support 10 percent native tree cover of any species, including hardwoods, under natural conditions and that allows for the management of one or more forest resources, including timber, aesthetics, fish and wildlife, biodiversity, water quality, recreation, and other public benefits. Timberland, pursuant to PRC 4526, is land other than land owned by the federal government and land designated as experimental forest land, which is available for and capable of growing a crop of trees of a commercial species used to produce lumber and other forest products, including Christmas trees.

There are no forest lands or timberlands identified on the Project sites or within its vicinity. The Project would not result in the loss or conversion of forest land to a non-forest use. Therefore, there would be no impact.

MITIGATION MEASURE(S)

No mitigation is required.

LEVEL OF SIGNIFICANCE

There would be ***no impact***.

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

See discussion of Impact #3.4.2c above.

MITIGATION MEASURE(S)

No mitigation is required.

LEVEL OF SIGNIFICANCE

There would be ***no impact***.

Impact #3.4.2e – Would the Project involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland, to non-agricultural use or conversion of forest land to non-forest use?

See discussion of Impacts #3.4.2a, #3.4.2b, and #3.4.2c above.

MITIGATION MEASURE(S)

No mitigation is required.

LEVEL OF SIGNIFICANCE

Impacts would be *less than significant*.

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

3.4.3 - AIR QUALITY

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

a.	Conflict with or obstruct implementation of the applicable air quality plan?	☐	☐	☒	☐
b.	Result in a cumulatively considerable net increase of any criteria pollutant for which the Project region is non-attainment under an applicable federal or state ambient air quality standard?	☐	☐	☒	☐
c.	Expose sensitive receptors to substantial pollutant concentrations?	☐	☐	☒	☐
d.	Result in other emissions (such as those leading to odor) adversely affecting a substantial number of people?	☐	☐	☒	☐

Discussion

The analyses in this section are based on a *Small Project Analysis Level Assessment* (Trinity Consultants, 2022) attached as Appendix A.

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

The Project is within the San Joaquin Valley Air Basin (SJVAB) and under the jurisdiction of the San Joaquin Valley Air Pollution Control District (SJVAPCD). The adopted Air Quality Attainment Plans for the San Joaquin Valley Air Basin set forth comprehensive programs that will lead the SJVAB into compliance with federal and State ambient air quality standards.

The Project was determined to be qualified under SJVAPCD Small Project Analysis Level (SPAL) thresholds and could be assessed as a SPAL pursuant to SJVAPCD guidelines. The SJVAPCD SPAL review parameters determine whether a project qualifies as a "small project." Table 3.4.3-1 below provides a comparison of SPAL parameters to the proposed Project. The SJVPACD determined that if a project is found to be "less than" the SPAL established parameters, then the project has "no possibility of exceeding criteria pollutant emissions thresholds" (San Joaquin Valley Air Pollution Control District, 2015).

Table 3.4.3-1
Industrial Projects SPAL Reference Sizes

Land Use Category - Industrial	Project Size (Square Feet)*	ADT One-Way for all Fleet Types (except HHDT)	ADT One-Way for HHDT Trips only
General Light Industry	280,000	550	70
Heavy Industry	900,000	550	70
Industrial Park	295,000	550	70
Manufacturing	472,000	550	70
Proposed Project**	67,780	1	0
SPAL Exceeded?	No	No	No

Notes: *Project size based on SPAL Table 4(a)(b), as posted on SJVAPCD webpage: https://www.valleyair.org/transportation/CEQA%20Rules/GAMAQI-SPAL.PDF**Proposed Project size includes the estimated area where construction activities will take place (2 x 1024 square feet) and square footage of piping trenching (3.9 miles of pipe with a 6feet wide trench).

Source: Appendix A

The EPA has established the Federal Prevention of Significant Deterioration (PSD) program to determine what comprises significant impact levels (SIL) to NAAQS attainment areas. A project's impacts are considered less than significant if emissions are below PSD SIL for a particular pollutant. When a SIL is exceeded, an additional "increment analysis" is required. The PSD SIL thresholds are used with ambient air quality modeling for a CEQA project to address whether the project would "violate any air quality standard or contribute substantially to an existing or projected air quality violation." Ambient air quality emissions estimates below the PSD SIL thresholds would result in less-than-significant ambient air quality impacts for both a project and cumulative CEQA impact analysis. The SJVAB is classified as non-attainment for the O_3 NAAQS and, as such, is subject to "non-attainment new source review" (NSR). PSD SILs and increments are more stringent than the CAAQS or NAAQS and represent the most stringent thresholds of significance. As the Project would not include modification to the stationary source under NSR, it would not be subject to either PSD or NSR review.

The SJVAPCD has identified quantitative emission thresholds to evaluate the potential air quality impacts of a project. Emissions exceeding the established significance thresholds would be considered to have a significant impact if not adequately mitigated to below the thresholds. The SJVAPCD air quality thresholds from the GAMAQI are presented in Table 3.4.3-2 below. Construction emissions and operational emissions are separated, with operational emissions being further separated into permitted operational emissions and non-permitted operational emissions to determine significance thresholds for air pollutant emissions.

Table 3.4.3-2
SJVAPCD Air Quality Thresholds of Significance – Criteria Pollutants

Pollutant/Precursor	Construction Emissions	Operational Emissions	
	Emissions (tons per yr.)	Permitted Equipment and Activities	Non-Permitted Equipment and Activities
		Emissions (tons per yr.)	Emissions (tons per yr.)
CO	100	100	100
NOx	10	10	10
ROG	10	10	10
SOx	27	27	27
PM_{10}	15	15	15
$PM_{2.5}$	15	15	15

Source: Appendix A

As noted, the Project is below the SPAL screening threshold and is not expected to result in significant criteria pollutant emissions. The Project is predominantly construction related, with operations limited to the maintenance of the well, tank sites, and associated infrastructure. The Project is deemed to have a less-than-significant impact and would not conflict with or obstruct implementation of the applicable air quality plan.

MITIGATION MEASURE(S)

No mitigation is required.

LEVEL OF SIGNIFICANCE

Impacts would be *less than significant.*

Impact #3.4.3b – Would the Project result in a cumulatively considerable net increase of any criteria pollutant for which the Project region is non-attainment under an applicable federal or state ambient air quality standard (including releasing emissions which exceed quantitative thresholds for ozone precursors)?

Using project type and size categories, the SJVAPCD has pre-quantified emissions and determined a size below which it is reasonable to conclude that a project would not exceed applicable thresholds of significance for criteria pollutants. This Project was determined to qualify under the SPAL. Pursuant to SJVAPCD's GAMAQI and SPAL guidelines, a cursory review of Project emissions was estimated using CalEEMod and provided in Table 3.4.3-3 and Table 3.4.3-4.

Short-term criteria pollutant emissions were calculated based on the anticipated construction timelines, equipment needed, and default emission factors for said equipment. The construction period is anticipated to span approximately 4.5 years, with several of the Project components to be constructed concurrently. Construction emissions estimates also included PM_{10} reduction measures in compliance with SJVAPCD Regulation VIII

requirements, including exposed area watering three times a day and vehicle speed reduction to less than 15 miles per hour. Table 3.4.3-3 below summarizes estimated Project construction emissions. Construction-related emissions over the anticipated construction period are estimated to not exceed SJVAPCD construction emissions thresholds and would result in a less-than-significant impact.

Table 3.4.3-3
Construction Emissions

Emissions Source	Pollutant					
	ROG	NOx	CO	SOx	PM_{10}	$PM_{2.5}$
2023 Construction	0.137	0.890	1.128	0.002	0.053	0.041
2024 Construction	0.164	1.499	1.802	0.004	0.110	0.067
2025 Construction	0.102	0.912	1.117	0.002	0.079	0.042
2026 Construction	0.030	0.274	0.330	0.001	0.013	0.011
2027 Construction	0.069	0.584	0.756	0.002	0.025	0.023
Maximum (tons/yr.)	**0.164**	**1.499**	**1.802**	**0.004**	**0.110**	**0.067**
Maximum (pounds/day)	5.377	49.138	59.072	0.142	3.616	2.187
SJVAPCD Construction Emissions Threshold (tons/yr.)	10	10	100	27	15	15
Is Threshold Exceeded?	**No**	**No**	**No**	**No**	**No**	**No**

Source: Appendix A

Long-term criteria pollutant emissions are caused by operational mobile, area, and stationary sources. The only long-term emissions from this Project would be from maintenance trips which are already required for the existing wells, along with minimal incremental increases in electricity usage from the water tank's booster pump. Emergency generators located at Well No. 15, Well No. 16, Well No. 17, and Well No. 18 would be present. The Project's long-term air quality emissions are shown in Table 3.4.3-4 below and are not expected to pose significant impacts to criteria air pollutants.

Table 3.4.3-4
Operational Emissions

Emissions Source	Pollutant					
	ROG	NOx	CO	SOx	PM_{10}	$PM_{2.5}$
Operational Emissions (pounds/day)	3.9272	12.6278	8.7626	0.0166	0.5063	0.5063
Operational Emissions (tons/yr.)	0.7167	2.3064	1.5992	0.0030	0.0924	0.0924
SJVAPCD Operational Emissions Thresholds – Non-permitted Sources	10	10	100	27	15	15
Is Threshold Exceeded?	**No**	**No**	**No**	**No**	**No**	**No**

Source: Appendix A

Based on the above analysis, the proposed Project does not have the possibility of exceeding the criteria pollutant emissions threshold and is under the reporting limit for recommendations and guidelines emissions estimates prepared pursuant to the SPAL assessment. The Project does not conflict with or obstruct implementation of an applicable

air quality plan or exceed the SJVAPCD's established emissions thresholds and significance thresholds for all CEQA air quality determinations. Therefore, this Project would not pose a significant impact to the San Joaquin Valley Air Basin. The proposed Project would have a less-than-significant impact.

MITIGATION MEASURE(S)

No mitigation is required.

LEVEL OF SIGNIFICANCE

Impacts would be *less than significant.*

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

Sensitive receptors are defined as areas where young children, chronically ill individuals, the elderly, or people who are more sensitive than the general population reside. The following locations are where several sensitive receptors are likely to reside and be affected by substantial pollutant concentrations: schools, hospitals, nursing homes, and daycare centers. As the Project involves sites scattered throughout the City of Wasco, a one-mile radius around each site was utilized to identify nearby sensitive receptors; however, a one-mile radius would encompass the entire town. Therefore, all sensitive receptors within the City of Wasco would be within the established one-mile radius of a Project component.

As part of the prepared SPAL Assessment, an analysis of potentially toxic air contaminants (TACs) was conducted. TACs, as defined by the California Health & Safety Code (CH&SC) §44321, are listed in Appendices AI and AII in AB 2588 Air Toxic "Hot Spots" and Assessment Act's Emissions Inventory Criteria and Guideline Regulation document. The proposed Project includes the removal of asbestos-containing pipelines and the operation of diesel-powered equipment, which would potentially result in emissions of TACs. SJVAPCD has set the level of significance for carcinogenic risk at 20 in one million, which is understood as the possibility of causing 20 additional cancer cases in a population of one million people. The level of significance for chronic and acute non-cancer risk is a hazard index of 1.0. All receptors were modeled as residential receptors. The carcinogenic risk and the health hazard index (HI) for chronic non-cancer risk at the point of maximum impact (PMI) do not exceed the significance levels of 20 in one million (20 x 10-6) and 1.0, respectively, for the proposed Project. Table 3.4.3-5 summarizes the potential maximum impacts predicted by the Hotspot Analysis and Reporting Program (HARP2) distributed by CARB, with the full analysis and calculations attached as Appendix A.

Table 3.4.3-5
Potential Maximum Impacts Predicted by HARP

	Value	UTM East	UTM North
Excess Cancer Risk	1.59E-05	286341.4	3942703.2
Chronic Hazard Risk	3.31E-02	286341.4	3942703.2

Source: Appendix A

The maximum predicted cancer risk for the proposed Project is 1.59E-05, and the maximum chronic non-cancer hazard index is 3.31E-02. Since the predicted risks are below the significance threshold for cancer and chronic risk, the Project would not have an adverse effect to any of the surrounding communities.

Once operational, the Project will comply with all SJVAPCD rules and regulations, and therefore it would not expose sensitive receptors to substantial concentrations of localized PM_{10}, carbon monoxide, diesel particulate matter, hazardous air pollutants, or naturally occurring asbestos.

The Project is not expected to expose sensitive receptors to substantial pollutant concentrations. Therefore, the Project will have a less-than-significant impact.

MITIGATION MEASURE(S)

No mitigation is required.

LEVEL OF SIGNIFICANCE

Impacts would be *less than significant*.

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

As discussed in Impact #3.4.3c above, some odors could result from vehicles and equipment using diesel fuels during the construction phase. The emissions associated with the construction of the Project would be temporary in nature and are not anticipated to result in the generation of a substantial amount of hazardous air pollutants. The operation of the proposed Project will not result in emissions or odors. Therefore, the Project will have a less-than-significant impact.

MITIGATION MEASURE(S)

No mitigation is required.

LEVEL OF SIGNIFICANCE

Impacts would be *less than significant*.

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

3.4.4 - BIOLOGICAL RESOURCES

Would the Project:

a.	Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special-status species in local or regional plans, policies, or regulations or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service?	☐	☒	☐	☐
b.	Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations, or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service?	☐	☐	☐	☒
c.	Have a substantial adverse effect on state or federally protected wetlands (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?	☐	☐	☐	☒
d.	Interfere substantially with the movement of any native resident or migratory fish or wildlife species, or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?	☐	☐	☐	☒
e.	Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?	☐	☐	☐	☒
f.	Conflict with the provisions of an adopted habitat conservation plan, natural community conservation plan, or other approved local, regional, or state habitat conservation plan?	☐	☐	☐	☒

Discussion

These biological resources evaluation is based upon a review of available literature and databases and existing site conditions evaluated during a reconnaissance survey. These studies evaluated the potential for sensitive biological resources to occur on and in the vicinity of the Project and any impacts that could potentially occur. Reviews of the California

Department of Fish and Wildlife's (CDFW) California Natural Diversity Database (CNDDB) (CDFW, 2022), California Native Plant Society (CNPS) (California Native Plant Society, 2020), and United States Fish and Wildlife Service's (USFWS) Information for Planning and Consultation (IPaC) (US Fish and Wildlife Service, 2022) was conducted to identify special-status plant and wildlife species with the potential to occur within the Project site and vicinity (the surrounding nine quads and a 10-mile radius). Information on the potential presence of wetlands and waters was obtained from the National Wetlands Inventory (NWI), National Hydrography Database (NHD), and Federal Emergency Management Agency (FEMA). Information regarding the presence of Critical Habitat in the Project vicinity was obtained from the USFWS's Critical Habitat Mapper database. The results of the database inquiries were subsequently reviewed to evaluate the potential for the occurrence of special-status species and other sensitive biological resources known to occur on or near the Project site.

QK biologists conducted a biological reconnaissance survey of the Project sites in August 2022, which included the four proposed well sites with associated pipelines and other infrastructure and accessible areas within a 250 feet biological survey area (BSA) buffer. Meandering pedestrian transects were walked through the BSA to achieve 100 percent visual coverage with the aid of high-power binoculars in areas that were inaccessible. The purpose of the survey was to identify existing plant communities and any sensitive habitats, the presence and potential for the occurrence of special-status plant and wildlife species, and to identify any other sensitive biological resources within the BSA. Protocol surveys for specific special-status wildlife species were not conducted. Locations of sensitive biological resources were documented using the ArcGIS Collector application installed on an iPad. Photographs were taken to document the existing landscape and sensitive biological resources. Detailed notes of observed plant and wildlife species and site conditions were taken while conducting the survey.

General Site Conditions

The Project sites are within the City of Wasco, Kern County, California, and are situated among urban and agricultural development. The Project sites with existing wells and water-related infrastructure are heavily disturbed and contain no native habitat. Site conditions at each of the individual Project components are detailed below.

WELL SITE NO. 15

The proposed site is located on the northwest corner of J Street and 9th Street within a vacant housing development. The proposed site consists of abandoned buildings surrounded by regrowth of ruderal and non-native vegetation. There are two proposed pipelines to the well site; one extends east along 9th Street, and the other crosses 9th Street and extends to the southwest corner of the J Street and 9th Street intersection. Both pipelines will be located along paved surfaces (9th Street or sidewalks) devoid of vegetation. The entirety of the proposed well site has experienced significant historical, as well as ongoing ground disturbance from the construction and operation of the housing complex and roadway. There is no suitable habitat for sensitive biological resources on the site. The site is

surrounded by industrial facilities and active agriculture. There are active agricultural fields to the east that contain an associated retention basin that was dry at the time of the survey. Ornamental trees are present along the fence line of the industrial facility located south of the proposed well site that may be utilized by nesting birds.

WELL SITE NO. 16

The proposed site is located within a vacant lot on the southeast corner of Central Avenue and Poso Drive. The proposed well site, associated pipeline, storage tank, and booster pump station are located within the northeast section of the lot, which has been recently grubbed and contains little ruderal vegetation. The proposed well site is within an area that has been completely disturbed, and there is no suitable habitat for sensitive biological resources on the site. The site is surrounded by residential and agricultural development; active almond orchards are located to the west, and residences with various ornamental trees are located to the north, east, and south.

WELL SITE NO. 17

The proposed site is located southeast of the intersection of Central Avenue and Filburn Avenue. The proposed well site is located within a disked crop field south of Filburn Avenue. The associated pipeline is located on a vacant lot north of Filburn Avenue containing some ruderal vegetation and is adjacent to residential properties and roadways. Several California ground squirrel (*Otospermophilus beecheyi*) burrows were observed within the vacant lot where the proposed pipeline will be located. The proposed well site has been completely disturbed from either existing residential housing or agriculture. There is no suitable habitat for sensitive biological resources on the site.

However, there are active agricultural uses to the west and south and ornamental trees in the residences. A second retention basin associated with residential development is located within the BSA, east of the proposed well site. The retention basin is fenced, and access was limited; however, it contained several small pools of stagnant water at the time of the survey. The Project will not impact this basin.

WELL SITE NO. 18

The proposed site is located north of the intersection of North Central Avenue and Margalo Street. The proposed well site and associated pipeline are located on recently disked cropland containing marginal regrowth of ruderal vegetation. There are active agricultural uses to the north and southeast and ornamental trees within the commercial development to the southwest. California ground squirrels and burrows were observed within the BSA in the fields north of Margalo Street. Evidence of Botta's pocket gopher (*Thomomys bottae*), such as vertically sloped burrows with adjacent soil mounding, was also observed within the fields. The site is an area that has been completely disturbed with existing commercial development and cropland. There is no suitable habitat for sensitive biological resources on the site.

WELL SITE NO. 12 PIPELINE ALIGNMENT

The site consists of a proposed pipeline from the existing well and is located along McCombs Road and Annin Avenue. The proposed pipeline will be aligned along the existing road rights of way.

The site is bordered by residential development, active almond orchards, a recently cleared deciduous orchard now overgrown with ruderal vegetation, and active construction associated with the California High-Speed Rail. Small mammal burrows were observed along the southern road shoulder of McCombs Road; all burrows either displayed sign of previous use by Botta's pocket gopher or did not appear to actively be used by wildlife (weathered and/or collapsed at opening). California ground squirrel burrows were observed within the deciduous orchard located north of McCombs Road and within the orchard located east of Annin Avenue. The site is an area that has been completely disturbed, and there is no suitable habitat for sensitive biological resources on the site. There are active agricultural uses along the alignment and ornamental trees in the residences that may be utilized by nesting birds.

J STREET STORAGE TANK AND BOOSTER PUMP STATION

The site consists of a fenced lot currently used for the storage of vehicles and equipment. The lot contained regrowth of ruderal vegetation. California ground squirrel burrows were observed along the southern fence line of the lot. The entire Project site has experienced significant historical as well as ongoing ground disturbance from the construction and operation of the facility. There is no suitable habitat for sensitive biological resources or trees suitable for nesting birds on the site. There are active agricultural uses to the south.

There were 30 plant species and 11 wildlife species identified during the survey, either through direct observation or by the presence of diagnostic sign (Table 3.4.4-1). None of these species are listed under the Federal or California Endangered Species Act.

Table 3.4.4-1
List of Plant and Wildlife Species Observed on the Biological Survey Area

Scientific Name	Common Name	Well 15	Well 16	Well 17	Well 18	Well 12	Storage Tank/ Booster Pump
Plant							
Amaranthus albus	pigweed amaranth						X
Amaranthus palmeri	careless weed	X				X	
Amsinckia sp.	fiddleneck				X		
Avena fatua	wild oat					X	
Brassica nigra	black mustard				X		
Bromus diandrus	ripgut brome					X	
Bromus madritensis ssp. *rubens*	red brome	X	X	X	X	X	X
Chenopodium album	lamb's quarters			X		X	
Cynodon dactylon	Bermuda grass	X		X		X	
Datura wrightii	jimsonweed						

Scientific Name	Common Name	Well 15	Well 16	Well 17	Well 18	Well 12	Storage Tank/ Booster Pump
Erigeron canadensis	horseweed			X		X	
Eucalyptus sp.	eucalyptus	X					
Helianthus annuus	common sunflower					X	X
Hoffmannseggia glauca	Indian rushpea					X	
Hordeum jubatum	foxtail barley				X	X	
Lactuca serriola	prickly lettuce	X		X		X	X
Medicago sativa	alfalfa	X					
Pinus sp.	pine	X					
Polypogon monspeliensis	rabbitsfoot grass						X
Portulaca oleracea	common purslane					X	
Prunus dulcis	almond			X		X	
Salsola tragus	Russian thistle	X	X	X	X	X	X
Senecio vulgaris	common groundsel	X				X	
Solanum elaeagnifolium	silverleaf nightshade	X				X	X
Sorghum halepense	Johnson grass					X	
Typha sp.	cattail			X			
Tribulus terrestris	puncture vine			X		X	X
Ulmus sp.	elm			X			
Washington robusta	Mexican fan palm	X					
Wildlife							
Aphelocoma californica	Californian scrub jay					X	
Buteo jamaicensis	red-tailed hawk	X					
Canis lupus familiaris	domestic dog			X*			
Cathartes aura	turkey vulture	X					
Corvus brachyrhynchos	American crow				X	X	X
Mimus polyglottos	northern mockingbird				X	X	
Otospermophilus beecheyi	California ground squirrel			X*	X	X	X*
Sturnus vulgaris	common starling					X	
Thomomys bottae	Botta's pocket gopher				X*	X*	
Uta stansburiana	side-blotched lizard				X	X	
Zenaida macroura	mourning dove		X		X	X	

* Indicates diagnostic sign of the species was observed, but not the individuals directly.

Impact Analysis

This section describes the results of the database searches and, using conditions present on the Project as determined by the survey, provides an analysis of Project impacts on each of the six biological evaluation criteria. Each of the evaluation criteria is discussed below, and mitigation measures are provided as warranted to, when implemented, reduce impacts to below-significant levels.

Impact #3.4.4a – Would the Project have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special-status species in local or regional plans, policies, or regulations or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service?

The literature search indicated there is potential for several special-status species to be present on or in the vicinity of the Project. An evaluation of each potential special-status species, including habitat requirements, the likelihood of required habitat to occur within the Project site, and a comparison to the CNDDB, CNPS, and USFWS IPaC records, was conducted. The results of this evaluation concluded that 14 plant species and 23 wildlife species with special status have a reasonable potential to occur on or near the Project.

Special-Status Species

SPECIAL-STATUS PLANT SPECIES

Based on the survey and database queries, there are 14 special-status plant species that have the potential to occur within the subject quadrangle and eight surrounding quadrangles. The majority of the Project sites and adjacent land has been historically disturbed by agricultural practices and/or urban/industrial development. None of the sensitive-plant species were observed during the survey, although the survey was not conducted during the blooming periods of any of the species. However, there is no suitable habitat to support the growth of these plant species, and it is highly unlikely that these plants would inhabit any of the sites. All Project activities will be restricted to previously disturbed and routinely maintained areas that would not support special-status plant species. Thus, no protective measures for special-status plant species are warranted.

SENSITIVE WILDLIFE SPECIES

Based on the database queries, there were 23 special-status wildlife species that were identified as having the potential to occur within the subject quadrangle and eight surrounding quadrangles. Twenty of these species were eliminated from consideration due to the lack of suitable habitat or because the Project is outside the range of these species.

The remaining three species resulting from the database queries have the potential to occur within the Project site and vicinity: burrowing owl (*Athene cunicularia*), Swainson's hawk (*Buteo swainsoni*), and San Joaquin kit fox (*Vulpes macrotis mutica*). Nesting birds protected by the Federal Migratory Bird Treaty Act (MBTA) may also be present during the breeding and nesting season.

Swainson's Hawk

Swainson's hawk (*Buteo swainsoni*) is a State Threatened species and has the potential to occur in the habitat in the vicinity of the Project but is unlikely to be present within the Project footprint. Swainson's hawks forage in agricultural crops, shrublands, and grasslands and typically nest in scattered trees or small groves. There is suitable foraging habitat and nesting trees in the vicinity of the Project, although the Project footprint itself does not

provide suitable breeding or foraging habitat. The nearest CNDDB occurrence is approximately 0.69 miles northwest of Well Site No. 15, where a Swainson's hawk nest was observed in a cottonwood tree in April 1929 (EONDX 91379).

The BSA does not contain suitable nesting habitat for Swainson's hawk, and there is a limited prey base for the species in the BSA. The small, planted trees in the surrounding area provide marginal nesting habitat, and larger planted trees in the vicinity of the Project (at residences, roadways, etc.) would provide more suitable nesting sites. Because the Project does not provide suitable foraging or nesting habitat and has a small footprint, the development of the Project would not result in a significant loss of habitat for the species. If the species were to be nesting within 0.5 miles of the Project during construction activities, normal reproductive or foraging behaviors could be affected. Mitigation Measures BIO-1, BIO-3, BIO-4, BIO-5, and BIO-6 require a pre-construction clearance survey and implementation of the appropriate protocol if the Project is constructed during nesting and breeding season and if Swainson's hawk is observed. A Worker Environmental Awareness Training (WEAT) would also be conducted prior to construction activities. These measures are designed to reduce or eliminate direct impacts to this species to a less-than-significant level.

Burrowing Owl

Burrowing owl (*Athene cunicularia*), a CDFW Species of Special Concern, has a very low potential to occur within the Project sites. The nearest CNDDB record is approximately 8.3 miles southwest of the Project, where three adults were observed at a burrow in 2003 (EONDX 66837). There were no suitable burrows observed within the BSA at each site, and only marginal foraging habitat is available.

Because the Project sites support only marginal habitat for burrowing owls, and each is a small area, the development of the Project would not result in a significant loss of habitat for the species. If the species were to be present during construction activities, individual burrowing owls could be injured or killed, or normal reproductive or foraging behaviors could be affected. Implementation of Mitigation Measures BIO-1, BIO-3, BIO-4, BIO-5, and BIO-6 are designed to reduce or eliminate direct impacts to this species to a less-than-significant level.

San Joaquin Kit Fox

San Joaquin kit fox, a Federally Endangered and State Threatened species, has the potential to occur in the habitat surrounding the Project but is unlikely to den within the BSA, although it could pass through as a transient. The nearest CNDDB record for the species is from 1971 and approximately 3.4 miles west of the Project, documenting a San Joaquin kit fox sighting, roadkill, or den (EONDX 67802). The agricultural land provides only marginal denning habitat for the species, and there were few small mammal burrows observed, so the natural prey base is likely to be very limited. However, San Joaquin kit foxes are known to adapt well to urban and residential areas and scavenge anthropogenic foods, which may be available in nearby residential neighborhoods. No known or potential kit fox dens or any sign of the species were observed during the survey.

San Joaquin kit foxes are known to be in the Project region and to adapt well to human presence, so the species could be present on or near the Project as a transient or become an established resident at any time. Because the Project supports only marginal habitat and is a small area, development of the Project area would not result in a significant loss of habitat for the species. If the species were to be present during construction activities, individual San Joaquin kit foxes could be injured or killed, or normal reproductive or foraging behaviors could be affected. Implementation of Mitigation Measures BIO-1, BIO-2, and BIO-6 are designed to reduce or eliminate direct impacts to this species to a less-than-significant level.

Nesting Migratory Birds

Migratory bird species are protected under the Federal MBTA. No active or inactive bird nests were observed during the survey, which was conducted outside of the typical avian breeding season (February 1 – August 15). The Project and surrounding vicinity provide suitable nesting habitat for a variety of bird species which may nest in tree branches and cavities, shrubs, man-made structures, and directly on the ground. If nesting migratory birds are in the vicinity of the Project during construction activities, individual birds could be injured or killed, or normal reproductive or foraging behaviors could be affected. Implementation of Mitigation Measures BIO-1, BIO-3, BIO-4, BIO-5, and BIO-6 are designed to reduce or eliminate direct impacts to this species to a less-than-significant level.

MITIGATION MEASURE(S)

MM BIO-1 (for new Well Sites No. 16, No. 17, No. 18, and No. 19): Within 14 days prior to the start of Project ground-disturbing activities, a pre-construction survey with a 500-foot buffer, where land access is permitted, shall be conducted by a qualified biologist knowledgeable in the identification of special-status species such as San Joaquin kit fox (SJKF), burrowing owl (WEBO), etc. If dens/burrows/nests that could support any of these special-status species are discovered during the pre-construction survey, the avoidance buffers outlined below shall be established, and den or burrow monitoring will be conducted in accordance with the California Department of Fish and Game (CDFG) *Staff Report on Burrowing Owl Mitigation* (CDFG, 2012) and *USFWS Standardized Recommendations for Protection of the Endangered San Joaquin Kit Fox Prior to or During Ground Disturbance*.

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

Den(s) or burrow(s) may be monitored using trail cameras or tracking medium such as diatomaceous earth. If no species are detected for a minimum of four consecutive days/nights, the den or burrow may be burrow-scoped and plugged with a filled sandbag under the direct supervision of a qualified and approved CDFW biologist. All tunnels must be examined for animal presence before plugging with a sandbag to ensure no burrowing owls, kit foxes, or other animals are hiding inside.

No work shall occur within these buffers unless the biologist approves and monitors the activity. A copy of the pre-construction survey report shall be submitted to the Lead Agency as evidence of compliance.

SJKF

Potential or Atypical den – 50 feet
Known den – 100 feet
Natal Den –Contact CDFW for consultation

MM BIO-2: The following avoidance and minimization measures shall be implemented during all phases of the Project to reduce the potential for impact from the Project. They are modified from the *U.S. Fish and Wildlife Service Standardized Recommendations for Protection of the Endangered SJKF Prior to or During Ground Disturbance* (USFWS, 2011, Appendix F).

a. All food-related trash items such as wrappers, cans, bottles, and food scraps shall be disposed of in securely closed containers. All food-related trash items such as wrappers, cans, bottles, and food scraps shall be disposed of in securely closed containers and removed at least once a week from the construction or Project site.
b. Construction-related vehicle traffic shall be restricted to established roads and predetermined ingress and egress corridors, staging, and parking areas. Vehicle speeds shall not exceed 20 miles per hour (mph) within the Project site.
c. To prevent inadvertent entrapment of kit fox or other animals during construction, the contractor shall cover all excavated, steep-walled holes or trenches more than two feet deep at the close of each workday with plywood or similar materials. If holes or trenches cannot be covered, one or more escape ramps constructed of earthen fill or wooden planks shall be installed in the trench. Before such holes or trenches are filled, the contractor shall thoroughly inspect them for entrapped animals. All construction-related pipes, culverts, or similar structures with a diameter of four inches or greater that are stored on the Project site shall be thoroughly inspected for wildlife before the pipe is subsequently buried, capped, or otherwise used or moved in any way. If at any time an entrapped or injured kit fox is discovered, work in the immediate area shall be temporarily halted, and USFWS and CDFW shall be consulted.
d. Kit foxes are attracted to den-like structures such as pipes and may enter stored pipes and become trapped or injured. All construction pipes, culverts, or similar structures with a diameter of four inches or greater that are stored at a construction site for one or more overnight periods shall be thoroughly inspected for kit foxes before the pipe is subsequently buried, capped, or otherwise used or moved in any way. If a kit fox is

discovered inside a pipe, that section of pipe shall not be moved until the USFWS and CDFW have been consulted. If necessary, and under the direct supervision of the biologist, the pipe may be moved only once to remove it from the path of construction activity until the fox has escaped.

e. No pets, such as dogs or cats, shall be permitted on the Project sites to prevent harassment, mortality of kit foxes, or destruction of dens.
f. Use of anti-coagulant rodenticides and herbicides in Project sites shall be restricted. This is necessary to prevent primary or secondary poisoning of kit foxes and the depletion of prey populations on which they depend. All uses of such compounds shall observe labels and other restrictions mandated by the U.S. Environmental Protection Agency, California Department of Food and Agriculture, and other State and federal legislation, as well as additional Project-related restrictions deemed necessary by the USFWS and CDFW. If rodent control must be conducted, zinc phosphide shall be used because of the proven lower risk to kit foxes.
g. A representative shall be appointed by the Project proponent who will be the contact source for any employee or contractor who might inadvertently kill or injure a kit fox or who finds a dead, injured, or entrapped kit fox. The representative shall be identified during the employee education program, and their name and telephone number shall be provided to the USFWS.
h. The Sacramento Fish and Wildlife Office of USFWS and CDFW shall be notified in writing within three working days of the accidental death or injury to a SJKF during Project-related activities. Notification must include the date, time, and location of the incident or of the finding of a dead or injured animal and any other pertinent information. The USFWS contact is the Chief of the Division of Endangered Species at the addresses and telephone numbers below. The CDFW contact can be reached at (559) 243-4014 and R4CESA@wildlifeca.gov.
i. All sightings of the SJKF shall be reported to the California Natural Diversity Database (CNDDB). A copy of the reporting form and a topographic map clearly marked with the location of where the kit fox was observed shall also be provided to the Service at the address below.
j. Any Project-related information required by the USFWS or questions concerning the above conditions or their implementation may be directed in writing to the U.S. Fish and Wildlife Service at Endangered Species Division, 2800 Cottage Way, Suite W 2605, Sacramento, California 95825-1846, phone: (916) 414-6620 or (916) 414-6600.
k. New sightings of SJKF should be reported to the CNDDB.

MM BIO-3 (for new Well Sites No. 16, No. 17, No. 18, and No. 19): If all Project activities are completed outside of the Swainson's hawk nesting season (February 15 through August 31), this mitigation measure does not apply.

Nesting surveys for the Swainson's hawks shall be conducted in accordance with the protocol outlined in the *Recommended Timing and Methodology for Swainson's Hawk Nesting Surveys in California's Central Valley* (CDFG, 2000). If potential Swainson's hawk nests or nesting substrates are located within 0.5 miles of the Project site, then those nests

or substrates must be monitored for activity on a routine and repeating basis throughout the breeding season or until Swainson's hawks or other raptor species are verified to be using them. The protocol recommends that the following visits be made to each nest or nesting site: one visit from January 1–March 20 to identify potential nest sites, three visits from March 20–April 5, three visits from April 5–April 20, and three visits during June 10–July 30. A fewer number of visits may be permissible if deemed adequate by the City after consultation with a qualified biologist. To meet the minimum level of protection for the species, surveys shall be completed for at least two survey periods immediately prior to Project-related ground-disturbance activities. If Swainson's hawks are not found to nest within the BSA, then no further action is warranted.

MM BIO-4 (for new Well Sites No. 16, No. 17, No. 18, and No. 19): If an active Swainson's hawk nest is discovered at any time within 0.5 miles of active construction, a qualified biologist shall complete an assessment of the potential for current construction activities to impact the nest. The assessment will consider the type of construction activities, the location of construction relative to the nest, the visibility of construction activities from the nest location, and other existing disturbances in the area that are not related to the construction activities of this Project. Based on this assessment, the biologist shall determine if construction activities can proceed and the level of nest monitoring required. Construction activities shall not occur within 500 feet of an active nest but depending upon conditions at the site, this distance may be reduced. Full-time monitoring to evaluate the effects of construction activities on nesting Swainson's hawks may be required. The qualified biologist shall have the authority to stop work if it is determined that Project construction is disturbing the nest. These buffers may need to increase depending on the sensitivity of the nest location, the sensitivity of the nesting Swainson's hawk to disturbances, and the discretion of the qualified biologist.

MM BIO-5 (for new Well Sites No. 16, No. 17, No. 18, and No. 19): If construction is planned outside the nesting period for raptors (other than burrowing owl) and migratory birds (February 1 to August 15), no mitigation shall be required. If construction is planned during the nesting season for migratory birds and raptors, a pre-construction survey to identify active bird nests shall be conducted by a qualified biologist to evaluate the site and a 250-foot buffer for migratory birds and a 500-foot buffer for raptors. If nesting birds are identified during the survey, active raptor nests shall be avoided by 500 feet, and all other migratory bird nests shall be avoided by 250 feet. Avoidance buffers may be reduced if a qualified on-site monitor determines that encroachment into the buffer area is not affecting nest building, the rearing of young, or otherwise affecting the breeding behaviors of the resident birds. Because nesting birds can establish new nests or produce a second or even third clutch at any time during the nesting season, nesting bird surveys shall be repeated every 30 days as construction activities are occurring throughout the nesting season.

No construction or earth-moving activity shall occur within a non-disturbance buffer until it is determined by a qualified biologist that the young have fledged (left the nest) and have attained sufficient flight skills to avoid Project construction areas. Once the migratory birds or raptors have completed nesting, and the young have fledged, disturbance buffers will no longer be needed and may be removed, and monitoring may cease.

MM BIO-6 (for new Well Sites No. 16, No. 17, No. 18, and No. 19): Prior to the initiation of construction activities, all construction personnel shall attend a Worker Environmental Awareness Training program developed and presented by a qualified biologist. It shall include the components described below:

a. Information on the life history and identification of special-status species that may occur or that may be affected by Project activities. The program shall also discuss the legal protection status of each such species, the definition of "take" under the FESA and CESA, measures the Project proponent/operator shall implement to protect the species, reporting requirements, specific measures for workers to avoid take of special-status plant and wildlife species, and penalties for violation of the requirements outlined in the CEQA mitigation measures and agency permit requirements.

LEVEL OF SIGNIFICANCE

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

Impact #3.4.4b – Would the Project have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations, or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service?

The Project sites are predominantly highly disturbed and do not provide riparian habitat or sensitive natural communities. The Project is not located within a river or an area that encompasses a river or potential floodplain and does not contain nor is near any riparian habitat. There are no anticipated impacts to sensitive natural communities as a result of the proposed Project. The proposed Project would not have any impacts to a riparian habitat or sensitive natural communities.

MITIGATION MEASURE(S)

No mitigation is required.

LEVEL OF SIGNIFICANCE

There would be ***no impact***.

Impact #3.4.4c – Would the Project have a substantial adverse effect on State or federally protected wetlands (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?

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

Wetlands, streams, reservoirs, sloughs, and ponds typically meet the criteria for federal jurisdiction under Section 404 of the CWA and State regulatory authority under the Porter-Cologne Water Quality Control Act. Streams and ponds typically meet the criteria for State regulatory authority under Section 1602 of the California Fish and Game Code. There are no water features on any of the Project sites that would meet the criteria for either federal jurisdiction or State regulatory authority. The biological survey did not identify any other non-wetland features within the BSA that would meet the criteria for either federal or State jurisdiction. Accordingly, there are no wetlands or Waters of the U.S. occurring within the BSA of each site. There would be no impact to federally or State protected wetlands or non-wetland waters as a result of the proposed Project. Therefore, the Project would have no impact to federally protected wetlands or waterways or State wetlands or waters.

MITIGATION MEASURE(S)

No mitigation is required.

LEVEL OF SIGNIFICANCE

Impacts would be ***no impact.***

Impact #3.4.4d – Would the Project interfere substantially with the movement of any native resident or migratory fish or wildlife species, or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?

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

The majority of the Project sites are within the developed City, which includes existing disturbed areas; the areas surrounding the Project sites are predominantly developed, and the use of connectivity habitat by sensitive wildlife is highly unlikely. The proposed Project does not occur within the terrestrial migration route, significant wildlife corridor, or wildlife linkage area as identified in the Recovery Plan for Upland Species in the San Joaquin Valley (US Fish and Wildlife Service, 1998).

The Project would not substantially affect migrating birds or other wildlife. The Project will not restrict, eliminate, or significantly alter a wildlife movement corridor, wildlife core area, or Essential Habitat Connectivity area, either during construction or after the Project has been constructed. Project construction will not substantially interfere with wildlife movements or reduce breeding opportunities.

The proposed Project would not interfere with the movement of any native resident or migratory fish or wildlife species or with an established native resident or migratory wildlife

corridors or impede the use of native wildlife nursery sites. Therefore, there would be no impacts to wildlife movements, would not affect movement corridors, or impeded a nursery site.

MITIGATION MEASURE(S)

No mitigation is required.

LEVEL OF SIGNIFICANCE

There would be ***no impact.***

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

There are no adopted local policies or ordinances protecting biological resources that would apply to the Project. Therefore, implementation of the proposed Project would have no conflict related to adopted local policies or ordinances protecting biological resources, and there would be no impact.

MITIGATION MEASURE(S)

No mitigation is required.

LEVEL OF SIGNIFICANCE

There would be ***no impact***.

Impact #3.4.4f – Would the Project conflict with the provisions of an adopted habitat conservation plan, natural community conservation plan, or other approved local, regional, or state habitat conservation plan?

The Project site is not located within any Natural Community Conservation Plan area or any other local, regional, or State habitat conservation plan.

MITIGATION MEASURE(S)

No mitigation is required.

LEVEL OF SIGNIFICANCE

There would be ***no impact***.

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less-than-Significant Impact	No Impact
3.4.5 - CULTURAL RESOURCES				
Would the Project:				
a. Cause a substantial adverse change in the significance of a historical resource pursuant to CEQA Guidelines Section 15064.5?	☐	☒	☐	☐
b. Cause a substantial adverse change in the significance of an archaeological resource pursuant to CEQA Guidelines Section 15064.5?	☐	☒	☐	☐
c. Disturb any human remains, including those interred outside of formal cemeteries?	☐	☒	☐	☐

Discussion

The discussion below is based on the Cultural Resources Technical Memo completed for the Project, attached as Appendix B (QK, 2022).

Impact #3.4.5a – Would the Project cause a substantial adverse change in the significance of a historical resource pursuant to CEQA Guidelines Section 15064.5?

No part of the Project is within the area designated to be historic by the City's General Plan (City of Wasco, 2016).

A cultural resources records search (#22-268) was conducted at the Southern San Joaquin Valley Information Center, CSU Bakersfield, to identify previously recorded resources and prior surveys within the Project areas and surrounding half-mile area. The record search indicated that the Well No. 2 site had been included in a previous cultural resources survey. No resources were identified at the site. One historic cultural resource, the Wasco Union High School Farm (P-15-019048), is located within a half mile of this location. This cultural resource will not be impacted by the implementation of the Project.

None of the remaining Project sites have been surveyed for cultural resources, and it is not known if any exist on them. However, all but the four new well sites have been completely disturbed and include existing water-related infrastructure.

Ten cultural resource studies have been conducted within a half mile of these locations. Fourteen historic period cultural resources have been identified and recorded within one-half mile of these locations (QK, 2022). None of these 14 cultural resources will be impacted by the construction of the Project.

A Sacred Lands File request was also submitted to the Native American Heritage Commission (NAHC). A response dated September 30, 2022, indicates negative results. The NAHC also provided a list of tribes of interest within the Project vicinity. Letters were sent to the tribes with information on the Project, and they were given a 30-day comment review period. To date, no comments have been received. A copy of that correspondence is included in Appendix B.

Although the components of the Project are within the existing disturbed sites, unknown historical resources may be discovered during ground-disturbing activities. In order to account for unanticipated discoveries and the potential to impact previously undocumented or unknown resources, the following mitigation measures are recommended. With the implementation of MM CUL-1 through MM CUL-2, impacts under this criterion would be less than significant with mitigation. With the implementation of the mitigation measures, impacts would be less than significant.

MITIGATION MEASURE(S)

MM CUL-1: If prehistoric or historic-era cultural materials are encountered during construction activities, all work in the immediate vicinity of the find shall halt until a qualified archaeologist can evaluate the find and make recommendations. Cultural resource materials may include prehistoric resources such as flaked and ground stone tools and debris, shell, bone, ceramics, and fire-affected rock, as well as historic resources such as glass, metal, wood, brick, or structural remnants. If the qualified archaeologist determines that the discovery represents a potentially significant cultural resource, additional investigations may be required to mitigate adverse impacts from Project implementation. These additional studies may include avoidance, testing, and evaluation or data recovery excavation. Implementation of the mitigation measure below would ensure that the proposed Project would not cause a substantial adverse change in the significance of a historical resource.

MM CUL-2: If human remains are discovered during construction or operational activities, further excavation or disturbance shall be prohibited pursuant to Section 7050.5 of the California Health and Safety Code. The specific protocol, guidelines, and channels of communication outlined by the Native American Heritage Commission, in accordance with Section 7050.5 of the Health and Safety Code, Section 5097.98 of the Public Resources Code (Chapter 1492, Statutes of 1982, Senate Bill 297), and Senate Bill 447 (Chapter 44, Statutes of 1987), shall be followed. Section 7050.5(c) shall guide the potential Native American involvement, in the event of a discovery of human remains, at the direction of the county coroner.

LEVEL OF SIGNIFICANCE

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

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

See discussion of Impact #3.4.5a above.

The sites have been disturbed previously. The construction of the Project will include shallow trenching to place new piping underground, and some minor grading may be necessary to construct equipment and structures. Although unlikely, there is a chance that trenching and grading activities could unearth previously unknown archaeological resources. Implementation of MM CUL-1 through MM CUL-2 would ensure that potential impacts associated with archaeology during the Project-related activities phase would be less than significant. With the implementation of these mitigation measures, impacts would be less than significant.

MITIGATION MEASURE(S)

Implementation of MM CUL-1 through MM CUL-2.

LEVEL OF SIGNIFICANCE

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

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

There are no known cemeteries or burials on or near the Project. Although unlikely, subsurface construction activities, such as trenching and grading, associated with the proposed Project could potentially disturb previously undiscovered human burial sites. Accordingly, this is a potentially significant impact. Although considered unlikely, subsurface construction activities could cause a potentially significant impact to previously undiscovered human burial sites. The cultural resources and Sacred Lands File records searches did not indicate the presence of human remains, burials, or cemeteries within or in the vicinity of the Project site. No human remains have been discovered at the Project site, and no burials or cemeteries are known to occur within the area of the site. However, construction would involve earth-disturbing activities, and it is still possible that human remains may be discovered, possibly in association with archaeological sites. Implementation of mitigation measure MM CUL-2 would ensure that the proposed Project would not directly or indirectly destroy previously unknown human remains. It is unlikely that the proposed Project would disturb any known human remains, including those interred outside of formal cemeteries. With the implementation of the mitigation measures, impacts would be less than significant.

MITIGATION MEASURE(S)

Implementation of MM CUL-2.

LEVEL OF SIGNIFICANCE

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

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less-than-Significant Impact	No Impact
3.4.6 - ENERGY				
Would the Project:				
a. Result in a potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during Project construction or operation?	☐	☐	☒	☐
b. Conflict with or obstruct a state or local plan for renewable energy or energy efficiency?	☐	☐	☒	☐

Discussion

The analyses in this section are based on a *Small Project Analysis Level Assessment* (Trinity Consultants, 2022) attached as Appendix A.

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

Construction

Energy demand during the construction phase would result from the transportation of materials, construction equipment, and construction worker vehicle trips. Construction equipment can include tractors, loaded trucks, forklifts, generators, cranes, rollers, compactors, and an air compressor. The Project would comply with the SJVAPCD requirements regarding the use of fuel-efficient vehicles and equipment to the extent feasible. The Project will not use natural gas during the construction phase. Compliance with standard regional and local regulations would minimize fuel consumption during Project construction.

There are no unusual Project characteristics that would cause construction equipment to be less energy efficient compared with other similar construction sites in other parts of the State. Thus, construction-related fuel consumption at the Project would not result in inefficient, wasteful, or unnecessary energy use.

Operations

The Project facilities will comply with current applicable building code requirements, development standards, and energy efficiency requirements. Equipment used at the facility will be designed to be energy efficient and will not result in unnecessary energy use. The

Project would result in incremental increases in energy consumption due to the new wells being introduced; however, these increases would be offset by the abandoning of Well Nos. 7, 8, 10, and 11 and would result in a less-than-significant impact.

MITIGATION MEASURE(S)

No mitigation is required.

LEVEL OF SIGNIFICANCE

Impacts would be ***less than significant.***

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

Energy-saving strategies will be implemented where feasible to reduce the Project's energy consumption during the construction and post-construction phases. Strategies being implemented include those recommended by the California Air Resources Board (CARB) that may reduce both the Project's construction energy consumption, including diesel anti-idling measures, light-duty vehicle technology, usage of alternative fuels such as biodiesel blends and ethanol, and heavy-duty vehicle design measures to reduce energy consumption. Additionally, as outlined in the SJVAPCD's GAMAQI, the Project includes recommendations to reduce energy consumption by shutting down equipment when not in use for extended periods, limiting the usage of construction equipment to eight cumulative hours per day, usage of electric equipment for construction whenever possible in lieu of diesel or gasoline powered equipment, and encouragement of employees to carpool to retail establishments or to remain on-site during lunch breaks.

Based on this analysis, the Project would be consistent and not conflict with or obstruct a State or local plan related to renewable energy or energy consumption. Impacts would be less than significant.

MITIGATION MEASURE(S)

No mitigation is required.

LEVEL OF SIGNIFICANCE

Impacts would be ***less than significant.***

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less-than-Significant Impact	No Impact
3.4.7 - GEOLOGY AND SOILS				
Would the Project:				
a. Directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving:				
i. Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault? Refer to Division of Mines and Geology Special Publication 42.	☐	☐	☒	☐
ii. Strong seismic ground shaking?	☐	☐	☒	☐
iii. Seismic-related ground failure, including liquefaction?	☐	☐	☒	☐
iv. Landslides?	☐	☐	☒	☐
b. Result in substantial soil erosion or the loss of topsoil?	☐	☐	☒	☐
c. Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the Project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction, or collapse?	☐	☐	☒	☐
d. Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial risks to life or property?	☐	☐	☒	☐
e. Have soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems in areas where sewers are not available for the disposal of wastewater?	☐	☐	☐	☒
f. Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?	☐	☒	☐	☐

Discussion

Impact #3.4.7a(i) – Would the Project Directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving – Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault?

Wasco is in a seismically active region but is not at risk for high-magnitude earthquake destruction. The City is in the middle of San Joaquin Valley, which experiences moderate to severe ground shaking. There is a designated Alquist-Priolo Special Studies Zone directly north of Wasco, which is attributed to the Pond-Poso fault. The USGS lists the Pond-Poso fault as capable of experiencing a magnitude of 7, but it has not historically shown greater than a magnitude of 4 in the Pond Alquist-Priolo Special Studies Zone (City of Wasco, 2016).

The lack of mapped active and potentially active faults notwithstanding, the Project sites could be subjected to strong ground shaking during an earthquake on a nearby fault. However, no new habitable structures are proposed by the Project.

Water well construction and destruction/abandonment are under the authority of the California Department of Water Resources, and standards are outlined in Bulletin 74-81 (California Department of Water Resources, 1981). The wells will be constructed in accordance with the standards as outlined in Chapter II Section 2, including well location siting to limit contamination and pollution from off-site sources, the use of appropriate well casing, the placement and components of seals, the sizing of the well hole and the types of casing materials to use based on soil types, etc. The Project will adhere to the applicable standards as outlined by the State during the construction, rehabilitation and/or destruction of the proposed wells. Therefore, the Project would have a less-than-significant impact.

Kern County has also adopted a well ordinance that is under the jurisdiction of the County Public Health Department. The Project will adhere to the applicable Kern County regulations. Therefore, the Project would have a less-than-significant impact.

MITIGATION MEASURE(S)

No mitigation is required.

LEVEL OF SIGNIFICANCE

Impacts would be *less than significant.*

Impact #3.4.7a(ii) – Would the Project Directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving – strong seismic ground shaking?

See discussion of Impact #3.4.7a(i) above.

There are no known active earthquake faults or Alquist-Priolo fault zones that traverse the City. However, Southern California is considered to be a seismically active area. The City will ensure that all new construction complies with applicable local and State regulations.

The Project shall adhere to all applicable local and State regulations to reduce any potentially significant impacts to structures resulting from strong seismic ground shaking at the Project site. Therefore, Project impacts would be less than significant.

MITIGATION MEASURE(S)

No mitigation is required.

LEVEL OF SIGNIFICANCE

Impacts would be ***less than significant***.

Impact #3.4.7a(iii) – Would the Project Directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving – seismic-related ground failure, including liquefaction?

See discussion of Impact #3.4.7a(i) and (ii) above.

Liquefaction is defined as a phenomenon where earthquake-induced ground vibrations increase the pore pressure in saturated, granular soils until it is equal to the confining, overburdened pressure. When this occurs, the soil can completely lose its shear strength and enter a liquefied state. The possibility of liquefaction is dependent upon grain size, relative density, confining pressure, a saturation of the soils, and intensity and duration of ground shaking. In order for liquefaction to occur, three criteria must be met: "low density," coarse-grained (sandy) soils, a groundwater depth of less than about 50 feet, and a potential for seismic shaking from nearby large magnitude earthquakes.

Most cities in Kern County are susceptible to adverse secondary effects of seismic activities resulting in ground failure that includes liquefaction (City of Wasco, 2016). Because the depth of the groundwater at the Project sites is much greater than 50 feet, there is a negligible risk of liquefaction occurring at the Project site during a seismic event.

Based on this analysis, the Project would have a less-than-significant impact exposing people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving seismic-related ground failure, including liquefaction. Adherence to all applicable regulations would reduce or avoid any potential impacts to structures resulting from liquefaction at the Project site, and impacts would be less than significant.

MITIGATION MEASURE(S)

No mitigation is required.

LEVEL OF SIGNIFICANCE

Impacts would be *less than significant*.

Impact #3.4.7a(iv) – Would the Project Directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving – landslides?

The Project sites are relatively flat with no significant topological features. As such, there is no potential for rock falls or landslides to impact the Project in the event of a major earthquake, as the area has no dramatic elevation changes. The Project will not directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving landslides. Therefore, the Project will have a less-than-significant impact.

MITIGATION MEASURE(S)

No mitigation is required.

LEVEL OF SIGNIFICANCE

Impacts would be *less than significant*.

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

The Project sites and surroundings are mostly flat. Construction activities for the Project may disturb minimal amounts of soils during construction and would expose these disturbed areas to erosion by wind and water. However, since the Project is anticipated to disturb less than one acre of land at each well site, the Project is not subject to National Pollutant Discharge Elimination System (NPDES) Program requirements. As such, it will not have to develop a Stormwater Pollution Prevention Plan (SWPPP). However, the Project would be required to contain all stormwater runoff on-site and implement various types of Best Management Practices (BMPs) to prevent erosion and sedimentation from occurring during construction.

Typical BMPs intended to control erosion include sandbags, silt fencing, swales, street sweeping, etc. The Project is not expected to result in substantial soil erosion or the loss of topsoil with the implementation of the BMPs. Overall, the Project would not result in conditions where substantial surface soils would be exposed to wind and water erosion.

MITIGATION MEASURE(S)

No mitigation is required.

LEVEL OF SIGNIFICANCE

Impacts would be *less than significant*.

Impact #3.4.7c – Would the Project be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the Project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction, or collapse?

See discussion in Impact #3.4.7a(iii) and 3.4.7a(iv) above.

There are no slopes on or near the sites, and the Project would not expose the people or structures to significant risks from landslides.

The proposed Project will comply with all City and State regulations pertaining to construction, including California Department of Water Resources (DWR) Bulletin 74-81 Water Well Standards and the Wasco Municipal Code. In addition, the City is not in an area that is at high risk for landslides due to the low levels of elevation change (City of Wasco, 2016). Compliance with the existing regulatory framework would be adequate to reduce any potential impacts to less-than-significant levels. Moreover, the Project will be designed by an engineer to resist potential side effects of spreading, subsidence, liquefaction, or collapse. Therefore, the impacts would be less than significant.

MITIGATION MEASURE(S)

No mitigation is required.

LEVEL OF SIGNIFICANCE

Impacts would be *less than significant*.

Impact #3.4.7d – Would the Project be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial risks to life or property?

The Project includes four new well sites, test wells, and the rehabilitation of three wells. No new habitable structures are proposed. The Project complies with all applicable requirements of the California Code of Regulations, California Department of Water Resources Well Standards, and any pertinent City development standards.

MITIGATION MEASURE(S)

No mitigation is required.

LEVEL OF SIGNIFICANCE

Impacts would be *less than significant*.

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

The proposed Project does not include septic systems. The Project will not connect to the existing City sewer line or the sewer system for the disposal of other wastewater generated during operations. Therefore, the Project would have no impact.

MITIGATION MEASURE(S)

No mitigation is required.

LEVEL OF SIGNIFICANCE

There would be ***no impact***.

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

The City's General Plan FEIR indicates there is potential to discover paleontological resources in the City (City of Wasco, 2016). However, the Project sites have previously had ground-disturbing activities. If further ground-disturbing activities are done during construction, there is a potential impact related to damage to or destruction of previously undiscovered paleontological resources or unique geologic features.

Implementation of MM GEO-2 would reduce potential impacts to a less-than-significant level. In addition, the Wasco General Plan FEIR policies and guidelines direct the City to require construction to stop immediately if cultural resources, including tribal, archaeological, or paleontological resources, are uncovered during grading or other on-site excavation activities until appropriate mitigation is implemented. Therefore, with MM GEO-1, the Project will have a less-than-significant impact.

MITIGATION MEASURE(S)

MM GEO-1: If any paleontological resources are encountered during ground-disturbance activities, all work within 25 feet of the find shall halt until a qualified paleontologist, as defined by the Society of Vertebrate Paleontology Standard Procedures for the Assessment and Mitigation of Adverse Impacts to Paleontological Resources (2010), can evaluate the find and make recommendations regarding treatment. Paleontological resource materials may include resources such as fossils, plant impressions, or animal tracks preserved in rock. The qualified paleontologist shall contact the Natural History Museum of Los Angeles County or another appropriate facility regarding any discoveries of paleontological resources.

If the qualified paleontologist determines that the discovery represents a potentially significant paleontological resource, additional investigations and fossil recovery may be required to mitigate adverse impacts from Project implementation. If avoidance is not feasible, the paleontological resources shall be evaluated for their significance. If the resources are not significant, avoidance is not necessary. If the resources are significant, they shall be avoided to ensure no adverse effects, or such effects must be mitigated. Construction in that area shall not resume until the resource-appropriate measures are recommended, or the materials are determined to be less than significant. If the resource is significant and

fossil recovery is the identified form of treatment, then the fossil shall be deposited in an accredited and permanent scientific institution. Copies of all correspondence and reports shall be submitted to the Lead Agency.

LEVEL OF SIGNIFICANCE

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

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less-than-Significant Impact	No Impact
3.4.8 - GREENHOUSE GAS EMISSIONS				
Would the Project:				
a. Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?	☐	☐	☒	☐
b. Conflict with any applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of greenhouse gases?	☐	☐	☒	☐

Discussion

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

Although construction of the proposed Project would result in temporary emissions of GHGs, the Project as a whole is not expected to generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment. The Project GHG emissions would be primarily from mobile source activities during construction. Long-term operation of new wells and equipment would not result in the significant generation of GHG emissions.

The Project would not generate cumulatively considerable GHG impacts, nor would it conflict with any applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of GHGs. The Project will also not conflict with any elements of the California Air Resources Board's 2008 Climate Change Scoping Plan. Therefore, the Project would have a less-than-significant impact.

MITIGATION MEASURE(S)

No mitigation is required.

LEVEL OF SIGNIFICANCE

Impacts would be *less than significant*.

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

See Impact #3.4.8a above. The proposed Project will not exceed the SPAL thresholds established by the SJVAPCD. The Project will not cause an exceedance of Kern COG's population growth projection for the City of Wasco and is subject to SJVACPD regulations. As such, the Project is not anticipated to conflict with or obstruct implementation of the applicable air quality plan. Therefore, the Project would not conflict with any applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of GHGs, and the impacts would be less than significant.

MITIGATION MEASURE(S)

No mitigation is required.

LEVEL OF SIGNIFICANCE

Impacts would be ***less than significant***.

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less-than-Significant Impact	No Impact
3.4.9 - HAZARDS AND HAZARDOUS MATERIALS				
Would the Project:				
a. Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?	☐	☒	☐	☐
b. Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?	☐	☒	☐	☐
c. Emit hazardous emissions or involve handling hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?	☐	☐	☒	☐
d. Be located on a site that is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment?	☐	☐	☒	☐
e. For a Project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the Project result in a safety hazard or excessive noise for people residing or working in the Project area?	☐	☐	☐	☒
f. Impair implementation of, or physically interfere with, an adopted emergency response plan or emergency evacuation plan?	☐	☐	☒	☐
g. Expose people or structures, either directly or indirectly, to a significant risk of loss, injury, or death involving wildland fires?	☐	☒	☐	☐

Discussion

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

Construction of the Project would involve the temporary transport and use of minor quantities of hazardous materials such as fuels, oils, lubricants, hydraulic fluids, paints, and solvents. The types and quantities of hazardous materials to be used and stored on-site would not be of a significant amount to create a reasonably foreseeable upset or accident condition. The handling and transport of all hazardous materials on-site would be performed in accordance with all applicable federal, State, and local laws and regulations. State Route (SR) 43 and SR 46 would be the main Hazardous Materials Shipping Routes that would be utilized during the construction and operation of the Project (Kern County, 2009). There are City-adopted procedures and guidelines to prevent and minimize hazardous emergencies throughout all stages of construction and operation of the Project.

Construction

Small amounts of hazardous and non-hazardous materials and wastes would likely be transported to and from the Project site during the construction phase of the proposed Project. Construction would involve the use of some hazardous materials, such as diesel fuel, hydraulic oil, grease, solvents, adhesives, paints, and other petroleum-based products. These materials are commonly used during construction activities and would be removed and disposed of at an appropriate landfill or recycling facility. Workers would likely be trained to properly identify and handle all hazardous materials, following OSHA/CAL-OSHA regulations. Hazardous waste would be either recycled or disposed of at a permitted and licensed treatment and/or disposal facility. Any hazardous waste or debris that is generated during the construction of the proposed Project would be collected and transported away from the site and disposed of at an approved off-site landfill or another such facility While they are being used during construction, these materials are stored in appropriate storage locations and containers in the manner specified by the manufacturer and disposed of in accordance with local, federal, and State regulations. Therefore, impacts would be less than significant.

Operations

During operation, personnel will perform a routine visual inspection of all water-related infrastructure, including wells, tanks, pipelines, and pumps. Employees will comply with all City adopted safety procedures in order to prevent and minimize leaks or spills. If applicable, Safety Data Sheets will be posted for each chemical used that will include precautionary statements for each chemical, first aid measures, firefighting measures, accidental release measures, handling and storage, exposure controls, physical and chemical properties, stability and reactivity, disposal considerations, and transport information.

The goal of the Project is to filter and mix water that will meet State MCL thresholds for 1,2,3--TCP and nitrates. In some instances, water will go through a GAC filtration process to

remove these chemical constituents. Effluent water from the GAC system will be taken and disposed of at an appropriate Class II nonhazardous materials landfill. No residuals will be released into the City's sewer system. Once operational, it is also expected that the Project will require the transport, use, or disposal of minimal amounts of typical hazardous materials such as oil, diesel fuel, cleaners, etc. These materials will be stored and handled following the appropriate safety procedures. The Project's potential to create significant hazards to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment would be less than significant.

MITIGATION MEASURE(S)

No mitigation is required.

LEVEL OF SIGNIFICANCE

Impacts would be *less than significant.*

Impact #3.4.9b – Would the Project create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?

See the discussion on Impact #3.4.9a above.

There are no active Geologic Energy Management Division (CalGEM) identified oil or gas fields in the Project vicinities, and there are no known existing or historical oil wells on the Project sites (CalGEM, 2022). Consequently, it is not expected that any wells would be impacted by the Project. Therefore, the Project impacts would be less than significant.

MITIGATION MEASURE(S)

No mitigation is required.

LEVEL OF SIGNIFICANCE

Impacts would be *less than significant.*

Impact #3.4.9c – Would the Project emit hazardous emissions or involve handling hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?

See Impacts #3.4.9a and b above.

The schools within a quarter mile of any Project components are shown below in Table 3.4.9-1.

Table 3.4.9-1
Schools in Project Vicinity

Project Component	Nearest School and Distance
Well 15	Early Ed Wasco H Street Child Development – 0.11 miles Wasco Demonstration Child Care – 0.22 miles Early Ed Wasco 6th Street Child Development Center – 0.27 miles
Well 10	James A. Forrest School – 0.1 miles
Well 7	Wasco High School – 0.1 miles
Well 8	Palm Avenue School – 0.2 miles

Construction activities of the proposed Project will result in the temporary use of hazardous materials and or substances, such as lubricant and diesel fuel, during construction. Exhaust from construction and related activities is expected to be minimal and would not create a significant impact. Once constructed, the operation of the Project components would not be considered hazardous. Therefore, the impacts would be less than significant.

MITIGATION MEASURE(S)

No mitigation is required.

LEVEL OF SIGNIFICANCE

Impacts would be ***less than significant.***

Impact #3.4.9d – Would the Project be located on a site that is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment?

An online search was conducted to identify hazardous waste locations on or near the Project site. The search indicated that there are nine hazardous or toxic sites within the City of Wasco (EnviroStor, 2022). Of the nine sites, only one is active – Santa Fe Railroad property at 7th Street and H Street which is 0.13 miles southwest of Well No. 15. However, there are no habitable structures proposed for the site, and City staff would only be on site during routine maintenance activities; construction activities would be of short duration. Therefore, the implementation of the Project would not expose construction or City employees to hazardous materials.

Available data indicates there is one open cleanup site in Wasco at 541 SR 46 (GeoTracker, 2022). This site is more than a half mile from any of the Project components. The cleanup site will not be impacted by the construction or operation of the Project and would not create a significant hazard to the public or the environment.

The Project is not located on a site that is included on a list of hazardous materials sites with the City's General Plan FEIR (City of Wasco, 2016) and would not impact a listed site. There is no data identifying any facilities in the vicinity that might reasonably be anticipated to emit

hazardous air emissions or handle hazardous materials, substances, or wastes that might affect the proposed residential development. Therefore, impacts would be less than significant.

MITIGATION MEASURE(S)

No mitigation is required.

LEVEL OF SIGNIFICANCE

Impacts would be *less than significant.*

Impact #3.4.9e – 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?

The Wasco-Kern County airport is approximately 0.5 miles west of Well No. 12 but is not within a half mile of any of the other Project sites. Well No. 12 is the only component within the airport influence area and is within the B-1 Zone, as identified in the Kern County Airport Land Use Compatibility Plan (ALCUP) (County of Kern, 2012). The B-1 Zone does not restrict or prohibit the construction and operation of governmental utilities or infrastructure such as well. However, none of the proposed Project sites, including Well No. 12, are within an identified noise contour zone. Therefore, the Project would not result in a safety hazard or excessive noise for people working in the Project area and there would be a less-than-significant impact.

MITIGATION MEASURE(S)

No mitigation is required.

LEVEL OF SIGNIFICANCE

There would be a *less-than-significant impact*.

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

The 2022 Kern County Emergency Operations Plan (EOP) establishes an emergency management organization and assigns functions and tasks consistent with California's Standardized Emergency Management System and the National Incident Management System. The EOP includes goals and a framework for implementing effective emergency response (County of Kern, 2022). The Project will comply with all local regulations as stated in the EOP. The Project would also comply with the appropriate local and State requirements regarding emergency response plans and access. The proposed Project would not inhibit the ability of local roadways to continue to accommodate emergency response and evacuation activities. Therefore, the Project would have a less-than-significant impact.

MITIGATION MEASURE(S)

No mitigation is required.

LEVEL OF SIGNIFICANCE

Impacts would be *less than significant.*

Impact #3.4.9g – Would the Project Expose people or structures, either directly or indirectly, to a significant risk of loss, injury, or death involving wildland fires?

According to available data from Cal Fire, the entire City of Wasco, including the Project site, is within a Local Responsibility Area (LRA) (Cal Fire, 2007). The General Plan includes policies that would protect the Project and the community from fire dangers that would be followed during the construction and operation of the Project.

Construction activities and the Project operation are not expected to increase the risk of wildfires on and adjacent to the Project sites. The Project will comply with all applicable State and local standards as required by local fire codes. Therefore, the Project would have less-than-significant impacts.

MITIGATION MEASURE(S)

No mitigation is required.

LEVEL OF SIGNIFICANCE

Impacts would be *less than significant*.

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less-than-Significant Impact	No Impact
3.4.10 - HYDROLOGY AND WATER QUALITY				
Would the Project:				
a. Violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface water quality?	☐	☐	☒	☐
b. Substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the Project may impede sustainable groundwater management of the basin?	☐	☐	☒	☐
c. Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner which would:				
i. Result in substantial erosion or siltation on- or off-site?	☐	☐	☒	☐
ii. Substantially increase the rate of amount of surface runoff in a manner which would result flooding on- or off-site?	☐	☐	☒	☐
iii. Create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff; or	☐	☐	☒	☐
iv. Impede or redirect flood flows?	☐	☐	☒	☐
d. In flood hazard, tsunami, or seiche zones, risk release of pollutants due to Project inundation?	☐	☐	☒	☐
e. Conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan?	☐	☐	☒	☐

Discussion

The analyses in this section are based in part on a *Feasibility Analysis Report* prepared for the Project (Dee Jaspar and Associates, Inc., 2022) attached as Appendix C.

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

The proposed Project construction and groundbreaking activities have the potential to cause erosion, sedimentation, and discharge of construction debris from the Project sites. Clearing of vegetation and grading activities, for example, could lead to exposed or stockpiled soils susceptible to peak stormwater runoff flows. Also, the compaction of soils by heavy equipment may minimally reduce the infiltration capacity of soils (exposed during construction) and increase runoff and erosion potential. Demolition activities and the presence of significant amounts of raw materials for construction, including concrete, asphalt, and slurry, may lead to stormwater runoff contamination. If uncontrolled, these materials could lead to water quality problems, including sediment-laden runoff, prohibited non-stormwater discharges, and ultimately the degradation of downstream receiving water bodies. Implementing BMPs for construction activities, such as the use of straw waddle sandbags, silt fencing, swales, street sweeping, etc., will be implemented and would reduce stormwater runoff to a less-than-significant impact during construction activities.

As proposed, the Project will require minimal grading or other ground-disturbance activities that could cause soil erosion or sedimentation that would degrade water surface quality. Sites having existing water-related infrastructure that is being upgraded/rehabilitated are already clear of vegetation, and no grading will be necessary. The sites for the proposed four new wells (No 15 through No 18) are all one acre or less in size and will require minimal grading or ground disturbance; thus, the potential for issues related to soil erosion or contaminated runoff is unlikely with implementation of standard BMPs. The Project's surface or groundwater water quality impacts are expected to be less than significant because water quality would improve as a result of the Project.

MITIGATION MEASURE(S)

No mitigation is required.

LEVEL OF SIGNIFICANCE

Impacts would be less than significant.

Impact #3.4.10b – Would the Project substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the Project may impede sustainable groundwater management of the basin?

One of the primary purposes of the proposed Project is to improve current water quality conditions to meet State standards. The proposed Project would achieve compliance with the Federal Clean Water Act and State Water Resources Control Board standards for providing the residents of Wasco safe, clean drinking water. Currently, the water from the wells exceeds the maximum contaminant levels for 1, 2, 3-TCP and nitrate. The proposed Project has been analyzed and, with implementation, has been determined to bring drinking water quality within acceptable contaminant ranges.

The Shafter-Wasco Irrigation District is a Groundwater Sustainability Agency (GSA) and abides by the Kern Groundwater Sustainability Plan (KGSP) as required by Sustainable Groundwater Management Act (SGMA). The City extracts water from the Kern County Groundwater Subbasin as its sole water source. The Kern River is the primary groundwater recharge source, and artificial recharge also occurs at nearby groundwater recharge facilities. The Kern County Groundwater Subbasin is bordered by Kern, King, and Tulare Counties to the North, the Sierra Nevada and Tehachapi Mountains to the east and southeast, and the San Emigdio Mountains and Coast Ranges to the south and southwest (City of Wasco, 2016).

The proposed Project will improve the existing water quality by replacing wells with high levels of contaminants that exceed State thresholds. The replacement of the wells will not cause a decrease in existing groundwater supplies as they would supply the same amount of water as the existing wells. The water pumps and tanks, water treatment systems, and the rehabilitation of Well No. 2 will not impact groundwater or increase water demand.

Therefore, the Project will not impact groundwater levels or the production rates of local wells. As such, the Project's impact to groundwater recharge is considered to be less than significant.

MITIGATION MEASURE(S)

No mitigation is required.

LEVEL OF SIGNIFICANCE

Impacts would be *less than significant*.

Impact #3.4.10c(i) –Would the Project substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner which would result in substantial erosion or siltation on- or off-site?

The disturbance of soils on-site during construction that could cause erosion is minimal but may result in temporary construction impacts. Impacts from construction and operation are discussed below.

As discussed in Impact #3.4.10a above, potential impacts on water quality arising from erosion and sedimentation are expected to be localized and temporary during construction. Construction-related erosion and sedimentation impacts as a result of soil disturbance would be less than significant. There are no water bodies present on the Project site, and therefore, the proposed Project would not change the course of any such drainages.

Existing drainage pattern of the site and area would be affected by Project development because of the increase in impervious surfaces at the site. However, there will be a small addition in impervious surfaces (tanks, pads, etc.), which could increase the potential for stormwater runoff and soil erosion. The construction of the Project includes drainage

systems that will be connected to the City storm drainage system. The Project will comply with DWR Bulletin 74-81 and local regulations in order to minimize impacts during construction and post-construction of the Project. The Project will not alter a stream or river. With implementation of BMPs, erosion or siltation on- or off-site is less than significant.

MITIGATION MEASURE(S)

No mitigation is required.

LEVEL OF SIGNIFICANCE

Impacts would be *less than significant*.

Impact #3.4.10c(ii) – Would the Project substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner which would substantially increase the rate of amount of surface runoff in a manner which would result flooding on- or off-site?

See also Impact #3.4.10c(i) above.

The Project sites do not contain any water features, streams, or rivers. Existing drainage pattern of the site and area would be affected by Project development because of the increase in impervious surfaces at the site. However, there will be an addition of minimal impervious surfaces (tanks, pads, etc.), which could increase the potential for stormwater runoff and soil erosion. All Project components will comply with the City of Wasco Municipal Code, Chapter 15 on-site stormwater retention standards. Stormwater will be maintained on-site or be allowed to percolate to the ground. The minimal amount of new impervious surfaces is not expected to substantially increase the rate of water runoff in a manner that results in flooding.

Once constructed, stormwater would either percolate to the ground or be maintained on site. The Project would not cause substantial surface runoff that would result in flooding on- or off-site. Therefore, with mitigation, the Project would have a less-than-significant impact.

MITIGATION MEASURE(S)

No mitigation is required.

LEVEL OF SIGNIFICANCE

Impacts would be *less than significant.*

Impact #3.4.10c(iii) – Would the Project substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner which would create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff?

Please see Impacts #3.4.10a through c(ii) above.

All Project components will comply with the City of Wasco Municipal Code, Chapter 15 on-site stormwater retention standards. Impacts would be less than significant.

The Project would not substantially increase the rate or amount of surface runoff in a manner that would result in flooding on- or off-site, contribute runoff water that would exceed the capacity of existing or planned stormwater drainage systems, nor provide additional sources of polluted runoff. Therefore, the Project would have a less-than-significant impact.

MITIGATION MEASURE(S)

No mitigation is required.

LEVEL OF SIGNIFICANCE

Impacts would be ***less than significant.***

Impact #3.4.10c(iv) – Would the Project substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner which would impede or redirect flood flows?

Project-related activities of the Project would include soil-disturbing activities that could result in erosion and siltation, as well as the use of harmful and potentially hazardous materials required to operate vehicles and equipment.

As discussed in Section #3.4.4b and 3.4.4c, there were no wetlands, Waters of the U.S., or water features identified on the various Project sites. The various Project components are anticipated to be developed on relatively flat land and would not significantly alter existing drainage patterns or the course of a stream or river. Except for proposed Well No. 15, the Project components are not located within a flood hazard area. All Project components will comply with the City of Wasco Municipal Code, Chapter 15 on-site stormwater retention standards and would not impede or redirect flood flows.

Therefore, the Project will have a less-than-significant impact.

MITIGATION MEASURE(S)

No mitigation is required.

LEVEL OF SIGNIFICANCE

Impacts would be ***less than significant.***

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

See Impact #3.4.10c(ii).

The Project site is not located near the ocean or a steep topographic feature (i.e., mountain, hill, bluff, etc.). Tsunamis are waves generated in oceans from seismic activity. Due to the inland location of the site, tsunamis are not considered a hazard for the site. Therefore, there is no potential for the site to be inundated by tsunami or mudflow.

A seiche is a wave generated by the periodic oscillation of a body of water whose period is a function of the resonant characteristics of the containing basin as controlled by its physical dimensions. There is no body of water within the vicinity of the Project site. There is no potential for the inundation of the Project site by seiche.

The Kern County Multi-Jurisdictional Hazard Mitigation Plan (MJHMP) identifies dams and levees throughout Kern County and their potential hazard classification. Figure 4-24 of the Kern County MJHMP indicates dam inundation exposure at the Lake Isabella dam (Kern County, 2020). Per Figure 4-24, the City of Wasco is located outside of the inundation exposure zone. Additionally, Figure 4-25 identifies levees within Kern County and shows that the City of Wasco is not likely to be impacted due to levee failure. Impacts would be less than significant.

MITIGATION MEASURE(S)

No mitigation is required.

LEVEL OF SIGNIFICANCE

Impacts would be *less than significant*.

Impact #3.4.10e – Conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan?

See the response to Impact #3.4.10b above.

The Project would improve the well water quality. The Project will comply with all applicable local and State standards during construction and operation. This Project is not anticipated to use or substantially deplete groundwater supplies or conflict with any future adopted groundwater management plan. Therefore, this Project will have a less-than-significant impact.

MITIGATION MEASURE(S)

No mitigation is required.

LEVEL OF SIGNIFICANCE

Impacts would be *less than significant*.

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

3.4.11 - LAND USE AND PLANNING

Would the Project:

a.	Physically divide an established community?	☐	☐	☐	☒
b.	Cause a significant environmental impact due to a conflict with any land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect?	☐	☐	☒	☐

Discussion

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

The Project sites are either existing City-owned property that supports water-related infrastructure, or they are undeveloped property. The proposed Project sites would not create a division between any established communities. The proposed Project would not physically divide an established community. Therefore, the Project will have no impact.

MITIGATION MEASURE(S)

No mitigation is required.

LEVEL OF SIGNIFICANCE

There would be ***no impact***.

Impact #3.4.11b – Would the Project cause a significant environmental impact due to a conflict with any land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect?

The City intends to change the current land use designation and zone district of the Well No. 17 property from R-1-6 to P-F. This will allow the City to utilize the property to develop the well as well as other city-related facilities. The change in land use will ensure consistency between the intended land use and the land use designation.

The Project is consistent with the City's General Plan and does not create a conflict with any land use plan, policy, or regulation. As such, the proposed Project would not conflict with any

applicable land use plan, policy, or regulation of an agency with jurisdiction over the Project. Therefore, the Project would have a less-than-significant impact.

MITIGATION MEASURE(S)

No mitigation is required.

LEVEL OF SIGNIFICANCE

Impacts would be ***less than significant.***

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

3.4.12 - MINERAL RESOURCES

Would the Project:

a.	Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state?	☐	☐	☒	☐
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?	☐	☐	☒	☐

Discussion

Impact #3.4.12a – Would the Project result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state?

The California Department of Conservation, Geological Survey classifies lands into Aggregate and Mineral Resource Zones (MRZs) based on guidelines adopted by the California State Mining and Geology Board, as mandated by the Surface Mining and Reclamation Act of 1974. These MRZs identify whether known or inferred significant mineral resources are present in areas. Lead agencies are required to incorporate identified MRZs resource areas delineated by the State into their General Plans. The State has not identified any mineral resource zones within the Wasco planning area (City of Wasco, 2016).

As discussed in Impact #3.4.9b, the Project sites are not located in an identified CalGEM oilfield, and there are no known wells located on the sites. The proposed Project would not result in the loss of availability of mineral resources as the Project does not propose the extraction of mineral resources. Additionally, the proposed Project would not restrict the ability of mineral rights holders in the area to exercise their legal rights to access surrounding sites for the exploration and/or extraction of underlying oil research or other natural resources.

The proposed Project would not result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the State. Therefore, impacts would be less than significant.

MITIGATION MEASURE(S)

No mitigation is required.

LEVEL OF SIGNIFICANCE

Impacts would be ***less than significant.***

Impact #3.4.12b – Would the Project result in the loss of availability of a locally important mineral resource recovery site delineated on a local general plan, specific plan, or other land use plan?

The proposed Project is not designated as a mineral recovery area (City of Wasco, 2016). The Project would not alter any existing plans that protect mineral resources. As a result, the proposed Project would not interfere with known mining operations but would not result in the loss of land designated for mineral and petroleum.

The proposed Project would not result in the loss of availability of a locally important mineral resource recovery site delineated on a local general plan, specific plan, or other land use plan. Therefore, impacts would be less than significant.

MITIGATION MEASURE(S)

No mitigation is required.

LEVEL OF SIGNIFICANCE

Impacts would be ***less than significant.***

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less-than-Significant Impact	No Impact
3.4.13 - NOISE				
Would the Project result in:				
a. Generation of a substantial temporary or permanent increase in ambient noise levels in the vicinity of the Project in excess of standards established in a local general plan or noise ordinance or applicable standards of other agencies?	☐	☒	☐	☐
b. Generation of excessive ground-borne vibration or ground-borne noise levels?	☐	☐	☒	☐
c. For a Project located within the vicinity of a private airstrip or an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the Project expose people residing or working in the Project area to excessive noise levels?	☐	☐	☐	☒

Discussion

Impact #3.4.13a – Would the Project result in generation of a substantial temporary or permanent increase in ambient noise levels in the vicinity of the Project in excess of standards established in a local general plan or noise ordinance or applicable standards of other agencies?

The General Plan provides direction for the noise environment for the Project and identifies the policy for land uses that may generate noise and sensitive land uses that may be affected by noise generated elsewhere. The General Plan Policy is to provide noise considerations in the land use decision-making process.

The existing major sources of noise within the City are SR 43, SR 46, and railroad operations. The closest Project site is approximately 0.5 miles away from SR 46 and SR 43. According to the General Plan's Existing Railroad Noise Contour Map, the Project is currently within Noise Level 70 dBA CNEL (City of Wasco, 2016).

Construction-related noise levels and activities will be temporary and intermittent. The proposed Project will generate noise from the following construction equipment: well drill equipment, tractor, loaded truck, forklifts, generator, crane, paver, roller, compactor, and an air compressor. Additionally, traffic and the various other noises generally associated with

construction activities will be temporary and only take place during daylight hours. In addition, the construction-related noise will be intermittent and cease once the proposed Project is completed. Based on the anticipated work and equipment use, Table 3.4.13-1 below reveals a 90 A-weighted decibels (dBA) contour of construction and operation activities. The farthest contour is at 92 feet and is associated with well-drilling activities. Once well drilling is completed, noise generation is anticipated to result in minimal increases in ambient noise from pumps and other equipment. However, the closest sensitive receptor is near proposed Well No. 16, which will be at least 100 feet away from residences. The highest noise levels associated with the Project would occur during well drilling. Well drilling is expected to generate noise levels of 90 dBA at a distance of 92 feet from the equipment source.

Table 3.4.13-1
Attenuation Distances from Project Noise Sources to 90 dBA Noise Contour

Scenario	Distance (feet)
Land Preparation	83
Well Drilling	92
Well Workover	81

Although noise levels exceeding the 90 dBA threshold for Project development and operation would not extend beyond the well site boundaries, implementation of Mitigation Measure MM NSE-1 will ensure the temporary noise impacts from construction-related activities will be less than significant.

MITIGATION MEASURE(S)

MM NSE-1: During construction, the contractor shall implement the following measures:

a. All stationary construction equipment on the Project site shall be located so that noise-emitting objects or equipment face away from any potential sensitive receptors.
b. The construction contractor shall ensure that all construction equipment is equipped with manufacturer-approved mufflers and baffles. During construction, stationary construction equipment shall be placed such that emitted noise is directed away from sensitive noise receivers.
c. Construction activities shall take place during daylight hours, when feasible.

LEVEL OF SIGNIFICANCE

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

Impact #3.4.13b – Would the Project result in generation of excessive ground-borne vibration or ground-borne noise levels?

Construction

Construction activities, in general, can have the potential to create ground-borne vibrations. It is unlikely that any blasting or pile-driving would be required in connection with the construction of the Project. Construction activities most likely to cause vibration include heavy construction equipment and drilling. Therefore, the potential for ground-borne vibrations to occur as part of the construction of the Project is considered minimal.

The Federal Transit Administration (FTA) has published standard vibration velocities for construction equipment operations (Federal Highway Administration (FHWA), U.S. Department of Transportation, 2017). In general, the FTA architectural damage criterion for continuous vibrations (i.e., 0.2 inch/second) appears to be conservative even for sustained pile driving. Building damage can be cosmetic or structural. Ordinary buildings that are not particularly fragile would not experience any cosmetic damage (e.g., plaster cracks) at distances beyond 30 feet. This distance can vary substantially depending on the soil composition and underground geological layer between the vibration source and receiver. In addition, not all buildings respond similarly to vibration generated by construction equipment. The typical vibration produced by construction equipment is illustrated in Table 3.4.13-2.

Table 3.4.13-2
Typical Vibration Levels for Construction Equipment

Equipment	Reference peak particle velocity at 25 feet (inches/second)[1]	Approximate peak particle velocity at 100 feet (inches/second)[2]
Loaded trucks	0.076	0.010
Vibratory compactor/roller	0.210	0.026

Notes:
1 – Federal Transit Administration, Transit Noise and Vibration Impact Assessment Guidelines, May 2006. Table 12-2.
2 – Calculated using the following formula:
$PPV_{equip} = PPVref \times (25/D)1.5$
where: PPV (equip) = the peak particle velocity in inches/second of the equipment adjusted for the distance PPV (ref) = the reference vibration level in inches/second from Table 12-2 of the FTA Transit Noise and Vibration Impact Assessment Guidelines
D = The distance from the equipment to the receiver

As indicated in Table 3.4.13-2, based on the FTA data, vibration velocities from typical heavy construction equipment that would be used during Project construction range from 0.076 to 0.210 inch-per-second peak particle velocity (PPV) at 25 feet from the source of activity. With regard to the proposed Project, ground-borne vibration would be generated during site clearing activities on-site facilitated by implementation of the proposed Project. As demonstrated in Table 3.4-13-2, vibration levels at 100 feet would range from 0.010 to 0.026 PPV. Therefore, the anticipated vibration levels would not exceed the 0.2 inch-per-second PPV significance threshold during construction operations at the nearest receptors, which

are approximately half a mile to the west. It should be noted that 0.2 inch-per-second PPV is a conservative threshold, as that is the construction vibration damage criteria for non-engineered timber and masonry buildings (Kern County Planning Department, 2013). Buildings within the Project area would be better represented by the 0.5 inch-per-second PPV significance threshold (construction vibration damage criteria for reinforced concrete, steel, or timber buildings) (Kern County Planning Department, 2013). Therefore, vibration impacts associated with construction are anticipated to be less than significant.

Operation

Once constructed, the Project would not result in any activities that would create ground-borne vibrations. The Project is near the railroads, which are a common source of ground-borne vibration and intermittent noise exposure. However, the General Plan FEIR states the railway does not generate noise in excess of 80VdB, which is the FTA standard (City of Wasco, 2016). The Project would be operated without the need for on-site employees. Routine maintenance and emergency repairs would be the only likely scenario that would require on-site employees but would be temporary in nature. Thus, the proposed Project would not result in the exposure of persons to sensitive receptors or generate excessive ground-borne vibration or ground-borne noise levels. Therefore, the Project would have a less-than-significant impact.

MITIGATION MEASURE(S)

No mitigation is required.

LEVEL OF SIGNIFICANCE

Impacts would be *less than significant*.

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

There are no private airstrips or airstrip land use plans within the city limits. The Project would not expose people residing or working in the Project area to excessive noise levels.

MITIGATION MEASURE(S)

No mitigation is required.

LEVEL OF SIGNIFICANCE

There would be *no impact*.

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less-than-Significant Impact	No Impact
3.4.14 - POPULATION AND HOUSING				
Would the Project				
a. Induce substantial unplanned population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure)?	☐	☐	☐	☒
b. Displace substantial numbers of existing people or housing, necessitating the construction of replacement housing elsewhere?	☐	☐	☐	☒

Discussion

Impact #3.4.14a – Would the Project 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)?

According to the 2017-2021 American Community Survey, the City of Wasco has an estimated total population of 27,505. 86 percent of the population of the City is Hispanic or Latino, 6.3 percent is white, 0.9 percent is Asian and Pacific Islander, 5.5 percent is black, and 0.3 is American Indian or Alaska Native (U.S. Census Bureau, 2021a).

The median household income in the City is $40,532, compared with a median household income of $69,717 in the United States. Approximately 20.7 percent of the families in the City have incomes below the poverty level, compared with 9.1 percent in the United States (U.S. Census Bureau, 2021b; U.S. Census Bureau, 2021c). The unemployment rate in the City was 4.3 percent compared with 3.9 percent for the United States (U.S. Census Bureau, 2021d). As of November 2022, California's unemployment rate is 4.1 percent (State of California Employment Development Department, 2022).

The proposed Project would not induce substantial population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through the extension of roads or other infrastructure). The Project would not introduce new housing or infrastructure. Therefore, there would be no impacts to the Project.

MITIGATION MEASURE(S)

No mitigation is required.

LEVEL OF SIGNIFICANCE

Impacts would be *less than significant*.

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

See Impact#3.4.14a above.

Any construction needed for the Project would likely be done by existing City employees or construction workers residing in the City or the surrounding area, which would not require new housing. The Project sites will not displace existing people or housing, necessitating the construction of replacement housing elsewhere. Therefore, the Project would have no impact.

MITIGATION MEASURE(S)

No mitigation is required.

LEVEL OF SIGNIFICANCE

There would be *no impact*.

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less-than-Significant Impact	No Impact
3.4.15 - PUBLIC SERVICES				
Would the Project:				
a. Result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times, or to other performance objectives for any of the public services:				
(i) Fire protection?	☐	☐	☒	☐
(ii) Police protection?	☐	☐	☒	☐
(iii) Schools?	☐	☐	☐	☒
(iv) Parks?	☐	☐	☒	☐
(v) Other public facilities?	☐	☐	☒	☐

Discussion

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

Fire protection for the Project is provided by the Kern County Fire Department. The County maintains Fire Station 31 at 2424 7th Street in Wasco. The station is staffed with three personnel every day. The station houses a Type 1 Fire Engine, a Type 4 Patrol Unit, and a Type 1 Office of Emergency Services Water Tender. The average response time is less than 10 minutes (City of Wasco, 2016).

The construction and operation of the proposed Project is not expected to increase the risk of fires on and adjacent to the Project site. Therefore, the impact would be less than significant.

MITIGATION MEASURE(S)

No mitigation is required.

LEVEL OF SIGNIFICANCE

Impacts would be *less than significant.*

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

The Kern County Sheriff's Department provides law enforcement services to the City of Wasco. The Wasco substation is located at 748 F Street in Wasco and is located approximately a half mile from the Project site. The substation is staffed by 25 officers (two sergeants, 18 deputies, four senior deputies, and the area commander), six clerks, and an aide who handles the civil process (City of Wasco, 2016).

The Project will not increase the local population and would not result in significant environmental impacts related to acceptable service ratios, response times, or other performance objectives of police protection services. Therefore, impacts related to police protection would be less than significant.

MITIGATION MEASURE(S)

No mitigation is required.

LEVEL OF SIGNIFICANCE

Impacts would be *less than significant.*

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

The Project is within the Wasco Union Elementary School District (District), which includes five school facilities, and the Wasco Union High School District, which includes two school facilities that service the City. The Project will not increase the population or require changes to the school facilities. Therefore, the Project will not impact the local school district.

MITIGATION MEASURE(S)

No mitigation is required.

LEVEL OF SIGNIFICANCE

There would be *no impact.*

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

According to the City of Wasco's Urban Greening, Parks, and Open Space Master Plan, there are six acres of existing neighborhood parks and 41 acres of existing community parks (City of Wasco, 2016). The proposed Project would not increase the use of existing neighborhood and regional parks. The proposed Project would not result in an increase in the local population.

The proposed Project would not increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated or require the construction or expansion of recreational facilities, which might have an adverse physical effect on the environment. Therefore, the Project would have a less-than-significant impact.

MITIGATION MEASURE(S)

No mitigation is required.

LEVEL OF SIGNIFICANCE

Impacts would be *less than significant.*

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

See Impact #3.4.15a above.

MITIGATION MEASURE(S)

No mitigation is required.

LEVEL OF SIGNIFICANCE

Impacts would be *less than significant.*

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less-than-Significant Impact	No Impact
3.4.16 - RECREATION				
Would the Project:				
a. Increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?	☐	☐	☒	☐
b. Include recreational facilities or require the construction or expansion of recreational facilities that might have an adverse physical effect on the environment?	☐	☐	☒	☐

Discussion

Impact #3.4.16a – Would the Project Increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?

The proposed Project would not increase the use of existing neighborhood and regional parks. The proposed Project would not result in an increase in the local population. Therefore, the Project would not increase the use of existing neighborhood and regional parks or other recreational facilities. There will not be physical deterioration of the facilities, and the Project will not require the construction or expansion of recreational facilities. Therefore, the Project would have a less-than-significant impact.

MITIGATION MEASURE(S)

No mitigation is required.

LEVEL OF SIGNIFICANCE

Impacts would be ***less than significant.***

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

See Impact #3.4.16a above.

The Project would not include recreational facilities or require the construction or expansion of recreational facilities that would have any adverse physical effect on the environment. There would be a less-than-significant impact.

MITIGATION MEASURE(S)

No mitigation is required.

LEVEL OF SIGNIFICANCE

Impacts would be *less than significant.*

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

Discussion

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

The existing roadways providing the main circulation in the vicinity of the Project include the following as designated under the City of Wasco General Plan Circulation Element:

- SR 46 is a highway and serves as the main east/west thoroughfare.
- SR 43 is a highway and serves as the main north/south thoroughfare for the City. Access to Well 12 is located along McCombs Road, west of SR 43.
- J Street is a truck route. Access to the Well 15 would be taken from J Street. In the vicinity of the Project, J Street is developed as a two-lane roadway with curb and gutter.
- Central Avenue is an arterial. Central Avenue south of SR 46 is improved or will be improved with Class II bikeways. Proposed Wells 16, 17, and 18 will take access from Central Avenue.

Vehicle Miles Traveled (VMT) Evaluation

The new CEQA Guidelines Section 15064.3, subdivision (b) was adopted in December 2018 by the California Natural Resources Agency. These revisions to the CEQA Guidelines criteria for determining the significance of transportation impacts are primarily focused on projects

within transit priority areas and shift the focus from driver delay to a reduction of greenhouse gas emissions, creation of multimodal networks, and promotion of a mix of land uses. Vehicle miles traveled, or VMT, is a measure of the total number of miles driven to or from a development and is sometimes expressed as an average per trip or per person.

The newly adopted guidance provides that a Lead Agency may elect to be governed by the provisions of this section immediately. Beginning on July 1, 2020, the provisions of this section shall apply Statewide. To date, the City has not yet formally adopted transportation significance thresholds or transportation impact analysis procedures. Since the regulations of SB 743 have not been finalized or adopted by the City, traffic delay remains the measure used to determine the significance of a traffic impact. Therefore, impacts related to CEQA Guidelines Section 15064.3, subdivision (b) would be less than significant.

Development of the Project sites is required to comply with City standards for driveway development. Construction-related traffic is anticipated to be short-term and would not significantly impact existing or planned circulation infrastructure. The proposed operation of the Project does not require on-site employees and would have minimal impact on the City's circulation system. The proposed Project will not conflict with a program, plan, ordinance, or policy addressing the circulation system, including transit, roadway, bicycle, and pedestrian facilities, and would have a less-than-significant impact.

MITIGATION MEASURE(S)

No mitigation is required.

LEVEL OF SIGNIFICANCE

Impacts would be ***less than significant.***

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

See Impact #3.4.17a above.

MITIGATION MEASURE(S)

No mitigation is required.

LEVEL OF SIGNIFICANCE

Impacts would be ***less than significant.***

Impact #3.4.17c – Would the Project substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?

The Project will not include any changes to any design features that could create a hazard. Therefore, the Project will have a less-than-significant impact.

MITIGATION MEASURE(S)

No mitigation is required.

LEVEL OF SIGNIFICANCE

Impacts would be ***less than significant.***

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

The proposed Project would be required to comply with all emergency access requirements adopted and set forth in the City of Wasco Municipal Code. Project site development will be required to comply with applicable emergency access standards from local and State authorities.

As described above, increased Project-related traffic would not cause a significant increase in congestion and or significantly worsen the existing service levels at intersections on area roads; therefore, Project-related traffic would not affect emergency access to the Project site or any other surrounding locations. The proposed Project would not require closures of public roads, which could inhibit access by emergency vehicles. For these reasons, construction and operation would have a less-than-significant impact on emergency access.

MITIGATION MEASURE(S)

No mitigation is required.

LEVEL OF SIGNIFICANCE

Impacts would be ***less than significant***.

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less-than-Significant Impact	No Impact
3.4.18 - TRIBAL CULTURAL RESOURCES				
Would the Project:				
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:	☐	☒	☐	☐
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	☐	☒	☐	☐
A resource determined by the Lead Agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of Public Resources Code Section 5024.1. In applying the criteria set forth in subdivision (c) of Public Resource Code Section 5024.1, the Lead Agency shall consider the significance of the resource to a California Native American tribe.	☐	☒	☐	☐

Discussion

The discussion below is based on the Cultural Resources Technical Memo completed for the Project, attached as Appendix B (QK, 2022).

Impact #3.4.18a(i) – Would the Project cause a substantial adverse change in the significance of a tribal cultural resource, defined in Public Resources Code Section 21074 as either a site, feature, place, cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American tribe, and that is – listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources as defined in Public Resources Code Section 5020.1(k)?

See the discussion presented in Section 3.4.5 - *Cultural Resources,* Impacts #3.4.5a through 3.4.5c.

On August 16, 2022, pursuant to Public Resources Code §21080.3.1 and Government Code §65300 *et seq*, letters were sent to each of the Native American tribes within the geographic area as identified by the NAHC (see Appendix B). The letters included a Project description and location maps. To date, no responses have been received from the tribes that were contacted.

Upon any ground-breaking activity, there is the possibility of uncovering an object of cultural value. Mitigation Measures MM CUL-1 and MM CUL-2 must be implemented if any artifacts or human remains are discovered. Therefore, the Project would have a less-than-significant impact with mitigation incorporated.

MITIGATION MEASURE(S)

Implementation of Mitigation Measures MM CUL-1 and MM CUL-2.

LEVEL OF SIGNIFICANCE

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

Impact #3.4.18a(ii) – Would the Project cause a substantial adverse change in the significance of a tribal cultural resource, defined in Public Resources Code Section 21074 as either a site, feature, place, cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American tribe, and that is – a resource determined by the Lead Agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of Public Resources Code Section 5024.1. In applying the criteria set forth in subdivision (c) of Public Resource Code Section 5024.1, the Lead Agency shall consider the significance of the resource to a California Native American tribe?

See discussion for Impacts #3.4.5a through#3.4.5c and Impact #3.4.18a(i) above.

MITIGATION MEASURE(S)

Implementation of Mitigation Measures MM CUL-1 and MM CUL-2.

LEVEL OF SIGNIFICANCE

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

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less-than-Significant Impact	No Impact
3.4.19 - UTILITIES AND SERVICE SYSTEMS				
Would the Project:				
a. Require or result in the relocation or construction of new or expanded water, wastewater treatment, or stormwater drainage, electric power, natural gas, or telecommunications facilities, the construction or relocation of which could cause significant environmental effects?	☐	☐	☒	☐
b. Have sufficient water supplies available to serve the Project and reasonably foreseeable future development during normal, dry and multiple dry years?	☐	☐	☒	☐
c. Result in a determination by the wastewater treatment provider that serves or may serve the Project that it has adequate capacity to serve the Project's Projected demand in addition to the provider's existing commitments?	☐	☐	☐	☒
d. Generate solid waste in excess of State or local standards, or in excess of the capacity of local infrastructure, or otherwise impair the attainment of solid waste reduction goals?	☐	☐	☒	☐
e. Comply with federal, state, and local management and reduction statutes and regulations related to solid waste?	☐	☐	☒	☐

Discussion

This analysis relied upon a review of applicable requirements of the California Regional Water Quality Control Board (CRWQCB) and the Wasco General Plan.

Impact #3.4.19a – Would the Project require or result in the relocation or construction of new or expanded water, wastewater treatment, or stormwater drainage, electric power, natural gas, or telecommunications facilities, the construction or relocation of which could cause significant environmental effects?

The Project is for the development of new wells, improvement of existing wells, and water infrastructure that will be constructed at various sites throughout the City. Additionally, four

existing wells are planned to be abandoned once the construction of the Project is complete. The proposed new water wells would be subject to applicable State and local standards for well drilling, including Kern County well drilling and abandoning requirements. The proposed well sites will connect to the City's existing water distribution system. With the compliance of State and local regulations for well development and water quality, the development of the Project would not result in a significant environmental effect. The Project sites would not require or result in the relocation or construction of new or expanded wastewater treatment, stormwater drainage, natural gas, or telecommunications facilities.

The Pacific Gas and Electric Company (PG&E) provides electricity to the City. The Project will connect to existing PG&E transmission lines. The Project would not require or result in the relocation or construction of new or expanded water, wastewater treatment, stormwater drainage, natural gas, or telecommunications facilities. As a result, the Project is considered to be less than significant.

MITIGATION MEASURE(S)

No mitigation is required.

LEVEL OF SIGNIFICANCE

Impacts would be ***less than significant.***

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

The City provides domestic water from six active wells out of nine (two wells are inactive, and another only provides irrigation water for the Valley Rose Golf Course) (City of Wasco, 2016). The City estimates water use demand to be 6,661 AFY in 2015 and would increase to 17,397 AFY by 2035. The City of Wasco General Plan indicates that the combined capacity of water wells is 15,476 AFY. The Project intends to drill new wells, improve existing wells, and build support infrastructure that will continue to meet the needs of the City and its residents.

The City's water conservation program, the "No Waste" Ordinance, assists in ensuring a reliable water supply that meets federal, State, and local standards. Other planned infrastructure projects listed in the City of Wasco General Plan would allow the City to continue to provide a reliable water supply for its service area. Compliance of the Project with the Kern Groundwater Authority Groundwater Sustainability Plan (GSP) would also ensure sustainable groundwater supply goals are met. With consideration of the City's efforts for water conservation and groundwater recharge, in addition to compliance with applicable State and GSP requirements, the Project's purpose for meeting the City's current and future potable water demands would have less-than-significant impacts on available water supplies and would be sufficient for foreseeable future development during normal, dry, and multiple dry years.

MITIGATION MEASURE(S)

No mitigation is required.

LEVEL OF SIGNIFICANCE

Impacts would be *less than significant.*

Impact #3.4.19c – Would the Project result in a determination by the wastewater treatment provider that serves or may serve the Project that it has adequate capacity to serve the Project's Projected demand in addition to the provider's existing commitments?

See Impact #3.4.19a and b.

The proposed Project does not include the construction of habitable structures. Therefore, there will be no increase in wastewater, and the Project would have no impact.

MITIGATION MEASURE(S)

No mitigation is required.

LEVEL OF SIGNIFICANCE

Impacts would be *less-than-significant impact*.

Impact #3.4.19d – Would the Project generate solid waste in excess of State or local standards, or in excess of the capacity of local infrastructure, or otherwise impair the attainment of solid waste reduction goals?

Implementation of the proposed Project would not increase the demand for solid waste disposal. During temporary construction, unused construction materials, which are not anticipated to contain hazardous materials, would be collected and transported away from the site.

Solid waste that is collected during construction will be disposed of at the Shafter/Wasco Landfill and the Bakersfield Metropolitan (Bena) Landfill. These landfills are owned and operated by the Kern County Waste Management Department. The Shafter/Wasco Landfill is the City's primary landfill, while the Bena Landfill accepts some refuse from industrial uses within the City. Both of these facilities are designated as Class III landfills and have the capacity to serve projected solid waste disposal needs through December 2053 and April 2046, respectively (CalRecycle, 2020). As noted previously, residual water or byproducts of the filtration process will be taken and disposed of at an appropriate Class II nonhazardous materials landfill. Once operational, the Project would not generate municipal waste.

The Project, in compliance with federal, State, and local statutes and regulations related to solid waste, would dispose of all waste generated on-site at an approved solid waste facility. The Project does not and would not conflict with federal, State, or local regulations related

to solid waste. The proposed Project would be served by a landfill with a sufficient permitted capacity to accommodate the Project's solid waste disposal needs in compliance with federal, State, and local statutes and regulations related to solid waste. Therefore, the Project would have a less-than-significant impact.

MITIGATION MEASURE(S)

No mitigation is required.

LEVEL OF SIGNIFICANCE

Impacts would be ***less-than-significant impact.***

Impact #3.4.19e – Would the Project comply with federal, state, and local management and reduction statutes and regulations related to solid waste?

See discussion for Impact #3.4.19d.

As stated above, the Wasco-Shafter Landfill has the available capacity to accommodate solid waste generated by the proposed Project. Therefore, the proposed Project would not be expected to significantly impact Kern County landfills. The proposed Project would be required to comply with all federal, State, and local statutes and regulations related to solid waste. Therefore, implementation of the proposed Project would result in a less-than-significant impact.

MITIGATION MEASURE(S)

No mitigation is required.

LEVEL OF SIGNIFICANCE

Impacts would be ***less than significant.***

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less-than-Significant Impact	No Impact
3.4.20 - WILDFIRE				
If located in or near state responsibility areas or lands classified as very high fire hazard severity zones, would the Project:				
a. Substantially impair an adopted emergency response plan or emergency evacuation plan?	☐	☐	☒	☐
b. Due to slope, prevailing winds, and other factors, exacerbate wildfire risks, and thereby expose Project occupants to, pollutant concentration from a wildfire or the uncontrolled spread of a wildfire?	☐	☐	☒	☐
c. Require the installation or maintenance of associated infrastructure (such as roads, fuel breaks, emergency water sources, power lines or other utilities) that may exacerbate fire risk or that may result in temporary or ongoing impacts to the environment?	☐	☐	☒	☐
d. Expose people or structures to significant risks, including downslope or downstream flooding or landslides, as a result of runoff, post-fire slope instability, or drainage changes?	☐	☐	☒	☐

Discussion

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

See also Impact #3.4.9f regarding emergency response.

The City of Wasco is not within close proximity to High Fire Hazard Zones (City of Wasco, 2016).

As noted previously, Kern County Emergency Operations Plan (EOP) establishes emergency procedures and policies and identifies responsible parties for emergency response in the County (County of Kern, 2022). The EOP includes policies that would prevent new development from interfering with the emergency response of evacuation plans. The Project

will adhere to the standards set forth in the City of Wasco Municipal Codes. The Project would also comply with the appropriate local and State requirements regarding emergency response plans and access. The proposed Project would not inhibit the ability of local roadways to continue to accommodate emergency response and evacuation activities.

The proposed Project would not impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan. Therefore, the Project would have a less-than-significant impact.

MITIGATION MEASURE(S)

No mitigation is required.

LEVEL OF SIGNIFICANCE

Impacts would be *less than significant.*

Impact #3.4.20b – If located in or near state responsibility areas or lands classified as very high fire hazard severity zones, would the Project, due to slope, prevailing winds, and other factors, exacerbate wildfire risks, and thereby expose Project occupants to, pollutant concentration from a wildfire or the uncontrolled spread of a wildfire?

The Project will be constructed and operated in existing developed areas. The City's General Plan does not identify the Project site as an area with a high fire threat (City of Wasco, 2016). The Project areas are generally flat. Prevailing winds in the City typically occur from the northwest at an average speed of five to 10 miles per hour (City of Wasco, 2016). By implementing State and local fire code requirements, the Project would not exacerbate the risk of exposure of Project occupants to wildfire. Therefore, impacts would be less than significant.

MITIGATION MEASURE(S)

No mitigation is required.

LEVEL OF SIGNIFICANCE

Impacts would be *less than significant*.

Impact #3.4.20c – If located in or near state responsibility areas or lands classified as very high fire hazard severity zones, would the Project require the installation or maintenance of associated infrastructure (such as roads, fuel breaks, emergency water sources, power lines or other utilities) that may exacerbate fire risk or that may result in temporary or ongoing impacts to the environment?

See Impacts # 3.4.9a and g, #3.4.20a and b above.

The Project is not located near state responsibility areas or lands classified as very high fire hazard severity zones. The site is not within 350 feet of high-voltage transmission lines. Based on available data, the nearest electric transmission line is along SR 46 (California Energy Commission, 2020). The Project would not require the installation or maintenance of additional distribution lines. Therefore, the Project would not exacerbate fire risk or result in temporary or ongoing impacts to the environment, and impacts would be less than significant.

MITIGATION MEASURE(S)

No mitigation is required.

LEVEL OF SIGNIFICANCE

Impacts would be *less than significant*.

Impact #3.4.20d – If located in or near state responsibility areas or lands classified as very high fire hazard severity zones, would the Project expose people or structures to significant risks, including downslope or downstream flooding or landslides, as a result of runoff, post-fire slope instability, or drainage changes?

See Impacts # 3.4.9a and g, #3.4.20a, b, and c above.

The Project is not located near State responsibility areas or lands classified as very high fire hazard severity zones. The City and the Project sites are topographically flat land. There are no slopes on or near the property, and the Project would not expose the people or structures to significant risks from downslope or downstream flooding or landslides due to a result of runoff, post-fire instability, or drainage changes.

Therefore, the Project would have a less-than-significant impact.

MITIGATION MEASURE(S)

No mitigation is required.

LEVEL OF SIGNIFICANCE

Impacts would be *less than significant.*

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

Discussion

Impact #3.4.21a – Does the Project have the potential to degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, substantially reduce the number or restrict the range of a rare or endangered plant or animal, or eliminate important examples of the major periods of California history or prehistory?

As evaluated in this IS/MND, the proposed Project would not substantially degrade the quality of the environment; substantially reduce the habitat of a fish or wildlife species; cause a fish or wildlife population to drop below self-sustaining levels; threaten to eliminate a plant or animal community; reduce the number or restrict the range of an endangered, rare, or threatened species; or eliminate important examples of the major periods of California history or prehistory. With implementation of the mitigation measures recommended in this

document, the proposed Project would not have the potential to degrade the quality of the environment, significantly impact biological resources, or eliminate important examples of the major periods of California's history or prehistory. Therefore, with the following mitigation measures, the Project would have a less-than-significant impact.

MITIGATION MEASURE(S)

Implementation of Mitigation Measures MM BIO-1 through MM BIO-6 and MM CUL-1 and MM CUL-2.

LEVEL OF SIGNIFICANCE

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

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

As described in the impact analyses in Sections 3.4.1 through 3.4.20 of this IS/MND, any potentially significant impacts of the proposed Project would be reduced to a less-than-significant level following the incorporation of the mitigation measures listed. The proposed Project would not otherwise combine with impacts of related development to add considerably to any cumulative impacts in the region. With mitigation, the proposed Project would not have impacts that are individually limited but cumulatively considerable. Therefore, the Project would have a less-than-cumulatively-considerable impact with mitigation incorporated.

MITIGATION MEASURE(S)

Implementation of Mitigation Measures MM BIO-1 and MM BIO-6, MM CUL-1 through MM CUL-2, MM GEO-1, MM NSE-1.

LEVEL OF SIGNIFICANCE

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

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

All of the Project's impacts, both direct and indirect that are attributable to the Project were identified and mitigated. The Project mitigation measures will substantially reduce or eliminate the impacts of the Project. Therefore, the proposed Project would not either directly or indirectly cause substantial adverse effects on human beings because all potentially adverse direct impacts of the proposed Project are identified as having no impact, less-than-significant impact, or less-than-significant impact with mitigation.

MITIGATION MEASURE(S)

Implementation of Mitigation Measures MM BIO-1 and MM BIO-6, MM CUL-1 through MM CUL-2, MM GEO-1, and, MM NSE-1.

LEVEL OF SIGNIFICANCE

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

SECTION 4 - LIST OF PREPARERS

Lead Agency- City of Wasco

- Scott Hurlbert- City Manager
- Maria Lara- Assistant City Manager

Consultants –

QK

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Trinity Environmental Consultants (Air Quality)

- Matt Daniel – Senior Consultant

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- Curtis Skaggs, PE

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SECTION 6 - MITIGATION MONITORING AND REPORTING PROGRAM

Mitigation Monitoring Program					
Impact	**Mitigation Measure**	**Time Frame for Implementation**	**Responsible Monitoring Agency**	**Date**	**Initials**
	Aesthetics				
	No Mitigation required.				
	Agriculture and Forest Resources				
	No Mitigation required.				
	Air Quality				
	No Mitigation required.				
	Biological Resources				
#1	**BIO-1 (for new well sites No. 15, No. 16, No. 17, and No. 18):** Within 14 days prior to the start of Project ground-disturbing activities, a pre-construction survey with a 500-foot buffer, where land access is permitted, shall be conducted by a qualified biologist knowledgeable in the identification of special status species such as San Joaquin kit fox (SJKF), burrowing owl (WEBO), etc. If dens/burrows/nests that could support any of these special-status species are discovered during the pre-construction survey, the avoidance buffers outlined below shall be established, and den or burrow monitoring will be conducted in accordance with the California Department of Fish and Game (CDFG) *Staff Report on Burrowing Owl Mitigation (CDFG 2012)* and *USFWS Standardized Recommendations for Protection of the Endangered San Joaquin Kit Fox Prior to or During Ground Disturbance.* If any burrowing owl burrows are observed during the preconstruction survey, avoidance measures shall be consistent with those included in the CDFW Staff Report on Burrowing Owl Mitigation (CDFG 2012). If occupied burrowing owl burrows are observed outside of the breeding season (September 1 through January 31) and within 250 feet of proposed construction activities, a passive relocation effort may be instituted in accordance with the guidelines established by the California Burrowing Owl Consortium (1993) and the California Department of Fish and Wildlife (2012). During the	Within 14 days prior to any construction-related activities.	Lead Agency, Qualified Biologist; U.S. Fish and Wildlife Service, if necessary; and California Department of Fish and Wildlife if necessary.		
		Steps to Compliance: A. A qualified biologist shall be responsible for a preconstruction survey. B. If necessary, the qualified biologist shall contact CDFW and USFWS to determine next steps. C. If necessary, the qualified biologist shall implement next steps in consultation with the wildlife agencies. D. The qualified biologist shall prepare a brief report to be submitted to the wildlife agencies within 5 days of completion of the preconstruction survey. E. Lead Agency shall verify compliance.			

Mitigation Monitoring Program					
Impact	**Mitigation Measure**	**Time Frame for Implementation**	**Responsible Monitoring Agency**	**Date**	**Initials**
	breeding season (February 1 through August 31), a 500-foot (minimum) buffer zone shall be maintained unless a qualified biologist verifies through noninvasive methods that either the birds have not begun egg laying and incubation or that juveniles from the occupied burrows are foraging independently and are capable of independent survival. Den(s) or burrow(s) may be monitored using trail cameras or tracking medium such as diatomaceous earth. If no species are detected for a minimum of four consecutive days/nights, the den or burrow may be burrow-scoped and plugged with a filled sandbag under the direct supervision of a qualified and approved by CDFW biologist. All tunnels must be examined for animal presence before plugging with a sandbag to ensure no burrowing owls, kit foxes, or other animals are hiding inside. No work shall occur within these buffers unless the biologist approves and monitors the activity. A copy of the pre-construction survey report shall be submitted to the lead agency as evidence of compliance. SJKF Potential or Atypical den – 50 feet Known den – 100 feet Natal Den –Contact CDFW for consultation				
#2	**BIO-2 (:** The following avoidance and minimization measures shall be implemented during all phases of the Project to reduce the potential for impact from the Project. They are modified from the U.S. Fish and Wildlife Service Standardized Recommendations for Protection of the Endangered SJKF Prior to or During Ground Disturbance (USFWS 2011, Appendix F).	All phases	Lead Agency, Project operators, contractors		
		Steps to Compliance: A. The measures listed are to be followed while Project is implemented.			

Mitigation Monitoring Program					
Impact	**Mitigation Measure**	**Time Frame for Implementation**	**Responsible Monitoring Agency**	**Date**	**Initials**
	a. All food-related trash items such as wrappers, cans, bottles, and food scraps shall be disposed of in securely closed containers. All food-related trash items such as wrappers, cans, bottles, and food scraps shall be disposed of in securely closed containers and removed at least once a week from the construction or Project site. b. Construction-related vehicle traffic shall be restricted to established roads and predetermined ingress and egress corridors, staging, and parking areas. Vehicle speeds shall not exceed 20 miles per hour (mph) within the Project site. c. To prevent inadvertent entrapment of kit fox or other animals during construction, the contractor shall cover all excavated, steep-walled holes or trenches more than two feet deep at the close of each workday with plywood or similar materials. If holes or trenches cannot be covered, one or more escape ramps constructed of earthen fill or wooden planks shall be installed in the trench. Before such holes or trenches are filled, the contractor shall thoroughly inspect them for entrapped animals. All construction-related pipes, culverts, or similar structures with a diameter of four inches or greater that are stored on the Project site shall be thoroughly inspected for wildlife before the pipe is subsequently buried, capped, or otherwise used or moved in anyway. If at any time an entrapped or injured kit fox is discovered, work in the immediate area shall be temporarily halted and USFWS and CDFW shall be consulted. d. Kit foxes are attracted to den-like structures such as pipes and may enter stored pipes and become trapped or injured. All construction pipes, culverts, or similar structures with a diameter of four inches or greater that are stored at a construction site for one or more overnight periods shall be thoroughly inspected for kit foxes before the pipe is subsequently buried, capped, or	B. A pre-construction survey shall be sent to the Lead Agency.			

Mitigation Monitoring Program					
Impact	**Mitigation Measure**	**Time Frame for Implementation**	**Responsible Monitoring Agency**	**Date**	**Initials**
	otherwise used or moved in any way. If a kit fox is discovered inside a pipe, that section of pipe shall not be moved until the USFWS and CDFW have been consulted. If necessary, and under the direct supervision of the biologist, the pipe may be moved only once to remove it from the path of construction activity, until the fox has escaped. e. No pets, such as dogs or cats, shall be permitted on the Project sites to prevent harassment, mortality of kit foxes, or destruction of dens. f. Use of anti-coagulant rodenticides and herbicides in Project sites shall be restricted. This is necessary to prevent primary or secondary poisoning of kit foxes and the depletion of prey populations on which they depend. All uses of such compounds shall observe label and other restrictions mandated by the U.S. Environmental Protection Agency, California Department of Food and Agriculture, and other State and Federal legislation, as well as additional Project-related restrictions deemed necessary by the USFWS and CDFW. If rodent control must be conducted, zinc phosphide shall be used because of the proven lower risk to kit foxes. g. A representative shall be appointed by the Project proponent who will be the contact source for any employee or contractor who might inadvertently kill or injure a kit fox or who finds a dead, injured or entrapped kit fox. The representative shall be identified during the employee education program and their name and telephone number shall be provided to the USFWS. h. The Sacramento Fish and Wildlife Office of USFWS and CDFW shall be notified in writing within three working days of the accidental death or injury to a SJKF during Project-related activities. Notification must include the date, time, and location of the incident or of the finding of a dead or injured animal and				

Mitigation Monitoring Program					
Impact	**Mitigation Measure**	**Time Frame for Implementation**	**Responsible Monitoring Agency**	**Date**	**Initials**
	any other pertinent information. The USFWS contact is the Chief of the Division of Endangered Species, at the addresses and telephone numbers below. The CDFW contact can be reached at (559) 243-4014 and R4CESA@wildlifeca.gov. i. All sightings of the SJKF shall be reported to the California Natural Diversity Database (CNDDB). A copy of the reporting form and a topographic map clearly marked with the location of where the kit fox was observed shall also be provided to the Service at the address below. j. Any Project-related information required by the USFWS or questions concerning the above conditions, or their implementation may be directed in writing to the U.S. Fish and Wildlife Service at: Endangered Species Division, 2800 Cottage Way, Suite W 2605, Sacramento, California 95825-1846, phone: (916) 414-6620 or (916) 414-6600. k. New sightings of SJKF should be reported to the CNDDB.				
#3	**BIO-3 (for new well sites No. 15, No. 16, No. 17 and No. 18):** If all Project activities are completed outside of the Swainson's hawk nesting season (February 15 through August 31), this mitigation measure does not apply. Nesting surveys for the Swainson's hawks shall be conducted in accordance with the protocol outlined in the *Recommended Timing and Methodology for Swainson's Hawk Nesting Surveys in California's Central Valley* (CDFG 2000). If potential Swainson's hawk nests or nesting substrates are located within 0.5 miles of the Project site, then those nests or substrates must be monitored for activity on a routine and repeating basis throughout the breeding season, or until Swainson's hawks or other raptor species are verified to be using them. The protocol recommends that the following visits be made to each nest or nesting site: one visit during	Before construction if initiated during nesting season (February 15 to August 31)	Lead Agency, Project operators, contractors		
		Steps to Compliance: A. If ground-disturbing activities are anticipated to be completed during Swainson's hawk nesting season, a qualified biologist shall conduct a preconstruction survey. B. The qualified biologist shall prepare a brief report to be submitted to the wildlife agencies within 5 days of completion of the preconstruction survey.			

Mitigation Monitoring Program					
Impact	**Mitigation Measure**	**Time Frame for Implementation**	**Responsible Monitoring Agency**	**Date**	**Initials**
	January 1–March 20 to identify potential nest sites, three visits during March 20–April 5, three visits during April 5–April 20, and three visits during June 10–July 30. A fewer number of visits may be permissible if deemed adequate by the City after consultation with a qualified biologist. To meet the minimum level of protection for the species, surveys shall be completed for at least the two survey periods immediately prior to Project-related ground disturbance activities. If Swainson's hawks are not found to nest within the BSA, then no further action is warranted.				
#4	**BIO-4:** If an active Swainson's hawk nest is discovered at any time within 0.5 mile of active construction, a qualified biologist shall complete an assessment of the potential for current construction activities to impact the nest. The assessment will consider the type of construction activities, the location of construction relative to the nest, the visibility of construction activities from the nest location, and other existing disturbances in the area that are not related to construction activities of this Project. Based on this assessment, the biologist shall determine if construction activities can proceed, and the level of nest monitoring required. Construction activities shall not occur within 500 feet of an active nest but depending upon conditions at the site this distance may be reduced. Full-time monitoring to evaluate the effects of construction activities on nesting Swainson's hawks may be required. The qualified biologist shall have the authority to stop work if it is determined that Project construction is disturbing the nest. These buffers may need to increase depending on the sensitivity of the nest location, the sensitivity of the nesting Swainson's hawk to disturbances, and at the discretion of the qualified biologist	Active construction during nesting season (February 1 to September 15)	Lead Agency, Project operators, contractors		
		A. If an active nest is discovered, the qualified biologist shall prepare an assessment. B. If active nests are found during the survey or at any time during construction of the Project, an avoidance buffer ranging of 500 feet may be required, with the avoidance buffer from any specific nest being determined by a qualified biologist. C. Work is to continue under approval and guidance of qualified biologist.			

Mitigation Monitoring Program					
Impact	**Mitigation Measure**	**Time Frame for Implementation**	**Responsible Monitoring Agency**	**Date**	**Initials**
#5	**BIO-5 (for new well sites No. 15, No. 16, No. 17, and No. 18)**: If construction is planned outside the nesting period for raptors (other than burrowing owl) and migratory birds (February 1 to August 15), no mitigation shall be required. If construction is planned during the nesting season for migratory birds and raptors, a preconstruction survey to identify active bird nests shall be conducted by a qualified biologist to evaluate the site and a 250-foot buffer for migratory birds and a 500-foot buffer for raptors. If nesting birds are identified during the survey, active raptor nests shall be avoided by 500 feet and all other migratory bird nests shall be avoided by 250 feet. Avoidance buffers may be reduced if a qualified on-site monitor determines that encroachment into the buffer area is not affecting nest building, the rearing of young, or otherwise affecting the breeding behaviors of the resident birds. Because nesting birds can establish new nests or produce a second or even third clutch at any time during the nesting season, nesting bird surveys shall be repeated every 30 days as construction activities are occurring throughout the nesting season. No construction or earth-moving activity shall occur within a non-disturbance buffer until it is determined by a qualified biologist that the young have fledged (left the nest) and have attained sufficient flight skills to avoid Project construction areas. Once the migratory birds or raptors have completed nesting and young have fledged, disturbance buffers will no longer be needed and may be removed, and monitoring may cease.	Before construction if initiated during nesting season (February 1 to September 15)	Lead Agency, Project operators, contractors		
		A. A preconstruction nesting bird survey shall be conducted within 14 days prior to the start of construction. B. If active nests are found during the survey or at any time during construction of the Project, an avoidance buffer ranging from 50 feet to 500 feet may be required, with the avoidance buffer from any specific nest being determined by a qualified biologist. C. Work is to continue under approval and guidance of qualified biologist.			
#6	**BIO-6 (for new well sites No. 15, No. 16, No. 17, and No. 18):** Prior to the initiation of construction activities, all construction personnel	Prior to construction	Project proponent, Lead Agency		

Mitigation Monitoring Program					
Impact	**Mitigation Measure**	**Time Frame for Implementation**	**Responsible Monitoring Agency**	**Date**	**Initials**
	shall attend a Worker Environmental Awareness Training program developed and presented by a qualified biologist. It shall include the components described below: **a.** Information on the life history and identification of special-status species that may occur or that may be affected by Project activities. The program shall also discuss the legal protection status of each such species, the definition of "take" under the FESA and CESA, measures the Project proponent/operator shall implement to protect the species, reporting requirements, specific measures for workers to avoid take of special-status plant and wildlife species, and penalties for violation of the requirements outlined in the CEQA mitigation measures and agency permit requirements.	A. The Project contractor shall ensure all construction workers complete the Worker Environmental Awareness Training program which shall be viewed prior to construction.			
	Cultural Resources				
#7	**CUL-1:** If prehistoric or historic-era cultural materials are encountered during construction activities, all work in the immediate vicinity of the find shall halt until a qualified archaeologist can evaluate the find and make recommendations. Cultural resource materials may include prehistoric resources such as flaked and ground stone tools and debris, shell, bone, ceramics, and fire-affected rock, as well as historic resources such as glass, metal, wood, brick, or structural remnants. If the qualified archaeologist determines that the discovery represents a potentially significant cultural resource, additional investigations may be required to mitigate adverse impacts from Project implementation. These additional studies may include avoidance, testing, and evaluation or data recovery excavation. Implementation of the mitigation measure below would ensure that the proposed Project would not cause a substantial adverse change in the significance of a historical resource. In the event cultural resources are discovered, the archaeologist will notify the agencies.	During construction	Lead Agency, Project operators, contractors		
		Steps to Compliance: A. If necessary, work shall cease and the project proponent shall retain a qualified archaeologist and/or paleontologist to assess finds and recommended procedures. B. The qualified cultural resources specialist shall assess the significance of the find and determine next steps. C. The Lead Agency shall verify compliance.			

Mitigation Monitoring Program					
Impact	**Mitigation Measure**	**Time Frame for Implementation**	**Responsible Monitoring Agency**	**Date**	**Initials**
#8	**MM CUL-2:** If human remains are discovered during construction or operational activities, further excavation or disturbance shall be prohibited pursuant to Section 7050.5 of the California Health and Safety Code. The specific protocol, guidelines, and channels of communication outlined by the Native American Heritage Commission, in accordance with Section 7050.5 of the Health and Safety Code, Section 5097.98 of the Public Resources Code (Chapter 1492, Statutes of 1982, Senate Bill 297), and Senate Bill 447 (Chapter 44, Statutes of 1987), shall be followed. Section 7050.5(c) shall guide the potential Native American involvement, in the event of discovery of human remains, at the direction of the county coroner.	During construction and operational activities	Lead Agency, Project operators, contractors		
		A. If necessary, work shall cease and the project proponent shall retain a qualified archaeologist to assess finds and recommended procedures. B. The qualified cultural resources specialist shall assess the significance of the find and determine next steps. C. The Lead Agency shall verify compliance.			
	Energy				
	No Mitigation required.				
	Geology and Soils				
#9	**GEO-1:** If any paleontological resources are encountered during ground disturbance activities, all work within 25 feet of the find shall halt until a qualified paleontologist as defined by the Society of Vertebrate Paleontology Standard Procedures for the Assessment and Mitigation of Adverse Impacts to Paleontological Resources (2010), can evaluate the find and make recommendations regarding treatment. Paleontological resource materials may include resources such as fossils, plant impressions, or animal tracks preserved in rock. The qualified paleontologist shall contact the Natural History Museum of Los Angeles County or other appropriate facility regarding any discoveries of paleontological resources. If the qualified paleontologist determines that the discovery represents a potentially significant paleontological resource, additional investigations and fossil recovery may be required to	During ground-disturbing activities	Lead Agency, Project contractors		
		Steps to Compliance: A. The Project proponent shall retain a qualified paleontologist if a paleontological resource is potentially identified during ground-disturbing activities. B. The qualified paleontologist shall asses the significance of the find and determine next steps. C. The Lead Agency shall verify compliance.			

Mitigation Monitoring Program					
Impact	**Mitigation Measure**	**Time Frame for Implementation**	**Responsible Monitoring Agency**	**Date**	**Initials**
	mitigate adverse impacts from Project implementation. If avoidance is not feasible, the paleontological resources shall be evaluated for their significance. If the resources are not significant, avoidance is not necessary. If the resources are significant, they shall be avoided to ensure no adverse effects, or such effects must be mitigated. Construction in that area shall not resume until the resource appropriate measures are recommended or the materials are determined to be less than significant. If the resource is significant and fossil recovery is the identified form of treatment, then the fossil shall be deposited in an accredited and permanent scientific institution. Copies of all correspondence and reports shall be submitted to the Lead Agency.				
	Greenhouse Gas Emissions				
	No Mitigation required.				
	Hazardous Materials				
	No Mitigation required.				
	Hydrology and Water Quality				
	No Mitigation required.				
	Land Use and Planning				
	No Mitigation required.				
	Mineral Resources				
	No Mitigation required.				
	Noise				
#10	**NSE-1**: During construction, the contractor shall implement the following measures: a. All stationary construction equipment on the Project site shall be located so that noise emitting objects or equipment faces away from any potential sensitive receptors. b. The construction contractor shall ensure that all construction equipment is equipped with manufacturer-approved mufflers and	During construction	Lead Agency, Project contractors		
		Steps to Compliance: 1. Project proponent shall implement the listed measures during construction of the Project.			

Mitigation Monitoring Program					
Impact	**Mitigation Measure**	**Time Frame for Implementation**	**Responsible Monitoring Agency**	**Date**	**Initials**
	baffles. During construction, stationary construction equipment shall be placed such that emitted noise is directed away from sensitive noise receivers. c. Construction activities shall take place during daylight hours, when feasible.				
	Population and Housing				
	No Mitigation required.				
	Public Services				
	No Mitigation required.				
	Recreation				
	No Mitigation required.				
	Traffic and Transportation				
	No Mitigation required.				
	Tribal Cultural Resources				
	Implement Mitigation Measures MM CUL-1 and MM CUL-2.				
	Utilities and Service Systems				
	No Mitigation required.				
	Wildfire				
	No Mitigation required.				

APPENDIX A
SMALL PROJECT ANALYSIS LEVEL

SMALL PROJECT ANALYSIS LEVEL ASSESSMENT

Water System Improvement & Treatment Project
Wasco, California

Prepared For:



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December 2022

Project 220505.0197

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1. EXECUTIVE SUMMARY

1.1 Executive Summary

Trinity Consultants has completed a limited air quality assessment for the City of Wasco's Water System Improvement and Treatment Project. The Project consists of the installation of four new wells, rehabilitation of one existing well, installation of a granular activated carbon (GAC) treatment vessel, a new 1,000,000-gallon storage tank, installation of an Advanced Metering Infrastructure (AMI) System, updates to the City's SCADA system and the abandonment of 4 existing wells. This project (Project) will be located in Wasco, California and a map of the various project areas can be found in **Appendix A**.

This limited air quality assessment uses the San Joaquin Valley Air Pollution Control District's (SJVAPCD) screening tool, Small Project Analysis Level (SPAL)[1]. This assessment was prepared pursuant to the SJVAPCD's Guidance for Assessing and Mitigating Air Quality Impacts (GAMAQI)[2], the California Environmental Quality Act (CEQA) (Public Resources Code 21000 to 21189) and the CEQA Guidelines (California Code of Regulations Title 14, Division 6, Chapter 3, Sections 15000 – 15387).

1.2 Statement of Finding

Based on the thresholds established by the SJVAPCD's GAMAQI, the emissions estimates prepared pursuant to this limited air quality assessment do not exceed the SJVAPCD's established emissions thresholds and significance thresholds for all CEQA air quality determinations; this Project would therefore not pose a significant impact to the San Joaquin Valley Air Basin and would have a less than significant air quality impact.

[1] SJVAPCD, 2020, http://www.valleyair.org/transportation/CEQA%20Rules/GAMAQI-SPAL.PDF.

[2] SJVAPCD, 2015, https://www.valleyair.org/transportation/GAMAQI.pdf.

2. PROJECT INFORMATION

2.1 Introduction

The Project site is located in the community of Wasco, California. The Water System Improvement & Treatment Project includes drilling four new municipal water wells to replace existing water supply wells that exceed the State of California MCL for 1,2,3-TCP and occasionally for Nitrate. The proposed wells (Well No. 15, Well No. 16, Well No. 17, Well No. 18) will undergo a test well phase will involve the drilling of four test water wells and is anticipated to involve approximately 9 months. Next a production well drilling phase will involve the drilling of four municipal water wells and is anticipated to involve approximately 12 months. Finally, the well equipping and site development phase will involve the equipping of four municipal water wells and is anticipated to involve approximately 24 months.

The existing City Well No. 12 has 1,2,3-TCP that exceeds the maximum contaminant level (MCL). The City will install granular activated carbon (GAC) treatment to remove 1,2,3-TCP from the raw water. The estimated time from installation of the GAC vessels to being fully operational is 11 months. Additionally, the existing Well No. 2 has been out of service and inoperable for several years; however, the City intends to rehabilitate this well and utilize it for potable water service. The work includes replacing the vertical turbine pump, vertical hollow shaft electric motor, well discharge piping, hydropneumatics tank, electrical and controls. The estimated time to rehabilitate Well No. 2 is 16 months. The project will also include the construction of a 1.0 MG storage tank and booster pump station near proposed wells 15, 17, and at the southeast corner of Poso Drive and Wasco Avenue and is anticipated to be completed within a 11-month period.

An Advanced Metering Infrastructure (AMI) System will be installed throughout the City to remotely collect customer water usage data in real time for each of the water service meters. This will include the installation of a meter interface unit at each service meter throughout the City and the wireless transmission of data to the City via a fixed network. Finally, the existing City SCADA system will be modified and updated to include the above noted water system improvements including, but not limited to the four new water well facilities, new 1.0 MG storage tanks and booster pumping stations, the Well No. 12 1,2,3-TCP treatment, and the rehabilitation of Well No. 2. Upon completion of the project, the existing City Wells that are being replaced – Well No. 7, No. 8, No. 10, and No. 11 will be abandoned of all pump equipment, piping, electrical, and appurtenances. The wells will be abandoned by filling with concrete and performing all work in accordance with County of Kern requirements.

2.2 Project Location

The Project is located in the city of Wasco, California. Proposed Well No. 15 One of the well sites will be located on the northwest corner of J Street and 9th Street. Well No. 16 will be located on the southwest corner of Poso Drive and Martin Street. Well No. 17 will be located on the southeast corner of Central Avenue and Filburn Avenue. Well No. 18 will be located on the northwest corner of Central Avenue and Margalo Street. The granular activated charcoal vessels will be installed at the site of the existing City Well No. 12 which is located on the south side of McCombs Road. Rehabilitation of the existing City Well No. 2 will occur at the site located on the north side of Highway 46 and west of Leonard Avenue. A storage tank and booster pumping station will be constructed at the Booth Property located south of Poso Drive and east of Wasco Avenue. A map of the listed locations along with the proposed well abandonment sites can be found in **Appendix A**.

3. SMALL PROJECT ANALYSIS LEVEL QUALIFICATION

This assessment was prepared pursuant to the SJVAPCD's GAMAQI[2], the CEQA (Public Resources Code 21000 to 21189) and CEQA Guidelines (California Code of Regulations Title 14, Division 6, Chapter 3, Sections 15000 – 15387). The SJVAPCD created the SPAL screening tool to streamline air quality assessments of commonly encountered projects. According to GAMAQI, the SJVAPCD "pre-calculated the emissions on a large number and types of projects to identify the level at which they have no possibility of exceeding the emissions thresholds"[3].

The SJVAPCD SPAL process established review parameters to determine whether a project qualifies as a "small project." A project that is found to be "less than" the established parameters has "no possibility of exceeding criteria pollutant emissions thresholds"[1]. The Project is predominantly construction related, as it is an upgrade to an existing Drinking Water Distribution System, and the operations are limited to maintenance of the well and tank sites, including pumps and generators. Due to the nature of the Project, "User Defined Industrial" land use was used in CalEEMod. **Table 3-1** presents the industrial project sizes that are "deemed to have a less than significant impact on air quality"[2].

Table 3-1. Industrial Projects SPAL Reference Sizes

Land Use Category – Industrial	Project Size (square feet)*	ADT One-Way for all Fleet Types (except HHDT)	ADT One-Way for HHDT Trips Only
General Light Industry	280,000	550	70
Heavy Industry	900,000		
Industrial Park	295,000		
Manufacturing	472,000		
Proposed Project**	**67,780**	**1**	**0**
SPAL Exceeded?	No	No	No

*Project size based on SPAL Table 4(a)(b), as posted on SJVAPCD webpage: https://www.valleyair.org/transportation/CEQA%20Rules/GAMAQI-SPAL.PDF
**Proposed Project size includes the estimated area where construction activities will take place (2 x 1024 square feet) and square footage of piping trenching (3.9 miles of pipe with a 6ft wide trench).

[3] SJVAPCD GAMAQI, Section 8.3.4, Page 85.

4. AIR QUALITY IMPACTS THRESHOLDS AND EVALUATION METHODOLGY

4.1 SJVACPD Significance Criteria

Significance thresholds are based on the CEQA Appendix G Environmental Checklist Form (not included herein) and SJVAPCD air quality thresholds[4]. A potentially significant impact to air quality, as defined by the CEQA Checklist, would occur if the project caused one or more of the following to occur:

- Conflict with or obstruct implementation of the applicable air quality plan;
- 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;
- Expose sensitive receptors to substantial pollutant concentrations; and/or
- Result in other emissions (such as those leading to odors) adversely affecting a substantial number of people.

The SJVAPCD has identified quantitative emission thresholds to evaluate the potential air quality impacts of a project. Emissions exceeding the established significance thresholds would be considered to have a significant impact if not adequately mitigated to below the thresholds. The SJVAPCD air quality thresholds from the GAMAQI are presented in Table 4-1[4]. The SJVAPCD separates construction emissions from operational emissions, and further separates permitted operational emissions from non-permitted operational emissions, for determining significance thresholds for air pollutant emissions.

Table 4-1. SJVAPCD Air Quality Thresholds of Significance - Criteria Pollutants

Pollutant/Precursor	Construction Emissions	Operational Emissions	
		Permitted Equipment and Activities	Non-Permitted Equipment and Activities
	Emissions (tpy)	Emissions (tpy)	Emissions (tpy)
CO	100	100	100
NO_x	10	10	10
ROG	10	10	10
SO_x	27	27	27
PM_{10}	15	15	15
$PM_{2.5}$	15	15	15

Source: SJVAPCD 2015

Criteria pollutant emissions were estimated using the California Emissions Estimator Model (CalEEMod) version 2020.4.0[5]. This project would generate short-term construction criteria pollutant emissions. There will be no increase in long-term operational criteria pollutant emissions as this project is a replacement for an existing well, installation of a water tank, and all associated equipment will be electric.

[4] SJVAPCD, 2015, 0714-GAMAQI-Criteria-Pollutant-Thresholds-of-Significance.pdf (valleyair.org).

[5] California Air Pollution Control Officers Association (CAPCOA), 2021.

4.2 Thresholds for Ambient Air Quality Impacts

CEQA Guidelines – Appendix G (Environmental Checklist) states that a project that would "violate any air quality standard or contribute substantially to an existing or projected air quality violation" would be considered to create significant impacts on air quality. The EPA has established the Federal Prevention of Significant Deterioration (PSD) program to determine what comprises "significant impact levels" (SIL) to NAAQS attainment areas. A project's impacts are considered less than significant if emissions are below PSD SIL for a particular pollutant. When a SIL is exceeded, an additional "increment analysis" is required. The PSD SIL thresholds are used with ambient air quality modeling for a CEQA project to address whether the Project would "violate any air quality standard or contribute substantially to an existing or projected air quality violation." Ambient air quality emissions estimates below the PSD SIL thresholds would result in less than significant ambient air quality impacts for both a project and cumulative CEQA impact analysis. The SJVAB is classified as non-attainment for the O_3 NAAQS and, as such, is subject to "non-attainment new source review" (NSR). PSD SILs and increments are more stringent than the CAAQS or NAAQS and represent the most stringent thresholds of significance. As the Project would not include modification to the stationary source under NSR, it would not be subject to either PSD or NSR review.

4.3 Thresholds for Hazardous Air Pollutants

GAMAQI recommends that Lead Agencies consider situations wherein a new or modified source of TACs is proposed for a location near an existing residential area or other sensitive receptor when evaluating potential impacts related to TACs.

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

- Type A Projects: Land use projects that will place new toxic sources in the vicinity of existing receptors,
- Type B Projects: Land use projects that will place new receptors in the vicinity of existing toxics sources"[6]

Table 4-2 presents the thresholds of significance used with toxic air contaminants when evaluating toxic air contaminants (TACs).

Table 4-2. Measures of Significance – Toxic Air Contaminants

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

Source: SJVAPCD 2015

[6] SJVAPCD, 2015, http://www.valleyair.org/transportation/0714-GAMAQI-TACs-Thresholds-of-Significance.pdf.

5. PROJECT-RELATED EMISSIONS

This document was prepared pursuant to the SJVAPCD's GAMAQI and SPAL guidelines and provides a cursory review of the Project emissions to demonstrate that it would not exceed established air quality emissions thresholds.

5.1 Short-Term Criteria Pollutant Emissions

Table 5-1 shows the construction-related emission levels based on the anticipated construction timeline, equipment needed and default emission factors for said equipment. While the construction of the project is anticipated to span an approximate 4.5-year period, several of the project components will be constructed concurrently and the estimated working construction days for each phase is summarized below:

- Test Well Phase: 35 Days
- Production Well Construction: 30 Days
- Production Well Drilling: 30 Days
- Well Equipping and Site Development: 200 Days
- Installation of GAC Vessels: 80 Days
- Rehabilitation of Well No. 2: 100 Days
- Installation of 1.0 MG Storage Tank: 27 Days
- Well Abandonments: 44 Days

Construction emission estimates also included the following options available in the model to reduce PM_{10} emissions in compliance with Air District Regulation VIII requirements:

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

Based on these anticipated activity levels, the Project construction activities would not exceed construction-related criteria pollutant thresholds (**Table 4-1**). Therefore, construction emissions were found to be less than significant, and no further evaluation is required.

Table 5-1. Construction Emissions

Emissions Source	Pollutant					
	ROG	NOx	CO	SOx	PM_{10}	$PM_{2.5}$
2023 Construction	0.137	0.890	1.128	0.002	0.053	0.041
2024 Construction	0.164	1.499	1.802	0.004	0.110	0.067
2025 Construction	0.102	0.912	1.117	0.002	0.079	0.042
2026 Construction	0.030	0.274	0.330	0.001	0.013	0.011
2027 Construction	0.069	0.584	0.756	0.002	0.025	0.023
Maximum (tons/year)	**0.164**	**1.499**	**1.802**	**0.004**	**0.110**	**0.067**
Maximum (pounds/day)	5.377	49.138	59.072	0.142	3.616	2.187
SJVAPCD Construction Emissions Thresholds (tons/year)	10	10	100	27	15	15
Is Threshold Exceeded?	**No**	**No**	**No**	**No**	**No**	**No**

5.2 Long-Term Criteria Pollutant Emissions

Long term emissions are caused by operational mobile, area, and stationary sources. The only long-term emissions from this Project would be from maintenance trips which are already required for the existing wells along with a minimal incremental increase in electricity usage from the water tank's booster pump. There will be emergency generators located at Well No. 15, Well No. 16, Well No. 17, and Well No. 18. Therefore, the proposed Project's long-term air quality emissions are expected to not pose a significant impact to criteria air pollutants.

Table 5-2. Operational Emissions

Emissions Source	Pollutant					
	ROG	NOx	CO	SOx	PM_{10}	$PM_{2.5}$
Operational Emissions (pounds/day)	3.9272	12.6378	8.7626	0.0166	0.5063	0.5063
Operational Emissions (tons/year)	0.7167	2.3064	1.5992	0.0030	0.0924	0.0924
SJVAPCD Operational Emissions Thresholds – non-permitted sources	10	10	100	27	15	15
Is Threshold Exceeded?	**No**	**No**	**No**	**No**	**No**	**No**

As calculated (see **Appendix B**), the long-term operational emissions associated with the proposed Project would be less than SJVAPCD significance threshold levels and would, therefore, not pose a significant impact to criteria air pollutants. This finding is consistent with the SPAL screening thresholds.

5.3 Greenhouse Gas Emissions

The Project's greenhouse gas (GHG) emissions are primarily from mobile source activities during construction and energy usage during operations. The short-term construction GHG emissions will not have a significant impact and there are no new long-term operation GHG emissions as the project is a replacement of the existing facilities water pump and installation of a storage tank. Therefore, the Project is considered less than significant for GHG emission impacts.

5.4 Potential Impacts to Visibility to Nearby Class 1 Areas

It should be noted that visibility impact analyses are not usually conducted for area sources. The recommended analysis methodology was initially intended for stationary sources of emissions which were subject to the Prevention of Significant Deterioration (PSD) requirements in 40 CFR Part 60. Since the Project's emissions are predicted to be significantly less than the PSD threshold levels, an impact at either the Dome Land Wilderness or the Sequoia National Park Areas (the two nearest Class 1 areas to the Project) is extremely unlikely. Therefore, based on the Project's predicted emissions, the Project is not expected to have any adverse impact to visibility at any Class 1 Area.

5.5 Potential Odor Impacts

The proposed Project is additional wells and water tank located near residential neighborhoods. Expected uses are not known to be a source of nuisance odors and are not listed in Table 6 of the SJVAPCD's GAMAQI[7]. The Project is therefore not anticipated to have substantial odor impacts. The Project is therefore anticipated to have a less than significant odor impact.

[7] SJVAPCD GAMAQI, Section 8.6, Table 6, Page 103.

5.6 Ambient Air Quality Impacts

As stated in the of GAMAQI[8], SJVAPCD has developed screening levels for requiring an Ambient Air Quality Analysis (AAQA). The SJVAPCD recommends that an AAQA be performed for all criteria pollutants when emissions of any criteria pollutant resulting from project construction or operational activities exceed the 100 pounds per day screening level, after compliance with Rule 9510 requirements and implementation of all enforceable mitigation measures.

As shown above in **Table 5-1** and **Table 5-2**, average daily emissions for construction and operational activities associated with this Project would not exceed 100 pounds per day. Therefore, an AAQA is not required for this Project.

5.7 Toxic Air Contaminant (TAC) Impacts

TACs, as defined by the California Health & Safety Code (CH&SC) §44321, are listed in Appendices AI and AII in AB 2588 Air Toxic "Hot Spots" and Assessment Act's Emissions Inventory Criteria and Guideline Regulation document. The proposed Project includes the removal of asbestos-containing pipeline and the operation of diesel-powered equipment which would potentially result in emissions of TACs. SJVAPCD's risk management objectives for permitting and CEQA are as follows[9]:

- Minimize health risks from new and modified sources of air pollution.
- Health risks from new and modified sources shall not be significant relative to the background risk levels and other risk levels that are typically accepted throughout the community.
- Avoid unreasonable restrictions on permitting.

To predict the potential health risk to the population attributable to emissions of diesel particulate matter from the proposed Project, ambient air concentrations were predicted with dispersion modeling to arrive at a conservative estimate of increased individual carcinogenic risk that might occur as a result of continuous exposure over a 0.5-year construction timeline each year from 2023 to 2027. Similarly, predicted concentrations were used to calculate non-cancer chronic and acute hazard indices (HIs), which are the ratio of expected exposure to acceptable exposure. The basis for evaluating potential health risk is the identification of sources with increased TACs.

Health risk is determined using the Hotspots Analysis and Reporting Program (HARP2) software distributed by the CARB; HARP2 requires peak 1-hour emission rates and annual-averaged emission rates for all pollutants for each modeling source[10]. Assumptions used to calculate the emission rates for the proposed Project are outlined below.

The most recent version of EPA's AMS/EPA Regulatory Model - AERMOD was used to predict the dispersion of emissions from the proposed Project. The analysis employed all of the regulatory default AERMOD model keyword parameters, including elevated terrain options.

For construction health impacts, diesel combustion emissions from diesel on-site construction equipment was modeled as an area source for on-site construction activity on the property. Diesel particulate matter

[8] SJVAPCD GAMAQI, Section 8.4.4, Page 96-97.

[9] SJVAPCD GAMAQI, Section 8.5.2, Page 100.

[10] CARB, 2015, https://ww2.arb.ca.gov/sites/default/files/classic/toxics/harp/docs2/harp2admrtuserguide.pdf

was calculated using CalEEMod for on-site construction equipment. A unit emission rate of 1 grams/second (g/sec) was input to AERMOD for the area source.

Discrete receptors were placed on scattered agricultural houses and businesses within close proximity of the Project site. Receptor grids were placed over the more densely populated areas mostly to the east and south of the Project site. A total of 1,392 discrete off-site receptors analyzed. Elevated terrain options were employed even though there is not complex terrain in the Project area.

SJVAPCD-provided, AERMET UStar processed meteorological datasets for the Wasco monitoring station, calendar years 2007 through 2011 was input to AERMOD[11]. This was the most recent available dataset available at the time the modeling was conducted. Rural dispersion parameters were used because the operation and the majority of the land surrounding the facility is considered "rural" under the Auer land use classification method (Auer 1978).

Plot files generated by AERMOD were uploaded to the Air Dispersion Modeling and Risk Assessment Tool (ADMRT) program in the Hotspots Analysis and Reporting Program Version 2 (HARP 2)[10]. ADMRT post-processing was used to assess the potential for excess cancer risk and chronic and acute non-cancer effects using the most recent health effects data from the California EPA Office of Environmental Health Hazard Assessment (OEHHA). HARP2 site parameters were set for the mandatory minimum pathways of inhalation, soil ingestion, dermal, and mother's milk. Risk reports were generated using the derived OEHHA analysis method for carcinogenic risk and non-carcinogenic chronic and acute risk. Site parameters are included in the HARP2 output files. Total cancer risk was predicted for each receptor. A hazard index was computed for chronic non-cancer health effects for each applicable endpoint and each receptor. A hazard index for acute non-cancer health effects was not computed since DPM does not have a risk exposure level for acute risk.

SJVAPCD has set the level of significance for carcinogenic risk at twenty in one million, which is understood as the possibility of causing twenty additional cancer cases in a population of one million people. The level of significance for chronic and acute non-cancer risk is a hazard index of 1.0. All receptors were modeled as residential receptors.

The carcinogenic risk and the health hazard index (HI) for chronic non-cancer risk at the point of maximum impact (PMI) do not exceed the significance levels of twenty in one million (20×10^{-6}) and 1.0, respectively for the proposed Project. The PMIs, are identified by receptor location and risk, and are provided in **Table 5-3**. The electronic AERMOD and HARP2 output files are provided in **Appendix C**.

Table 5-3. Potential Maximum Impacts Predicted by HARP

	Value	UTM East	UTM North
Excess Cancer Risk	1.59E-05	286341.4	3942703.2
Chronic Hazard Index	3.31E-02	286341.4	3942703.2

As shown above in **Table 5-3**, the maximum predicted cancer risk for the proposed Project is 1.59E-05. The maximum chronic non-cancer hazard index for the proposed Project is 3.31E-02. Since the PMI remained below the significance threshold for cancer and chronic risk, this Project would not have an adverse effect to any of the surrounding communities.

[11] SJVAPCD, 2018, ftp://ftp2.valleyair.org/public/Modeling/Meteorological_Data/AERMET%20v18081_UStar/

The potential health risk attributable to the proposed Project is determined to be *less than significant* based on the following conclusions:

1. Potential carcinogenic risk from the proposed Project is below the significance level of twenty in a million at each of the modeled receptors; and
2. The hazard index for the potential chronic non-cancer risk from the proposed Project is below the significance level of 1.0 at each of the modeled receptors.
3. The hazard index for the potential acute non-cancer risk was not calculated since there is no acute risk associated with DPM emission; therefore, the proposed Project is considered below the significance level.

Therefore, potential risk to the population attributable to emissions of TACs from the proposed Project would be less than significant.

5.8 Potential Impact on Sensitive Receptors

Sensitive receptors are defined as areas where young children, chronically ill individuals, the elderly or people who are more sensitive than the general population reside. Schools, hospitals, nursing homes and daycare centers are locations where sensitive receptors would likely reside. Since the Project sites are scattered throughout the City of Wasco, a 1-mile radius around each site would encompass the entire town. Therefore, all sensitive receptors within the City of Wasco would be within a 1-mile radius of a project component.

As discussed in **Section 5.7.2**, the potential health risk attributable to the proposed Project is determined to be *less than significant* and are **not expected** to affect any on-site or off-site receptors, including the sensitive receptors located within Wasco, and is not expected to have any adverse impacts on any known receptor.

6. CONCLUSIONS

Based on the criteria established by the SJVAPCD's GAMAQI, SPAL guidelines, and CEQA Appendix G Environmental Checklist Form, the proposed Project does not meet the minimum standards to require a full Air Quality Impact Analysis. Furthermore, the Project as proposed would not exceed the SJVAPCD's criteria air pollutant emission levels and would generate *less than significant air quality impacts*.

7. REFERENCES

California Air Pollution Control Officers Association (CAPCOA). 2021. California Emissions Estimator Model tm (CalEEMod), version 2020.4.0

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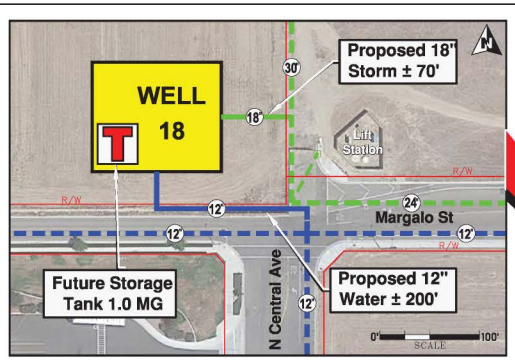
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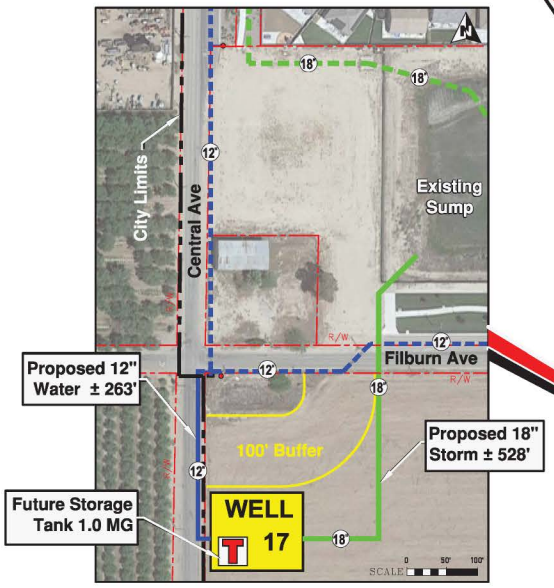
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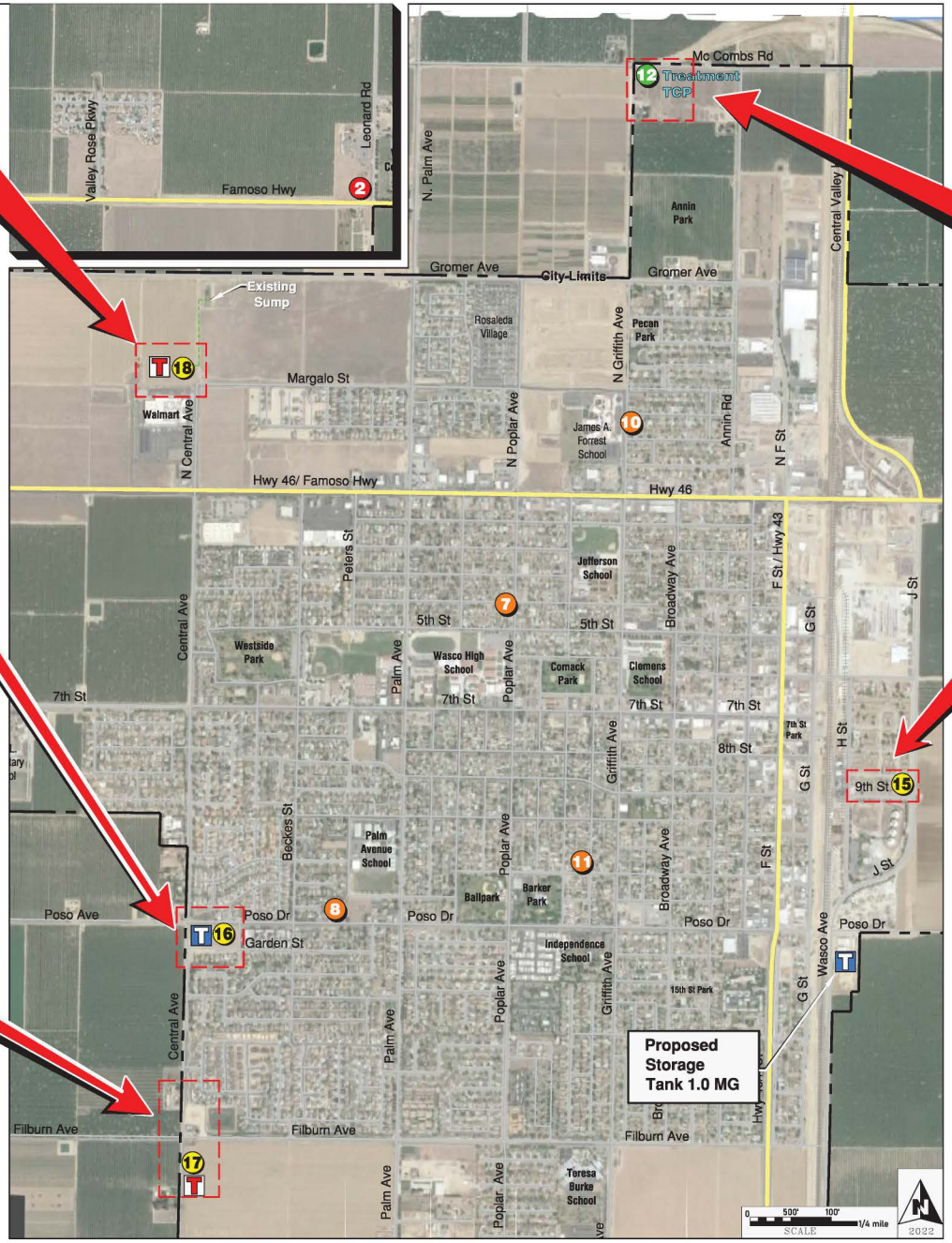
APPENDIX A. PROPOSED PROJECT PLAN

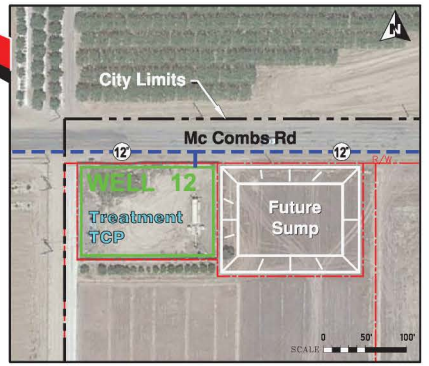
CITY OF WASCO WATER SYSTEM IMPROVEMENT PROJECT













DEPARTMENT OF PUBLIC WORKS ENGINEERING SERVICES
801 8TH STREET
WASCO, CA 93280 (661) 758-7214

Legend

- Active
- Proposed Project Well Facility
- Well to be Abandoned
- Existing Well to be Rehabilitated
- Proposed Water Pipeline
- Proposed Storm Pipeline
- Existing Water Lines
- Existing Storm Lines
- Proposed 1.0 MG Storage Tank & Booster Pump Station
- Future 1.0 MG Storage Tank & Booster Pump Station

APPENDIX B. CALEEMOD EMISSIONS ESTIMATES OUTPUT FILES

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

1.0 MG Storage Tank - Water System Improvement & Treatment Project

Kern-San Joaquin County, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
User Defined Industrial	1.00	User Defined Unit	0.15	6,400.00	0

1.2 Other Project Characteristics

Urbanization	Rural	**Wind Speed (m/s)**	2.7	**Precipitation Freq (Days)**	32
Climate Zone	3			**Operational Year**	2023
Utility Company	Pacific Gas and Electric Company				
CO2 Intensity (lb/MWhr)	203.98	**CH4 Intensity (lb/MWhr)**	0.033	**N2O Intensity (lb/MWhr)**	0.004

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use - Tank dimensions provided by Applicant.

Construction Phase - Estimated Construction Schedule.

Off-road Equipment - Estimated Construction Activities.

Vehicle Trips - Estimated one maintenance trip per month.

Fleet Mix - Estimated one maintenance trip per month.

Consumer Products - Project is a storage tank.

Area Coating - Project is a storage tank.

Construction Off-road Equipment Mitigation -

Area Mitigation -

1.0 MG Storage Tank - Water System Improvement & Treatment Project - Kern-San Joaquin County, Annual

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

Table Name	Column Name	Default Value	New Value
tblAreaCoating	Area_Nonresidential_Exterior	3200	0
tblAreaCoating	Area_Nonresidential_Interior	9600	0
tblConstDustMitigation	WaterUnpavedRoadVehicleSpeed	0	15
tblConstructionPhase	NumDays	5.00	1.00
tblConstructionPhase	NumDays	100.00	26.00
tblConstructionPhase	PhaseEndDate	8/18/2023	4/25/2023
tblConstructionPhase	PhaseEndDate	8/4/2023	4/24/2023
tblConstructionPhase	PhaseStartDate	8/12/2023	4/25/2023
tblConsumerProducts	ROG_EF	2.14E-05	0
tblConsumerProducts	ROG_EF_Degreaser	3.542E-07	0
tblConsumerProducts	ROG_EF_PesticidesFertilizers	5.152E-08	0
tblFleetMix	HHD	0.04	0.00
tblFleetMix	LDA	0.48	0.33
tblFleetMix	LDT1	0.05	0.33
tblFleetMix	LDT2	0.18	0.34
tblFleetMix	LHD1	0.03	0.00
tblFleetMix	LHD2	9.8160e-003	0.00
tblFleetMix	MCY	0.03	0.00
tblFleetMix	MDV	0.17	0.00
tblFleetMix	MH	4.7320e-003	0.00
tblFleetMix	MHD	0.01	0.00
tblFleetMix	OBUS	5.9100e-004	0.00
tblFleetMix	SBUS	1.5170e-003	0.00
tblFleetMix	UBUS	2.4100e-004	0.00
tblLandUse	LandUseSquareFeet	0.00	6,400.00
tblLandUse	LotAcreage	0.00	0.15
tblOffRoadEquipment	LoadFactor	0.38	0.38
tblOffRoadEquipment	LoadFactor	0.38	0.38

1.0 MG Storage Tank - Water System Improvement & Treatment Project - Kern-San Joaquin County, Annual

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

tblOffRoadEquipment	OffRoadEquipmentType		Excavators
tblOffRoadEquipment	OffRoadEquipmentType		Cement and Mortar Mixers
tblOffRoadEquipment	OffRoadEquipmentType		Rollers
tblOffRoadEquipment	OffRoadEquipmentType		Generator Sets
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	1.00
tblProjectCharacteristics	UrbanizationLevel	Urban	Rural
tblVehicleTrips	WD_TR	0.00	0.23

2.0 Emissions Summary

1.0 MG Storage Tank - Water System Improvement & Treatment Project - Kern-San Joaquin County, Annual

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

2.1 Overall Construction

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2023	0.0612	0.1564	0.2016	3.4000e-004	5.7000e-004	7.6100e-003	8.1800e-003	1.5000e-004	7.1500e-003	7.3000e-003	0.0000	29.3015	29.3015	7.0700e-003	4.0000e-005	29.4914
Maximum	**0.0612**	**0.1564**	**0.2016**	**3.4000e-004**	**5.7000e-004**	**7.6100e-003**	**8.1800e-003**	**1.5000e-004**	**7.1500e-003**	**7.3000e-003**	**0.0000**	**29.3015**	**29.3015**	**7.0700e-003**	**4.0000e-005**	**29.4914**

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2023	0.0612	0.1564	0.2016	3.4000e-004	5.7000e-004	7.6100e-003	8.1800e-003	1.5000e-004	7.1500e-003	7.3000e-003	0.0000	29.3015	29.3015	7.0700e-003	4.0000e-005	29.4913
Maximum	**0.0612**	**0.1564**	**0.2016**	**3.4000e-004**	**5.7000e-004**	**7.6100e-003**	**8.1800e-003**	**1.5000e-004**	**7.1500e-003**	**7.3000e-003**	**0.0000**	**29.3015**	**29.3015**	**7.0700e-003**	**4.0000e-005**	**29.4913**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

1.0 MG Storage Tank - Water System Improvement & Treatment Project - Kern-San Joaquin County, Annual

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

Quarter	Start Date	End Date	Maximum Unmitigated ROG + NOX (tons/quarter)	Maximum Mitigated ROG + NOX (tons/quarter)
1	3-1-2023	5-31-2023	0.2122	0.2122
		Highest	0.2122	0.2122

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	0.0000	0.0000	1.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	2.0000e-005	2.0000e-005	0.0000	0.0000	2.0000e-005
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Mobile	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Waste						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Water						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**1.0000e-005**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**2.0000e-005**	**2.0000e-005**	**0.0000**	**0.0000**	**2.0000e-005**

1.0 MG Storage Tank - Water System Improvement & Treatment Project - Kern-San Joaquin County, Annual

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

2.2 Overall Operational

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	0.0000	0.0000	1.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	2.0000e-005	2.0000e-005	0.0000	0.0000	2.0000e-005
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Mobile	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Waste						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Water						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**1.0000e-005**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**2.0000e-005**	**2.0000e-005**	**0.0000**	**0.0000**	**2.0000e-005**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Building Construction	Building Construction	3/18/2023	4/24/2023	5	26	
2	Architectural Coating	Architectural Coating	4/25/2023	4/25/2023	5	1	

1.0 MG Storage Tank - Water System Improvement & Treatment Project - Kern-San Joaquin County, Annual

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

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 0

Acres of Paving: 0

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 9,600; Non-Residential Outdoor: 3,200; Striped Parking Area: 0 (Architectural Coating – sqft)

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Architectural Coating	Air Compressors	1	6.00	78	0.48
Building Construction	Excavators	1	8.00	158	0.38
Building Construction	Cement and Mortar Mixers	1	8.00	9	0.56
Building Construction	Cranes	1	4.00	231	0.29
Building Construction	Forklifts	1	6.00	89	0.20
Building Construction	Rollers	1	8.00	80	0.38
Building Construction	Generator Sets	1	8.00	84	0.74
Building Construction	Tractors/Loaders/Backhoes	2	8.00	97	0.37

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Architectural Coating	1	1.00	0.00	0.00	16.80	6.60	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	8	3.00	1.00	0.00	16.80	6.60	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Water Exposed Area

Reduce Vehicle Speed on Unpaved Roads

1.0 MG Storage Tank - Water System Improvement & Treatment Project - Kern-San Joaquin County, Annual

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

3.2 Building Construction - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0164	0.1551	0.1992	3.3000e-004		7.5700e-003	7.5700e-003		7.1100e-003	7.1100e-003	0.0000	28.5476	28.5476	7.0500e-003	0.0000	28.7238
Total	**0.0164**	**0.1551**	**0.1992**	**3.3000e-004**		**7.5700e-003**	**7.5700e-003**		**7.1100e-003**	**7.1100e-003**	**0.0000**	**28.5476**	**28.5476**	**7.0500e-003**	**0.0000**	**28.7238**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	1.0000e-005	5.4000e-004	1.8000e-004	0.0000	8.0000e-005	0.0000	8.0000e-005	2.0000e-005	0.0000	3.0000e-005	0.0000	0.2312	0.2312	0.0000	3.0000e-005	0.2414
Worker	1.5000e-004	1.1000e-004	1.3300e-003	0.0000	4.9000e-004	0.0000	4.9000e-004	1.3000e-004	0.0000	1.3000e-004	0.0000	0.3901	0.3901	1.0000e-005	1.0000e-005	0.3933
Total	**1.6000e-004**	**6.5000e-004**	**1.5100e-003**	**0.0000**	**5.7000e-004**	**0.0000**	**5.7000e-004**	**1.5000e-004**	**0.0000**	**1.6000e-004**	**0.0000**	**0.6213**	**0.6213**	**1.0000e-005**	**4.0000e-005**	**0.6347**

1.0 MG Storage Tank - Water System Improvement & Treatment Project - Kern-San Joaquin County, Annual

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

3.2 Building Construction - 2023

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0164	0.1551	0.1992	3.3000e-004		7.5700e-003	7.5700e-003		7.1100e-003	7.1100e-003	0.0000	28.5476	28.5476	7.0500e-003	0.0000	28.7238
Total	**0.0164**	**0.1551**	**0.1992**	**3.3000e-004**		**7.5700e-003**	**7.5700e-003**		**7.1100e-003**	**7.1100e-003**	**0.0000**	**28.5476**	**28.5476**	**7.0500e-003**	**0.0000**	**28.7238**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	1.0000e-005	5.4000e-004	1.8000e-004	0.0000	8.0000e-005	0.0000	8.0000e-005	2.0000e-005	0.0000	3.0000e-005	0.0000	0.2312	0.2312	0.0000	3.0000e-005	0.2414
Worker	1.5000e-004	1.1000e-004	1.3300e-003	0.0000	4.9000e-004	0.0000	4.9000e-004	1.3000e-004	0.0000	1.3000e-004	0.0000	0.3901	0.3901	1.0000e-005	1.0000e-005	0.3933
Total	**1.6000e-004**	**6.5000e-004**	**1.5100e-003**	**0.0000**	**5.7000e-004**	**0.0000**	**5.7000e-004**	**1.5000e-004**	**0.0000**	**1.6000e-004**	**0.0000**	**0.6213**	**0.6213**	**1.0000e-005**	**4.0000e-005**	**0.6347**

1.0 MG Storage Tank - Water System Improvement & Treatment Project - Kern-San Joaquin County, Annual

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

3.3 Architectural Coating - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	0.0445					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	1.0000e-004	6.5000e-004	9.1000e-004	0.0000		4.0000e-005	4.0000e-005		4.0000e-005	4.0000e-005	0.0000	0.1277	0.1277	1.0000e-005	0.0000	0.1279
Total	**0.0446**	**6.5000e-004**	**9.1000e-004**	**0.0000**		**4.0000e-005**	**4.0000e-005**		**4.0000e-005**	**4.0000e-005**	**0.0000**	**0.1277**	**0.1277**	**1.0000e-005**	**0.0000**	**0.1279**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	2.0000e-005	0.0000	1.0000e-005	0.0000	1.0000e-005	0.0000	0.0000	0.0000	0.0000	5.0000e-003	5.0000e-003	0.0000	0.0000	5.0400e-003
Total	**0.0000**	**0.0000**	**2.0000e-005**	**0.0000**	**1.0000e-005**	**0.0000**	**1.0000e-005**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**5.0000e-003**	**5.0000e-003**	**0.0000**	**0.0000**	**5.0400e-003**

1.0 MG Storage Tank - Water System Improvement & Treatment Project - Kern-San Joaquin County, Annual

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

3.3 Architectural Coating - 2023

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	0.0445					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	1.0000e-004	6.5000e-004	9.1000e-004	0.0000		4.0000e-005	4.0000e-005		4.0000e-005	4.0000e-005	0.0000	0.1277	0.1277	1.0000e-005	0.0000	0.1279
Total	**0.0446**	**6.5000e-004**	**9.1000e-004**	**0.0000**		**4.0000e-005**	**4.0000e-005**		**4.0000e-005**	**4.0000e-005**	**0.0000**	**0.1277**	**0.1277**	**1.0000e-005**	**0.0000**	**0.1279**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	2.0000e-005	0.0000	1.0000e-005	0.0000	1.0000e-005	0.0000	0.0000	0.0000	0.0000	5.0000e-003	5.0000e-003	0.0000	0.0000	5.0400e-003
Total	**0.0000**	**0.0000**	**2.0000e-005**	**0.0000**	**1.0000e-005**	**0.0000**	**1.0000e-005**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**5.0000e-003**	**5.0000e-003**	**0.0000**	**0.0000**	**5.0400e-003**

1.0 MG Storage Tank - Water System Improvement & Treatment Project - Kern-San Joaquin County, Annual

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

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Unmitigated	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
User Defined Industrial	0.00	0.00	0.00		
Total	0.00	0.00	0.00		

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
User Defined Industrial	14.70	6.60	6.60	0.00	0.00	0.00	0	0	0

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
User Defined Industrial	0.330000	0.330000	0.340000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000

1.0 MG Storage Tank - Water System Improvement & Treatment Project - Kern-San Joaquin County, Annual

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

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Electricity Mitigated						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
NaturalGas Mitigated	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
NaturalGas Unmitigated	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

1.0 MG Storage Tank - Water System Improvement & Treatment Project - Kern-San Joaquin County, Annual

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

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
User Defined Industrial	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
User Defined Industrial	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

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

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
User Defined Industrial	0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
User Defined Industrial	0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

6.0 Area Detail

6.1 Mitigation Measures Area

Use Electric Lawnmower

1.0 MG Storage Tank - Water System Improvement & Treatment Project - Kern-San Joaquin County, Annual

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

Use Electric Leafblower

Use Electric Chainsaw

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	0.0000	0.0000	1.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	2.0000e-005	2.0000e-005	0.0000	0.0000	2.0000e-005
Unmitigated	0.0000	0.0000	1.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	2.0000e-005	2.0000e-005	0.0000	0.0000	2.0000e-005

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	0.0000	0.0000	1.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	2.0000e-005	2.0000e-005	0.0000	0.0000	2.0000e-005
Total	**0.0000**	**0.0000**	**1.0000e-005**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**2.0000e-005**	**2.0000e-005**	**0.0000**	**0.0000**	**2.0000e-005**

1.0 MG Storage Tank - Water System Improvement & Treatment Project - Kern-San Joaquin County, Annual

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

6.2 Area by SubCategory

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	0.0000	0.0000	1.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	2.0000e-005	2.0000e-005	0.0000	0.0000	2.0000e-005
Total	**0.0000**	**0.0000**	**1.0000e-005**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**2.0000e-005**	**2.0000e-005**	**0.0000**	**0.0000**	**2.0000e-005**

7.0 Water Detail

7.1 Mitigation Measures Water

1.0 MG Storage Tank - Water System Improvement & Treatment Project - Kern-San Joaquin County, Annual

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

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

7.2 Water by Land Use

Unmitigated

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

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

7.2 Water by Land Use

Mitigated

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

8.0 Waste Detail

8.1 Mitigation Measures Waste

Category/Year

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

1.0 MG Storage Tank - Water System Improvement & Treatment Project - Kern-San Joaquin County, Annual

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

8.2 Waste by Land Use

Unmitigated

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

Mitigated

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

9.0 Operational Offroad

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

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

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

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

Boilers

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

User Defined Equipment

Equipment Type	Number

11.0 Vegetation

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

Well 2 - Water System Improvement & Treatment Project

Kern-San Joaquin County, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
User Defined Industrial	1.00	User Defined Unit	1.00	721.00	0

1.2 Other Project Characteristics

Urbanization	Rural	**Wind Speed (m/s)**	2.7	**Precipitation Freq (Days)**	32
Climate Zone	3			**Operational Year**	2027
Utility Company	Pacific Gas and Electric Company				
CO2 Intensity (lb/MWhr)	203.98	**CH4 Intensity (lb/MWhr)**	0.033	**N2O Intensity (lb/MWhr)**	0.004

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use - Lot acreage provided by Applicant

Construction Phase - Proposed Construction Schedule.

Off-road Equipment - Estimated Construction Activities.

Off-road Equipment - Estimated Construction Activities.

Off-road Equipment - Estimated Construction Activities.

Off-road Equipment - Proposed Construction Schedule.

Off-road Equipment - Estimated Construction Activities.

Grading - Yellow cells upon entry.

Vehicle Trips - Estimated one trip for maintenance a month.

Consumer Products -

Area Coating - Project is a municipal well.

Well 2 - Water System Improvement & Treatment Project - Kern-San Joaquin County, Annual

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

Construction Off-road Equipment Mitigation -

Area Mitigation -

Fleet Mix - Estimated one trip for maintenance a month.

Stationary Sources - Emergency Generators and Fire Pumps -

Table Name	Column Name	Default Value	New Value
tblAreaCoating	Area_Nonresidential_Exterior	361	0
tblAreaCoating	Area_Nonresidential_Interior	1082	0
tblConstDustMitigation	WaterUnpavedRoadVehicleSpeed	0	15
tblConstructionPhase	NumDays	5.00	4.00
tblConstructionPhase	NumDays	100.00	88.00
tblConstructionPhase	NumDays	5.00	4.00
tblFleetMix	HHD	0.04	0.00
tblFleetMix	LDA	0.49	0.33
tblFleetMix	LDT1	0.05	0.33
tblFleetMix	LDT2	0.18	0.34
tblFleetMix	LHD1	0.03	0.00
tblFleetMix	LHD2	8.5740e-003	0.00
tblFleetMix	MCY	0.02	0.00
tblFleetMix	MDV	0.15	0.00
tblFleetMix	MH	3.8820e-003	0.00
tblFleetMix	MHD	0.01	0.00
tblFleetMix	OBUS	5.7300e-004	0.00
tblFleetMix	SBUS	1.3790e-003	0.00
tblFleetMix	UBUS	2.3100e-004	0.00
tblGrading	AcresOfGrading	0.25	1.50
tblLandUse	LandUseSquareFeet	0.00	721.00
tblLandUse	LotAcreage	0.00	1.00
tblOffRoadEquipment	UsageHours	6.00	2.00

Well 2 - Water System Improvement & Treatment Project - Kern-San Joaquin County, Annual

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

tblOffRoadEquipment	UsageHours	7.00	2.00
tblProjectCharacteristics	UrbanizationLevel	Urban	Rural
tblVehicleTrips	WD_TR	0.00	0.23

2.0 Emissions Summary

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

2.1 Overall Construction

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2026	6.5000e-003	0.0631	0.0759	1.9000e-004	8.8000e-004	2.4400e-003	3.3100e-003	1.1000e-004	2.2400e-003	2.3500e-003	0.0000	16.7458	16.7458	5.4000e-003	0.0000	16.8812
2027	0.0280	0.2203	0.2690	6.6000e-004	4.5000e-004	8.5900e-003	9.0400e-003	1.2000e-004	7.9200e-003	8.0400e-003	0.0000	58.2502	58.2502	0.0186	1.0000e-005	58.7159
Maximum	**0.0280**	**0.2203**	**0.2690**	**6.6000e-004**	**8.8000e-004**	**8.5900e-003**	**9.0400e-003**	**1.2000e-004**	**7.9200e-003**	**8.0400e-003**	**0.0000**	**58.2502**	**58.2502**	**0.0186**	**1.0000e-005**	**58.7159**

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2026	6.5000e-003	0.0631	0.0759	1.9000e-004	3.9000e-004	2.4400e-003	2.8300e-003	6.0000e-005	2.2400e-003	2.3000e-003	0.0000	16.7458	16.7458	5.4000e-003	0.0000	16.8811
2027	0.0280	0.2203	0.2690	6.6000e-004	4.5000e-004	8.5900e-003	9.0400e-003	1.2000e-004	7.9200e-003	8.0400e-003	0.0000	58.2501	58.2501	0.0186	1.0000e-005	58.7158
Maximum	**0.0280**	**0.2203**	**0.2690**	**6.6000e-004**	**4.5000e-004**	**8.5900e-003**	**9.0400e-003**	**1.2000e-004**	**7.9200e-003**	**8.0400e-003**	**0.0000**	**58.2501**	**58.2501**	**0.0186**	**1.0000e-005**	**58.7158**

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

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**36.84**	**0.00**	**3.89**	**21.74**	**0.00**	**0.48**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

Quarter	Start Date	End Date	Maximum Unmitigated ROG + NOX (tons/quarter)	Maximum Mitigated ROG + NOX (tons/quarter)
1	**12-1-2026**	**2-28-2027**	0.2112	0.2112
2	**3-1-2027**	**5-31-2027**	0.1093	0.1093
		Highest	0.2112	0.2112

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	2.8200e-003	0.0000	1.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	2.0000e-005	2.0000e-005	0.0000	0.0000	2.0000e-005
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Mobile	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Waste						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Water						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**2.8200e-003**	**0.0000**	**1.0000e-005**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**2.0000e-005**	**2.0000e-005**	**0.0000**	**0.0000**	**2.0000e-005**

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

2.2 Overall Operational

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	2.8200e-003	0.0000	1.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	2.0000e-005	2.0000e-005	0.0000	0.0000	2.0000e-005
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Mobile	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Waste						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Water						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**2.8200e-003**	**0.0000**	**1.0000e-005**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**2.0000e-005**	**2.0000e-005**	**0.0000**	**0.0000**	**2.0000e-005**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Site Preparation	Site Preparation	12/1/2026	12/1/2026	5	1	
2	Grading	Grading	12/2/2026	12/3/2026	5	2	
3	Building Construction	Building Construction	12/4/2026	4/6/2027	5	88	

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

4	Paving	Paving	4/23/2027	4/28/2027	5	4	
5	Architectural Coating	Architectural Coating	4/30/2027	5/5/2027	5	4	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 1.5

Acres of Paving: 0

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 1,082; Non-Residential Outdoor: 361; Striped Parking Area: 0 (Architectural Coating – sqft)

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Site Preparation	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Grading	Graders	1	2.00	187	0.41
Grading	Tractors/Loaders/Backhoes	1	2.00	97	0.37
Building Construction	Bore/Drill Rigs	1	8.00	221	0.50
Building Construction	Cranes	1	4.00	231	0.29
Building Construction	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Paving	Cement and Mortar Mixers	4	6.00	9	0.56
Paving	Pavers	1	7.00	130	0.42
Paving	Rollers	1	7.00	80	0.38
Paving	Tractors/Loaders/Backhoes	1	7.00	97	0.37
Architectural Coating	Air Compressors	1	6.00	78	0.48

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Site Preparation	1	3.00	0.00	0.00	16.80	6.60	20.00	LD_Mix	HDT_Mix	HHDT
Grading	2	5.00	0.00	0.00	16.80	6.60	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	4	0.00	0.00	0.00	16.80	6.60	20.00	LD_Mix	HDT_Mix	HHDT

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

Paving	7	18.00	0.00	0.00	16.80	6.60	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	0.00	0.00	0.00	16.80	6.60	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Water Exposed Area

Reduce Vehicle Speed on Unpaved Roads

3.2 Site Preparation - 2026

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	7.0000e-005	6.7000e-004	1.1100e-003	0.0000		3.0000e-005	3.0000e-005		2.0000e-005	2.0000e-005	0.0000	0.1370	0.1370	4.0000e-005	0.0000	0.1381
Total	**7.0000e-005**	**6.7000e-004**	**1.1100e-003**	**0.0000**	**0.0000**	**3.0000e-005**	**3.0000e-005**	**0.0000**	**2.0000e-005**	**2.0000e-005**	**0.0000**	**0.1370**	**0.1370**	**4.0000e-005**	**0.0000**	**0.1381**

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

3.2 Site Preparation - 2026

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	4.0000e-005	0.0000	2.0000e-005	0.0000	2.0000e-005	0.0000	0.0000	1.0000e-005	0.0000	0.0136	0.0136	0.0000	0.0000	0.0137
Total	**0.0000**	**0.0000**	**4.0000e-005**	**0.0000**	**2.0000e-005**	**0.0000**	**2.0000e-005**	**0.0000**	**0.0000**	**1.0000e-005**	**0.0000**	**0.0136**	**0.0136**	**0.0000**	**0.0000**	**0.0137**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	7.0000e-005	6.7000e-004	1.1100e-003	0.0000		3.0000e-005	3.0000e-005		2.0000e-005	2.0000e-005	0.0000	0.1370	0.1370	4.0000e-005	0.0000	0.1381
Total	**7.0000e-005**	**6.7000e-004**	**1.1100e-003**	**0.0000**	**0.0000**	**3.0000e-005**	**3.0000e-005**	**0.0000**	**2.0000e-005**	**2.0000e-005**	**0.0000**	**0.1370**	**0.1370**	**4.0000e-005**	**0.0000**	**0.1381**

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

3.2 Site Preparation - 2026

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	4.0000e-005	0.0000	2.0000e-005	0.0000	2.0000e-005	0.0000	0.0000	1.0000e-005	0.0000	0.0136	0.0136	0.0000	0.0000	0.0137
Total	**0.0000**	**0.0000**	**4.0000e-005**	**0.0000**	**2.0000e-005**	**0.0000**	**2.0000e-005**	**0.0000**	**0.0000**	**1.0000e-005**	**0.0000**	**0.0136**	**0.0136**	**0.0000**	**0.0000**	**0.0137**

3.3 Grading - 2026

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					8.0000e-004	0.0000	8.0000e-004	9.0000e-005	0.0000	9.0000e-005	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	1.1000e-004	1.2000e-003	9.6000e-004	0.0000		4.0000e-005	4.0000e-005		4.0000e-005	4.0000e-005	0.0000	0.2137	0.2137	7.0000e-005	0.0000	0.2154
Total	**1.1000e-004**	**1.2000e-003**	**9.6000e-004**	**0.0000**	**8.0000e-004**	**4.0000e-005**	**8.4000e-004**	**9.0000e-005**	**4.0000e-005**	**1.3000e-004**	**0.0000**	**0.2137**	**0.2137**	**7.0000e-005**	**0.0000**	**0.2154**

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

3.3 Grading - 2026

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	2.0000e-005	1.0000e-005	1.4000e-004	0.0000	6.0000e-005	0.0000	6.0000e-005	2.0000e-005	0.0000	2.0000e-005	0.0000	0.0452	0.0452	0.0000	0.0000	0.0455
Total	**2.0000e-005**	**1.0000e-005**	**1.4000e-004**	**0.0000**	**6.0000e-005**	**0.0000**	**6.0000e-005**	**2.0000e-005**	**0.0000**	**2.0000e-005**	**0.0000**	**0.0452**	**0.0452**	**0.0000**	**0.0000**	**0.0455**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					3.1000e-004	0.0000	3.1000e-004	3.0000e-005	0.0000	3.0000e-005	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	1.1000e-004	1.2000e-003	9.6000e-004	0.0000		4.0000e-005	4.0000e-005		4.0000e-005	4.0000e-005	0.0000	0.2137	0.2137	7.0000e-005	0.0000	0.2154
Total	**1.1000e-004**	**1.2000e-003**	**9.6000e-004**	**0.0000**	**3.1000e-004**	**4.0000e-005**	**3.5000e-004**	**3.0000e-005**	**4.0000e-005**	**7.0000e-005**	**0.0000**	**0.2137**	**0.2137**	**7.0000e-005**	**0.0000**	**0.2154**

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

3.3 Grading - 2026

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	2.0000e-005	1.0000e-005	1.4000e-004	0.0000	6.0000e-005	0.0000	6.0000e-005	2.0000e-005	0.0000	2.0000e-005	0.0000	0.0452	0.0452	0.0000	0.0000	0.0455
Total	**2.0000e-005**	**1.0000e-005**	**1.4000e-004**	**0.0000**	**6.0000e-005**	**0.0000**	**6.0000e-005**	**2.0000e-005**	**0.0000**	**2.0000e-005**	**0.0000**	**0.0452**	**0.0452**	**0.0000**	**0.0000**	**0.0455**

3.4 Building Construction - 2026

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	6.3000e-003	0.0612	0.0736	1.9000e-004		2.3700e-003	2.3700e-003		2.1800e-003	2.1800e-003	0.0000	16.3364	16.3364	5.2800e-003	0.0000	16.4684
Total	**6.3000e-003**	**0.0612**	**0.0736**	**1.9000e-004**		**2.3700e-003**	**2.3700e-003**		**2.1800e-003**	**2.1800e-003**	**0.0000**	**16.3364**	**16.3364**	**5.2800e-003**	**0.0000**	**16.4684**

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

3.4 Building Construction - 2026

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	6.3000e-003	0.0612	0.0736	1.9000e-004		2.3700e-003	2.3700e-003		2.1800e-003	2.1800e-003	0.0000	16.3363	16.3363	5.2800e-003	0.0000	16.4684
Total	**6.3000e-003**	**0.0612**	**0.0736**	**1.9000e-004**		**2.3700e-003**	**2.3700e-003**		**2.1800e-003**	**2.1800e-003**	**0.0000**	**16.3363**	**16.3363**	**5.2800e-003**	**0.0000**	**16.4684**

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

3.4 Building Construction - 2026

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.4 Building Construction - 2027

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0214	0.2081	0.2504	6.3000e-004		8.0500e-003	8.0500e-003		7.4100e-003	7.4100e-003	0.0000	55.5436	55.5436	0.0180	0.0000	55.9927
Total	**0.0214**	**0.2081**	**0.2504**	**6.3000e-004**		**8.0500e-003**	**8.0500e-003**		**7.4100e-003**	**7.4100e-003**	**0.0000**	**55.5436**	**55.5436**	**0.0180**	**0.0000**	**55.9927**

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

3.4 Building Construction - 2027

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0214	0.2081	0.2504	6.3000e-004		8.0500e-003	8.0500e-003		7.4100e-003	7.4100e-003	0.0000	55.5435	55.5435	0.0180	0.0000	55.9926
Total	**0.0214**	**0.2081**	**0.2504**	**6.3000e-004**		**8.0500e-003**	**8.0500e-003**		**7.4100e-003**	**7.4100e-003**	**0.0000**	**55.5435**	**55.5435**	**0.0180**	**0.0000**	**55.9926**

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

3.4 Building Construction - 2027

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.5 Paving - 2027

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	1.1300e-003	9.8400e-003	0.0141	2.0000e-005		4.4000e-004	4.4000e-004		4.1000e-004	4.1000e-004	0.0000	1.8802	1.8802	5.5000e-004	0.0000	1.8939
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**1.1300e-003**	**9.8400e-003**	**0.0141**	**2.0000e-005**		**4.4000e-004**	**4.4000e-004**		**4.1000e-004**	**4.1000e-004**	**0.0000**	**1.8802**	**1.8802**	**5.5000e-004**	**0.0000**	**1.8939**

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

3.5 Paving - 2027

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.0000e-004	7.0000e-005	9.3000e-004	0.0000	4.5000e-004	0.0000	4.5000e-004	1.2000e-004	0.0000	1.2000e-004	0.0000	0.3157	0.3157	1.0000e-005	1.0000e-005	0.3179
Total	**1.0000e-004**	**7.0000e-005**	**9.3000e-004**	**0.0000**	**4.5000e-004**	**0.0000**	**4.5000e-004**	**1.2000e-004**	**0.0000**	**1.2000e-004**	**0.0000**	**0.3157**	**0.3157**	**1.0000e-005**	**1.0000e-005**	**0.3179**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	1.1300e-003	9.8400e-003	0.0141	2.0000e-005		4.4000e-004	4.4000e-004		4.1000e-004	4.1000e-004	0.0000	1.8802	1.8802	5.5000e-004	0.0000	1.8939
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**1.1300e-003**	**9.8400e-003**	**0.0141**	**2.0000e-005**		**4.4000e-004**	**4.4000e-004**		**4.1000e-004**	**4.1000e-004**	**0.0000**	**1.8802**	**1.8802**	**5.5000e-004**	**0.0000**	**1.8939**

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

3.5 Paving - 2027

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.0000e-004	7.0000e-005	9.3000e-004	0.0000	4.5000e-004	0.0000	4.5000e-004	1.2000e-004	0.0000	1.2000e-004	0.0000	0.3157	0.3157	1.0000e-005	1.0000e-005	0.3179
Total	**1.0000e-004**	**7.0000e-005**	**9.3000e-004**	**0.0000**	**4.5000e-004**	**0.0000**	**4.5000e-004**	**1.2000e-004**	**0.0000**	**1.2000e-004**	**0.0000**	**0.3157**	**0.3157**	**1.0000e-005**	**1.0000e-005**	**0.3179**

3.6 Architectural Coating - 2027

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	5.0200e-003					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	3.4000e-004	2.2900e-003	3.6200e-003	1.0000e-005		1.0000e-004	1.0000e-004		1.0000e-004	1.0000e-004	0.0000	0.5107	0.5107	3.0000e-005	0.0000	0.5114
Total	**5.3600e-003**	**2.2900e-003**	**3.6200e-003**	**1.0000e-005**		**1.0000e-004**	**1.0000e-004**		**1.0000e-004**	**1.0000e-004**	**0.0000**	**0.5107**	**0.5107**	**3.0000e-005**	**0.0000**	**0.5114**

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

3.6 Architectural Coating - 2027

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	5.0200e-003					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	3.4000e-004	2.2900e-003	3.6200e-003	1.0000e-005		1.0000e-004	1.0000e-004		1.0000e-004	1.0000e-004	0.0000	0.5107	0.5107	3.0000e-005	0.0000	0.5114
Total	**5.3600e-003**	**2.2900e-003**	**3.6200e-003**	**1.0000e-005**		**1.0000e-004**	**1.0000e-004**		**1.0000e-004**	**1.0000e-004**	**0.0000**	**0.5107**	**0.5107**	**3.0000e-005**	**0.0000**	**0.5114**

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

3.6 Architectural Coating - 2027

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

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

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Unmitigated	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
User Defined Industrial	0.00	0.00	0.00		
Total	0.00	0.00	0.00		

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
User Defined Industrial	14.70	6.60	6.60	0.00	0.00	0.00	0	0	0

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
User Defined Industrial	0.330000	0.330000	0.340000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000

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

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Electricity Mitigated						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
NaturalGas Mitigated	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
NaturalGas Unmitigated	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

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

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
User Defined Industrial	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
User Defined Industrial	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

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

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
User Defined Industrial	0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
User Defined Industrial	0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

6.0 Area Detail

6.1 Mitigation Measures Area

Use Electric Lawnmower

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

Use Electric Leafblower

Use Electric Chainsaw

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	2.8200e-003	0.0000	1.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	2.0000e-005	2.0000e-005	0.0000	0.0000	2.0000e-005
Unmitigated	2.8200e-003	0.0000	1.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	2.0000e-005	2.0000e-005	0.0000	0.0000	2.0000e-005

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	2.8200e-003					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	0.0000	0.0000	1.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	2.0000e-005	2.0000e-005	0.0000	0.0000	2.0000e-005
Total	**2.8200e-003**	**0.0000**	**1.0000e-005**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**2.0000e-005**	**2.0000e-005**	**0.0000**	**0.0000**	**2.0000e-005**

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

6.2 Area by SubCategory

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	2.8200e-003					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	0.0000	0.0000	1.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	2.0000e-005	2.0000e-005	0.0000	0.0000	2.0000e-005
Total	**2.8200e-003**	**0.0000**	**1.0000e-005**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**2.0000e-005**	**2.0000e-005**	**0.0000**	**0.0000**	**2.0000e-005**

7.0 Water Detail

7.1 Mitigation Measures Water

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

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

7.2 Water by Land Use

Unmitigated

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

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

7.2 Water by Land Use

Mitigated

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

8.0 Waste Detail

8.1 Mitigation Measures Waste

Category/Year

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

Well 2 - Water System Improvement & Treatment Project - Kern-San Joaquin County, Annual

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

8.2 Waste by Land Use

Unmitigated

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

Mitigated

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

9.0 Operational Offroad

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

Well 2 - Water System Improvement & Treatment Project - Kern-San Joaquin County, Annual

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

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

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

Boilers

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

User Defined Equipment

Equipment Type	Number

11.0 Vegetation

Well 2 - Trenching - Kern-San Joaquin County, Annual

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

Well 2 - Trenching

Kern-San Joaquin County, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
User Defined Industrial	1.00	User Defined Unit	0.01	300.00	0

1.2 Other Project Characteristics

Urbanization	Rural	**Wind Speed (m/s)**	2.7	**Precipitation Freq (Days)**	32
Climate Zone	3			**Operational Year**	2026
Utility Company	Pacific Gas and Electric Company				
CO2 Intensity (lb/MWhr)	203.98	**CH4 Intensity (lb/MWhr)**	0.033	**N2O Intensity (lb/MWhr)**	0.004

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use - Estimate of construction area: 50 ft of pipe by 6ft wide trench.

Construction Phase - Estimated Construction Activities.

Off-road Equipment - Estimated Construction Activities.

Area Coating - Construction Run Only

Construction Off-road Equipment Mitigation -

Consumer Products - Construction Run Only

Landscape Equipment - Construction Run Only

Table Name	Column Name	Default Value	New Value
tblAreaCoating	Area_Nonresidential_Exterior	150	0
tblAreaCoating	Area_Nonresidential_Interior	450	0

Well 2 - Trenching - Kern-San Joaquin County, Annual

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

tblConstDustMitigation	WaterUnpavedRoadVehicleSpeed	0	15
tblConstructionPhase	PhaseEndDate	11/30/2026	12/1/2026
tblConsumerProducts	ROG_EF	2.14E-05	0
tblConsumerProducts	ROG_EF_Degreaser	3.542E-07	0
tblConsumerProducts	ROG_EF_PesticidesFertilizers	5.152E-08	0
tblLandscapeEquipment	NumberSummerDays	180	0
tblLandUse	LandUseSquareFeet	0.00	300.00
tblLandUse	LotAcreage	0.00	0.01
tblProjectCharacteristics	UrbanizationLevel	Urban	Rural

2.0 Emissions Summary

Well 2 - Trenching - Kern-San Joaquin County, Annual

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

2.1 Overall Construction

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2026	3.0000e-004	2.9100e-003	2.7300e-003	1.0000e-005	5.0000e-005	1.2000e-004	1.7000e-004	1.0000e-005	1.1000e-004	1.3000e-004	0.0000	0.5414	0.5414	1.6000e-004	0.0000	0.5457
Maximum	**3.0000e-004**	**2.9100e-003**	**2.7300e-003**	**1.0000e-005**	**5.0000e-005**	**1.2000e-004**	**1.7000e-004**	**1.0000e-005**	**1.1000e-004**	**1.3000e-004**	**0.0000**	**0.5414**	**0.5414**	**1.6000e-004**	**0.0000**	**0.5457**

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2026	3.0000e-004	2.9100e-003	2.7300e-003	1.0000e-005	5.0000e-005	1.2000e-004	1.7000e-004	1.0000e-005	1.1000e-004	1.3000e-004	0.0000	0.5414	0.5414	1.6000e-004	0.0000	0.5457
Maximum	**3.0000e-004**	**2.9100e-003**	**2.7300e-003**	**1.0000e-005**	**5.0000e-005**	**1.2000e-004**	**1.7000e-004**	**1.0000e-005**	**1.1000e-004**	**1.3000e-004**	**0.0000**	**0.5414**	**0.5414**	**1.6000e-004**	**0.0000**	**0.5457**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

Quarter	Start Date	End Date	Maximum Unmitigated ROG + NOX (tons/quarter)	Maximum Mitigated ROG + NOX (tons/quarter)

Well 2 - Trenching - Kern-San Joaquin County, Annual

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

		Highest		

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Mobile	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Waste						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Water						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Well 2 - Trenching - Kern-San Joaquin County, Annual

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

2.2 Overall Operational

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Mobile	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Waste						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Water						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Trenching	Trenching	12/1/2026	12/1/2026	5	1	

Acres of Grading (Site Preparation Phase): 0

Well 2 - Trenching - Kern-San Joaquin County, Annual

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

Acres of Grading (Grading Phase): 0

Acres of Paving: 0

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

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Trenching	Cranes	1	10.00	231	0.29
Trenching	Tractors/Loaders/Backhoes	2	5.50	97	0.37

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Trenching	3	8.00	0.00	0.00	16.80	6.60	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Water Exposed Area

Reduce Vehicle Speed on Unpaved Roads

Well 2 - Trenching - Kern-San Joaquin County, Annual

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

3.2 Trenching - 2026

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	2.9000e-004	2.9000e-003	2.6200e-003	1.0000e-005		1.2000e-004	1.2000e-004		1.1000e-004	1.1000e-004	0.0000	0.5052	0.5052	1.6000e-004	0.0000	0.5093
Total	**2.9000e-004**	**2.9000e-003**	**2.6200e-003**	**1.0000e-005**		**1.2000e-004**	**1.2000e-004**		**1.1000e-004**	**1.1000e-004**	**0.0000**	**0.5052**	**0.5052**	**1.6000e-004**	**0.0000**	**0.5093**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.0000e-005	1.0000e-005	1.1000e-004	0.0000	5.0000e-005	0.0000	5.0000e-005	1.0000e-005	0.0000	1.0000e-005	0.0000	0.0361	0.0361	0.0000	0.0000	0.0364
Total	**1.0000e-005**	**1.0000e-005**	**1.1000e-004**	**0.0000**	**5.0000e-005**	**0.0000**	**5.0000e-005**	**1.0000e-005**	**0.0000**	**1.0000e-005**	**0.0000**	**0.0361**	**0.0361**	**0.0000**	**0.0000**	**0.0364**

Well 2 - Trenching - Kern-San Joaquin County, Annual

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

3.2 Trenching - 2026

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	2.9000e-004	2.9000e-003	2.6200e-003	1.0000e-005		1.2000e-004	1.2000e-004		1.1000e-004	1.1000e-004	0.0000	0.5052	0.5052	1.6000e-004	0.0000	0.5093
Total	**2.9000e-004**	**2.9000e-003**	**2.6200e-003**	**1.0000e-005**		**1.2000e-004**	**1.2000e-004**		**1.1000e-004**	**1.1000e-004**	**0.0000**	**0.5052**	**0.5052**	**1.6000e-004**	**0.0000**	**0.5093**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.0000e-005	1.0000e-005	1.1000e-004	0.0000	5.0000e-005	0.0000	5.0000e-005	1.0000e-005	0.0000	1.0000e-005	0.0000	0.0361	0.0361	0.0000	0.0000	0.0364
Total	**1.0000e-005**	**1.0000e-005**	**1.1000e-004**	**0.0000**	**5.0000e-005**	**0.0000**	**5.0000e-005**	**1.0000e-005**	**0.0000**	**1.0000e-005**	**0.0000**	**0.0361**	**0.0361**	**0.0000**	**0.0000**	**0.0364**

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

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Unmitigated	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
User Defined Industrial	0.00	0.00	0.00		
Total	0.00	0.00	0.00		

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
User Defined Industrial	14.70	6.60	6.60	0.00	0.00	0.00	0	0	0

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
User Defined Industrial	0.488129	0.054374	0.179646	0.157061	0.028618	0.008866	0.014149	0.038412	0.000576	0.000233	0.024457	0.001405	0.004073

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

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Electricity Mitigated						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
NaturalGas Mitigated	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
NaturalGas Unmitigated	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

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

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
User Defined Industrial	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
User Defined Industrial	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

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

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
User Defined Industrial	0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
User Defined Industrial	0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

6.0 Area Detail

6.1 Mitigation Measures Area

Well 2 - Trenching - Kern-San Joaquin County, Annual

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

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Unmitigated	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

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

6.2 Area by SubCategory

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

7.0 Water Detail

7.1 Mitigation Measures Water

Well 2 - Trenching - Kern-San Joaquin County, Annual

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

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

7.2 Water by Land Use

Unmitigated

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

7.2 Water by Land Use

Mitigated

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

8.0 Waste Detail

8.1 Mitigation Measures Waste

Category/Year

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

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

8.2 Waste by Land Use

Unmitigated

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

Mitigated

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

9.0 Operational Offroad

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

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

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

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

Boilers

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

User Defined Equipment

Equipment Type	Number

11.0 Vegetation

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

Well 12 - Water System Improvement & Treatment Project

Kern-San Joaquin County, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
User Defined Industrial	1.00	User Defined Unit	1.00	2,075.00	0

1.2 Other Project Characteristics

Urbanization	Rural	**Wind Speed (m/s)**	2.7	**Precipitation Freq (Days)**	32
Climate Zone	3			**Operational Year**	2027
Utility Company	Pacific Gas and Electric Company				
CO2 Intensity (lb/MWhr)	203.98	**CH4 Intensity (lb/MWhr)**	0.033	**N2O Intensity (lb/MWhr)**	0.004

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use - Lot acreage provided by Applicant

Construction Phase - Proposed Construction Schedule.

Off-road Equipment -

Off-road Equipment - Estimated Construction Activities.

Grading -

Vehicle Trips - Estimated one trip for maintenance a month.

Area Coating - Project is a municipal well.

Construction Off-road Equipment Mitigation -

Area Mitigation -

Fleet Mix - Estimated one trip for maintenance a month.

Stationary Sources - Emergency Generators and Fire Pumps -

Well 12 - Water System Improvement & Treatment Project - Kern-San Joaquin County, Annual

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

Off-road Equipment - Estimated Construction Activities.

Trips and VMT -

Consumer Products - Project is a municipal well.

Table Name	Column Name	Default Value	New Value
tblAreaCoating	Area_Nonresidential_Exterior	1038	0
tblAreaCoating	Area_Nonresidential_Interior	3113	0
tblConstDustMitigation	WaterUnpavedRoadVehicleSpeed	0	15
tblConstructionPhase	NumDays	100.00	79.00
tblConstructionPhase	PhaseEndDate	4/22/2027	3/22/2027
tblConstructionPhase	PhaseStartDate	12/4/2026	12/2/2026
tblConsumerProducts	ROG_EF	2.14E-05	0
tblConsumerProducts	ROG_EF_Degreaser	3.542E-07	0
tblConsumerProducts	ROG_EF_PesticidesFertilizers	5.152E-08	0
tblFleetMix	HHD	0.04	0.00
tblFleetMix	LDA	0.49	0.33
tblFleetMix	LDT1	0.05	0.33
tblFleetMix	LDT2	0.18	0.34
tblFleetMix	LHD1	0.03	0.00
tblFleetMix	LHD2	8.5740e-003	0.00
tblFleetMix	MCY	0.02	0.00
tblFleetMix	MDV	0.15	0.00
tblFleetMix	MH	3.8820e-003	0.00
tblFleetMix	MHD	0.01	0.00
tblFleetMix	OBUS	5.7300e-004	0.00
tblFleetMix	SBUS	1.3790e-003	0.00
tblFleetMix	UBUS	2.3100e-004	0.00
tblLandUse	LandUseSquareFeet	0.00	2,075.00
tblLandUse	LotAcreage	0.00	1.00

Well 12 - Water System Improvement & Treatment Project - Kern-San Joaquin County, Annual

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

tblOffRoadEquipment	LoadFactor	0.38	0.38
tblOffRoadEquipment	OffRoadEquipmentType		Rollers
tblOffRoadEquipment	OffRoadEquipmentType		Excavators
tblOffRoadEquipment	OffRoadEquipmentType		Cement and Mortar Mixers
tblOffRoadEquipment	OffRoadEquipmentType		Excavators
tblOffRoadEquipment	OffRoadEquipmentType		Generator Sets
tblOffRoadEquipment	OffRoadEquipmentType		Air Compressors
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	1.00
tblOffRoadEquipment	UsageHours	4.00	8.00
tblProjectCharacteristics	UrbanizationLevel	Urban	Rural
tblVehicleTrips	WD_TR	0.00	0.23

2.0 Emissions Summary

Well 12 - Water System Improvement & Treatment Project - Kern-San Joaquin County, Annual

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

2.1 Overall Construction

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2026	0.0163	0.1436	0.1910	4.1000e-004	4.8000e-004	6.0700e-003	6.5500e-003	9.0000e-005	5.7300e-003	5.8100e-003	0.0000	35.6634	35.6634	8.6900e-003	0.0000	35.8818
2027	0.0413	0.3633	0.4867	1.0400e-003	3.6000e-004	0.0154	0.0158	9.0000e-005	0.0145	0.0146	0.0000	90.7757	90.7757	0.0221	1.0000e-005	91.3288
Maximum	**0.0413**	**0.3633**	**0.4867**	**1.0400e-003**	**4.8000e-004**	**0.0154**	**0.0158**	**9.0000e-005**	**0.0145**	**0.0146**	**0.0000**	**90.7757**	**90.7757**	**0.0221**	**1.0000e-005**	**91.3288**

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2026	0.0163	0.1436	0.1910	4.1000e-004	3.2000e-004	6.0700e-003	6.3900e-003	7.0000e-005	5.7300e-003	5.8000e-003	0.0000	35.6634	35.6634	8.6900e-003	0.0000	35.8818
2027	0.0413	0.3633	0.4867	1.0400e-003	3.6000e-004	0.0154	0.0158	9.0000e-005	0.0145	0.0146	0.0000	90.7756	90.7756	0.0221	1.0000e-005	91.3287
Maximum	**0.0413**	**0.3633**	**0.4867**	**1.0400e-003**	**3.6000e-004**	**0.0154**	**0.0158**	**9.0000e-005**	**0.0145**	**0.0146**	**0.0000**	**90.7756**	**90.7756**	**0.0221**	**1.0000e-005**	**91.3287**

Well 12 - Water System Improvement & Treatment Project - Kern-San Joaquin County, Annual

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

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**19.05**	**0.00**	**0.72**	**11.11**	**0.00**	**0.05**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

Quarter	Start Date	End Date	Maximum Unmitigated ROG + NOX (tons/quarter)	Maximum Mitigated ROG + NOX (tons/quarter)
1	**12-1-2026**	**2-28-2027**	0.4539	0.4539
2	**3-1-2027**	**5-31-2027**	0.1116	0.1116
		Highest	0.4539	0.4539

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	0.0000	0.0000	1.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	2.0000e-005	2.0000e-005	0.0000	0.0000	2.0000e-005
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Mobile	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Waste						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Water						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**1.0000e-005**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**2.0000e-005**	**2.0000e-005**	**0.0000**	**0.0000**	**2.0000e-005**

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

2.2 Overall Operational

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	0.0000	0.0000	1.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	2.0000e-005	2.0000e-005	0.0000	0.0000	2.0000e-005
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Mobile	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Waste						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Water						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**1.0000e-005**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**2.0000e-005**	**2.0000e-005**	**0.0000**	**0.0000**	**2.0000e-005**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Site Preparation	Site Preparation	12/1/2026	12/1/2026	5	1	
2	Building Construction	Building Construction	12/2/2026	3/22/2027	5	79	

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

Acres of Grading (Site Preparation Phase): 0.5

Acres of Grading (Grading Phase): 0

Acres of Paving: 0

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

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Building Construction	Excavators	1	8.00	158	0.38
Site Preparation	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Building Construction	Forklifts	2	6.00	89	0.20
Site Preparation	Graders	1	8.00	187	0.41
Building Construction	Bore/Drill Rigs	1	8.00	221	0.50
Building Construction	Cranes	1	8.00	231	0.29
Site Preparation	Rollers	1	8.00	80	0.38
Building Construction	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Site Preparation	Cement and Mortar Mixers	1	8.00	9	0.56
Site Preparation	Excavators	1		158	0.38
Building Construction	Generator Sets	1	8.00	84	0.74
Building Construction	Air Compressors	1	8.00	78	0.48

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Site Preparation	5	13.00	0.00	0.00	16.80	6.60	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	8	1.00	0.00	0.00	16.80	6.60	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

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

Water Exposed Area

Reduce Vehicle Speed on Unpaved Roads

3.2 Site Preparation - 2026

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					2.7000e-004	0.0000	2.7000e-004	3.0000e-005	0.0000	3.0000e-005	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	3.2000e-004	3.3000e-003	2.9900e-003	1.0000e-005		1.3000e-004	1.3000e-004		1.2000e-004	1.2000e-004	0.0000	0.5656	0.5656	1.8000e-004	0.0000	0.5700
Total	**3.2000e-004**	**3.3000e-003**	**2.9900e-003**	**1.0000e-005**	**2.7000e-004**	**1.3000e-004**	**4.0000e-004**	**3.0000e-005**	**1.2000e-004**	**1.5000e-004**	**0.0000**	**0.5656**	**0.5656**	**1.8000e-004**	**0.0000**	**0.5700**

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

3.2 Site Preparation - 2026

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	2.0000e-005	1.0000e-005	1.8000e-004	0.0000	8.0000e-005	0.0000	8.0000e-005	2.0000e-005	0.0000	2.0000e-005	0.0000	0.0587	0.0587	0.0000	0.0000	0.0592
Total	**2.0000e-005**	**1.0000e-005**	**1.8000e-004**	**0.0000**	**8.0000e-005**	**0.0000**	**8.0000e-005**	**2.0000e-005**	**0.0000**	**2.0000e-005**	**0.0000**	**0.0587**	**0.0587**	**0.0000**	**0.0000**	**0.0592**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					1.0000e-004	0.0000	1.0000e-004	1.0000e-005	0.0000	1.0000e-005	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	3.2000e-004	3.3000e-003	2.9900e-003	1.0000e-005		1.3000e-004	1.3000e-004		1.2000e-004	1.2000e-004	0.0000	0.5656	0.5656	1.8000e-004	0.0000	0.5700
Total	**3.2000e-004**	**3.3000e-003**	**2.9900e-003**	**1.0000e-005**	**1.0000e-004**	**1.3000e-004**	**2.3000e-004**	**1.0000e-005**	**1.2000e-004**	**1.3000e-004**	**0.0000**	**0.5656**	**0.5656**	**1.8000e-004**	**0.0000**	**0.5700**

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

3.2 Site Preparation - 2026

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	2.0000e-005	1.0000e-005	1.8000e-004	0.0000	8.0000e-005	0.0000	8.0000e-005	2.0000e-005	0.0000	2.0000e-005	0.0000	0.0587	0.0587	0.0000	0.0000	0.0592
Total	**2.0000e-005**	**1.0000e-005**	**1.8000e-004**	**0.0000**	**8.0000e-005**	**0.0000**	**8.0000e-005**	**2.0000e-005**	**0.0000**	**2.0000e-005**	**0.0000**	**0.0587**	**0.0587**	**0.0000**	**0.0000**	**0.0592**

3.3 Building Construction - 2026

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0159	0.1402	0.1876	4.0000e-004		5.9400e-003	5.9400e-003		5.6100e-003	5.6100e-003	0.0000	34.9398	34.9398	8.5100e-003	0.0000	35.1526
Total	**0.0159**	**0.1402**	**0.1876**	**4.0000e-004**		**5.9400e-003**	**5.9400e-003**		**5.6100e-003**	**5.6100e-003**	**0.0000**	**34.9398**	**34.9398**	**8.5100e-003**	**0.0000**	**35.1526**

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

3.3 Building Construction - 2026

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	3.0000e-005	2.0000e-005	3.0000e-004	0.0000	1.4000e-004	0.0000	1.4000e-004	4.0000e-005	0.0000	4.0000e-005	0.0000	0.0994	0.0994	0.0000	0.0000	0.1001
Total	**3.0000e-005**	**2.0000e-005**	**3.0000e-004**	**0.0000**	**1.4000e-004**	**0.0000**	**1.4000e-004**	**4.0000e-005**	**0.0000**	**4.0000e-005**	**0.0000**	**0.0994**	**0.0994**	**0.0000**	**0.0000**	**0.1001**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0159	0.1402	0.1876	4.0000e-004		5.9400e-003	5.9400e-003		5.6100e-003	5.6100e-003	0.0000	34.9397	34.9397	8.5100e-003	0.0000	35.1525
Total	**0.0159**	**0.1402**	**0.1876**	**4.0000e-004**		**5.9400e-003**	**5.9400e-003**		**5.6100e-003**	**5.6100e-003**	**0.0000**	**34.9397**	**34.9397**	**8.5100e-003**	**0.0000**	**35.1525**

Well 12 - Water System Improvement & Treatment Project - Kern-San Joaquin County, Annual

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

3.3 Building Construction - 2026

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	3.0000e-005	2.0000e-005	3.0000e-004	0.0000	1.4000e-004	0.0000	1.4000e-004	4.0000e-005	0.0000	4.0000e-005	0.0000	0.0994	0.0994	0.0000	0.0000	0.1001
Total	**3.0000e-005**	**2.0000e-005**	**3.0000e-004**	**0.0000**	**1.4000e-004**	**0.0000**	**1.4000e-004**	**4.0000e-005**	**0.0000**	**4.0000e-005**	**0.0000**	**0.0994**	**0.0994**	**0.0000**	**0.0000**	**0.1001**

3.3 Building Construction - 2027

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0412	0.3633	0.4859	1.0400e-003		0.0154	0.0154		0.0145	0.0145	0.0000	90.5257	90.5257	0.0221	0.0000	91.0771
Total	**0.0412**	**0.3633**	**0.4859**	**1.0400e-003**		**0.0154**	**0.0154**		**0.0145**	**0.0145**	**0.0000**	**90.5257**	**90.5257**	**0.0221**	**0.0000**	**91.0771**

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

3.3 Building Construction - 2027

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	8.0000e-005	5.0000e-005	7.3000e-004	0.0000	3.6000e-004	0.0000	3.6000e-004	9.0000e-005	0.0000	1.0000e-004	0.0000	0.2499	0.2499	0.0000	1.0000e-005	0.2517
Total	**8.0000e-005**	**5.0000e-005**	**7.3000e-004**	**0.0000**	**3.6000e-004**	**0.0000**	**3.6000e-004**	**9.0000e-005**	**0.0000**	**1.0000e-004**	**0.0000**	**0.2499**	**0.2499**	**0.0000**	**1.0000e-005**	**0.2517**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0412	0.3633	0.4859	1.0400e-003		0.0154	0.0154		0.0145	0.0145	0.0000	90.5256	90.5256	0.0221	0.0000	91.0770
Total	**0.0412**	**0.3633**	**0.4859**	**1.0400e-003**		**0.0154**	**0.0154**		**0.0145**	**0.0145**	**0.0000**	**90.5256**	**90.5256**	**0.0221**	**0.0000**	**91.0770**

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

3.3 Building Construction - 2027

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	8.0000e-005	5.0000e-005	7.3000e-004	0.0000	3.6000e-004	0.0000	3.6000e-004	9.0000e-005	0.0000	1.0000e-004	0.0000	0.2499	0.2499	0.0000	1.0000e-005	0.2517
Total	**8.0000e-005**	**5.0000e-005**	**7.3000e-004**	**0.0000**	**3.6000e-004**	**0.0000**	**3.6000e-004**	**9.0000e-005**	**0.0000**	**1.0000e-004**	**0.0000**	**0.2499**	**0.2499**	**0.0000**	**1.0000e-005**	**0.2517**

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

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Unmitigated	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
User Defined Industrial	0.00	0.00	0.00		
Total	0.00	0.00	0.00		

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
User Defined Industrial	14.70	6.60	6.60	0.00	0.00	0.00	0	0	0

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
User Defined Industrial	0.330000	0.330000	0.340000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000

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

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Electricity Mitigated						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
NaturalGas Mitigated	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
NaturalGas Unmitigated	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

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

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
User Defined Industrial	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
User Defined Industrial	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

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

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
User Defined Industrial	0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
User Defined Industrial	0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

6.0 Area Detail

6.1 Mitigation Measures Area

Use Electric Lawnmower

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

Use Electric Leafblower

Use Electric Chainsaw

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	0.0000	0.0000	1.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	2.0000e-005	2.0000e-005	0.0000	0.0000	2.0000e-005
Unmitigated	0.0000	0.0000	1.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	2.0000e-005	2.0000e-005	0.0000	0.0000	2.0000e-005

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	0.0000	0.0000	1.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	2.0000e-005	2.0000e-005	0.0000	0.0000	2.0000e-005
Total	**0.0000**	**0.0000**	**1.0000e-005**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**2.0000e-005**	**2.0000e-005**	**0.0000**	**0.0000**	**2.0000e-005**

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

6.2 Area by SubCategory

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	0.0000	0.0000	1.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	2.0000e-005	2.0000e-005	0.0000	0.0000	2.0000e-005
Total	**0.0000**	**0.0000**	**1.0000e-005**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**2.0000e-005**	**2.0000e-005**	**0.0000**	**0.0000**	**2.0000e-005**

7.0 Water Detail

7.1 Mitigation Measures Water

Well 12 - Water System Improvement & Treatment Project - Kern-San Joaquin County, Annual

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

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

7.2 Water by Land Use

Unmitigated

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

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

7.2 Water by Land Use

Mitigated

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

8.0 Waste Detail

8.1 Mitigation Measures Waste

Category/Year

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

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

8.2 Waste by Land Use

Unmitigated

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

Mitigated

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

9.0 Operational Offroad

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

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

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

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

Boilers

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

User Defined Equipment

Equipment Type	Number

11.0 Vegetation

Well 12 - Trenching - Kern-San Joaquin County, Annual

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

Well 12 - Trenching

Kern-San Joaquin County, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
User Defined Industrial	1.00	User Defined Unit	0.48	21,000.00	0

1.2 Other Project Characteristics

Urbanization	Rural	**Wind Speed (m/s)**	2.7	**Precipitation Freq (Days)**	32
Climate Zone	3			**Operational Year**	2027
Utility Company	Pacific Gas and Electric Company				
CO2 Intensity (lb/MWhr)	203.98	**CH4 Intensity (lb/MWhr)**	0.033	**N2O Intensity (lb/MWhr)**	0.004

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use - Estimate of construction area: 3500 ft of pipe by 6ft wide trench.

Construction Phase - Trenching Estimate.

Off-road Equipment - Equipment Estimate.

Area Coating - Construction Run Only

Construction Off-road Equipment Mitigation -

Consumer Products - Construction Run Only

Landscape Equipment - Construction Run Only

Table Name	Column Name	Default Value	New Value
tblAreaCoating	Area_Nonresidential_Exterior	10500	0
tblAreaCoating	Area_Nonresidential_Interior	31500	0

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

tblConstDustMitigation	WaterUnpavedRoadVehicleSpeed	0	15
tblConstructionPhase	PhaseEndDate	11/30/2026	12/30/2026
tblConsumerProducts	ROG_EF	2.14E-05	0
tblConsumerProducts	ROG_EF_Degreaser	3.542E-07	0
tblConsumerProducts	ROG_EF_PesticidesFertilizers	5.152E-08	0
tblLandscapeEquipment	NumberSummerDays	180	0
tblLandUse	LandUseSquareFeet	0.00	21,000.00
tblLandUse	LotAcreage	0.00	0.48
tblProjectCharacteristics	UrbanizationLevel	Urban	Rural

2.0 Emissions Summary

Well 12 - Trenching - Kern-San Joaquin County, Annual

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

2.1 Overall Construction

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2026	6.5700e-003	0.0639	0.0600	1.4000e-004	1.1000e-003	2.6700e-003	3.7800e-003	2.9000e-004	2.4600e-003	2.7500e-003	0.0000	11.9102	11.9102	3.6100e-003	2.0000e-005	12.0059
Maximum	**6.5700e-003**	**0.0639**	**0.0600**	**1.4000e-004**	**1.1000e-003**	**2.6700e-003**	**3.7800e-003**	**2.9000e-004**	**2.4600e-003**	**2.7500e-003**	**0.0000**	**11.9102**	**11.9102**	**3.6100e-003**	**2.0000e-005**	**12.0059**

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2026	6.5700e-003	0.0639	0.0600	1.4000e-004	1.1000e-003	2.6700e-003	3.7800e-003	2.9000e-004	2.4600e-003	2.7500e-003	0.0000	11.9102	11.9102	3.6100e-003	2.0000e-005	12.0059
Maximum	**6.5700e-003**	**0.0639**	**0.0600**	**1.4000e-004**	**1.1000e-003**	**2.6700e-003**	**3.7800e-003**	**2.9000e-004**	**2.4600e-003**	**2.7500e-003**	**0.0000**	**11.9102**	**11.9102**	**3.6100e-003**	**2.0000e-005**	**12.0059**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

Quarter	Start Date	End Date	Maximum Unmitigated ROG + NOX (tons/quarter)	Maximum Mitigated ROG + NOX (tons/quarter)

Well 12 - Trenching - Kern-San Joaquin County, Annual

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

		Highest		

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Mobile	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Waste						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Water						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Well 12 - Trenching - Kern-San Joaquin County, Annual

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

2.2 Overall Operational

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Mobile	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Waste						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Water						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Trenching	Trenching	12/1/2026	12/30/2026	5	22	

Acres of Grading (Site Preparation Phase): 0

Well 12 - Trenching - Kern-San Joaquin County, Annual

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

Acres of Grading (Grading Phase): 0

Acres of Paving: 0

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

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Trenching	Cranes	1	10.00	231	0.29
Trenching	Tractors/Loaders/Backhoes	2	5.50	97	0.37

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Trenching	3	8.00	0.00	0.00	16.80	6.60	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Water Exposed Area

Reduce Vehicle Speed on Unpaved Roads

Well 12 - Trenching - Kern-San Joaquin County, Annual

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

3.2 Trenching - 2026

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	6.3000e-003	0.0638	0.0576	1.3000e-004		2.6700e-003	2.6700e-003		2.4600e-003	2.4600e-003	0.0000	11.1152	11.1152	3.5900e-003	0.0000	11.2051
Total	**6.3000e-003**	**0.0638**	**0.0576**	**1.3000e-004**		**2.6700e-003**	**2.6700e-003**		**2.4600e-003**	**2.4600e-003**	**0.0000**	**11.1152**	**11.1152**	**3.5900e-003**	**0.0000**	**11.2051**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	2.7000e-004	1.8000e-004	2.4000e-003	1.0000e-005	1.1000e-003	0.0000	1.1100e-003	2.9000e-004	0.0000	3.0000e-004	0.0000	0.7950	0.7950	2.0000e-005	2.0000e-005	0.8008
Total	**2.7000e-004**	**1.8000e-004**	**2.4000e-003**	**1.0000e-005**	**1.1000e-003**	**0.0000**	**1.1100e-003**	**2.9000e-004**	**0.0000**	**3.0000e-004**	**0.0000**	**0.7950**	**0.7950**	**2.0000e-005**	**2.0000e-005**	**0.8008**

Well 12 - Trenching - Kern-San Joaquin County, Annual

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

3.2 Trenching - 2026

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	6.3000e-003	0.0638	0.0576	1.3000e-004		2.6700e-003	2.6700e-003		2.4600e-003	2.4600e-003	0.0000	11.1152	11.1152	3.5900e-003	0.0000	11.2051
Total	**6.3000e-003**	**0.0638**	**0.0576**	**1.3000e-004**		**2.6700e-003**	**2.6700e-003**		**2.4600e-003**	**2.4600e-003**	**0.0000**	**11.1152**	**11.1152**	**3.5900e-003**	**0.0000**	**11.2051**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	2.7000e-004	1.8000e-004	2.4000e-003	1.0000e-005	1.1000e-003	0.0000	1.1100e-003	2.9000e-004	0.0000	3.0000e-004	0.0000	0.7950	0.7950	2.0000e-005	2.0000e-005	0.8008
Total	**2.7000e-004**	**1.8000e-004**	**2.4000e-003**	**1.0000e-005**	**1.1000e-003**	**0.0000**	**1.1100e-003**	**2.9000e-004**	**0.0000**	**3.0000e-004**	**0.0000**	**0.7950**	**0.7950**	**2.0000e-005**	**2.0000e-005**	**0.8008**

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

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Unmitigated	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
User Defined Industrial	0.00	0.00	0.00		
Total	0.00	0.00	0.00		

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
User Defined Industrial	14.70	6.60	6.60	0.00	0.00	0.00	0	0	0

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
User Defined Industrial	0.491744	0.054986	0.180747	0.153452	0.027634	0.008574	0.014177	0.038442	0.000573	0.000231	0.024179	0.001379	0.003882

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

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Electricity Mitigated						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
NaturalGas Mitigated	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
NaturalGas Unmitigated	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

Well 12 - Trenching - Kern-San Joaquin County, Annual

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

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
User Defined Industrial	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
User Defined Industrial	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

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

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
User Defined Industrial	0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
User Defined Industrial	0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

6.0 Area Detail

6.1 Mitigation Measures Area

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

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Unmitigated	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

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

6.2 Area by SubCategory

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

7.0 Water Detail

7.1 Mitigation Measures Water

Well 12 - Trenching - Kern-San Joaquin County, Annual

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

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

7.2 Water by Land Use

Unmitigated

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

7.2 Water by Land Use

Mitigated

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

8.0 Waste Detail

8.1 Mitigation Measures Waste

Category/Year

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

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

8.2 Waste by Land Use

Unmitigated

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

Mitigated

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

9.0 Operational Offroad

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

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

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

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

Boilers

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

User Defined Equipment

Equipment Type	Number

11.0 Vegetation

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

Well 15 - Water System Improvement & Treatment Project

Kern-San Joaquin County, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
User Defined Industrial	1.00	User Defined Unit	1.00	7,121.00	0

1.2 Other Project Characteristics

Urbanization	Rural	**Wind Speed (m/s)**	2.7	**Precipitation Freq (Days)**	32
Climate Zone	3			**Operational Year**	2025
Utility Company	Pacific Gas and Electric Company				
CO2 Intensity (lb/MWhr)	203.98	**CH4 Intensity (lb/MWhr)**	0.033	**N2O Intensity (lb/MWhr)**	0.004

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use - Lot acreage provided by Applicant.

Construction Phase - Proposed Construction Schedule.

Off-road Equipment - Proposed Construction Schedule.

Off-road Equipment - Estimated Construction Activities.

Off-road Equipment - Estimated Construction Activities.

Off-road Equipment - Estimated Construction Activities.

Off-road Equipment - Estimated Construction Activities.

Off-road Equipment - Estimated Construction Activities.

Grading - Yellow cells upon entry.

Vehicle Trips - Estimated one trip for maintenance a month.

Consumer Products -

Well 15 - Water System Improvement & Treatment Project - Kern-San Joaquin County, Annual

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

Area Coating - Project is a municipal well.

Construction Off-road Equipment Mitigation -

Area Mitigation -

Fleet Mix - Estimated one trip for maintenance a month.

Stationary Sources - Emergency Generators and Fire Pumps -

Table Name	Column Name	Default Value	New Value
tblAreaCoating	Area_Nonresidential_Exterior	3561	0
tblAreaCoating	Area_Nonresidential_Interior	10682	0
tblConstDustMitigation	WaterUnpavedRoadVehicleSpeed	0	15
tblConstructionPhase	NumDays	100.00	35.00
tblConstructionPhase	NumDays	100.00	30.00
tblConstructionPhase	NumDays	100.00	30.00
tblConstructionPhase	NumDays	10.00	19.00
tblConstructionPhase	NumDays	1.00	50.00
tblConstructionPhase	NumDaysWeek	5.00	7.00
tblFleetMix	HHD	0.04	0.00
tblFleetMix	LDA	0.48	0.33
tblFleetMix	LDT1	0.05	0.33
tblFleetMix	LDT2	0.18	0.34
tblFleetMix	LHD1	0.03	0.00
tblFleetMix	LHD2	9.1740e-003	0.00
tblFleetMix	MCY	0.02	0.00
tblFleetMix	MDV	0.16	0.00
tblFleetMix	MH	4.2820e-003	0.00
tblFleetMix	MHD	0.01	0.00
tblFleetMix	OBUS	5.8000e-004	0.00
tblFleetMix	SBUS	1.4400e-003	0.00
tblFleetMix	UBUS	2.3600e-004	0.00

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

tblGrading	AcresOfGrading	25.00	0.50
tblLandUse	LandUseSquareFeet	0.00	7,121.00
tblLandUse	LotAcreage	0.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	2.00
tblOffRoadEquipment	UsageHours	8.00	4.00
tblOffRoadEquipment	UsageHours	8.00	10.00
tblOffRoadEquipment	UsageHours	6.00	3.00
tblProjectCharacteristics	UrbanizationLevel	Urban	Rural
tblStationaryGeneratorsPumpsUse	HorsePowerValue	0.00	603.00
tblStationaryGeneratorsPumpsUse	HoursPerYear	0.00	200.00
tblStationaryGeneratorsPumpsUse	NumberOfEquipment	0.00	1.00
tblVehicleTrips	WD_TR	0.00	0.23

2.0 Emissions Summary

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

2.1 Overall Construction

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2023	0.0195	0.1850	0.2414	5.1000e-004	2.4100e-003	8.3700e-003	0.0108	6.4000e-004	7.7500e-003	8.3900e-003	0.0000	44.6203	44.6203	0.0130	1.2000e-004	44.9818
2024	0.0383	0.3548	0.4191	1.0200e-003	4.2900e-003	0.0147	0.0189	1.1000e-003	0.0137	0.0148	0.0000	89.4304	89.4304	0.0250	1.2000e-004	90.0933
2025	0.0255	0.2282	0.2793	5.6000e-004	4.3000e-003	9.3300e-003	0.0136	1.1000e-003	8.7800e-003	9.8800e-003	0.0000	48.8129	48.8129	0.0112	7.0000e-005	49.1136
Maximum	**0.0383**	**0.3548**	**0.4191**	**1.0200e-003**	**4.3000e-003**	**0.0147**	**0.0189**	**1.1000e-003**	**0.0137**	**0.0148**	**0.0000**	**89.4304**	**89.4304**	**0.0250**	**1.2000e-004**	**90.0933**

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2023	0.0195	0.1850	0.2414	5.1000e-004	2.4100e-003	8.3700e-003	0.0108	6.4000e-004	7.7500e-003	8.3900e-003	0.0000	44.6203	44.6203	0.0130	1.2000e-004	44.9818
2024	0.0383	0.3548	0.4191	1.0200e-003	4.1200e-003	0.0147	0.0188	1.0800e-003	0.0137	0.0147	0.0000	89.4303	89.4303	0.0250	1.2000e-004	90.0932
2025	0.0255	0.2282	0.2793	5.6000e-004	4.1400e-003	9.3300e-003	0.0135	1.0800e-003	8.7800e-003	9.8600e-003	0.0000	48.8128	48.8128	0.0112	7.0000e-005	49.1136
Maximum	**0.0383**	**0.3548**	**0.4191**	**1.0200e-003**	**4.1400e-003**	**0.0147**	**0.0188**	**1.0800e-003**	**0.0137**	**0.0147**	**0.0000**	**89.4303**	**89.4303**	**0.0250**	**1.2000e-004**	**90.0932**

Well 15 - Water System Improvement & Treatment Project - Kern-San Joaquin County, Annual

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

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**3.00**	**0.00**	**0.74**	**1.41**	**0.00**	**0.12**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

Quarter	Start Date	End Date	Maximum Unmitigated ROG + NOX (tons/quarter)	Maximum Mitigated ROG + NOX (tons/quarter)
1	**3-1-2023**	**5-31-2023**	0.1606	0.1606
4	**12-1-2023**	**2-29-2024**	0.2172	0.2172
8	**12-1-2024**	**2-28-2025**	0.4609	0.4609
		Highest	0.4609	0.4609

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	0.0278	0.0000	1.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	2.0000e-005	2.0000e-005	0.0000	0.0000	2.0000e-005
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Mobile	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Stationary	0.0990	0.2766	0.2523	4.8000e-004		0.0146	0.0146		0.0146	0.0146	0.0000	45.9241	45.9241	6.4400e-003	0.0000	46.0851
Waste						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Water						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.1268**	**0.2766**	**0.2523**	**4.8000e-004**	**0.0000**	**0.0146**	**0.0146**	**0.0000**	**0.0146**	**0.0146**	**0.0000**	**45.9242**	**45.9242**	**6.4400e-003**	**0.0000**	**46.0851**

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

2.2 Overall Operational

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	0.0278	0.0000	1.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	2.0000e-005	2.0000e-005	0.0000	0.0000	2.0000e-005
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Mobile	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Stationary	0.0990	0.2766	0.2523	4.8000e-004		0.0146	0.0146		0.0146	0.0146	0.0000	45.9241	45.9241	6.4400e-003	0.0000	46.0851
Waste						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Water						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.1268**	**0.2766**	**0.2523**	**4.8000e-004**	**0.0000**	**0.0146**	**0.0146**	**0.0000**	**0.0146**	**0.0146**	**0.0000**	**45.9242**	**45.9242**	**6.4400e-003**	**0.0000**	**46.0851**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Demolition	Demolition	3/1/2023	3/27/2023	5	19	
2	Test Phase	Building Construction	3/28/2023	5/15/2023	5	35	

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

3	Production Well Construction	Building Construction	12/1/2023	1/11/2024	5	30	
4	Production Well Drilling	Building Construction	1/12/2024	2/10/2024	7	30	
5	Well Equipping and Site Development	Site Preparation	12/2/2024	2/7/2025	5	50	

Acres of Grading (Site Preparation Phase): 0.5

Acres of Grading (Grading Phase): 0

Acres of Paving: 0

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

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Demolition	Concrete/Industrial Saws	1	4.00	81	0.73
Demolition	Rubber Tired Dozers	1	1.00	247	0.40
Demolition	Tractors/Loaders/Backhoes	2	3.00	97	0.37
Test Phase	Bore/Drill Rigs	1	10.00	221	0.50
Test Phase	Tractors/Loaders/Backhoes	2	10.00	97	0.37
Production Well Construction	Forklifts	1	6.00	89	0.20
Production Well Construction	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Production Well Drilling	Bore/Drill Rigs	1	24.00	221	0.50
Production Well Drilling	Forklifts	1	6.00	89	0.20
Production Well Drilling	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Well Equipping and Site Development	Air Compressors	1	8.00	78	0.48
Well Equipping and Site Development	Cement and Mortar Mixers	1	8.00	9	0.56
Well Equipping and Site Development	Cranes	1	8.00	231	0.29
Well Equipping and Site Development	Excavators	1	8.00	158	0.38
Well Equipping and Site Development	Generator Sets	1	8.00	84	0.74
Well Equipping and Site Development	Graders	1	8.00	187	0.41
Well Equipping and Site Development	Rollers	1	8.00	80	0.38

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

Well Equipping and Site Development	Tractors/Loaders/Backhoes	2	8.00	97	0.37

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Demolition	4	10.00	0.00	0.00	16.80	6.60	20.00	LD_Mix	HDT_Mix	HHDT
Test Phase	3	3.00	1.00	0.00	16.80	6.60	20.00	LD_Mix	HDT_Mix	HHDT
Production Well Construction	3	3.00	1.00	0.00	16.80	6.60	20.00	LD_Mix	HDT_Mix	HHDT
Production Well Drilling	4	3.00	1.00	0.00	16.80	6.60	20.00	LD_Mix	HDT_Mix	HHDT
Well Equipping and Site Development	9	23.00	0.00	0.00	16.80	6.60	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Water Exposed Area

Reduce Vehicle Speed on Unpaved Roads

3.2 Demolition - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	3.4800e-003	0.0317	0.0370	6.0000e-005		1.5300e-003	1.5300e-003		1.4600e-003	1.4600e-003	0.0000	5.3941	5.3941	1.0400e-003	0.0000	5.4202
Total	**3.4800e-003**	**0.0317**	**0.0370**	**6.0000e-005**		**1.5300e-003**	**1.5300e-003**		**1.4600e-003**	**1.4600e-003**	**0.0000**	**5.3941**	**5.3941**	**1.0400e-003**	**0.0000**	**5.4202**

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

3.2 Demolition - 2023

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	3.6000e-004	2.7000e-004	3.2500e-003	1.0000e-005	1.1900e-003	1.0000e-005	1.2000e-003	3.2000e-004	1.0000e-005	3.2000e-004	0.0000	0.9501	0.9501	2.0000e-005	2.0000e-005	0.9579
Total	**3.6000e-004**	**2.7000e-004**	**3.2500e-003**	**1.0000e-005**	**1.1900e-003**	**1.0000e-005**	**1.2000e-003**	**3.2000e-004**	**1.0000e-005**	**3.2000e-004**	**0.0000**	**0.9501**	**0.9501**	**2.0000e-005**	**2.0000e-005**	**0.9579**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	3.4800e-003	0.0317	0.0370	6.0000e-005		1.5300e-003	1.5300e-003		1.4600e-003	1.4600e-003	0.0000	5.3941	5.3941	1.0400e-003	0.0000	5.4202
Total	**3.4800e-003**	**0.0317**	**0.0370**	**6.0000e-005**		**1.5300e-003**	**1.5300e-003**		**1.4600e-003**	**1.4600e-003**	**0.0000**	**5.3941**	**5.3941**	**1.0400e-003**	**0.0000**	**5.4202**

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

3.2 Demolition - 2023

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	3.6000e-004	2.7000e-004	3.2500e-003	1.0000e-005	1.1900e-003	1.0000e-005	1.2000e-003	3.2000e-004	1.0000e-005	3.2000e-004	0.0000	0.9501	0.9501	2.0000e-005	2.0000e-005	0.9579
Total	**3.6000e-004**	**2.7000e-004**	**3.2500e-003**	**1.0000e-005**	**1.1900e-003**	**1.0000e-005**	**1.2000e-003**	**3.2000e-004**	**1.0000e-005**	**3.2000e-004**	**0.0000**	**0.9501**	**0.9501**	**2.0000e-005**	**2.0000e-005**	**0.9579**

3.3 Test Phase - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0113	0.1118	0.1421	3.4000e-004		4.7600e-003	4.7600e-003		4.3800e-003	4.3800e-003	0.0000	30.1352	30.1352	9.7500e-003	0.0000	30.3789
Total	**0.0113**	**0.1118**	**0.1421**	**3.4000e-004**		**4.7600e-003**	**4.7600e-003**		**4.3800e-003**	**4.3800e-003**	**0.0000**	**30.1352**	**30.1352**	**9.7500e-003**	**0.0000**	**30.3789**

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

3.3 Test Phase - 2023

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	2.0000e-005	7.2000e-004	2.4000e-004	0.0000	1.1000e-004	0.0000	1.1000e-004	3.0000e-005	0.0000	3.0000e-005	0.0000	0.3112	0.3112	0.0000	5.0000e-005	0.3250
Worker	2.0000e-004	1.5000e-004	1.7900e-003	1.0000e-005	6.6000e-004	0.0000	6.6000e-004	1.7000e-004	0.0000	1.8000e-004	0.0000	0.5251	0.5251	1.0000e-005	1.0000e-005	0.5294
Total	**2.2000e-004**	**8.7000e-004**	**2.0300e-003**	**1.0000e-005**	**7.7000e-004**	**0.0000**	**7.7000e-004**	**2.0000e-004**	**0.0000**	**2.1000e-004**	**0.0000**	**0.8363**	**0.8363**	**1.0000e-005**	**6.0000e-005**	**0.8543**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0113	0.1118	0.1421	3.4000e-004		4.7600e-003	4.7600e-003		4.3800e-003	4.3800e-003	0.0000	30.1352	30.1352	9.7500e-003	0.0000	30.3789
Total	**0.0113**	**0.1118**	**0.1421**	**3.4000e-004**		**4.7600e-003**	**4.7600e-003**		**4.3800e-003**	**4.3800e-003**	**0.0000**	**30.1352**	**30.1352**	**9.7500e-003**	**0.0000**	**30.3789**

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

3.3 Test Phase - 2023

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	2.0000e-005	7.2000e-004	2.4000e-004	0.0000	1.1000e-004	0.0000	1.1000e-004	3.0000e-005	0.0000	3.0000e-005	0.0000	0.3112	0.3112	0.0000	5.0000e-005	0.3250
Worker	2.0000e-004	1.5000e-004	1.7900e-003	1.0000e-005	6.6000e-004	0.0000	6.6000e-004	1.7000e-004	0.0000	1.8000e-004	0.0000	0.5251	0.5251	1.0000e-005	1.0000e-005	0.5294
Total	**2.2000e-004**	**8.7000e-004**	**2.0300e-003**	**1.0000e-005**	**7.7000e-004**	**0.0000**	**7.7000e-004**	**2.0000e-004**	**0.0000**	**2.1000e-004**	**0.0000**	**0.8363**	**0.8363**	**1.0000e-005**	**6.0000e-005**	**0.8543**

3.4 Production Well Construction - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	3.9900e-003	0.0398	0.0559	8.0000e-005		2.0600e-003	2.0600e-003		1.8900e-003	1.8900e-003	0.0000	6.8028	6.8028	2.2000e-003	0.0000	6.8579
Total	**3.9900e-003**	**0.0398**	**0.0559**	**8.0000e-005**		**2.0600e-003**	**2.0600e-003**		**1.8900e-003**	**1.8900e-003**	**0.0000**	**6.8028**	**6.8028**	**2.2000e-003**	**0.0000**	**6.8579**

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

3.4 Production Well Construction - 2023

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	1.0000e-005	4.3000e-004	1.5000e-004	0.0000	6.0000e-005	0.0000	7.0000e-005	2.0000e-005	0.0000	2.0000e-005	0.0000	0.1867	0.1867	0.0000	3.0000e-005	0.1950
Worker	1.2000e-004	9.0000e-005	1.0800e-003	0.0000	3.9000e-004	0.0000	4.0000e-004	1.0000e-004	0.0000	1.1000e-004	0.0000	0.3150	0.3150	1.0000e-005	1.0000e-005	0.3176
Total	**1.3000e-004**	**5.2000e-004**	**1.2300e-003**	**0.0000**	**4.5000e-004**	**0.0000**	**4.7000e-004**	**1.2000e-004**	**0.0000**	**1.3000e-004**	**0.0000**	**0.5018**	**0.5018**	**1.0000e-005**	**4.0000e-005**	**0.5126**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	3.9900e-003	0.0398	0.0559	8.0000e-005		2.0600e-003	2.0600e-003		1.8900e-003	1.8900e-003	0.0000	6.8028	6.8028	2.2000e-003	0.0000	6.8578
Total	**3.9900e-003**	**0.0398**	**0.0559**	**8.0000e-005**		**2.0600e-003**	**2.0600e-003**		**1.8900e-003**	**1.8900e-003**	**0.0000**	**6.8028**	**6.8028**	**2.2000e-003**	**0.0000**	**6.8578**

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

3.4 Production Well Construction - 2023

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	1.0000e-005	4.3000e-004	1.5000e-004	0.0000	6.0000e-005	0.0000	7.0000e-005	2.0000e-005	0.0000	2.0000e-005	0.0000	0.1867	0.1867	0.0000	3.0000e-005	0.1950
Worker	1.2000e-004	9.0000e-005	1.0800e-003	0.0000	3.9000e-004	0.0000	4.0000e-004	1.0000e-004	0.0000	1.1000e-004	0.0000	0.3150	0.3150	1.0000e-005	1.0000e-005	0.3176
Total	**1.3000e-004**	**5.2000e-004**	**1.2300e-003**	**0.0000**	**4.5000e-004**	**0.0000**	**4.7000e-004**	**1.2000e-004**	**0.0000**	**1.3000e-004**	**0.0000**	**0.5018**	**0.5018**	**1.0000e-005**	**4.0000e-005**	**0.5126**

3.4 Production Well Construction - 2024

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	1.6100e-003	0.0160	0.0240	3.0000e-005		7.7000e-004	7.7000e-004		7.1000e-004	7.1000e-004	0.0000	2.9171	2.9171	9.4000e-004	0.0000	2.9406
Total	**1.6100e-003**	**0.0160**	**0.0240**	**3.0000e-005**		**7.7000e-004**	**7.7000e-004**		**7.1000e-004**	**7.1000e-004**	**0.0000**	**2.9171**	**2.9171**	**9.4000e-004**	**0.0000**	**2.9406**

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

3.4 Production Well Construction - 2024

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	1.9000e-004	6.0000e-005	0.0000	3.0000e-005	0.0000	3.0000e-005	1.0000e-005	0.0000	1.0000e-005	0.0000	0.0788	0.0788	0.0000	1.0000e-005	0.0822
Worker	5.0000e-005	3.0000e-005	4.3000e-004	0.0000	1.7000e-004	0.0000	1.7000e-004	4.0000e-005	0.0000	5.0000e-005	0.0000	0.1306	0.1306	0.0000	0.0000	0.1316
Total	**5.0000e-005**	**2.2000e-004**	**4.9000e-004**	**0.0000**	**2.0000e-004**	**0.0000**	**2.0000e-004**	**5.0000e-005**	**0.0000**	**6.0000e-005**	**0.0000**	**0.2094**	**0.2094**	**0.0000**	**1.0000e-005**	**0.2139**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	1.6100e-003	0.0160	0.0240	3.0000e-005		7.7000e-004	7.7000e-004		7.1000e-004	7.1000e-004	0.0000	2.9171	2.9171	9.4000e-004	0.0000	2.9406
Total	**1.6100e-003**	**0.0160**	**0.0240**	**3.0000e-005**		**7.7000e-004**	**7.7000e-004**		**7.1000e-004**	**7.1000e-004**	**0.0000**	**2.9171**	**2.9171**	**9.4000e-004**	**0.0000**	**2.9406**

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

3.4 Production Well Construction - 2024

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	1.9000e-004	6.0000e-005	0.0000	3.0000e-005	0.0000	3.0000e-005	1.0000e-005	0.0000	1.0000e-005	0.0000	0.0788	0.0788	0.0000	1.0000e-005	0.0822
Worker	5.0000e-005	3.0000e-005	4.3000e-004	0.0000	1.7000e-004	0.0000	1.7000e-004	4.0000e-005	0.0000	5.0000e-005	0.0000	0.1306	0.1306	0.0000	0.0000	0.1316
Total	**5.0000e-005**	**2.2000e-004**	**4.9000e-004**	**0.0000**	**2.0000e-004**	**0.0000**	**2.0000e-004**	**5.0000e-005**	**0.0000**	**6.0000e-005**	**0.0000**	**0.2094**	**0.2094**	**0.0000**	**1.0000e-005**	**0.2139**

3.5 Production Well Drilling - 2024

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0149	0.1389	0.1716	5.4000e-004		5.3900e-003	5.3900e-003		4.9600e-003	4.9600e-003	0.0000	47.1733	47.1733	0.0153	0.0000	47.5548
Total	**0.0149**	**0.1389**	**0.1716**	**5.4000e-004**		**5.3900e-003**	**5.3900e-003**		**4.9600e-003**	**4.9600e-003**	**0.0000**	**47.1733**	**47.1733**	**0.0153**	**0.0000**	**47.5548**

Well 15 - Water System Improvement & Treatment Project - Kern-San Joaquin County, Annual

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

3.5 Production Well Drilling - 2024

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	2.0000e-005	6.2000e-004	2.1000e-004	0.0000	9.0000e-005	0.0000	9.0000e-005	3.0000e-005	0.0000	3.0000e-005	0.0000	0.2625	0.2625	0.0000	4.0000e-005	0.2741
Worker	1.6000e-004	1.1000e-004	1.4200e-003	0.0000	5.6000e-004	0.0000	5.7000e-004	1.5000e-004	0.0000	1.5000e-004	0.0000	0.4354	0.4354	1.0000e-005	1.0000e-005	0.4388
Total	**1.8000e-004**	**7.3000e-004**	**1.6300e-003**	**0.0000**	**6.5000e-004**	**0.0000**	**6.6000e-004**	**1.8000e-004**	**0.0000**	**1.8000e-004**	**0.0000**	**0.6979**	**0.6979**	**1.0000e-005**	**5.0000e-005**	**0.7129**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0149	0.1389	0.1716	5.4000e-004		5.3900e-003	5.3900e-003		4.9600e-003	4.9600e-003	0.0000	47.1733	47.1733	0.0153	0.0000	47.5547
Total	**0.0149**	**0.1389**	**0.1716**	**5.4000e-004**		**5.3900e-003**	**5.3900e-003**		**4.9600e-003**	**4.9600e-003**	**0.0000**	**47.1733**	**47.1733**	**0.0153**	**0.0000**	**47.5547**

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

3.5 Production Well Drilling - 2024

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	2.0000e-005	6.2000e-004	2.1000e-004	0.0000	9.0000e-005	0.0000	9.0000e-005	3.0000e-005	0.0000	3.0000e-005	0.0000	0.2625	0.2625	0.0000	4.0000e-005	0.2741
Worker	1.6000e-004	1.1000e-004	1.4200e-003	0.0000	5.6000e-004	0.0000	5.7000e-004	1.5000e-004	0.0000	1.5000e-004	0.0000	0.4354	0.4354	1.0000e-005	1.0000e-005	0.4388
Total	**1.8000e-004**	**7.3000e-004**	**1.6300e-003**	**0.0000**	**6.5000e-004**	**0.0000**	**6.6000e-004**	**1.8000e-004**	**0.0000**	**1.8000e-004**	**0.0000**	**0.6979**	**0.6979**	**1.0000e-005**	**5.0000e-005**	**0.7129**

3.6 Well Equipping and Site Development - 2024

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					2.7000e-004	0.0000	2.7000e-004	3.0000e-005	0.0000	3.0000e-005	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0207	0.1982	0.2134	4.1000e-004		8.4600e-003	8.4600e-003		7.9700e-003	7.9700e-003	0.0000	35.9851	35.9851	8.7700e-003	0.0000	36.2043
Total	**0.0207**	**0.1982**	**0.2134**	**4.1000e-004**	**2.7000e-004**	**8.4600e-003**	**8.7300e-003**	**3.0000e-005**	**7.9700e-003**	**8.0000e-003**	**0.0000**	**35.9851**	**35.9851**	**8.7700e-003**	**0.0000**	**36.2043**

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

3.6 Well Equipping and Site Development - 2024

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	8.9000e-004	6.4000e-004	7.9800e-003	3.0000e-005	3.1700e-003	2.0000e-005	3.1900e-003	8.4000e-004	1.0000e-005	8.6000e-004	0.0000	2.4476	2.4476	5.0000e-005	6.0000e-005	2.4668
Total	**8.9000e-004**	**6.4000e-004**	**7.9800e-003**	**3.0000e-005**	**3.1700e-003**	**2.0000e-005**	**3.1900e-003**	**8.4000e-004**	**1.0000e-005**	**8.6000e-004**	**0.0000**	**2.4476**	**2.4476**	**5.0000e-005**	**6.0000e-005**	**2.4668**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					1.0000e-004	0.0000	1.0000e-004	1.0000e-005	0.0000	1.0000e-005	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0207	0.1982	0.2134	4.1000e-004		8.4600e-003	8.4600e-003		7.9700e-003	7.9700e-003	0.0000	35.9851	35.9851	8.7700e-003	0.0000	36.2043
Total	**0.0207**	**0.1982**	**0.2134**	**4.1000e-004**	**1.0000e-004**	**8.4600e-003**	**8.5600e-003**	**1.0000e-005**	**7.9700e-003**	**7.9800e-003**	**0.0000**	**35.9851**	**35.9851**	**8.7700e-003**	**0.0000**	**36.2043**

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

3.6 Well Equipping and Site Development - 2024

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	8.9000e-004	6.4000e-004	7.9800e-003	3.0000e-005	3.1700e-003	2.0000e-005	3.1900e-003	8.4000e-004	1.0000e-005	8.6000e-004	0.0000	2.4476	2.4476	5.0000e-005	6.0000e-005	2.4668
Total	**8.9000e-004**	**6.4000e-004**	**7.9800e-003**	**3.0000e-005**	**3.1700e-003**	**2.0000e-005**	**3.1900e-003**	**8.4000e-004**	**1.0000e-005**	**8.6000e-004**	**0.0000**	**2.4476**	**2.4476**	**5.0000e-005**	**6.0000e-005**	**2.4668**

3.6 Well Equipping and Site Development - 2025

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					2.7000e-004	0.0000	2.7000e-004	3.0000e-005	0.0000	3.0000e-005	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0244	0.2275	0.2699	5.3000e-004		9.3100e-003	9.3100e-003		8.7600e-003	8.7600e-003	0.0000	45.8033	45.8033	0.0111	0.0000	46.0814
Total	**0.0244**	**0.2275**	**0.2699**	**5.3000e-004**	**2.7000e-004**	**9.3100e-003**	**9.5800e-003**	**3.0000e-005**	**8.7600e-003**	**8.7900e-003**	**0.0000**	**45.8033**	**45.8033**	**0.0111**	**0.0000**	**46.0814**

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

3.6 Well Equipping and Site Development - 2025

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.0500e-003	7.2000e-004	9.4100e-003	3.0000e-005	4.0300e-003	2.0000e-005	4.0500e-003	1.0700e-003	2.0000e-005	1.0900e-003	0.0000	3.0096	3.0096	6.0000e-005	7.0000e-005	3.0322
Total	**1.0500e-003**	**7.2000e-004**	**9.4100e-003**	**3.0000e-005**	**4.0300e-003**	**2.0000e-005**	**4.0500e-003**	**1.0700e-003**	**2.0000e-005**	**1.0900e-003**	**0.0000**	**3.0096**	**3.0096**	**6.0000e-005**	**7.0000e-005**	**3.0322**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					1.0000e-004	0.0000	1.0000e-004	1.0000e-005	0.0000	1.0000e-005	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0244	0.2275	0.2699	5.3000e-004		9.3100e-003	9.3100e-003		8.7600e-003	8.7600e-003	0.0000	45.8032	45.8032	0.0111	0.0000	46.0814
Total	**0.0244**	**0.2275**	**0.2699**	**5.3000e-004**	**1.0000e-004**	**9.3100e-003**	**9.4100e-003**	**1.0000e-005**	**8.7600e-003**	**8.7700e-003**	**0.0000**	**45.8032**	**45.8032**	**0.0111**	**0.0000**	**46.0814**

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

3.6 Well Equipping and Site Development - 2025

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.0500e-003	7.2000e-004	9.4100e-003	3.0000e-005	4.0300e-003	2.0000e-005	4.0500e-003	1.0700e-003	2.0000e-005	1.0900e-003	0.0000	3.0096	3.0096	6.0000e-005	7.0000e-005	3.0322
Total	**1.0500e-003**	**7.2000e-004**	**9.4100e-003**	**3.0000e-005**	**4.0300e-003**	**2.0000e-005**	**4.0500e-003**	**1.0700e-003**	**2.0000e-005**	**1.0900e-003**	**0.0000**	**3.0096**	**3.0096**	**6.0000e-005**	**7.0000e-005**	**3.0322**

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

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Unmitigated	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
User Defined Industrial	0.00	0.00	0.00		
Total	0.00	0.00	0.00		

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
User Defined Industrial	14.70	6.60	6.60	0.00	0.00	0.00	0	0	0

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
User Defined Industrial	0.330000	0.330000	0.340000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000

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

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Electricity Mitigated						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
NaturalGas Mitigated	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
NaturalGas Unmitigated	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

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

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
User Defined Industrial	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
User Defined Industrial	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

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

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
User Defined Industrial	0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
User Defined Industrial	0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

6.0 Area Detail

6.1 Mitigation Measures Area

Use Electric Lawnmower

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

Use Electric Leafblower

Use Electric Chainsaw

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	0.0278	0.0000	1.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	2.0000e-005	2.0000e-005	0.0000	0.0000	2.0000e-005
Unmitigated	0.0278	0.0000	1.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	2.0000e-005	2.0000e-005	0.0000	0.0000	2.0000e-005

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.0278					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	0.0000	0.0000	1.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	2.0000e-005	2.0000e-005	0.0000	0.0000	2.0000e-005
Total	**0.0278**	**0.0000**	**1.0000e-005**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**2.0000e-005**	**2.0000e-005**	**0.0000**	**0.0000**	**2.0000e-005**

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

6.2 Area by SubCategory

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.0278					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	0.0000	0.0000	1.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	2.0000e-005	2.0000e-005	0.0000	0.0000	2.0000e-005
Total	**0.0278**	**0.0000**	**1.0000e-005**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**2.0000e-005**	**2.0000e-005**	**0.0000**	**0.0000**	**2.0000e-005**

7.0 Water Detail

7.1 Mitigation Measures Water

Well 15 - Water System Improvement & Treatment Project - Kern-San Joaquin County, Annual

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

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

7.2 Water by Land Use

Unmitigated

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

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

7.2 Water by Land Use

Mitigated

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

8.0 Waste Detail

8.1 Mitigation Measures Waste

Category/Year

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

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

8.2 Waste by Land Use

Unmitigated

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

Mitigated

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

9.0 Operational Offroad

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

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

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

Equipment Type	Number	Hours/Day	Hours/Year	Horse Power	Load Factor	Fuel Type
Emergency Generator	1	0	200	603	0.73	Diesel

Boilers

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

User Defined Equipment

Equipment Type	Number

10.1 Stationary Sources

Unmitigated/Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Equipment Type	tons/yr										MT/yr					
Emergency Generator - Diesel (600 - 750 HP)	0.0990	0.2766	0.2523	4.8000e-004		0.0146	0.0146		0.0146	0.0146	0.0000	45.9241	45.9241	6.4400e-003	0.0000	46.0851
Total	**0.0990**	**0.2766**	**0.2523**	**4.8000e-004**		**0.0146**	**0.0146**		**0.0146**	**0.0146**	**0.0000**	**45.9241**	**45.9241**	**6.4400e-003**	**0.0000**	**46.0851**

11.0 Vegetation

Well 15 - Trenching - Kern-San Joaquin County, Annual

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

Well 15 - Trenching

Kern-San Joaquin County, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
User Defined Industrial	1.00	User Defined Unit	0.13	5,550.00	0

1.2 Other Project Characteristics

Urbanization	Rural	**Wind Speed (m/s)**	2.7	**Precipitation Freq (Days)**	32
Climate Zone	3			**Operational Year**	2023
Utility Company	Pacific Gas and Electric Company				
CO2 Intensity (lb/MWhr)	203.98	**CH4 Intensity (lb/MWhr)**	0.033	**N2O Intensity (lb/MWhr)**	0.004

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use - Estimate of construction area: 925 ft of pipe by 6ft wide trench.

Construction Phase - Trenching Estimate.

Off-road Equipment - Equipment Estimate.

Area Coating - Construction Run Only

Construction Off-road Equipment Mitigation -

Table Name	Column Name	Default Value	New Value
tblAreaCoating	Area_Nonresidential_Exterior	2775	0
tblAreaCoating	Area_Nonresidential_Interior	8325	0
tblConstDustMitigation	WaterUnpavedRoadVehicleSpeed	0	15
tblConstructionPhase	PhaseEndDate	3/7/2023	3/8/2023

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

tblLandUse	LandUseSquareFeet	0.00	5,550.00
tblLandUse	LotAcreage	0.00	0.13
tblOffRoadEquipment	LoadFactor	0.29	0.29
tblOffRoadEquipment	LoadFactor	0.37	0.37
tblOffRoadEquipment	OffRoadEquipmentType		Cranes
tblOffRoadEquipment	OffRoadEquipmentType		Tractors/Loaders/Backhoes
tblProjectCharacteristics	UrbanizationLevel	Urban	Rural

2.0 Emissions Summary

Well 15 - Trenching - Kern-San Joaquin County, Annual

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

2.1 Overall Construction

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2023	2.0200e-003	0.0206	0.0168	4.0000e-005	3.0000e-004	9.1000e-004	1.2100e-003	8.0000e-005	8.3000e-004	9.1000e-004	0.0000	3.2526	3.2526	9.8000e-004	1.0000e-005	3.2789
Maximum	**2.0200e-003**	**0.0206**	**0.0168**	**4.0000e-005**	**3.0000e-004**	**9.1000e-004**	**1.2100e-003**	**8.0000e-005**	**8.3000e-004**	**9.1000e-004**	**0.0000**	**3.2526**	**3.2526**	**9.8000e-004**	**1.0000e-005**	**3.2789**

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2023	2.0200e-003	0.0206	0.0168	4.0000e-005	3.0000e-004	9.1000e-004	1.2100e-003	8.0000e-005	8.3000e-004	9.1000e-004	0.0000	3.2526	3.2526	9.8000e-004	1.0000e-005	3.2789
Maximum	**2.0200e-003**	**0.0206**	**0.0168**	**4.0000e-005**	**3.0000e-004**	**9.1000e-004**	**1.2100e-003**	**8.0000e-005**	**8.3000e-004**	**9.1000e-004**	**0.0000**	**3.2526**	**3.2526**	**9.8000e-004**	**1.0000e-005**	**3.2789**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

Well 15 - Trenching - Kern-San Joaquin County, Annual

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

Quarter	Start Date	End Date	Maximum Unmitigated ROG + NOX (tons/quarter)	Maximum Mitigated ROG + NOX (tons/quarter)
1	3-1-2023	5-31-2023	0.0215	0.0215
		Highest	0.0215	0.0215

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	0.0217	0.0000	1.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	2.0000e-005	2.0000e-005	0.0000	0.0000	2.0000e-005
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Mobile	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Waste						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Water						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0217**	**0.0000**	**1.0000e-005**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**2.0000e-005**	**2.0000e-005**	**0.0000**	**0.0000**	**2.0000e-005**

Well 15 - Trenching - Kern-San Joaquin County, Annual

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

2.2 Overall Operational

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	0.0217	0.0000	1.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	2.0000e-005	2.0000e-005	0.0000	0.0000	2.0000e-005
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Mobile	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Waste						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Water						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0217**	**0.0000**	**1.0000e-005**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**2.0000e-005**	**2.0000e-005**	**0.0000**	**0.0000**	**2.0000e-005**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Trenching	Trenching	3/1/2023	3/8/2023	5	6	

Acres of Grading (Site Preparation Phase): 0

Well 15 - Trenching - Kern-San Joaquin County, Annual

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

Acres of Grading (Grading Phase): 0

Acres of Paving: 0

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

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Trenching	Cranes	1	10.00	231	0.29
Trenching	Tractors/Loaders/Backhoes	2	5.50	97	0.37

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Trenching	3	8.00	0.00	0.00	16.80	6.60	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Water Exposed Area

Reduce Vehicle Speed on Unpaved Roads

Well 15 - Trenching - Kern-San Joaquin County, Annual

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

3.2 Trenching - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	1.9300e-003	0.0205	0.0160	3.0000e-005		9.1000e-004	9.1000e-004		8.3000e-004	8.3000e-004	0.0000	3.0126	3.0126	9.7000e-004	0.0000	3.0369
Total	**1.9300e-003**	**0.0205**	**0.0160**	**3.0000e-005**		**9.1000e-004**	**9.1000e-004**		**8.3000e-004**	**8.3000e-004**	**0.0000**	**3.0126**	**3.0126**	**9.7000e-004**	**0.0000**	**3.0369**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	9.0000e-005	7.0000e-005	8.2000e-004	0.0000	3.0000e-004	0.0000	3.0000e-004	8.0000e-005	0.0000	8.0000e-005	0.0000	0.2400	0.2400	1.0000e-005	1.0000e-005	0.2420
Total	**9.0000e-005**	**7.0000e-005**	**8.2000e-004**	**0.0000**	**3.0000e-004**	**0.0000**	**3.0000e-004**	**8.0000e-005**	**0.0000**	**8.0000e-005**	**0.0000**	**0.2400**	**0.2400**	**1.0000e-005**	**1.0000e-005**	**0.2420**

Well 15 - Trenching - Kern-San Joaquin County, Annual

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

3.2 Trenching - 2023

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	1.9300e-003	0.0205	0.0160	3.0000e-005		9.1000e-004	9.1000e-004		8.3000e-004	8.3000e-004	0.0000	3.0126	3.0126	9.7000e-004	0.0000	3.0369
Total	**1.9300e-003**	**0.0205**	**0.0160**	**3.0000e-005**		**9.1000e-004**	**9.1000e-004**		**8.3000e-004**	**8.3000e-004**	**0.0000**	**3.0126**	**3.0126**	**9.7000e-004**	**0.0000**	**3.0369**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	9.0000e-005	7.0000e-005	8.2000e-004	0.0000	3.0000e-004	0.0000	3.0000e-004	8.0000e-005	0.0000	8.0000e-005	0.0000	0.2400	0.2400	1.0000e-005	1.0000e-005	0.2420
Total	**9.0000e-005**	**7.0000e-005**	**8.2000e-004**	**0.0000**	**3.0000e-004**	**0.0000**	**3.0000e-004**	**8.0000e-005**	**0.0000**	**8.0000e-005**	**0.0000**	**0.2400**	**0.2400**	**1.0000e-005**	**1.0000e-005**	**0.2420**

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

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Unmitigated	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
User Defined Industrial	0.00	0.00	0.00		
Total	0.00	0.00	0.00		

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
User Defined Industrial	14.70	6.60	6.60	0.00	0.00	0.00	0	0	0

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
User Defined Industrial	0.475755	0.052577	0.176436	0.169714	0.032065	0.009816	0.013925	0.037355	0.000591	0.000241	0.025277	0.001517	0.004732

Well 15 - Trenching - Kern-San Joaquin County, Annual

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

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Electricity Mitigated						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
NaturalGas Mitigated	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
NaturalGas Unmitigated	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

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

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
User Defined Industrial	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
User Defined Industrial	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
User Defined Industrial	0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
User Defined Industrial	0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

6.0 Area Detail

6.1 Mitigation Measures Area

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

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	0.0217	0.0000	1.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	2.0000e-005	2.0000e-005	0.0000	0.0000	2.0000e-005
Unmitigated	0.0217	0.0000	1.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	2.0000e-005	2.0000e-005	0.0000	0.0000	2.0000e-005

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.0217					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	0.0000	0.0000	1.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	2.0000e-005	2.0000e-005	0.0000	0.0000	2.0000e-005
Total	**0.0217**	**0.0000**	**1.0000e-005**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**2.0000e-005**	**2.0000e-005**	**0.0000**	**0.0000**	**2.0000e-005**

Well 15 - Trenching - Kern-San Joaquin County, Annual

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

6.2 Area by SubCategory

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.0217					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	0.0000	0.0000	1.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	2.0000e-005	2.0000e-005	0.0000	0.0000	2.0000e-005
Total	**0.0217**	**0.0000**	**1.0000e-005**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**2.0000e-005**	**2.0000e-005**	**0.0000**	**0.0000**	**2.0000e-005**

7.0 Water Detail

7.1 Mitigation Measures Water

Well 15 - Trenching - Kern-San Joaquin County, Annual

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

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

7.2 Water by Land Use

Unmitigated

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

Well 15 - Trenching - Kern-San Joaquin County, Annual

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

7.2 Water by Land Use

Mitigated

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

8.0 Waste Detail

8.1 Mitigation Measures Waste

Category/Year

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

8.2 Waste by Land Use

Unmitigated

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

Mitigated

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

9.0 Operational Offroad

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

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

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

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

Boilers

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

User Defined Equipment

Equipment Type	Number

11.0 Vegetation

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

Well 16 - Water System Improvement & Treatment Project

Kern-San Joaquin County, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
User Defined Industrial	1.00	User Defined Unit	3.63	7,121.00	0
Other Asphalt Surfaces	38.00	1000sqft	0.87	38,000.00	0

1.2 Other Project Characteristics

Urbanization	Rural	**Wind Speed (m/s)**	2.7	**Precipitation Freq (Days)**	32
Climate Zone	3			**Operational Year**	2025
Utility Company	Pacific Gas and Electric Company				
CO2 Intensity (lb/MWhr)	203.98	**CH4 Intensity (lb/MWhr)**	0.033	**N2O Intensity (lb/MWhr)**	0.004

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use - Lot acreage based on KernGIS

Construction Phase - Proposed Construction Schedule.

Off-road Equipment -

Off-road Equipment -

Off-road Equipment - Estimated Construction Activities.

Off-road Equipment - Estimated Construction Activities.

Off-road Equipment - Estimated Construction Activities.

Off-road Equipment - Estimated Construction Activities.

Grading - Yellow cells upon entry.

Vehicle Trips - Estimated one trip for maintenance a month.

Well 16 - Water System Improvement & Treatment Project - Kern-San Joaquin County, Annual

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

Consumer Products -

Area Coating - Project is a municipal well.

Construction Off-road Equipment Mitigation -

Area Mitigation -

Fleet Mix - Estimated one trip for maintenance a month.

Stationary Sources - Emergency Generators and Fire Pumps -

Table Name	Column Name	Default Value	New Value
tblAreaCoating	Area_Nonresidential_Exterior	3561	0
tblAreaCoating	Area_Nonresidential_Interior	10682	0
tblConstDustMitigation	WaterUnpavedRoadVehicleSpeed	0	15
tblConstructionPhase	NumDays	230.00	35.00
tblConstructionPhase	NumDays	230.00	30.00
tblConstructionPhase	NumDays	230.00	30.00
tblConstructionPhase	NumDays	5.00	50.00
tblFleetMix	HHD	0.04	0.00
tblFleetMix	HHD	0.04	0.00
tblFleetMix	LDA	0.48	0.33
tblFleetMix	LDA	0.48	0.33
tblFleetMix	LDT1	0.05	0.33
tblFleetMix	LDT1	0.05	0.33
tblFleetMix	LDT2	0.18	0.34
tblFleetMix	LDT2	0.18	0.34
tblFleetMix	LHD1	0.03	0.00
tblFleetMix	LHD1	0.03	0.00
tblFleetMix	LHD2	9.1740e-003	0.00
tblFleetMix	LHD2	9.1740e-003	0.00
tblFleetMix	MCY	0.02	0.00
tblFleetMix	MCY	0.02	0.00

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

tblFleetMix	MDV	0.16	0.00
tblFleetMix	MDV	0.16	0.00
tblFleetMix	MH	4.2820e-003	0.00
tblFleetMix	MH	4.2820e-003	0.00
tblFleetMix	MHD	0.01	0.00
tblFleetMix	MHD	0.01	0.00
tblFleetMix	OBUS	5.8000e-004	0.00
tblFleetMix	OBUS	5.8000e-004	0.00
tblFleetMix	SBUS	1.4400e-003	0.00
tblFleetMix	SBUS	1.4400e-003	0.00
tblFleetMix	UBUS	2.3600e-004	0.00
tblFleetMix	UBUS	2.3600e-004	0.00
tblGrading	AcresOfGrading	25.00	75.00
tblLandUse	LandUseSquareFeet	0.00	7,121.00
tblLandUse	LotAcreage	0.00	3.63
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	4.00	2.00
tblOffRoadEquipment	UsageHours	8.00	6.00
tblOffRoadEquipment	UsageHours	8.00	6.00
tblOffRoadEquipment	UsageHours	7.00	10.00
tblOffRoadEquipment	UsageHours	7.00	8.00
tblOffRoadEquipment	UsageHours	7.00	8.00
tblProjectCharacteristics	UrbanizationLevel	Urban	Rural
tblStationaryGeneratorsPumpsUse	HorsePowerValue	0.00	2,012.00
tblStationaryGeneratorsPumpsUse	HoursPerYear	0.00	200.00

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

tblStationaryGeneratorsPumpsUse	NumberOfEquipment	0.00	1.00
tblVehicleTrips	WD_TR	0.00	0.25

2.0 Emissions Summary

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

2.1 Overall Construction

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2023	0.0176	0.1612	0.2189	5.2000e-004	7.8500e-003	6.9100e-003	0.0148	2.1100e-003	6.3600e-003	8.4700e-003	0.0000	45.7445	45.7445	0.0121	6.5000e-004	46.2408
2024	0.0493	0.4353	0.5462	1.2700e-003	0.0507	0.0183	0.0690	7.2100e-003	0.0170	0.0242	0.0000	110.9803	110.9803	0.0298	5.4000e-004	111.8866
2025	0.0255	0.2282	0.2793	5.6000e-004	0.0438	9.3300e-003	0.0531	5.3700e-003	8.7800e-003	0.0142	0.0000	48.8129	48.8129	0.0112	7.0000e-005	49.1136
Maximum	**0.0493**	**0.4353**	**0.5462**	**1.2700e-003**	**0.0507**	**0.0183**	**0.0690**	**7.2100e-003**	**0.0170**	**0.0242**	**0.0000**	**110.9803**	**110.9803**	**0.0298**	**6.5000e-004**	**111.8866**

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2023	0.0176	0.1612	0.2189	5.2000e-004	7.8500e-003	6.9100e-003	0.0148	2.1100e-003	6.3600e-003	8.4700e-003	0.0000	45.7444	45.7444	0.0121	6.5000e-004	46.2407
2024	0.0493	0.4353	0.5462	1.2700e-003	0.0264	0.0183	0.0447	4.5900e-003	0.0170	0.0216	0.0000	110.9802	110.9802	0.0298	5.4000e-004	111.8864
2025	0.0255	0.2282	0.2793	5.6000e-004	0.0195	9.3300e-003	0.0289	2.7500e-003	8.7800e-003	0.0115	0.0000	48.8128	48.8128	0.0112	7.0000e-005	49.1136
Maximum	**0.0493**	**0.4353**	**0.5462**	**1.2700e-003**	**0.0264**	**0.0183**	**0.0447**	**4.5900e-003**	**0.0170**	**0.0216**	**0.0000**	**110.9802**	**110.9802**	**0.0298**	**6.5000e-004**	**111.8864**

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

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**47.42**	**0.00**	**35.45**	**35.67**	**0.00**	**11.18**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

Quarter	Start Date	End Date	Maximum Unmitigated ROG + NOX (tons/quarter)	Maximum Mitigated ROG + NOX (tons/quarter)
1	**3-1-2023**	**5-31-2023**	0.1307	0.1307
4	**12-1-2023**	**2-29-2024**	0.2282	0.2282
8	**12-1-2024**	**2-28-2025**	0.5416	0.5416
		Highest	0.5416	0.5416

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	0.0311	0.0000	3.6000e-004	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	7.0000e-004	7.0000e-004	0.0000	0.0000	7.4000e-004
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Mobile	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Stationary	0.3302	1.4766	0.8419	1.5900e-003		0.0486	0.0486		0.0486	0.0486	0.0000	153.2328	153.2328	0.0215	0.0000	153.7699
Waste						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Water						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.3613**	**1.4766**	**0.8423**	**1.5900e-003**	**0.0000**	**0.0486**	**0.0486**	**0.0000**	**0.0486**	**0.0486**	**0.0000**	**153.2335**	**153.2335**	**0.0215**	**0.0000**	**153.7706**

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

2.2 Overall Operational

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	0.0311	0.0000	3.5000e-004	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	6.9000e-004	6.9000e-004	0.0000	0.0000	7.3000e-004
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Mobile	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Stationary	0.3302	1.4766	0.8419	1.5900e-003		0.0486	0.0486		0.0486	0.0486	0.0000	153.2328	153.2328	0.0215	0.0000	153.7699
Waste						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Water						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.3613**	**1.4766**	**0.8423**	**1.5900e-003**	**0.0000**	**0.0486**	**0.0486**	**0.0000**	**0.0486**	**0.0486**	**0.0000**	**153.2335**	**153.2335**	**0.0215**	**0.0000**	**153.7706**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Test Phase	Building Construction	3/1/2023	4/18/2023	5	35	
2	Production Well Construction	Building Construction	12/1/2023	1/11/2024	5	30	

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

3	Production Well Drilling	Building Construction	1/12/2024	2/22/2024	5	30	
4	Well Equipping and Site Development	Site Preparation	12/2/2024	2/7/2025	5	50	
5	Paving	Paving	12/2/2024	12/25/2024	5	18	

Acres of Grading (Site Preparation Phase): 75

Acres of Grading (Grading Phase): 0

Acres of Paving: 0.87

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

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Test Phase	Bore/Drill Rigs	1	10.00	221	0.50
Test Phase	Tractors/Loaders/Backhoes	2	10.00	97	0.37
Production Well Construction	Forklifts	1	6.00	89	0.20
Production Well Construction	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Production Well Drilling	Bore/Drill Rigs	1	24.00	221	0.50
Production Well Drilling	Forklifts	1	6.00	89	0.20
Production Well Drilling	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Well Equipping and Site Development	Air Compressors	1	8.00	78	0.48
Well Equipping and Site Development	Cement and Mortar Mixers	1	8.00	9	0.56
Well Equipping and Site Development	Cranes	1	8.00	231	0.29
Well Equipping and Site Development	Excavators	1	8.00	158	0.38
Well Equipping and Site Development	Generator Sets	1	8.00	84	0.74
Well Equipping and Site Development	Graders	1	8.00	187	0.41
Well Equipping and Site Development	Rollers	1	8.00	80	0.38
Well Equipping and Site Development	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Paving	Cement and Mortar Mixers	2	6.00	9	0.56
Paving	Pavers	1	8.00	130	0.42

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

Paving	Paving Equipment	2	6.00	132	0.36
Paving	Rollers	2	6.00	80	0.38
Paving	Tractors/Loaders/Backhoes	1	8.00	97	0.37

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Test Phase	3	19.00	7.00	0.00	16.80	6.60	20.00	LD_Mix	HDT_Mix	HHDT
Production Well Construction	3	19.00	7.00	0.00	16.80	6.60	20.00	LD_Mix	HDT_Mix	HHDT
Production Well Drilling	4	19.00	7.00	0.00	16.80	6.60	20.00	LD_Mix	HDT_Mix	HHDT
Well Equipping and Site Development	9	23.00	0.00	0.00	16.80	6.60	20.00	LD_Mix	HDT_Mix	HHDT
Paving	8	20.00	0.00	0.00	16.80	6.60	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Water Exposed Area

Reduce Vehicle Speed on Unpaved Roads

3.2 Test Phase - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0113	0.1118	0.1421	3.4000e-004		4.7600e-003	4.7600e-003		4.3800e-003	4.3800e-003	0.0000	30.1352	30.1352	9.7500e-003	0.0000	30.3789
Total	**0.0113**	**0.1118**	**0.1421**	**3.4000e-004**		**4.7600e-003**	**4.7600e-003**		**4.3800e-003**	**4.3800e-003**	**0.0000**	**30.1352**	**30.1352**	**9.7500e-003**	**0.0000**	**30.3789**

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

3.2 Test Phase - 2023

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	1.4000e-004	5.0500e-003	1.7100e-003	2.0000e-005	7.4000e-004	3.0000e-005	7.7000e-004	2.1000e-004	3.0000e-005	2.4000e-004	0.0000	2.1786	2.1786	1.0000e-005	3.2000e-004	2.2748
Worker	1.2700e-003	9.5000e-004	0.0114	4.0000e-005	4.1700e-003	2.0000e-005	4.1900e-003	1.1100e-003	2.0000e-005	1.1300e-003	0.0000	3.3254	3.3254	8.0000e-005	9.0000e-005	3.3527
Total	**1.4100e-003**	**6.0000e-003**	**0.0131**	**6.0000e-005**	**4.9100e-003**	**5.0000e-005**	**4.9600e-003**	**1.3200e-003**	**5.0000e-005**	**1.3700e-003**	**0.0000**	**5.5040**	**5.5040**	**9.0000e-005**	**4.1000e-004**	**5.6275**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0113	0.1118	0.1421	3.4000e-004		4.7600e-003	4.7600e-003		4.3800e-003	4.3800e-003	0.0000	30.1352	30.1352	9.7500e-003	0.0000	30.3789
Total	**0.0113**	**0.1118**	**0.1421**	**3.4000e-004**		**4.7600e-003**	**4.7600e-003**		**4.3800e-003**	**4.3800e-003**	**0.0000**	**30.1352**	**30.1352**	**9.7500e-003**	**0.0000**	**30.3789**

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

3.2 Test Phase - 2023

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	1.4000e-004	5.0500e-003	1.7100e-003	2.0000e-005	7.4000e-004	3.0000e-005	7.7000e-004	2.1000e-004	3.0000e-005	2.4000e-004	0.0000	2.1786	2.1786	1.0000e-005	3.2000e-004	2.2748
Worker	1.2700e-003	9.5000e-004	0.0114	4.0000e-005	4.1700e-003	2.0000e-005	4.1900e-003	1.1100e-003	2.0000e-005	1.1300e-003	0.0000	3.3254	3.3254	8.0000e-005	9.0000e-005	3.3527
Total	**1.4100e-003**	**6.0000e-003**	**0.0131**	**6.0000e-005**	**4.9100e-003**	**5.0000e-005**	**4.9600e-003**	**1.3200e-003**	**5.0000e-005**	**1.3700e-003**	**0.0000**	**5.5040**	**5.5040**	**9.0000e-005**	**4.1000e-004**	**5.6275**

3.3 Production Well Construction - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	3.9900e-003	0.0398	0.0559	8.0000e-005		2.0600e-003	2.0600e-003		1.8900e-003	1.8900e-003	0.0000	6.8028	6.8028	2.2000e-003	0.0000	6.8579
Total	**3.9900e-003**	**0.0398**	**0.0559**	**8.0000e-005**		**2.0600e-003**	**2.0600e-003**		**1.8900e-003**	**1.8900e-003**	**0.0000**	**6.8028**	**6.8028**	**2.2000e-003**	**0.0000**	**6.8579**

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

3.3 Production Well Construction - 2023

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	8.0000e-005	3.0300e-003	1.0300e-003	1.0000e-005	4.4000e-004	2.0000e-005	4.6000e-004	1.3000e-004	2.0000e-005	1.5000e-004	0.0000	1.3072	1.3072	1.0000e-005	1.9000e-004	1.3649
Worker	7.6000e-004	5.7000e-004	6.8200e-003	2.0000e-005	2.5000e-003	1.0000e-005	2.5100e-003	6.6000e-004	1.0000e-005	6.8000e-004	0.0000	1.9952	1.9952	5.0000e-005	5.0000e-005	2.0116
Total	**8.4000e-004**	**3.6000e-003**	**7.8500e-003**	**3.0000e-005**	**2.9400e-003**	**3.0000e-005**	**2.9700e-003**	**7.9000e-004**	**3.0000e-005**	**8.3000e-004**	**0.0000**	**3.3024**	**3.3024**	**6.0000e-005**	**2.4000e-004**	**3.3765**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	3.9900e-003	0.0398	0.0559	8.0000e-005		2.0600e-003	2.0600e-003		1.8900e-003	1.8900e-003	0.0000	6.8028	6.8028	2.2000e-003	0.0000	6.8578
Total	**3.9900e-003**	**0.0398**	**0.0559**	**8.0000e-005**		**2.0600e-003**	**2.0600e-003**		**1.8900e-003**	**1.8900e-003**	**0.0000**	**6.8028**	**6.8028**	**2.2000e-003**	**0.0000**	**6.8578**

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

3.3 Production Well Construction - 2023

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	8.0000e-005	3.0300e-003	1.0300e-003	1.0000e-005	4.4000e-004	2.0000e-005	4.6000e-004	1.3000e-004	2.0000e-005	1.5000e-004	0.0000	1.3072	1.3072	1.0000e-005	1.9000e-004	1.3649
Worker	7.6000e-004	5.7000e-004	6.8200e-003	2.0000e-005	2.5000e-003	1.0000e-005	2.5100e-003	6.6000e-004	1.0000e-005	6.8000e-004	0.0000	1.9952	1.9952	5.0000e-005	5.0000e-005	2.0116
Total	**8.4000e-004**	**3.6000e-003**	**7.8500e-003**	**3.0000e-005**	**2.9400e-003**	**3.0000e-005**	**2.9700e-003**	**7.9000e-004**	**3.0000e-005**	**8.3000e-004**	**0.0000**	**3.3024**	**3.3024**	**6.0000e-005**	**2.4000e-004**	**3.3765**

3.3 Production Well Construction - 2024

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	1.6100e-003	0.0160	0.0240	3.0000e-005		7.7000e-004	7.7000e-004		7.1000e-004	7.1000e-004	0.0000	2.9171	2.9171	9.4000e-004	0.0000	2.9406
Total	**1.6100e-003**	**0.0160**	**0.0240**	**3.0000e-005**		**7.7000e-004**	**7.7000e-004**		**7.1000e-004**	**7.1000e-004**	**0.0000**	**2.9171**	**2.9171**	**9.4000e-004**	**0.0000**	**2.9406**

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

3.3 Production Well Construction - 2024

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	3.0000e-005	1.3000e-003	4.3000e-004	1.0000e-005	1.9000e-004	1.0000e-005	2.0000e-004	5.0000e-005	1.0000e-005	6.0000e-005	0.0000	0.5513	0.5513	0.0000	8.0000e-005	0.5757
Worker	3.0000e-004	2.2000e-004	2.7000e-003	1.0000e-005	1.0700e-003	1.0000e-005	1.0800e-003	2.8000e-004	0.0000	2.9000e-004	0.0000	0.8272	0.8272	2.0000e-005	2.0000e-005	0.8336
Total	**3.3000e-004**	**1.5200e-003**	**3.1300e-003**	**2.0000e-005**	**1.2600e-003**	**2.0000e-005**	**1.2800e-003**	**3.3000e-004**	**1.0000e-005**	**3.5000e-004**	**0.0000**	**1.3785**	**1.3785**	**2.0000e-005**	**1.0000e-004**	**1.4093**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	1.6100e-003	0.0160	0.0240	3.0000e-005		7.7000e-004	7.7000e-004		7.1000e-004	7.1000e-004	0.0000	2.9171	2.9171	9.4000e-004	0.0000	2.9406
Total	**1.6100e-003**	**0.0160**	**0.0240**	**3.0000e-005**		**7.7000e-004**	**7.7000e-004**		**7.1000e-004**	**7.1000e-004**	**0.0000**	**2.9171**	**2.9171**	**9.4000e-004**	**0.0000**	**2.9406**

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

3.3 Production Well Construction - 2024

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	3.0000e-005	1.3000e-003	4.3000e-004	1.0000e-005	1.9000e-004	1.0000e-005	2.0000e-004	5.0000e-005	1.0000e-005	6.0000e-005	0.0000	0.5513	0.5513	0.0000	8.0000e-005	0.5757
Worker	3.0000e-004	2.2000e-004	2.7000e-003	1.0000e-005	1.0700e-003	1.0000e-005	1.0800e-003	2.8000e-004	0.0000	2.9000e-004	0.0000	0.8272	0.8272	2.0000e-005	2.0000e-005	0.8336
Total	**3.3000e-004**	**1.5200e-003**	**3.1300e-003**	**2.0000e-005**	**1.2600e-003**	**2.0000e-005**	**1.2800e-003**	**3.3000e-004**	**1.0000e-005**	**3.5000e-004**	**0.0000**	**1.3785**	**1.3785**	**2.0000e-005**	**1.0000e-004**	**1.4093**

3.4 Production Well Drilling - 2024

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0149	0.1389	0.1716	5.4000e-004		5.3900e-003	5.3900e-003		4.9600e-003	4.9600e-003	0.0000	47.1733	47.1733	0.0153	0.0000	47.5548
Total	**0.0149**	**0.1389**	**0.1716**	**5.4000e-004**		**5.3900e-003**	**5.3900e-003**		**4.9600e-003**	**4.9600e-003**	**0.0000**	**47.1733**	**47.1733**	**0.0153**	**0.0000**	**47.5548**

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

3.4 Production Well Drilling - 2024

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	1.1000e-004	4.3300e-003	1.4400e-003	2.0000e-005	6.3000e-004	3.0000e-005	6.6000e-004	1.8000e-004	3.0000e-005	2.1000e-004	0.0000	1.8377	1.8377	1.0000e-005	2.7000e-004	1.9188
Worker	1.0000e-003	7.2000e-004	8.9900e-003	3.0000e-005	3.5700e-003	2.0000e-005	3.5900e-003	9.5000e-004	2.0000e-005	9.6000e-004	0.0000	2.7572	2.7572	6.0000e-005	7.0000e-005	2.7788
Total	**1.1100e-003**	**5.0500e-003**	**0.0104**	**5.0000e-005**	**4.2000e-003**	**5.0000e-005**	**4.2500e-003**	**1.1300e-003**	**5.0000e-005**	**1.1700e-003**	**0.0000**	**4.5949**	**4.5949**	**7.0000e-005**	**3.4000e-004**	**4.6976**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0149	0.1389	0.1716	5.4000e-004		5.3900e-003	5.3900e-003		4.9600e-003	4.9600e-003	0.0000	47.1733	47.1733	0.0153	0.0000	47.5547
Total	**0.0149**	**0.1389**	**0.1716**	**5.4000e-004**		**5.3900e-003**	**5.3900e-003**		**4.9600e-003**	**4.9600e-003**	**0.0000**	**47.1733**	**47.1733**	**0.0153**	**0.0000**	**47.5547**

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

3.4 Production Well Drilling - 2024

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	1.1000e-004	4.3300e-003	1.4400e-003	2.0000e-005	6.3000e-004	3.0000e-005	6.6000e-004	1.8000e-004	3.0000e-005	2.1000e-004	0.0000	1.8377	1.8377	1.0000e-005	2.7000e-004	1.9188
Worker	1.0000e-003	7.2000e-004	8.9900e-003	3.0000e-005	3.5700e-003	2.0000e-005	3.5900e-003	9.5000e-004	2.0000e-005	9.6000e-004	0.0000	2.7572	2.7572	6.0000e-005	7.0000e-005	2.7788
Total	**1.1100e-003**	**5.0500e-003**	**0.0104**	**5.0000e-005**	**4.2000e-003**	**5.0000e-005**	**4.2500e-003**	**1.1300e-003**	**5.0000e-005**	**1.1700e-003**	**0.0000**	**4.5949**	**4.5949**	**7.0000e-005**	**3.4000e-004**	**4.6976**

3.5 Well Equipping and Site Development - 2024

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0398	0.0000	0.0398	4.2900e-003	0.0000	4.2900e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0207	0.1982	0.2134	4.1000e-004		8.4600e-003	8.4600e-003		7.9700e-003	7.9700e-003	0.0000	35.9851	35.9851	8.7700e-003	0.0000	36.2043
Total	**0.0207**	**0.1982**	**0.2134**	**4.1000e-004**	**0.0398**	**8.4600e-003**	**0.0482**	**4.2900e-003**	**7.9700e-003**	**0.0123**	**0.0000**	**35.9851**	**35.9851**	**8.7700e-003**	**0.0000**	**36.2043**

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

3.5 Well Equipping and Site Development - 2024

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	8.9000e-004	6.4000e-004	7.9800e-003	3.0000e-005	3.1700e-003	2.0000e-005	3.1900e-003	8.4000e-004	1.0000e-005	8.6000e-004	0.0000	2.4476	2.4476	5.0000e-005	6.0000e-005	2.4668
Total	**8.9000e-004**	**6.4000e-004**	**7.9800e-003**	**3.0000e-005**	**3.1700e-003**	**2.0000e-005**	**3.1900e-003**	**8.4000e-004**	**1.0000e-005**	**8.6000e-004**	**0.0000**	**2.4476**	**2.4476**	**5.0000e-005**	**6.0000e-005**	**2.4668**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0155	0.0000	0.0155	1.6700e-003	0.0000	1.6700e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0207	0.1982	0.2134	4.1000e-004		8.4600e-003	8.4600e-003		7.9700e-003	7.9700e-003	0.0000	35.9851	35.9851	8.7700e-003	0.0000	36.2043
Total	**0.0207**	**0.1982**	**0.2134**	**4.1000e-004**	**0.0155**	**8.4600e-003**	**0.0240**	**1.6700e-003**	**7.9700e-003**	**9.6400e-003**	**0.0000**	**35.9851**	**35.9851**	**8.7700e-003**	**0.0000**	**36.2043**

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

3.5 Well Equipping and Site Development - 2024

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	8.9000e-004	6.4000e-004	7.9800e-003	3.0000e-005	3.1700e-003	2.0000e-005	3.1900e-003	8.4000e-004	1.0000e-005	8.6000e-004	0.0000	2.4476	2.4476	5.0000e-005	6.0000e-005	2.4668
Total	**8.9000e-004**	**6.4000e-004**	**7.9800e-003**	**3.0000e-005**	**3.1700e-003**	**2.0000e-005**	**3.1900e-003**	**8.4000e-004**	**1.0000e-005**	**8.6000e-004**	**0.0000**	**2.4476**	**2.4476**	**5.0000e-005**	**6.0000e-005**	**2.4668**

3.5 Well Equipping and Site Development - 2025

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0398	0.0000	0.0398	4.2900e-003	0.0000	4.2900e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0244	0.2275	0.2699	5.3000e-004		9.3100e-003	9.3100e-003		8.7600e-003	8.7600e-003	0.0000	45.8033	45.8033	0.0111	0.0000	46.0814
Total	**0.0244**	**0.2275**	**0.2699**	**5.3000e-004**	**0.0398**	**9.3100e-003**	**0.0491**	**4.2900e-003**	**8.7600e-003**	**0.0131**	**0.0000**	**45.8033**	**45.8033**	**0.0111**	**0.0000**	**46.0814**

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

3.5 Well Equipping and Site Development - 2025

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.0500e-003	7.2000e-004	9.4100e-003	3.0000e-005	4.0300e-003	2.0000e-005	4.0500e-003	1.0700e-003	2.0000e-005	1.0900e-003	0.0000	3.0096	3.0096	6.0000e-005	7.0000e-005	3.0322
Total	**1.0500e-003**	**7.2000e-004**	**9.4100e-003**	**3.0000e-005**	**4.0300e-003**	**2.0000e-005**	**4.0500e-003**	**1.0700e-003**	**2.0000e-005**	**1.0900e-003**	**0.0000**	**3.0096**	**3.0096**	**6.0000e-005**	**7.0000e-005**	**3.0322**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0155	0.0000	0.0155	1.6700e-003	0.0000	1.6700e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0244	0.2275	0.2699	5.3000e-004		9.3100e-003	9.3100e-003		8.7600e-003	8.7600e-003	0.0000	45.8032	45.8032	0.0111	0.0000	46.0814
Total	**0.0244**	**0.2275**	**0.2699**	**5.3000e-004**	**0.0155**	**9.3100e-003**	**0.0248**	**1.6700e-003**	**8.7600e-003**	**0.0104**	**0.0000**	**45.8032**	**45.8032**	**0.0111**	**0.0000**	**46.0814**

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

3.5 Well Equipping and Site Development - 2025

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.0500e-003	7.2000e-004	9.4100e-003	3.0000e-005	4.0300e-003	2.0000e-005	4.0500e-003	1.0700e-003	2.0000e-005	1.0900e-003	0.0000	3.0096	3.0096	6.0000e-005	7.0000e-005	3.0322
Total	**1.0500e-003**	**7.2000e-004**	**9.4100e-003**	**3.0000e-005**	**4.0300e-003**	**2.0000e-005**	**4.0500e-003**	**1.0700e-003**	**2.0000e-005**	**1.0900e-003**	**0.0000**	**3.0096**	**3.0096**	**6.0000e-005**	**7.0000e-005**	**3.0322**

3.6 Paving - 2024

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	7.9300e-003	0.0745	0.1100	1.7000e-004		3.5900e-003	3.5900e-003		3.3200e-003	3.3200e-003	0.0000	14.7423	14.7423	4.6300e-003	0.0000	14.8581
Paving	1.1400e-003					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**9.0700e-003**	**0.0745**	**0.1100**	**1.7000e-004**		**3.5900e-003**	**3.5900e-003**		**3.3200e-003**	**3.3200e-003**	**0.0000**	**14.7423**	**14.7423**	**4.6300e-003**	**0.0000**	**14.8581**

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

3.6 Paving - 2024

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	6.3000e-004	4.5000e-004	5.6800e-003	2.0000e-005	2.2600e-003	1.0000e-005	2.2700e-003	6.0000e-004	1.0000e-005	6.1000e-004	0.0000	1.7414	1.7414	4.0000e-005	4.0000e-005	1.7550
Total	**6.3000e-004**	**4.5000e-004**	**5.6800e-003**	**2.0000e-005**	**2.2600e-003**	**1.0000e-005**	**2.2700e-003**	**6.0000e-004**	**1.0000e-005**	**6.1000e-004**	**0.0000**	**1.7414**	**1.7414**	**4.0000e-005**	**4.0000e-005**	**1.7550**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	7.9300e-003	0.0745	0.1100	1.7000e-004		3.5900e-003	3.5900e-003		3.3200e-003	3.3200e-003	0.0000	14.7423	14.7423	4.6300e-003	0.0000	14.8581
Paving	1.1400e-003					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**9.0700e-003**	**0.0745**	**0.1100**	**1.7000e-004**		**3.5900e-003**	**3.5900e-003**		**3.3200e-003**	**3.3200e-003**	**0.0000**	**14.7423**	**14.7423**	**4.6300e-003**	**0.0000**	**14.8581**

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

3.6 Paving - 2024

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	6.3000e-004	4.5000e-004	5.6800e-003	2.0000e-005	2.2600e-003	1.0000e-005	2.2700e-003	6.0000e-004	1.0000e-005	6.1000e-004	0.0000	1.7414	1.7414	4.0000e-005	4.0000e-005	1.7550
Total	**6.3000e-004**	**4.5000e-004**	**5.6800e-003**	**2.0000e-005**	**2.2600e-003**	**1.0000e-005**	**2.2700e-003**	**6.0000e-004**	**1.0000e-005**	**6.1000e-004**	**0.0000**	**1.7414**	**1.7414**	**4.0000e-005**	**4.0000e-005**	**1.7550**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

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

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Unmitigated	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Other Asphalt Surfaces	0.00	0.00	0.00		
User Defined Industrial	0.00	0.00	0.00		
Total	0.00	0.00	0.00		

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Other Asphalt Surfaces	14.70	6.60	6.60	0.00	0.00	0.00	0	0	0
User Defined Industrial	14.70	6.60	6.60	0.00	0.00	0.00	0	0	0

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Other Asphalt Surfaces	0.330000	0.330000	0.340000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000
User Defined Industrial	0.330000	0.330000	0.340000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000

5.0 Energy Detail

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

Historical Energy Use: N

5.1 Mitigation Measures Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Electricity Mitigated						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
NaturalGas Mitigated	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
NaturalGas Unmitigated	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

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

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
User Defined Industrial	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
User Defined Industrial	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

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

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
User Defined Industrial	0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
User Defined Industrial	0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

6.0 Area Detail

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

6.1 Mitigation Measures Area

Use Electric Lawnmower

Use Electric Leafblower

Use Electric Chainsaw

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	0.0311	0.0000	3.5000e-004	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	6.9000e-004	6.9000e-004	0.0000	0.0000	7.3000e-004
Unmitigated	0.0311	0.0000	3.6000e-004	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	7.0000e-004	7.0000e-004	0.0000	0.0000	7.4000e-004

Well 16 - Water System Improvement & Treatment Project - Kern-San Joaquin County, Annual

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

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	7.9000e-004					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.0303					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	3.0000e-005	0.0000	3.6000e-004	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	7.0000e-004	7.0000e-004	0.0000	0.0000	7.4000e-004
Total	**0.0311**	**0.0000**	**3.6000e-004**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**7.0000e-004**	**7.0000e-004**	**0.0000**	**0.0000**	**7.4000e-004**

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

6.2 Area by SubCategory

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	7.9000e-004					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.0303					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	3.0000e-005	0.0000	3.5000e-004	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	6.9000e-004	6.9000e-004	0.0000	0.0000	7.3000e-004
Total	**0.0311**	**0.0000**	**3.5000e-004**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**6.9000e-004**	**6.9000e-004**	**0.0000**	**0.0000**	**7.3000e-004**

7.0 Water Detail

7.1 Mitigation Measures Water

Well 16 - Water System Improvement & Treatment Project - Kern-San Joaquin County, Annual

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

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

7.2 Water by Land Use

Unmitigated

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

7.2 Water by Land Use

Mitigated

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

8.0 Waste Detail

8.1 Mitigation Measures Waste

Category/Year

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

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

8.2 Waste by Land Use

Unmitigated

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

Mitigated

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

9.0 Operational Offroad

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

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

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

Equipment Type	Number	Hours/Day	Hours/Year	Horse Power	Load Factor	Fuel Type
Emergency Generator	1	0	200	2012	0.73	Diesel

Boilers

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

User Defined Equipment

Equipment Type	Number

10.1 Stationary Sources

Unmitigated/Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Equipment Type	tons/yr										MT/yr					
Emergency Generator - Diesel (750 - 9999 HP)	0.3302	1.4766	0.8419	1.5900e-003		0.0486	0.0486		0.0486	0.0486	0.0000	153.2328	153.2328	0.0215	0.0000	153.7699
Total	**0.3302**	**1.4766**	**0.8419**	**1.5900e-003**		**0.0486**	**0.0486**		**0.0486**	**0.0486**	**0.0000**	**153.2328**	**153.2328**	**0.0215**	**0.0000**	**153.7699**

11.0 Vegetation

Well 16 - Trenching - Kern-San Joaquin County, Annual

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

Well 16 - Trenching

Kern-San Joaquin County, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
User Defined Industrial	1.00	User Defined Unit	0.02	1,050.00	0

1.2 Other Project Characteristics

Urbanization	Rural	**Wind Speed (m/s)**	2.7	**Precipitation Freq (Days)**	32
Climate Zone	3			**Operational Year**	2023
Utility Company	Pacific Gas and Electric Company				
CO2 Intensity (lb/MWhr)	203.98	**CH4 Intensity (lb/MWhr)**	0.033	**N2O Intensity (lb/MWhr)**	0.004

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use - Estimate of construction area: 175 ft of pipe by 6ft wide trench.

Construction Phase - Trenching Estimate.

Off-road Equipment - Equipment Estimate.

Area Coating - Construction Run Only

Construction Off-road Equipment Mitigation -

Table Name	Column Name	Default Value	New Value
tblAreaCoating	Area_Nonresidential_Exterior	2775	0
tblAreaCoating	Area_Nonresidential_Interior	8325	0
tblConstDustMitigation	WaterUnpavedRoadVehicleSpeed	0	15
tblConstructionPhase	PhaseEndDate	3/7/2023	3/2/2023

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

tblLandUse	LandUseSquareFeet	0.00	1,050.00
tblLandUse	LotAcreage	0.00	0.02
tblOffRoadEquipment	LoadFactor	0.29	0.29
tblOffRoadEquipment	LoadFactor	0.37	0.37
tblOffRoadEquipment	OffRoadEquipmentType		Cranes
tblOffRoadEquipment	OffRoadEquipmentType		Tractors/Loaders/Backhoes
tblProjectCharacteristics	UrbanizationLevel	Urban	Rural

2.0 Emissions Summary

Well 16 - Trenching - Kern-San Joaquin County, Annual

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

2.1 Overall Construction

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2023	6.7000e-004	6.8600e-003	5.6100e-003	1.0000e-005	1.0000e-004	3.0000e-004	4.0000e-004	3.0000e-005	2.8000e-004	3.0000e-004	0.0000	1.0842	1.0842	3.3000e-004	0.0000	1.0930
Maximum	**6.7000e-004**	**6.8600e-003**	**5.6100e-003**	**1.0000e-005**	**1.0000e-004**	**3.0000e-004**	**4.0000e-004**	**3.0000e-005**	**2.8000e-004**	**3.0000e-004**	**0.0000**	**1.0842**	**1.0842**	**3.3000e-004**	**0.0000**	**1.0930**

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2023	6.7000e-004	6.8600e-003	5.6100e-003	1.0000e-005	1.0000e-004	3.0000e-004	4.0000e-004	3.0000e-005	2.8000e-004	3.0000e-004	0.0000	1.0842	1.0842	3.3000e-004	0.0000	1.0930
Maximum	**6.7000e-004**	**6.8600e-003**	**5.6100e-003**	**1.0000e-005**	**1.0000e-004**	**3.0000e-004**	**4.0000e-004**	**3.0000e-005**	**2.8000e-004**	**3.0000e-004**	**0.0000**	**1.0842**	**1.0842**	**3.3000e-004**	**0.0000**	**1.0930**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

Well 16 - Trenching - Kern-San Joaquin County, Annual

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

Quarter	Start Date	End Date	Maximum Unmitigated ROG + NOX (tons/quarter)	Maximum Mitigated ROG + NOX (tons/quarter)
1	3-1-2023	5-31-2023	0.0054	0.0054
		Highest	0.0054	0.0054

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	4.1000e-003	0.0000	1.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	2.0000e-005	2.0000e-005	0.0000	0.0000	2.0000e-005
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Mobile	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Waste						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Water						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**4.1000e-003**	**0.0000**	**1.0000e-005**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**2.0000e-005**	**2.0000e-005**	**0.0000**	**0.0000**	**2.0000e-005**

Well 16 - Trenching - Kern-San Joaquin County, Annual

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

2.2 Overall Operational

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	4.1000e-003	0.0000	1.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	2.0000e-005	2.0000e-005	0.0000	0.0000	2.0000e-005
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Mobile	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Waste						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Water						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**4.1000e-003**	**0.0000**	**1.0000e-005**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**2.0000e-005**	**2.0000e-005**	**0.0000**	**0.0000**	**2.0000e-005**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Trenching	Trenching	3/1/2023	3/2/2023	5	2	

Acres of Grading (Site Preparation Phase): 0

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

Acres of Grading (Grading Phase): 0

Acres of Paving: 0

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

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Trenching	Cranes	1	10.00	231	0.29
Trenching	Tractors/Loaders/Backhoes	2	5.50	97	0.37

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Trenching	3	8.00	0.00	0.00	16.80	6.60	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Water Exposed Area

Reduce Vehicle Speed on Unpaved Roads

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

3.2 Trenching - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	6.4000e-004	6.8400e-003	5.3300e-003	1.0000e-005		3.0000e-004	3.0000e-004		2.8000e-004	2.8000e-004	0.0000	1.0042	1.0042	3.2000e-004	0.0000	1.0123
Total	**6.4000e-004**	**6.8400e-003**	**5.3300e-003**	**1.0000e-005**		**3.0000e-004**	**3.0000e-004**		**2.8000e-004**	**2.8000e-004**	**0.0000**	**1.0042**	**1.0042**	**3.2000e-004**	**0.0000**	**1.0123**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	3.0000e-005	2.0000e-005	2.7000e-004	0.0000	1.0000e-004	0.0000	1.0000e-004	3.0000e-005	0.0000	3.0000e-005	0.0000	0.0800	0.0800	0.0000	0.0000	0.0807
Total	**3.0000e-005**	**2.0000e-005**	**2.7000e-004**	**0.0000**	**1.0000e-004**	**0.0000**	**1.0000e-004**	**3.0000e-005**	**0.0000**	**3.0000e-005**	**0.0000**	**0.0800**	**0.0800**	**0.0000**	**0.0000**	**0.0807**

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

3.2 Trenching - 2023

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	6.4000e-004	6.8400e-003	5.3300e-003	1.0000e-005		3.0000e-004	3.0000e-004		2.8000e-004	2.8000e-004	0.0000	1.0042	1.0042	3.2000e-004	0.0000	1.0123
Total	**6.4000e-004**	**6.8400e-003**	**5.3300e-003**	**1.0000e-005**		**3.0000e-004**	**3.0000e-004**		**2.8000e-004**	**2.8000e-004**	**0.0000**	**1.0042**	**1.0042**	**3.2000e-004**	**0.0000**	**1.0123**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	3.0000e-005	2.0000e-005	2.7000e-004	0.0000	1.0000e-004	0.0000	1.0000e-004	3.0000e-005	0.0000	3.0000e-005	0.0000	0.0800	0.0800	0.0000	0.0000	0.0807
Total	**3.0000e-005**	**2.0000e-005**	**2.7000e-004**	**0.0000**	**1.0000e-004**	**0.0000**	**1.0000e-004**	**3.0000e-005**	**0.0000**	**3.0000e-005**	**0.0000**	**0.0800**	**0.0800**	**0.0000**	**0.0000**	**0.0807**

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

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Unmitigated	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
User Defined Industrial	0.00	0.00	0.00		
Total	0.00	0.00	0.00		

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
User Defined Industrial	14.70	6.60	6.60	0.00	0.00	0.00	0	0	0

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
User Defined Industrial	0.475755	0.052577	0.176436	0.169714	0.032065	0.009816	0.013925	0.037355	0.000591	0.000241	0.025277	0.001517	0.004732

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

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Electricity Mitigated						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
NaturalGas Mitigated	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
NaturalGas Unmitigated	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

Well 16 - Trenching - Kern-San Joaquin County, Annual

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

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
User Defined Industrial	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
User Defined Industrial	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
User Defined Industrial	0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
User Defined Industrial	0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

6.0 Area Detail

6.1 Mitigation Measures Area

Well 16 - Trenching - Kern-San Joaquin County, Annual

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

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	4.1000e-003	0.0000	1.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	2.0000e-005	2.0000e-005	0.0000	0.0000	2.0000e-005
Unmitigated	4.1000e-003	0.0000	1.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	2.0000e-005	2.0000e-005	0.0000	0.0000	2.0000e-005

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	4.1000e-003					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	0.0000	0.0000	1.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	2.0000e-005	2.0000e-005	0.0000	0.0000	2.0000e-005
Total	**4.1000e-003**	**0.0000**	**1.0000e-005**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**2.0000e-005**	**2.0000e-005**	**0.0000**	**0.0000**	**2.0000e-005**

Well 16 - Trenching - Kern-San Joaquin County, Annual

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

6.2 Area by SubCategory

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	4.1000e-003					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	0.0000	0.0000	1.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	2.0000e-005	2.0000e-005	0.0000	0.0000	2.0000e-005
Total	**4.1000e-003**	**0.0000**	**1.0000e-005**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**2.0000e-005**	**2.0000e-005**	**0.0000**	**0.0000**	**2.0000e-005**

7.0 Water Detail

7.1 Mitigation Measures Water

Well 16 - Trenching - Kern-San Joaquin County, Annual

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

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

7.2 Water by Land Use

Unmitigated

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

Well 16 - Trenching - Kern-San Joaquin County, Annual

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

7.2 Water by Land Use

Mitigated

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

8.0 Waste Detail

8.1 Mitigation Measures Waste

Category/Year

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

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

8.2 Waste by Land Use

Unmitigated

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

Mitigated

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

9.0 Operational Offroad

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

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

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

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

Boilers

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

User Defined Equipment

Equipment Type	Number

11.0 Vegetation

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

Well 17 - Water System Improvement & Treatment Project

Kern-San Joaquin County, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
User Defined Industrial	1.00	User Defined Unit	1.00	7,121.00	0

1.2 Other Project Characteristics

Urbanization	Rural	**Wind Speed (m/s)**	2.7	**Precipitation Freq (Days)**	32
Climate Zone	3			**Operational Year**	2025
Utility Company	PacifiCorp				
CO2 Intensity (lb/MWhr)	1185.98	**CH4 Intensity (lb/MWhr)**	0.033	**N2O Intensity (lb/MWhr)**	0.004

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use - Lot acreage provided by Applicant.

Construction Phase - Proposed Construction Schedule.

Off-road Equipment - Proposed Construction Schedule

Grading - Yellow cells upon entry.

Vehicle Trips - Estimated one trip for maintenance a month.

Area Coating - Project is a municipal well.

Construction Off-road Equipment Mitigation -

Area Mitigation -

Fleet Mix - Estimated one trip for maintenance a month.

Stationary Sources - Emergency Generators and Fire Pumps -

Off-road Equipment - Estimated Construction Activities.

Well 17 - Water System Improvement & Treatment Project - Kern-San Joaquin County, Annual

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

Off-road Equipment - Estimated Construction Activities.

Off-road Equipment - Estimated Construction Activities.

Off-road Equipment - Estimated Construction Activities.

Table Name	Column Name	Default Value	New Value
tblAreaCoating	Area_Nonresidential_Exterior	3561	0
tblAreaCoating	Area_Nonresidential_Interior	10682	0
tblConstDustMitigation	WaterUnpavedRoadVehicleSpeed	0	15
tblConstructionPhase	NumDays	100.00	35.00
tblConstructionPhase	NumDays	100.00	30.00
tblConstructionPhase	NumDays	100.00	30.00
tblConstructionPhase	NumDays	1.00	50.00
tblConstructionPhase	NumDaysWeek	5.00	7.00
tblFleetMix	HHD	0.04	0.00
tblFleetMix	LDA	0.48	0.33
tblFleetMix	LDT1	0.05	0.33
tblFleetMix	LDT2	0.18	0.34
tblFleetMix	LHD1	0.03	0.00
tblFleetMix	LHD2	9.1740e-003	0.00
tblFleetMix	MCY	0.02	0.00
tblFleetMix	MDV	0.16	0.00
tblFleetMix	MH	4.2820e-003	0.00
tblFleetMix	MHD	0.01	0.00
tblFleetMix	OBUS	5.8000e-004	0.00
tblFleetMix	SBUS	1.4400e-003	0.00
tblFleetMix	UBUS	2.3600e-004	0.00
tblLandUse	LandUseSquareFeet	0.00	7,121.00
tblLandUse	LotAcreage	0.00	1.00
tblOffRoadEquipment	LoadFactor	0.50	0.50

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

tblOffRoadEquipment	LoadFactor	0.29	0.29
tblOffRoadEquipment	LoadFactor	0.38	0.38
tblOffRoadEquipment	LoadFactor	0.38	0.38
tblOffRoadEquipment	OffRoadEquipmentType		Bore/Drill Rigs
tblOffRoadEquipment	OffRoadEquipmentType		Air Compressors
tblOffRoadEquipment	OffRoadEquipmentType		Cement and Mortar Mixers
tblOffRoadEquipment	OffRoadEquipmentType		Cranes
tblOffRoadEquipment	OffRoadEquipmentType		Bore/Drill Rigs
tblOffRoadEquipment	OffRoadEquipmentType		Excavators
tblOffRoadEquipment	OffRoadEquipmentType		Generator Sets
tblOffRoadEquipment	OffRoadEquipmentType		Rollers
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	2.00
tblOffRoadEquipment	UsageHours	8.00	10.00
tblProjectCharacteristics	UrbanizationLevel	Urban	Rural
tblStationaryGeneratorsPumpsUse	HorsePowerValue	0.00	603.00
tblStationaryGeneratorsPumpsUse	HoursPerYear	0.00	200.00
tblStationaryGeneratorsPumpsUse	NumberOfEquipment	0.00	1.00
tblVehicleTrips	WD_TR	0.00	0.23

2.0 Emissions Summary

Well 17 - Water System Improvement & Treatment Project - Kern-San Joaquin County, Annual

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

2.1 Overall Construction

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2023	0.0157	0.1530	0.2012	4.4000e-004	1.2200e-003	6.8300e-003	8.0500e-003	3.3000e-004	6.2900e-003	6.6200e-003	0.0000	38.2762	38.2762	0.0120	1.0000e-004	38.6037
2024	0.0383	0.3548	0.4194	1.0200e-003	0.0173	0.0146	0.0319	2.5000e-003	0.0137	0.0162	0.0000	89.5740	89.5740	0.0251	1.2000e-004	90.2381
2025	0.0255	0.2278	0.2790	5.6000e-004	0.0173	9.3100e-003	0.0266	2.5000e-003	8.7600e-003	0.0113	0.0000	48.7574	48.7574	0.0112	7.0000e-005	49.0577
Maximum	**0.0383**	**0.3548**	**0.4194**	**1.0200e-003**	**0.0173**	**0.0146**	**0.0319**	**2.5000e-003**	**0.0137**	**0.0162**	**0.0000**	**89.5740**	**89.5740**	**0.0251**	**1.2000e-004**	**90.2381**

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2023	0.0157	0.1530	0.2012	4.4000e-004	1.2200e-003	6.8300e-003	8.0500e-003	3.3000e-004	6.2900e-003	6.6200e-003	0.0000	38.2761	38.2761	0.0120	1.0000e-004	38.6037
2024	0.0383	0.3548	0.4194	1.0200e-003	9.1900e-003	0.0146	0.0238	1.6300e-003	0.0137	0.0153	0.0000	89.5739	89.5739	0.0251	1.2000e-004	90.2380
2025	0.0255	0.2278	0.2790	5.6000e-004	9.2000e-003	9.3100e-003	0.0185	1.6300e-003	8.7600e-003	0.0104	0.0000	48.7573	48.7573	0.0112	7.0000e-005	49.0576
Maximum	**0.0383**	**0.3548**	**0.4194**	**1.0200e-003**	**9.2000e-003**	**0.0146**	**0.0238**	**1.6300e-003**	**0.0137**	**0.0153**	**0.0000**	**89.5739**	**89.5739**	**0.0251**	**1.2000e-004**	**90.2380**

Well 17 - Water System Improvement & Treatment Project - Kern-San Joaquin County, Annual

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

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**45.21**	**0.00**	**24.31**	**32.65**	**0.00**	**5.17**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

Quarter	Start Date	End Date	Maximum Unmitigated ROG + NOX (tons/quarter)	Maximum Mitigated ROG + NOX (tons/quarter)
1	**3-1-2023**	**5-31-2023**	0.1242	0.1242
4	**12-1-2023**	**2-29-2024**	0.2177	0.2177
8	**12-1-2024**	**2-28-2025**	0.4600	0.4600
		Highest	0.4600	0.4600

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	0.0278	0.0000	1.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	2.0000e-005	2.0000e-005	0.0000	0.0000	2.0000e-005
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Mobile	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Stationary	0.0990	0.2766	0.2523	4.8000e-004		0.0146	0.0146		0.0146	0.0146	0.0000	45.9241	45.9241	6.4400e-003	0.0000	46.0851
Waste						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Water						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.1268**	**0.2766**	**0.2523**	**4.8000e-004**	**0.0000**	**0.0146**	**0.0146**	**0.0000**	**0.0146**	**0.0146**	**0.0000**	**45.9242**	**45.9242**	**6.4400e-003**	**0.0000**	**46.0851**

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

2.2 Overall Operational

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	0.0278	0.0000	1.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	2.0000e-005	2.0000e-005	0.0000	0.0000	2.0000e-005
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Mobile	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Stationary	0.0990	0.2766	0.2523	4.8000e-004		0.0146	0.0146		0.0146	0.0146	0.0000	45.9241	45.9241	6.4400e-003	0.0000	46.0851
Waste						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Water						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.1268**	**0.2766**	**0.2523**	**4.8000e-004**	**0.0000**	**0.0146**	**0.0146**	**0.0000**	**0.0146**	**0.0146**	**0.0000**	**45.9242**	**45.9242**	**6.4400e-003**	**0.0000**	**46.0851**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Test Phase	Building Construction	3/1/2023	4/18/2023	5	35	
2	Production Well Construction	Building Construction	12/1/2023	1/11/2024	5	30	

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

3	Production Well Drilling	Building Construction	1/12/2024	2/10/2024	7	30	
4	Well Equipping and Site Development	Site Preparation	12/2/2024	2/7/2025	5	50	

Acres of Grading (Site Preparation Phase): 25

Acres of Grading (Grading Phase): 0

Acres of Paving: 0

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

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Production Well Drilling	Bore/Drill Rigs	1	24.00	221	0.50
Well Equipping and Site Development	Air Compressors	1	8.00	78	0.48
Well Equipping and Site Development	Cement and Mortar Mixers	1	8.00	9	0.56
Well Equipping and Site Development	Cranes	1	8.00	231	0.29
Production Well Construction	Forklifts	1	6.00	89	0.20
Production Well Drilling	Forklifts	1	6.00	89	0.20
Well Equipping and Site Development	Graders	1	8.00	187	0.41
Test Phase	Tractors/Loaders/Backhoes	2	10.00	97	0.37
Production Well Construction	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Production Well Drilling	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Well Equipping and Site Development	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Test Phase	Bore/Drill Rigs	1	10.00	221	0.50
Well Equipping and Site Development	Excavators	1	8.00	158	0.38
Well Equipping and Site Development	Generator Sets	1	8.00	84	0.74
Well Equipping and Site Development	Rollers	1	8.00	80	0.38

Trips and VMT

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

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Test Phase	3	3.00	1.00	0.00	16.80	6.60	20.00	LD_Mix	HDT_Mix	HHDT
Production Well Construction	3	3.00	1.00	0.00	16.80	6.60	20.00	LD_Mix	HDT_Mix	HHDT
Production Well Drilling	4	3.00	1.00	0.00	16.80	6.60	20.00	LD_Mix	HDT_Mix	HHDT
Well Equipping and Site Development	9	23.00	0.00	0.00	16.80	6.60	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Water Exposed Area

Reduce Vehicle Speed on Unpaved Roads

3.2 Test Phase - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0113	0.1118	0.1421	3.4000e-004		4.7600e-003	4.7600e-003		4.3800e-003	4.3800e-003	0.0000	30.1352	30.1352	9.7500e-003	0.0000	30.3789
Total	**0.0113**	**0.1118**	**0.1421**	**3.4000e-004**		**4.7600e-003**	**4.7600e-003**		**4.3800e-003**	**4.3800e-003**	**0.0000**	**30.1352**	**30.1352**	**9.7500e-003**	**0.0000**	**30.3789**

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

3.2 Test Phase - 2023

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	2.0000e-005	7.2000e-004	2.4000e-004	0.0000	1.1000e-004	0.0000	1.1000e-004	3.0000e-005	0.0000	3.0000e-005	0.0000	0.3112	0.3112	0.0000	5.0000e-005	0.3250
Worker	2.0000e-004	1.5000e-004	1.7900e-003	1.0000e-005	6.6000e-004	0.0000	6.6000e-004	1.7000e-004	0.0000	1.8000e-004	0.0000	0.5251	0.5251	1.0000e-005	1.0000e-005	0.5294
Total	**2.2000e-004**	**8.7000e-004**	**2.0300e-003**	**1.0000e-005**	**7.7000e-004**	**0.0000**	**7.7000e-004**	**2.0000e-004**	**0.0000**	**2.1000e-004**	**0.0000**	**0.8363**	**0.8363**	**1.0000e-005**	**6.0000e-005**	**0.8543**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0113	0.1118	0.1421	3.4000e-004		4.7600e-003	4.7600e-003		4.3800e-003	4.3800e-003	0.0000	30.1352	30.1352	9.7500e-003	0.0000	30.3789
Total	**0.0113**	**0.1118**	**0.1421**	**3.4000e-004**		**4.7600e-003**	**4.7600e-003**		**4.3800e-003**	**4.3800e-003**	**0.0000**	**30.1352**	**30.1352**	**9.7500e-003**	**0.0000**	**30.3789**

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

3.2 Test Phase - 2023

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	2.0000e-005	7.2000e-004	2.4000e-004	0.0000	1.1000e-004	0.0000	1.1000e-004	3.0000e-005	0.0000	3.0000e-005	0.0000	0.3112	0.3112	0.0000	5.0000e-005	0.3250
Worker	2.0000e-004	1.5000e-004	1.7900e-003	1.0000e-005	6.6000e-004	0.0000	6.6000e-004	1.7000e-004	0.0000	1.8000e-004	0.0000	0.5251	0.5251	1.0000e-005	1.0000e-005	0.5294
Total	**2.2000e-004**	**8.7000e-004**	**2.0300e-003**	**1.0000e-005**	**7.7000e-004**	**0.0000**	**7.7000e-004**	**2.0000e-004**	**0.0000**	**2.1000e-004**	**0.0000**	**0.8363**	**0.8363**	**1.0000e-005**	**6.0000e-005**	**0.8543**

3.3 Production Well Construction - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	3.9900e-003	0.0398	0.0559	8.0000e-005		2.0600e-003	2.0600e-003		1.8900e-003	1.8900e-003	0.0000	6.8028	6.8028	2.2000e-003	0.0000	6.8579
Total	**3.9900e-003**	**0.0398**	**0.0559**	**8.0000e-005**		**2.0600e-003**	**2.0600e-003**		**1.8900e-003**	**1.8900e-003**	**0.0000**	**6.8028**	**6.8028**	**2.2000e-003**	**0.0000**	**6.8579**

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

3.3 Production Well Construction - 2023

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	1.0000e-005	4.3000e-004	1.5000e-004	0.0000	6.0000e-005	0.0000	7.0000e-005	2.0000e-005	0.0000	2.0000e-005	0.0000	0.1867	0.1867	0.0000	3.0000e-005	0.1950
Worker	1.2000e-004	9.0000e-005	1.0800e-003	0.0000	3.9000e-004	0.0000	4.0000e-004	1.0000e-004	0.0000	1.1000e-004	0.0000	0.3150	0.3150	1.0000e-005	1.0000e-005	0.3176
Total	**1.3000e-004**	**5.2000e-004**	**1.2300e-003**	**0.0000**	**4.5000e-004**	**0.0000**	**4.7000e-004**	**1.2000e-004**	**0.0000**	**1.3000e-004**	**0.0000**	**0.5018**	**0.5018**	**1.0000e-005**	**4.0000e-005**	**0.5126**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	3.9900e-003	0.0398	0.0559	8.0000e-005		2.0600e-003	2.0600e-003		1.8900e-003	1.8900e-003	0.0000	6.8028	6.8028	2.2000e-003	0.0000	6.8578
Total	**3.9900e-003**	**0.0398**	**0.0559**	**8.0000e-005**		**2.0600e-003**	**2.0600e-003**		**1.8900e-003**	**1.8900e-003**	**0.0000**	**6.8028**	**6.8028**	**2.2000e-003**	**0.0000**	**6.8578**

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

3.3 Production Well Construction - 2023

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	1.0000e-005	4.3000e-004	1.5000e-004	0.0000	6.0000e-005	0.0000	7.0000e-005	2.0000e-005	0.0000	2.0000e-005	0.0000	0.1867	0.1867	0.0000	3.0000e-005	0.1950
Worker	1.2000e-004	9.0000e-005	1.0800e-003	0.0000	3.9000e-004	0.0000	4.0000e-004	1.0000e-004	0.0000	1.1000e-004	0.0000	0.3150	0.3150	1.0000e-005	1.0000e-005	0.3176
Total	**1.3000e-004**	**5.2000e-004**	**1.2300e-003**	**0.0000**	**4.5000e-004**	**0.0000**	**4.7000e-004**	**1.2000e-004**	**0.0000**	**1.3000e-004**	**0.0000**	**0.5018**	**0.5018**	**1.0000e-005**	**4.0000e-005**	**0.5126**

3.3 Production Well Construction - 2024

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	1.6100e-003	0.0160	0.0240	3.0000e-005		7.7000e-004	7.7000e-004		7.1000e-004	7.1000e-004	0.0000	2.9171	2.9171	9.4000e-004	0.0000	2.9406
Total	**1.6100e-003**	**0.0160**	**0.0240**	**3.0000e-005**		**7.7000e-004**	**7.7000e-004**		**7.1000e-004**	**7.1000e-004**	**0.0000**	**2.9171**	**2.9171**	**9.4000e-004**	**0.0000**	**2.9406**

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

3.3 Production Well Construction - 2024

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	1.9000e-004	6.0000e-005	0.0000	3.0000e-005	0.0000	3.0000e-005	1.0000e-005	0.0000	1.0000e-005	0.0000	0.0788	0.0788	0.0000	1.0000e-005	0.0822
Worker	5.0000e-005	3.0000e-005	4.3000e-004	0.0000	1.7000e-004	0.0000	1.7000e-004	4.0000e-005	0.0000	5.0000e-005	0.0000	0.1306	0.1306	0.0000	0.0000	0.1316
Total	**5.0000e-005**	**2.2000e-004**	**4.9000e-004**	**0.0000**	**2.0000e-004**	**0.0000**	**2.0000e-004**	**5.0000e-005**	**0.0000**	**6.0000e-005**	**0.0000**	**0.2094**	**0.2094**	**0.0000**	**1.0000e-005**	**0.2139**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	1.6100e-003	0.0160	0.0240	3.0000e-005		7.7000e-004	7.7000e-004		7.1000e-004	7.1000e-004	0.0000	2.9171	2.9171	9.4000e-004	0.0000	2.9406
Total	**1.6100e-003**	**0.0160**	**0.0240**	**3.0000e-005**		**7.7000e-004**	**7.7000e-004**		**7.1000e-004**	**7.1000e-004**	**0.0000**	**2.9171**	**2.9171**	**9.4000e-004**	**0.0000**	**2.9406**

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

3.3 Production Well Construction - 2024

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	1.9000e-004	6.0000e-005	0.0000	3.0000e-005	0.0000	3.0000e-005	1.0000e-005	0.0000	1.0000e-005	0.0000	0.0788	0.0788	0.0000	1.0000e-005	0.0822
Worker	5.0000e-005	3.0000e-005	4.3000e-004	0.0000	1.7000e-004	0.0000	1.7000e-004	4.0000e-005	0.0000	5.0000e-005	0.0000	0.1306	0.1306	0.0000	0.0000	0.1316
Total	**5.0000e-005**	**2.2000e-004**	**4.9000e-004**	**0.0000**	**2.0000e-004**	**0.0000**	**2.0000e-004**	**5.0000e-005**	**0.0000**	**6.0000e-005**	**0.0000**	**0.2094**	**0.2094**	**0.0000**	**1.0000e-005**	**0.2139**

3.4 Production Well Drilling - 2024

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0149	0.1394	0.1721	5.4000e-004		5.4000e-003	5.4000e-003		4.9700e-003	4.9700e-003	0.0000	47.3606	47.3606	0.0153	0.0000	47.7435
Total	**0.0149**	**0.1394**	**0.1721**	**5.4000e-004**		**5.4000e-003**	**5.4000e-003**		**4.9700e-003**	**4.9700e-003**	**0.0000**	**47.3606**	**47.3606**	**0.0153**	**0.0000**	**47.7435**

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

3.4 Production Well Drilling - 2024

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	2.0000e-005	6.2000e-004	2.1000e-004	0.0000	9.0000e-005	0.0000	9.0000e-005	3.0000e-005	0.0000	3.0000e-005	0.0000	0.2625	0.2625	0.0000	4.0000e-005	0.2741
Worker	1.6000e-004	1.1000e-004	1.4200e-003	0.0000	5.6000e-004	0.0000	5.7000e-004	1.5000e-004	0.0000	1.5000e-004	0.0000	0.4354	0.4354	1.0000e-005	1.0000e-005	0.4388
Total	**1.8000e-004**	**7.3000e-004**	**1.6300e-003**	**0.0000**	**6.5000e-004**	**0.0000**	**6.6000e-004**	**1.8000e-004**	**0.0000**	**1.8000e-004**	**0.0000**	**0.6979**	**0.6979**	**1.0000e-005**	**5.0000e-005**	**0.7129**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0149	0.1394	0.1721	5.4000e-004		5.4000e-003	5.4000e-003		4.9700e-003	4.9700e-003	0.0000	47.3605	47.3605	0.0153	0.0000	47.7435
Total	**0.0149**	**0.1394**	**0.1721**	**5.4000e-004**		**5.4000e-003**	**5.4000e-003**		**4.9700e-003**	**4.9700e-003**	**0.0000**	**47.3605**	**47.3605**	**0.0153**	**0.0000**	**47.7435**

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

3.4 Production Well Drilling - 2024

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	2.0000e-005	6.2000e-004	2.1000e-004	0.0000	9.0000e-005	0.0000	9.0000e-005	3.0000e-005	0.0000	3.0000e-005	0.0000	0.2625	0.2625	0.0000	4.0000e-005	0.2741
Worker	1.6000e-004	1.1000e-004	1.4200e-003	0.0000	5.6000e-004	0.0000	5.7000e-004	1.5000e-004	0.0000	1.5000e-004	0.0000	0.4354	0.4354	1.0000e-005	1.0000e-005	0.4388
Total	**1.8000e-004**	**7.3000e-004**	**1.6300e-003**	**0.0000**	**6.5000e-004**	**0.0000**	**6.6000e-004**	**1.8000e-004**	**0.0000**	**1.8000e-004**	**0.0000**	**0.6979**	**0.6979**	**1.0000e-005**	**5.0000e-005**	**0.7129**

3.5 Well Equipping and Site Development - 2024

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0133	0.0000	0.0133	1.4300e-003	0.0000	1.4300e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0207	0.1979	0.2132	4.1000e-004		8.4500e-003	8.4500e-003		7.9500e-003	7.9500e-003	0.0000	35.9415	35.9415	8.7500e-003	0.0000	36.1604
Total	**0.0207**	**0.1979**	**0.2132**	**4.1000e-004**	**0.0133**	**8.4500e-003**	**0.0217**	**1.4300e-003**	**7.9500e-003**	**9.3800e-003**	**0.0000**	**35.9415**	**35.9415**	**8.7500e-003**	**0.0000**	**36.1604**

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

3.5 Well Equipping and Site Development - 2024

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	8.9000e-004	6.4000e-004	7.9800e-003	3.0000e-005	3.1700e-003	2.0000e-005	3.1900e-003	8.4000e-004	1.0000e-005	8.6000e-004	0.0000	2.4476	2.4476	5.0000e-005	6.0000e-005	2.4668
Total	**8.9000e-004**	**6.4000e-004**	**7.9800e-003**	**3.0000e-005**	**3.1700e-003**	**2.0000e-005**	**3.1900e-003**	**8.4000e-004**	**1.0000e-005**	**8.6000e-004**	**0.0000**	**2.4476**	**2.4476**	**5.0000e-005**	**6.0000e-005**	**2.4668**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					5.1700e-003	0.0000	5.1700e-003	5.6000e-004	0.0000	5.6000e-004	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0207	0.1979	0.2132	4.1000e-004		8.4500e-003	8.4500e-003		7.9500e-003	7.9500e-003	0.0000	35.9415	35.9415	8.7500e-003	0.0000	36.1603
Total	**0.0207**	**0.1979**	**0.2132**	**4.1000e-004**	**5.1700e-003**	**8.4500e-003**	**0.0136**	**5.6000e-004**	**7.9500e-003**	**8.5100e-003**	**0.0000**	**35.9415**	**35.9415**	**8.7500e-003**	**0.0000**	**36.1603**

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

3.5 Well Equipping and Site Development - 2024

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	8.9000e-004	6.4000e-004	7.9800e-003	3.0000e-005	3.1700e-003	2.0000e-005	3.1900e-003	8.4000e-004	1.0000e-005	8.6000e-004	0.0000	2.4476	2.4476	5.0000e-005	6.0000e-005	2.4668
Total	**8.9000e-004**	**6.4000e-004**	**7.9800e-003**	**3.0000e-005**	**3.1700e-003**	**2.0000e-005**	**3.1900e-003**	**8.4000e-004**	**1.0000e-005**	**8.6000e-004**	**0.0000**	**2.4476**	**2.4476**	**5.0000e-005**	**6.0000e-005**	**2.4668**

3.5 Well Equipping and Site Development - 2025

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0133	0.0000	0.0133	1.4300e-003	0.0000	1.4300e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0244	0.2271	0.2696	5.3000e-004		9.2900e-003	9.2900e-003		8.7400e-003	8.7400e-003	0.0000	45.7478	45.7478	0.0111	0.0000	46.0255
Total	**0.0244**	**0.2271**	**0.2696**	**5.3000e-004**	**0.0133**	**9.2900e-003**	**0.0226**	**1.4300e-003**	**8.7400e-003**	**0.0102**	**0.0000**	**45.7478**	**45.7478**	**0.0111**	**0.0000**	**46.0255**

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

3.5 Well Equipping and Site Development - 2025

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.0500e-003	7.2000e-004	9.4100e-003	3.0000e-005	4.0300e-003	2.0000e-005	4.0500e-003	1.0700e-003	2.0000e-005	1.0900e-003	0.0000	3.0096	3.0096	6.0000e-005	7.0000e-005	3.0322
Total	**1.0500e-003**	**7.2000e-004**	**9.4100e-003**	**3.0000e-005**	**4.0300e-003**	**2.0000e-005**	**4.0500e-003**	**1.0700e-003**	**2.0000e-005**	**1.0900e-003**	**0.0000**	**3.0096**	**3.0096**	**6.0000e-005**	**7.0000e-005**	**3.0322**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					5.1700e-003	0.0000	5.1700e-003	5.6000e-004	0.0000	5.6000e-004	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0244	0.2271	0.2696	5.3000e-004		9.2900e-003	9.2900e-003		8.7400e-003	8.7400e-003	0.0000	45.7478	45.7478	0.0111	0.0000	46.0254
Total	**0.0244**	**0.2271**	**0.2696**	**5.3000e-004**	**5.1700e-003**	**9.2900e-003**	**0.0145**	**5.6000e-004**	**8.7400e-003**	**9.3000e-003**	**0.0000**	**45.7478**	**45.7478**	**0.0111**	**0.0000**	**46.0254**

Well 17 - Water System Improvement & Treatment Project - Kern-San Joaquin County, Annual

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

3.5 Well Equipping and Site Development - 2025

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.0500e-003	7.2000e-004	9.4100e-003	3.0000e-005	4.0300e-003	2.0000e-005	4.0500e-003	1.0700e-003	2.0000e-005	1.0900e-003	0.0000	3.0096	3.0096	6.0000e-005	7.0000e-005	3.0322
Total	**1.0500e-003**	**7.2000e-004**	**9.4100e-003**	**3.0000e-005**	**4.0300e-003**	**2.0000e-005**	**4.0500e-003**	**1.0700e-003**	**2.0000e-005**	**1.0900e-003**	**0.0000**	**3.0096**	**3.0096**	**6.0000e-005**	**7.0000e-005**	**3.0322**

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

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Unmitigated	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
User Defined Industrial	0.00	0.00	0.00		
Total	0.00	0.00	0.00		

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
User Defined Industrial	14.70	6.60	6.60	0.00	0.00	0.00	0	0	0

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
User Defined Industrial	0.330000	0.330000	0.340000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000

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

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Electricity Mitigated						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
NaturalGas Mitigated	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
NaturalGas Unmitigated	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

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

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
User Defined Industrial	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
User Defined Industrial	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

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

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
User Defined Industrial	0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
User Defined Industrial	0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

6.0 Area Detail

6.1 Mitigation Measures Area

Use Electric Lawnmower

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

Use Electric Leafblower

Use Electric Chainsaw

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	0.0278	0.0000	1.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	2.0000e-005	2.0000e-005	0.0000	0.0000	2.0000e-005
Unmitigated	0.0278	0.0000	1.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	2.0000e-005	2.0000e-005	0.0000	0.0000	2.0000e-005

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.0278					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	0.0000	0.0000	1.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	2.0000e-005	2.0000e-005	0.0000	0.0000	2.0000e-005
Total	**0.0278**	**0.0000**	**1.0000e-005**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**2.0000e-005**	**2.0000e-005**	**0.0000**	**0.0000**	**2.0000e-005**

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

6.2 Area by SubCategory

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.0278					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	0.0000	0.0000	1.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	2.0000e-005	2.0000e-005	0.0000	0.0000	2.0000e-005
Total	**0.0278**	**0.0000**	**1.0000e-005**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**2.0000e-005**	**2.0000e-005**	**0.0000**	**0.0000**	**2.0000e-005**

7.0 Water Detail

7.1 Mitigation Measures Water

Well 17 - Water System Improvement & Treatment Project - Kern-San Joaquin County, Annual

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

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

7.2 Water by Land Use

Unmitigated

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

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

7.2 Water by Land Use

Mitigated

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

8.0 Waste Detail

8.1 Mitigation Measures Waste

Category/Year

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

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

8.2 Waste by Land Use

Unmitigated

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

Mitigated

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

9.0 Operational Offroad

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

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

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

Equipment Type	Number	Hours/Day	Hours/Year	Horse Power	Load Factor	Fuel Type
Emergency Generator	1	0	200	603	0.73	Diesel

Boilers

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

User Defined Equipment

Equipment Type	Number

10.1 Stationary Sources

Unmitigated/Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Equipment Type	tons/yr										MT/yr					
Emergency Generator - Diesel (600 - 750 HP)	0.0990	0.2766	0.2523	4.8000e-004		0.0146	0.0146		0.0146	0.0146	0.0000	45.9241	45.9241	6.4400e-003	0.0000	46.0851
Total	**0.0990**	**0.2766**	**0.2523**	**4.8000e-004**		**0.0146**	**0.0146**		**0.0146**	**0.0146**	**0.0000**	**45.9241**	**45.9241**	**6.4400e-003**	**0.0000**	**46.0851**

11.0 Vegetation

Well 17 - Trenching - Kern-San Joaquin County, Annual

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

Well 17 - Trenching

Kern-San Joaquin County, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
User Defined Industrial	1.00	User Defined Unit	0.10	4,500.00	0

1.2 Other Project Characteristics

Urbanization	Rural	**Wind Speed (m/s)**	2.7	**Precipitation Freq (Days)**	32
Climate Zone	3			**Operational Year**	2023
Utility Company	Pacific Gas and Electric Company				
CO2 Intensity (lb/MWhr)	203.98	**CH4 Intensity (lb/MWhr)**	0.033	**N2O Intensity (lb/MWhr)**	0.004

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use - Estimate of construction area: 750 ft of pipe by 6ft wide trench.

Construction Phase - Trenching Estimate.

Off-road Equipment - Equipment Estimate.

Area Coating - Construction Run Only

Construction Off-road Equipment Mitigation -

Table Name	Column Name	Default Value	New Value
tblAreaCoating	Area_Nonresidential_Exterior	2775	0
tblAreaCoating	Area_Nonresidential_Interior	8325	0
tblConstDustMitigation	WaterUnpavedRoadVehicleSpeed	0	15
tblLandUse	LandUseSquareFeet	0.00	4,500.00

Well 17 - Trenching - Kern-San Joaquin County, Annual

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

tblLandUse	LotAcreage	0.00	0.10
tblOffRoadEquipment	LoadFactor	0.29	0.29
tblOffRoadEquipment	LoadFactor	0.37	0.37
tblOffRoadEquipment	OffRoadEquipmentType		Cranes
tblOffRoadEquipment	OffRoadEquipmentType		Tractors/Loaders/Backhoes
tblProjectCharacteristics	UrbanizationLevel	Urban	Rural

2.0 Emissions Summary

Well 17 - Trenching - Kern-San Joaquin County, Annual

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

2.1 Overall Construction

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2023	1.6900e-003	0.0172	0.0140	3.0000e-005	2.5000e-004	7.6000e-004	1.0100e-003	7.0000e-005	7.0000e-004	7.6000e-004	0.0000	2.7105	2.7105	8.2000e-004	1.0000e-005	2.7325
Maximum	**1.6900e-003**	**0.0172**	**0.0140**	**3.0000e-005**	**2.5000e-004**	**7.6000e-004**	**1.0100e-003**	**7.0000e-005**	**7.0000e-004**	**7.6000e-004**	**0.0000**	**2.7105**	**2.7105**	**8.2000e-004**	**1.0000e-005**	**2.7325**

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2023	1.6900e-003	0.0172	0.0140	3.0000e-005	2.5000e-004	7.6000e-004	1.0100e-003	7.0000e-005	7.0000e-004	7.6000e-004	0.0000	2.7105	2.7105	8.2000e-004	1.0000e-005	2.7325
Maximum	**1.6900e-003**	**0.0172**	**0.0140**	**3.0000e-005**	**2.5000e-004**	**7.6000e-004**	**1.0100e-003**	**7.0000e-005**	**7.0000e-004**	**7.6000e-004**	**0.0000**	**2.7105**	**2.7105**	**8.2000e-004**	**1.0000e-005**	**2.7325**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

Well 17 - Trenching - Kern-San Joaquin County, Annual

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

Quarter	Start Date	End Date	Maximum Unmitigated ROG + NOX (tons/quarter)	Maximum Mitigated ROG + NOX (tons/quarter)
1	3-1-2023	5-31-2023	0.0189	0.0189
		Highest	0.0189	0.0189

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	0.0176	0.0000	1.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	2.0000e-005	2.0000e-005	0.0000	0.0000	2.0000e-005
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Mobile	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Waste						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Water						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0176**	**0.0000**	**1.0000e-005**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**2.0000e-005**	**2.0000e-005**	**0.0000**	**0.0000**	**2.0000e-005**

Well 17 - Trenching - Kern-San Joaquin County, Annual

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

2.2 Overall Operational

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	0.0176	0.0000	1.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	2.0000e-005	2.0000e-005	0.0000	0.0000	2.0000e-005
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Mobile	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Waste						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Water						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0176**	**0.0000**	**1.0000e-005**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**2.0000e-005**	**2.0000e-005**	**0.0000**	**0.0000**	**2.0000e-005**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Trenching	Trenching	3/1/2023	3/7/2023	5	5	

Acres of Grading (Site Preparation Phase): 0

Well 17 - Trenching - Kern-San Joaquin County, Annual

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

Acres of Grading (Grading Phase): 0

Acres of Paving: 0

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

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Trenching	Cranes	1	10.00	231	0.29
Trenching	Tractors/Loaders/Backhoes	2	5.50	97	0.37

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Trenching	3	8.00	0.00	0.00	16.80	6.60	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Water Exposed Area

Reduce Vehicle Speed on Unpaved Roads

Well 17 - Trenching - Kern-San Joaquin County, Annual

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

3.2 Trenching - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	1.6100e-003	0.0171	0.0133	3.0000e-005		7.5000e-004	7.5000e-004		6.9000e-004	6.9000e-004	0.0000	2.5105	2.5105	8.1000e-004	0.0000	2.5308
Total	**1.6100e-003**	**0.0171**	**0.0133**	**3.0000e-005**		**7.5000e-004**	**7.5000e-004**		**6.9000e-004**	**6.9000e-004**	**0.0000**	**2.5105**	**2.5105**	**8.1000e-004**	**0.0000**	**2.5308**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	8.0000e-005	6.0000e-005	6.8000e-004	0.0000	2.5000e-004	0.0000	2.5000e-004	7.0000e-005	0.0000	7.0000e-005	0.0000	0.2000	0.2000	0.0000	1.0000e-005	0.2017
Total	**8.0000e-005**	**6.0000e-005**	**6.8000e-004**	**0.0000**	**2.5000e-004**	**0.0000**	**2.5000e-004**	**7.0000e-005**	**0.0000**	**7.0000e-005**	**0.0000**	**0.2000**	**0.2000**	**0.0000**	**1.0000e-005**	**0.2017**

Well 17 - Trenching - Kern-San Joaquin County, Annual

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

3.2 Trenching - 2023

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	1.6100e-003	0.0171	0.0133	3.0000e-005		7.5000e-004	7.5000e-004		6.9000e-004	6.9000e-004	0.0000	2.5105	2.5105	8.1000e-004	0.0000	2.5308
Total	**1.6100e-003**	**0.0171**	**0.0133**	**3.0000e-005**		**7.5000e-004**	**7.5000e-004**		**6.9000e-004**	**6.9000e-004**	**0.0000**	**2.5105**	**2.5105**	**8.1000e-004**	**0.0000**	**2.5308**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	8.0000e-005	6.0000e-005	6.8000e-004	0.0000	2.5000e-004	0.0000	2.5000e-004	7.0000e-005	0.0000	7.0000e-005	0.0000	0.2000	0.2000	0.0000	1.0000e-005	0.2017
Total	**8.0000e-005**	**6.0000e-005**	**6.8000e-004**	**0.0000**	**2.5000e-004**	**0.0000**	**2.5000e-004**	**7.0000e-005**	**0.0000**	**7.0000e-005**	**0.0000**	**0.2000**	**0.2000**	**0.0000**	**1.0000e-005**	**0.2017**

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

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Unmitigated	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
User Defined Industrial	0.00	0.00	0.00		
Total	0.00	0.00	0.00		

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
User Defined Industrial	14.70	6.60	6.60	0.00	0.00	0.00	0	0	0

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
User Defined Industrial	0.475755	0.052577	0.176436	0.169714	0.032065	0.009816	0.013925	0.037355	0.000591	0.000241	0.025277	0.001517	0.004732

Well 17 - Trenching - Kern-San Joaquin County, Annual

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

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Electricity Mitigated						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
NaturalGas Mitigated	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
NaturalGas Unmitigated	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

Well 17 - Trenching - Kern-San Joaquin County, Annual

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

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
User Defined Industrial	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
User Defined Industrial	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

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

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
User Defined Industrial	0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
User Defined Industrial	0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

6.0 Area Detail

6.1 Mitigation Measures Area

Well 17 - Trenching - Kern-San Joaquin County, Annual

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

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	0.0176	0.0000	1.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	2.0000e-005	2.0000e-005	0.0000	0.0000	2.0000e-005
Unmitigated	0.0176	0.0000	1.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	2.0000e-005	2.0000e-005	0.0000	0.0000	2.0000e-005

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.0176					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	0.0000	0.0000	1.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	2.0000e-005	2.0000e-005	0.0000	0.0000	2.0000e-005
Total	**0.0176**	**0.0000**	**1.0000e-005**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**2.0000e-005**	**2.0000e-005**	**0.0000**	**0.0000**	**2.0000e-005**

Well 17 - Trenching - Kern-San Joaquin County, Annual

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

6.2 Area by SubCategory

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.0176					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	0.0000	0.0000	1.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	2.0000e-005	2.0000e-005	0.0000	0.0000	2.0000e-005
Total	**0.0176**	**0.0000**	**1.0000e-005**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**2.0000e-005**	**2.0000e-005**	**0.0000**	**0.0000**	**2.0000e-005**

7.0 Water Detail

7.1 Mitigation Measures Water

Well 17 - Trenching - Kern-San Joaquin County, Annual

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

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

7.2 Water by Land Use

Unmitigated

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

7.2 Water by Land Use

Mitigated

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

8.0 Waste Detail

8.1 Mitigation Measures Waste

Category/Year

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

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

8.2 Waste by Land Use

Unmitigated

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

Mitigated

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

9.0 Operational Offroad

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

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

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

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

Boilers

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

User Defined Equipment

Equipment Type	Number

11.0 Vegetation

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

Well 18 - Water System Improvement & Treatment Project

Kern-San Joaquin County, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
User Defined Industrial	1.00	User Defined Unit	1.00	721.00	0

1.2 Other Project Characteristics

Urbanization	Rural	**Wind Speed (m/s)**	2.7	**Precipitation Freq (Days)**	32
Climate Zone	3			**Operational Year**	2025
Utility Company	Pacific Gas and Electric Company				
CO2 Intensity (lb/MWhr)	203.98	**CH4 Intensity (lb/MWhr)**	0.033	**N2O Intensity (lb/MWhr)**	0.004

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use - Lot acreage provided by Applicant

Construction Phase - Proposed Construction Schedule.

Off-road Equipment - Proposed Construction Schedule

Off-road Equipment - Estimated Construction Activities.

Off-road Equipment - Estimated Construction Activities.

Off-road Equipment - Estimated Construction Activities.

Off-road Equipment - Estimated Construction Activities.

Grading -

Vehicle Trips - Estimated one trip for maintenance a month.

Consumer Products -

Area Coating - Project is a municipal well.

Well 18 - Water System Improvement & Treatment Project - Kern-San Joaquin County, Annual

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

Construction Off-road Equipment Mitigation -

Area Mitigation -

Fleet Mix - Estimated one trip for maintenance a month.

Stationary Sources - Emergency Generators and Fire Pumps -

Table Name	Column Name	Default Value	New Value
tblAreaCoating	Area_Nonresidential_Exterior	361	0
tblAreaCoating	Area_Nonresidential_Interior	1082	0
tblConstDustMitigation	WaterUnpavedRoadVehicleSpeed	0	15
tblConstructionPhase	NumDays	100.00	35.00
tblConstructionPhase	NumDays	100.00	30.00
tblConstructionPhase	NumDays	100.00	30.00
tblConstructionPhase	NumDays	1.00	50.00
tblConstructionPhase	NumDaysWeek	5.00	7.00
tblFleetMix	HHD	0.04	0.00
tblFleetMix	LDA	0.48	0.33
tblFleetMix	LDT1	0.05	0.33
tblFleetMix	LDT2	0.18	0.34
tblFleetMix	LHD1	0.03	0.00
tblFleetMix	LHD2	9.1740e-003	0.00
tblFleetMix	MCY	0.02	0.00
tblFleetMix	MDV	0.16	0.00
tblFleetMix	MH	4.2820e-003	0.00
tblFleetMix	MHD	0.01	0.00
tblFleetMix	OBUS	5.8000e-004	0.00
tblFleetMix	SBUS	1.4400e-003	0.00
tblFleetMix	UBUS	2.3600e-004	0.00
tblLandUse	LandUseSquareFeet	0.00	721.00
tblLandUse	LotAcreage	0.00	1.00

Well 18 - Water System Improvement & Treatment Project - Kern-San Joaquin County, Annual

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

tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	2.00
tblOffRoadEquipment	UsageHours	8.00	10.00
tblProjectCharacteristics	UrbanizationLevel	Urban	Rural
tblStationaryGeneratorsPumpsUse	HorsePowerValue	0.00	603.00
tblStationaryGeneratorsPumpsUse	HoursPerYear	0.00	200.00
tblStationaryGeneratorsPumpsUse	NumberOfEquipment	0.00	1.00
tblVehicleTrips	WD_TR	0.00	0.23

2.0 Emissions Summary

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

2.1 Overall Construction

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2023	0.0153	0.1516	0.1980	4.2000e-004	0.0000	6.8200e-003	6.8200e-003	0.0000	6.2700e-003	6.2700e-003	0.0000	36.9381	36.9381	0.0120	0.0000	37.2368
2024	0.0381	0.3538	0.4170	1.0100e-003	0.0164	0.0146	0.0311	2.2700e-003	0.0137	0.0159	0.0000	88.5232	88.5232	0.0250	6.0000e-005	89.1665
2025	0.0255	0.2282	0.2793	5.6000e-004	0.0173	9.3300e-003	0.0266	2.5000e-003	8.7800e-003	0.0113	0.0000	48.8129	48.8129	0.0112	7.0000e-005	49.1136
Maximum	**0.0381**	**0.3538**	**0.4170**	**1.0100e-003**	**0.0173**	**0.0146**	**0.0311**	**2.5000e-003**	**0.0137**	**0.0159**	**0.0000**	**88.5232**	**88.5232**	**0.0250**	**7.0000e-005**	**89.1665**

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2023	0.0153	0.1516	0.1980	4.2000e-004	0.0000	6.8200e-003	6.8200e-003	0.0000	6.2700e-003	6.2700e-003	0.0000	36.9380	36.9380	0.0120	0.0000	37.2367
2024	0.0381	0.3538	0.4170	1.0100e-003	8.3400e-003	0.0146	0.0230	1.4000e-003	0.0137	0.0151	0.0000	88.5231	88.5231	0.0250	6.0000e-005	89.1664
2025	0.0255	0.2282	0.2793	5.6000e-004	9.2000e-003	9.3300e-003	0.0185	1.6300e-003	8.7800e-003	0.0104	0.0000	48.8128	48.8128	0.0112	7.0000e-005	49.1136
Maximum	**0.0381**	**0.3538**	**0.4170**	**1.0100e-003**	**9.2000e-003**	**0.0146**	**0.0230**	**1.6300e-003**	**0.0137**	**0.0151**	**0.0000**	**88.5231**	**88.5231**	**0.0250**	**7.0000e-005**	**89.1664**

Well 18 - Water System Improvement & Treatment Project - Kern-San Joaquin County, Annual

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

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**47.98**	**0.00**	**25.07**	**36.48**	**0.00**	**5.20**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

Quarter	Start Date	End Date	Maximum Unmitigated ROG + NOX (tons/quarter)	Maximum Mitigated ROG + NOX (tons/quarter)
1	**3-1-2023**	**5-31-2023**	0.1231	0.1231
4	**12-1-2023**	**2-29-2024**	0.2153	0.2153
8	**12-1-2024**	**2-28-2025**	0.4609	0.4609
		Highest	0.4609	0.4609

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	2.8200e-003	0.0000	1.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	2.0000e-005	2.0000e-005	0.0000	0.0000	2.0000e-005
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Mobile	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Stationary	0.0990	0.2766	0.2523	4.8000e-004		0.0146	0.0146		0.0146	0.0146	0.0000	45.9241	45.9241	6.4400e-003	0.0000	46.0851
Waste						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Water						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.1018**	**0.2766**	**0.2523**	**4.8000e-004**	**0.0000**	**0.0146**	**0.0146**	**0.0000**	**0.0146**	**0.0146**	**0.0000**	**45.9242**	**45.9242**	**6.4400e-003**	**0.0000**	**46.0851**

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

2.2 Overall Operational

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	2.8200e-003	0.0000	1.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	2.0000e-005	2.0000e-005	0.0000	0.0000	2.0000e-005
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Mobile	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Stationary	0.0990	0.2766	0.2523	4.8000e-004		0.0146	0.0146		0.0146	0.0146	0.0000	45.9241	45.9241	6.4400e-003	0.0000	46.0851
Waste						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Water						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.1018**	**0.2766**	**0.2523**	**4.8000e-004**	**0.0000**	**0.0146**	**0.0146**	**0.0000**	**0.0146**	**0.0146**	**0.0000**	**45.9242**	**45.9242**	**6.4400e-003**	**0.0000**	**46.0851**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Test Phase	Building Construction	3/1/2023	4/18/2023	5	35	
2	Production Well Construction	Building Construction	12/1/2023	1/11/2024	5	30	

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

3	Production Well Drilling	Building Construction	1/12/2024	2/10/2024	7	30	
4	Well Equipping and Site Development	Site Preparation	12/2/2024	2/7/2025	5	50	

Acres of Grading (Site Preparation Phase): 25

Acres of Grading (Grading Phase): 0

Acres of Paving: 0

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

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Test Phase	Bore/Drill Rigs	1	10.00	221	0.50
Test Phase	Tractors/Loaders/Backhoes	2	10.00	97	0.37
Production Well Construction	Forklifts	1	6.00	89	0.20
Production Well Construction	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Production Well Drilling	Bore/Drill Rigs	1	24.00	221	0.50
Production Well Drilling	Forklifts	1	6.00	89	0.20
Production Well Drilling	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Well Equipping and Site Development	Air Compressors	1	8.00	78	0.48
Well Equipping and Site Development	Cement and Mortar Mixers	1	8.00	9	0.56
Well Equipping and Site Development	Cranes	1	8.00	231	0.29
Well Equipping and Site Development	Excavators	1	8.00	158	0.38
Well Equipping and Site Development	Generator Sets	1	8.00	84	0.74
Well Equipping and Site Development	Graders	1	8.00	187	0.41
Well Equipping and Site Development	Rollers	1	8.00	80	0.38
Well Equipping and Site Development	Tractors/Loaders/Backhoes	2	8.00	97	0.37

Trips and VMT

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

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Test Phase	3	0.00	0.00	0.00	16.80	6.60	20.00	LD_Mix	HDT_Mix	HHDT
Production Well Construction	3	0.00	0.00	0.00	16.80	6.60	20.00	LD_Mix	HDT_Mix	HHDT
Production Well Drilling	4	0.00	0.00	0.00	16.80	6.60	20.00	LD_Mix	HDT_Mix	HHDT
Well Equipping and Site Development	9	23.00	0.00	0.00	16.80	6.60	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Water Exposed Area

Reduce Vehicle Speed on Unpaved Roads

3.2 Test Phase - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0113	0.1118	0.1421	3.4000e-004		4.7600e-003	4.7600e-003		4.3800e-003	4.3800e-003	0.0000	30.1352	30.1352	9.7500e-003	0.0000	30.3789
Total	**0.0113**	**0.1118**	**0.1421**	**3.4000e-004**		**4.7600e-003**	**4.7600e-003**		**4.3800e-003**	**4.3800e-003**	**0.0000**	**30.1352**	**30.1352**	**9.7500e-003**	**0.0000**	**30.3789**

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

3.2 Test Phase - 2023

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0113	0.1118	0.1421	3.4000e-004		4.7600e-003	4.7600e-003		4.3800e-003	4.3800e-003	0.0000	30.1352	30.1352	9.7500e-003	0.0000	30.3789
Total	**0.0113**	**0.1118**	**0.1421**	**3.4000e-004**		**4.7600e-003**	**4.7600e-003**		**4.3800e-003**	**4.3800e-003**	**0.0000**	**30.1352**	**30.1352**	**9.7500e-003**	**0.0000**	**30.3789**

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

3.2 Test Phase - 2023

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.3 Production Well Construction - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	3.9900e-003	0.0398	0.0559	8.0000e-005		2.0600e-003	2.0600e-003		1.8900e-003	1.8900e-003	0.0000	6.8028	6.8028	2.2000e-003	0.0000	6.8579
Total	**3.9900e-003**	**0.0398**	**0.0559**	**8.0000e-005**		**2.0600e-003**	**2.0600e-003**		**1.8900e-003**	**1.8900e-003**	**0.0000**	**6.8028**	**6.8028**	**2.2000e-003**	**0.0000**	**6.8579**

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

3.3 Production Well Construction - 2023

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	3.9900e-003	0.0398	0.0559	8.0000e-005		2.0600e-003	2.0600e-003		1.8900e-003	1.8900e-003	0.0000	6.8028	6.8028	2.2000e-003	0.0000	6.8578
Total	**3.9900e-003**	**0.0398**	**0.0559**	**8.0000e-005**		**2.0600e-003**	**2.0600e-003**		**1.8900e-003**	**1.8900e-003**	**0.0000**	**6.8028**	**6.8028**	**2.2000e-003**	**0.0000**	**6.8578**

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

3.3 Production Well Construction - 2023

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.3 Production Well Construction - 2024

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	1.6100e-003	0.0160	0.0240	3.0000e-005		7.7000e-004	7.7000e-004		7.1000e-004	7.1000e-004	0.0000	2.9171	2.9171	9.4000e-004	0.0000	2.9406
Total	**1.6100e-003**	**0.0160**	**0.0240**	**3.0000e-005**		**7.7000e-004**	**7.7000e-004**		**7.1000e-004**	**7.1000e-004**	**0.0000**	**2.9171**	**2.9171**	**9.4000e-004**	**0.0000**	**2.9406**

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

3.3 Production Well Construction - 2024

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	1.6100e-003	0.0160	0.0240	3.0000e-005		7.7000e-004	7.7000e-004		7.1000e-004	7.1000e-004	0.0000	2.9171	2.9171	9.4000e-004	0.0000	2.9406
Total	**1.6100e-003**	**0.0160**	**0.0240**	**3.0000e-005**		**7.7000e-004**	**7.7000e-004**		**7.1000e-004**	**7.1000e-004**	**0.0000**	**2.9171**	**2.9171**	**9.4000e-004**	**0.0000**	**2.9406**

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

3.3 Production Well Construction - 2024

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.4 Production Well Drilling - 2024

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0149	0.1389	0.1716	5.4000e-004		5.3900e-003	5.3900e-003		4.9600e-003	4.9600e-003	0.0000	47.1733	47.1733	0.0153	0.0000	47.5548
Total	**0.0149**	**0.1389**	**0.1716**	**5.4000e-004**		**5.3900e-003**	**5.3900e-003**		**4.9600e-003**	**4.9600e-003**	**0.0000**	**47.1733**	**47.1733**	**0.0153**	**0.0000**	**47.5548**

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

3.4 Production Well Drilling - 2024

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0149	0.1389	0.1716	5.4000e-004		5.3900e-003	5.3900e-003		4.9600e-003	4.9600e-003	0.0000	47.1733	47.1733	0.0153	0.0000	47.5547
Total	**0.0149**	**0.1389**	**0.1716**	**5.4000e-004**		**5.3900e-003**	**5.3900e-003**		**4.9600e-003**	**4.9600e-003**	**0.0000**	**47.1733**	**47.1733**	**0.0153**	**0.0000**	**47.5547**

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

3.4 Production Well Drilling - 2024

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.5 Well Equipping and Site Development - 2024

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0133	0.0000	0.0133	1.4300e-003	0.0000	1.4300e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0207	0.1982	0.2134	4.1000e-004		8.4600e-003	8.4600e-003		7.9700e-003	7.9700e-003	0.0000	35.9851	35.9851	8.7700e-003	0.0000	36.2043
Total	**0.0207**	**0.1982**	**0.2134**	**4.1000e-004**	**0.0133**	**8.4600e-003**	**0.0217**	**1.4300e-003**	**7.9700e-003**	**9.4000e-003**	**0.0000**	**35.9851**	**35.9851**	**8.7700e-003**	**0.0000**	**36.2043**

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

3.5 Well Equipping and Site Development - 2024

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	8.9000e-004	6.4000e-004	7.9800e-003	3.0000e-005	3.1700e-003	2.0000e-005	3.1900e-003	8.4000e-004	1.0000e-005	8.6000e-004	0.0000	2.4476	2.4476	5.0000e-005	6.0000e-005	2.4668
Total	**8.9000e-004**	**6.4000e-004**	**7.9800e-003**	**3.0000e-005**	**3.1700e-003**	**2.0000e-005**	**3.1900e-003**	**8.4000e-004**	**1.0000e-005**	**8.6000e-004**	**0.0000**	**2.4476**	**2.4476**	**5.0000e-005**	**6.0000e-005**	**2.4668**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					5.1700e-003	0.0000	5.1700e-003	5.6000e-004	0.0000	5.6000e-004	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0207	0.1982	0.2134	4.1000e-004		8.4600e-003	8.4600e-003		7.9700e-003	7.9700e-003	0.0000	35.9851	35.9851	8.7700e-003	0.0000	36.2043
Total	**0.0207**	**0.1982**	**0.2134**	**4.1000e-004**	**5.1700e-003**	**8.4600e-003**	**0.0136**	**5.6000e-004**	**7.9700e-003**	**8.5300e-003**	**0.0000**	**35.9851**	**35.9851**	**8.7700e-003**	**0.0000**	**36.2043**

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

3.5 Well Equipping and Site Development - 2024

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	8.9000e-004	6.4000e-004	7.9800e-003	3.0000e-005	3.1700e-003	2.0000e-005	3.1900e-003	8.4000e-004	1.0000e-005	8.6000e-004	0.0000	2.4476	2.4476	5.0000e-005	6.0000e-005	2.4668
Total	**8.9000e-004**	**6.4000e-004**	**7.9800e-003**	**3.0000e-005**	**3.1700e-003**	**2.0000e-005**	**3.1900e-003**	**8.4000e-004**	**1.0000e-005**	**8.6000e-004**	**0.0000**	**2.4476**	**2.4476**	**5.0000e-005**	**6.0000e-005**	**2.4668**

3.5 Well Equipping and Site Development - 2025

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0133	0.0000	0.0133	1.4300e-003	0.0000	1.4300e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0244	0.2275	0.2699	5.3000e-004		9.3100e-003	9.3100e-003		8.7600e-003	8.7600e-003	0.0000	45.8033	45.8033	0.0111	0.0000	46.0814
Total	**0.0244**	**0.2275**	**0.2699**	**5.3000e-004**	**0.0133**	**9.3100e-003**	**0.0226**	**1.4300e-003**	**8.7600e-003**	**0.0102**	**0.0000**	**45.8033**	**45.8033**	**0.0111**	**0.0000**	**46.0814**

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

3.5 Well Equipping and Site Development - 2025

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.0500e-003	7.2000e-004	9.4100e-003	3.0000e-005	4.0300e-003	2.0000e-005	4.0500e-003	1.0700e-003	2.0000e-005	1.0900e-003	0.0000	3.0096	3.0096	6.0000e-005	7.0000e-005	3.0322
Total	**1.0500e-003**	**7.2000e-004**	**9.4100e-003**	**3.0000e-005**	**4.0300e-003**	**2.0000e-005**	**4.0500e-003**	**1.0700e-003**	**2.0000e-005**	**1.0900e-003**	**0.0000**	**3.0096**	**3.0096**	**6.0000e-005**	**7.0000e-005**	**3.0322**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					5.1700e-003	0.0000	5.1700e-003	5.6000e-004	0.0000	5.6000e-004	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0244	0.2275	0.2699	5.3000e-004		9.3100e-003	9.3100e-003		8.7600e-003	8.7600e-003	0.0000	45.8032	45.8032	0.0111	0.0000	46.0814
Total	**0.0244**	**0.2275**	**0.2699**	**5.3000e-004**	**5.1700e-003**	**9.3100e-003**	**0.0145**	**5.6000e-004**	**8.7600e-003**	**9.3200e-003**	**0.0000**	**45.8032**	**45.8032**	**0.0111**	**0.0000**	**46.0814**

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

3.5 Well Equipping and Site Development - 2025

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.0500e-003	7.2000e-004	9.4100e-003	3.0000e-005	4.0300e-003	2.0000e-005	4.0500e-003	1.0700e-003	2.0000e-005	1.0900e-003	0.0000	3.0096	3.0096	6.0000e-005	7.0000e-005	3.0322
Total	**1.0500e-003**	**7.2000e-004**	**9.4100e-003**	**3.0000e-005**	**4.0300e-003**	**2.0000e-005**	**4.0500e-003**	**1.0700e-003**	**2.0000e-005**	**1.0900e-003**	**0.0000**	**3.0096**	**3.0096**	**6.0000e-005**	**7.0000e-005**	**3.0322**

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

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Unmitigated	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
User Defined Industrial	0.00	0.00	0.00		
Total	0.00	0.00	0.00		

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
User Defined Industrial	14.70	6.60	6.60	0.00	0.00	0.00	0	0	0

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
User Defined Industrial	0.330000	0.330000	0.340000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000

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

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Electricity Mitigated						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
NaturalGas Mitigated	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
NaturalGas Unmitigated	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

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

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
User Defined Industrial	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
User Defined Industrial	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

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

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
User Defined Industrial	0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
User Defined Industrial	0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

6.0 Area Detail

6.1 Mitigation Measures Area

Use Electric Lawnmower

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

Use Electric Leafblower

Use Electric Chainsaw

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	2.8200e-003	0.0000	1.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	2.0000e-005	2.0000e-005	0.0000	0.0000	2.0000e-005
Unmitigated	2.8200e-003	0.0000	1.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	2.0000e-005	2.0000e-005	0.0000	0.0000	2.0000e-005

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	2.8200e-003					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	0.0000	0.0000	1.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	2.0000e-005	2.0000e-005	0.0000	0.0000	2.0000e-005
Total	**2.8200e-003**	**0.0000**	**1.0000e-005**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**2.0000e-005**	**2.0000e-005**	**0.0000**	**0.0000**	**2.0000e-005**

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

6.2 Area by SubCategory

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	2.8200e-003					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	0.0000	0.0000	1.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	2.0000e-005	2.0000e-005	0.0000	0.0000	2.0000e-005
Total	**2.8200e-003**	**0.0000**	**1.0000e-005**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**2.0000e-005**	**2.0000e-005**	**0.0000**	**0.0000**	**2.0000e-005**

7.0 Water Detail

7.1 Mitigation Measures Water

Well 18 - Water System Improvement & Treatment Project - Kern-San Joaquin County, Annual

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

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

7.2 Water by Land Use

Unmitigated

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

7.2 Water by Land Use

Mitigated

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

8.0 Waste Detail

8.1 Mitigation Measures Waste

Category/Year

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

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

8.2 Waste by Land Use

Unmitigated

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

Mitigated

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

9.0 Operational Offroad

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

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

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

Equipment Type	Number	Hours/Day	Hours/Year	Horse Power	Load Factor	Fuel Type
Emergency Generator	1	0	200	603	0.73	Diesel

Boilers

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

User Defined Equipment

Equipment Type	Number

10.1 Stationary Sources

Unmitigated/Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Equipment Type	tons/yr										MT/yr					
Emergency Generator - Diesel (600 - 750 HP)	0.0990	0.2766	0.2523	4.8000e-004		0.0146	0.0146		0.0146	0.0146	0.0000	45.9241	45.9241	6.4400e-003	0.0000	46.0851
Total	**0.0990**	**0.2766**	**0.2523**	**4.8000e-004**		**0.0146**	**0.0146**		**0.0146**	**0.0146**	**0.0000**	**45.9241**	**45.9241**	**6.4400e-003**	**0.0000**	**46.0851**

11.0 Vegetation

Well 18 - Trenching - Kern-San Joaquin County, Annual

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

Well 18 - Trenching

Kern-San Joaquin County, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
User Defined Industrial	1.00	User Defined Unit	0.24	10,500.00	0

1.2 Other Project Characteristics

Urbanization	Rural	**Wind Speed (m/s)**	2.7	**Precipitation Freq (Days)**	32
Climate Zone	3			**Operational Year**	2023
Utility Company	Pacific Gas and Electric Company				
CO2 Intensity (lb/MWhr)	203.98	**CH4 Intensity (lb/MWhr)**	0.033	**N2O Intensity (lb/MWhr)**	0.004

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use - Estimate of construction area: 750 ft of pipe by 6ft wide trench.

Construction Phase - Trenching Estimate.

Off-road Equipment - Equipment Estimate.

Area Coating - Construction Run Only

Construction Off-road Equipment Mitigation -

Table Name	Column Name	Default Value	New Value
tblAreaCoating	Area_Nonresidential_Exterior	2775	0
tblAreaCoating	Area_Nonresidential_Interior	8325	0
tblConstDustMitigation	WaterUnpavedRoadVehicleSpeed	0	15
tblConstructionPhase	PhaseEndDate	3/7/2023	3/15/2023

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

tblLandUse	LandUseSquareFeet	0.00	10,500.00
tblLandUse	LotAcreage	0.00	0.24
tblOffRoadEquipment	LoadFactor	0.29	0.29
tblOffRoadEquipment	LoadFactor	0.37	0.37
tblOffRoadEquipment	OffRoadEquipmentType		Cranes
tblOffRoadEquipment	OffRoadEquipmentType		Tractors/Loaders/Backhoes
tblProjectCharacteristics	UrbanizationLevel	Urban	Rural

2.0 Emissions Summary

Well 18 - Trenching - Kern-San Joaquin County, Annual

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

2.1 Overall Construction

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2023	3.7100e-003	0.0378	0.0308	7.0000e-005	5.5000e-004	1.6600e-003	2.2100e-003	1.5000e-004	1.5300e-003	1.6800e-003	0.0000	5.9631	5.9631	1.8000e-003	1.0000e-005	6.0114
Maximum	**3.7100e-003**	**0.0378**	**0.0308**	**7.0000e-005**	**5.5000e-004**	**1.6600e-003**	**2.2100e-003**	**1.5000e-004**	**1.5300e-003**	**1.6800e-003**	**0.0000**	**5.9631**	**5.9631**	**1.8000e-003**	**1.0000e-005**	**6.0114**

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2023	3.7100e-003	0.0378	0.0308	7.0000e-005	5.5000e-004	1.6600e-003	2.2100e-003	1.5000e-004	1.5300e-003	1.6800e-003	0.0000	5.9631	5.9631	1.8000e-003	1.0000e-005	6.0114
Maximum	**3.7100e-003**	**0.0378**	**0.0308**	**7.0000e-005**	**5.5000e-004**	**1.6600e-003**	**2.2100e-003**	**1.5000e-004**	**1.5300e-003**	**1.6800e-003**	**0.0000**	**5.9631**	**5.9631**	**1.8000e-003**	**1.0000e-005**	**6.0114**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

Well 18 - Trenching - Kern-San Joaquin County, Annual

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

Quarter	Start Date	End Date	Maximum Unmitigated ROG + NOX (tons/quarter)	Maximum Mitigated ROG + NOX (tons/quarter)
1	3-1-2023	5-31-2023	0.0404	0.0404
		Highest	0.0404	0.0404

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	0.0410	0.0000	1.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	2.0000e-005	2.0000e-005	0.0000	0.0000	2.0000e-005
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Mobile	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Waste						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Water						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0410**	**0.0000**	**1.0000e-005**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**2.0000e-005**	**2.0000e-005**	**0.0000**	**0.0000**	**2.0000e-005**

Well 18 - Trenching - Kern-San Joaquin County, Annual

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

2.2 Overall Operational

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	0.0410	0.0000	1.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	2.0000e-005	2.0000e-005	0.0000	0.0000	2.0000e-005
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Mobile	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Waste						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Water						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0410**	**0.0000**	**1.0000e-005**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**2.0000e-005**	**2.0000e-005**	**0.0000**	**0.0000**	**2.0000e-005**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Trenching	Trenching	3/1/2023	3/15/2023	5	11	

Acres of Grading (Site Preparation Phase): 0

Well 18 - Trenching - Kern-San Joaquin County, Annual

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

Acres of Grading (Grading Phase): 0

Acres of Paving: 0

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

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Trenching	Cranes	1	10.00	231	0.29
Trenching	Tractors/Loaders/Backhoes	2	5.50	97	0.37

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Trenching	3	8.00	0.00	0.00	16.80	6.60	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Water Exposed Area

Reduce Vehicle Speed on Unpaved Roads

Well 18 - Trenching - Kern-San Joaquin County, Annual

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

3.2 Trenching - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	3.5400e-003	0.0376	0.0293	6.0000e-005		1.6600e-003	1.6600e-003		1.5300e-003	1.5300e-003	0.0000	5.5231	5.5231	1.7900e-003	0.0000	5.5677
Total	**3.5400e-003**	**0.0376**	**0.0293**	**6.0000e-005**		**1.6600e-003**	**1.6600e-003**		**1.5300e-003**	**1.5300e-003**	**0.0000**	**5.5231**	**5.5231**	**1.7900e-003**	**0.0000**	**5.5677**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.7000e-004	1.3000e-004	1.5000e-003	0.0000	5.5000e-004	0.0000	5.5000e-004	1.5000e-004	0.0000	1.5000e-004	0.0000	0.4401	0.4401	1.0000e-005	1.0000e-005	0.4437
Total	**1.7000e-004**	**1.3000e-004**	**1.5000e-003**	**0.0000**	**5.5000e-004**	**0.0000**	**5.5000e-004**	**1.5000e-004**	**0.0000**	**1.5000e-004**	**0.0000**	**0.4401**	**0.4401**	**1.0000e-005**	**1.0000e-005**	**0.4437**

Well 18 - Trenching - Kern-San Joaquin County, Annual

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

3.2 Trenching - 2023

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	3.5400e-003	0.0376	0.0293	6.0000e-005		1.6600e-003	1.6600e-003		1.5300e-003	1.5300e-003	0.0000	5.5231	5.5231	1.7900e-003	0.0000	5.5677
Total	**3.5400e-003**	**0.0376**	**0.0293**	**6.0000e-005**		**1.6600e-003**	**1.6600e-003**		**1.5300e-003**	**1.5300e-003**	**0.0000**	**5.5231**	**5.5231**	**1.7900e-003**	**0.0000**	**5.5677**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.7000e-004	1.3000e-004	1.5000e-003	0.0000	5.5000e-004	0.0000	5.5000e-004	1.5000e-004	0.0000	1.5000e-004	0.0000	0.4401	0.4401	1.0000e-005	1.0000e-005	0.4437
Total	**1.7000e-004**	**1.3000e-004**	**1.5000e-003**	**0.0000**	**5.5000e-004**	**0.0000**	**5.5000e-004**	**1.5000e-004**	**0.0000**	**1.5000e-004**	**0.0000**	**0.4401**	**0.4401**	**1.0000e-005**	**1.0000e-005**	**0.4437**

Well 18 - Trenching - Kern-San Joaquin County, Annual

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

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Unmitigated	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
User Defined Industrial	0.00	0.00	0.00		
Total	0.00	0.00	0.00		

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
User Defined Industrial	14.70	6.60	6.60	0.00	0.00	0.00	0	0	0

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
User Defined Industrial	0.475755	0.052577	0.176436	0.169714	0.032065	0.009816	0.013925	0.037355	0.000591	0.000241	0.025277	0.001517	0.004732

Well 18 - Trenching - Kern-San Joaquin County, Annual

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

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Electricity Mitigated						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
NaturalGas Mitigated	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
NaturalGas Unmitigated	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

Well 18 - Trenching - Kern-San Joaquin County, Annual

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

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
User Defined Industrial	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
User Defined Industrial	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

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

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
User Defined Industrial	0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
User Defined Industrial	0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

6.0 Area Detail

6.1 Mitigation Measures Area

Well 18 - Trenching - Kern-San Joaquin County, Annual

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

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	0.0410	0.0000	1.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	2.0000e-005	2.0000e-005	0.0000	0.0000	2.0000e-005
Unmitigated	0.0410	0.0000	1.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	2.0000e-005	2.0000e-005	0.0000	0.0000	2.0000e-005

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.0410					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	0.0000	0.0000	1.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	2.0000e-005	2.0000e-005	0.0000	0.0000	2.0000e-005
Total	**0.0410**	**0.0000**	**1.0000e-005**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**2.0000e-005**	**2.0000e-005**	**0.0000**	**0.0000**	**2.0000e-005**

Well 18 - Trenching - Kern-San Joaquin County, Annual

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

6.2 Area by SubCategory

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.0410					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	0.0000	0.0000	1.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	2.0000e-005	2.0000e-005	0.0000	0.0000	2.0000e-005
Total	**0.0410**	**0.0000**	**1.0000e-005**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**2.0000e-005**	**2.0000e-005**	**0.0000**	**0.0000**	**2.0000e-005**

7.0 Water Detail

7.1 Mitigation Measures Water

Well 18 - Trenching - Kern-San Joaquin County, Annual

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

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

7.2 Water by Land Use

Unmitigated

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

Well 18 - Trenching - Kern-San Joaquin County, Annual

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

7.2 Water by Land Use

Mitigated

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

8.0 Waste Detail

8.1 Mitigation Measures Waste

Category/Year

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

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

8.2 Waste by Land Use

Unmitigated

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

Mitigated

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

9.0 Operational Offroad

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

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

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

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

Boilers

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

User Defined Equipment

Equipment Type	Number

11.0 Vegetation

APPENDIX C. HEALTH RISK ASSESSMENT MODELING FILES

(Electric Files)

APPENDIX B
CULTURAL RESOURCES

TECHNICAL MEMORANDUM

Date: January 20, 2023

Project: Cultural resources records search- Water System Improvement & Treatment Project, City of Wasco, Kern County, CA

To: Jaymie Brauer, Principal Planner

From: Robert Parr, MS, RPA, Senior Archaeologist

Subject: Cultural Resources Records Search Results (RS#22-268)

Background

A cultural resources records search (#22-268) was conducted at the Southern San Joaquin Valley Information Center (IC), CSU Bakersfield for the above referenced Project in the City of Wasco, Kern County to determine whether the proposed project would impact cultural resources.

Project Location

The Project is located in Kern County, California (Attachment A: Figures 1-4). The Project site is within the Wasco and Wasco SW USGS Quadrangles in Township 27S, Range 24 & 25 E, in Sections 1, 2,4, 14,18, and 7 and Section 18, T27S, R25E, M.D.B.&M. (Figures 1-4).

Project Description

The proposed project includes drilling four new municipal water wells to replace existing water supply wells that exceed the State of California MCL for 1,2,3-TCP and occasionally for nitrate. In addition, the City will install a new GAC treatment system at the existing Well No. 12 facility to remove 1,2,3-TCP. A new one-million-gallon storage tank and booster pump station will be installed at one of the proposed new well site locations and an existing well location. Finally, new remote read and AMI meters will be installed throughout the water system. All work will be done within the City limits of the City of Wasco. The wells will be abandoned in accordance with County of Kern requirements. The property being used for new Well No. 17 will also be re-zoned from R-1-6 Low Density Residential (6,000 sq. ft. lot) to P-F (Public Facilities).

Results

The records search covered an area within one-half mile of the Project and included a review of the *National Register of Historic Places, California Points of Historical Interest, California Registry of Historic Resources, California Historical Landmarks, California State Historic Resources Inventory*, and a review of cultural resource reports on file.

The records search indicated that one of the project sites, in Section 4, had been included within a previous cultural resources survey (Schiffman 1990). No resources were identified at the site. One

historic cultural resource, the Wasco Union High School Farm (P-15-019048), is located within a half mile of this location. The Project will not impact this cultural resource.

None of the remaining six project sites have been surveyed for cultural resources and it is not known if any exist on them. Ten cultural resource studies have been conducted within a half mile of these locations (Sutton 1988; Schiffman 1990; Nelson 2000; Thomas and Ptomey 2001; anonymous 2003; Hobbs 2003; Thomas 2003; Orfila 2005; Gust 2008; Sander 2008). Fourteen historic period cultural resources have been identified and recorded within one half mile of these locations, including the route of the AT & SF Railroad P-15-000560) and 13 historic era buildings (single family properties) (Primary nos. P-15-008584, -008592, -008596, -008598, -008599, -008600, -008601, -008603, -008604, -008605, -008606, -008607, -019053). The Project will not impact these cultural resources.

A Sacred Lands File request was also submitted to the Native American Heritage Commission. A response dated September 30, 2022 indicates negative results (see Attachment B). Letters were also sent to the tribal groups listed by the NAHC. Calls were also made to the groups. To date, no comments or responses have been received. A copy of the letters and outreach contact table are included in this report.

Conclusions

Based on the results of cultural records search findings and the lack of historical or archaeological resources previously identified within a half mile radius of the proposed Project, the potential to encounter subsurface cultural resources is minimal. Additionally, the Project construction would be conducted within the partially developed and previously disturbed parcel. The potential to uncover subsurface historical or archaeological deposits would be considered unlikely.

However, there is still a possibility that historical or archaeological materials may be exposed during construction. Grading and trenching, as well as other ground-disturbing actions have the potential to damage or destroy these previously unidentified and potentially significant cultural resources within the project area, including historical or archaeological resources. Disturbance of any deposits that have the potential to provide significant cultural data would be considered a significant impact. To reduce the potential impacts of the Project on cultural resources, the following measures are recommended to be included as mitigation measures. With implementation of CUL-1 and CUL-2, the Project would have a less than significant impact related to cultural resources.

CUL-1: If prehistoric or historic-era cultural materials are encountered during construction activities, all work in the immediate vicinity of the find shall halt until a qualified archaeologist can evaluate the find and make recommendations. Cultural resource materials may include prehistoric resources such as flaked and ground stone tools and debris, shell, bone, ceramics, and

fire-affected rock as well as historic resources such as glass, metal, wood, brick, or structural remnants. If the qualified archaeologist determines that the discovery represents a potentially significant cultural resource, additional investigations may be required to mitigate adverse impacts from Project implementation. These additional studies may include avoidance, testing, and evaluation or data recovery excavation. Implementation of the mitigation measure below would ensure that the proposed Project would not cause a substantial adverse change in the significance of a historical resource.

CUL-2: If human remains are discovered during construction or operational activities, further excavation or disturbance shall be prohibited pursuant to Section 7050.5 of the California Health and Safety Code. The specific protocol, guidelines, and channels of communication outlined by the Native American Heritage Commission, in accordance with Section 7050.5 of the Health and Safety Code, Section 5097.98 of the Public Resources Code (Chapter 1492, Statutes of 1982, Senate Bill 297), and Senate Bill 447 (Chapter 44, Statutes of 1987), shall be followed. Section 7050.5(c) shall guide the potential Native American involvement, in the event of discovery of human remains, at the direction of the county coroner.

Robert E. Parr, MS, RPA
Senior Archaeologist

Attachment A- Figures
Attachment B- Sacred Lands File Response by the Native American Heritage Commission and Tribal Outreach

References

(all reports on file at the Southern San Joaquin Valley Information Center, California State University, Bakersfield)

Bonner, Wayne H., Marnie Aislin-Kay, and Alynne Loupe
2005 Cultural Resources Records Search and Site Visit Results for Cingular Telecommunications Facility Candidate ES-0006-01 (Sprint Barstow Road), 260 Virginia Way, Barstow, San Bernardino County, California. (SB-04893)

Bonner, Wayne H., and Sarah A. Williams
2012 Cultural Resources Records Search and Site Visit Results for T-Mobile West, LLC Candidate IE04396A (Barstow Fire Department), 861 Barstow Road, Barstow, San Bernardino County, California. (SB-07158)

Dice, Michael
2000 Records Search for Sprint PCS Facility SB40XC715B (Barstow Museum), City of Barstow, San Bernardino County, CA. (SB-04210)

Hearn, Joseph E., and Ruth D. Simpson
1976 Archaeological – Historical Resources Assessment of Area Selected for Proposed Barstow Fire District Headquarters Facility. (SB-00425)

TECHNICAL MEMORANDUM

Attachment A-
Figures

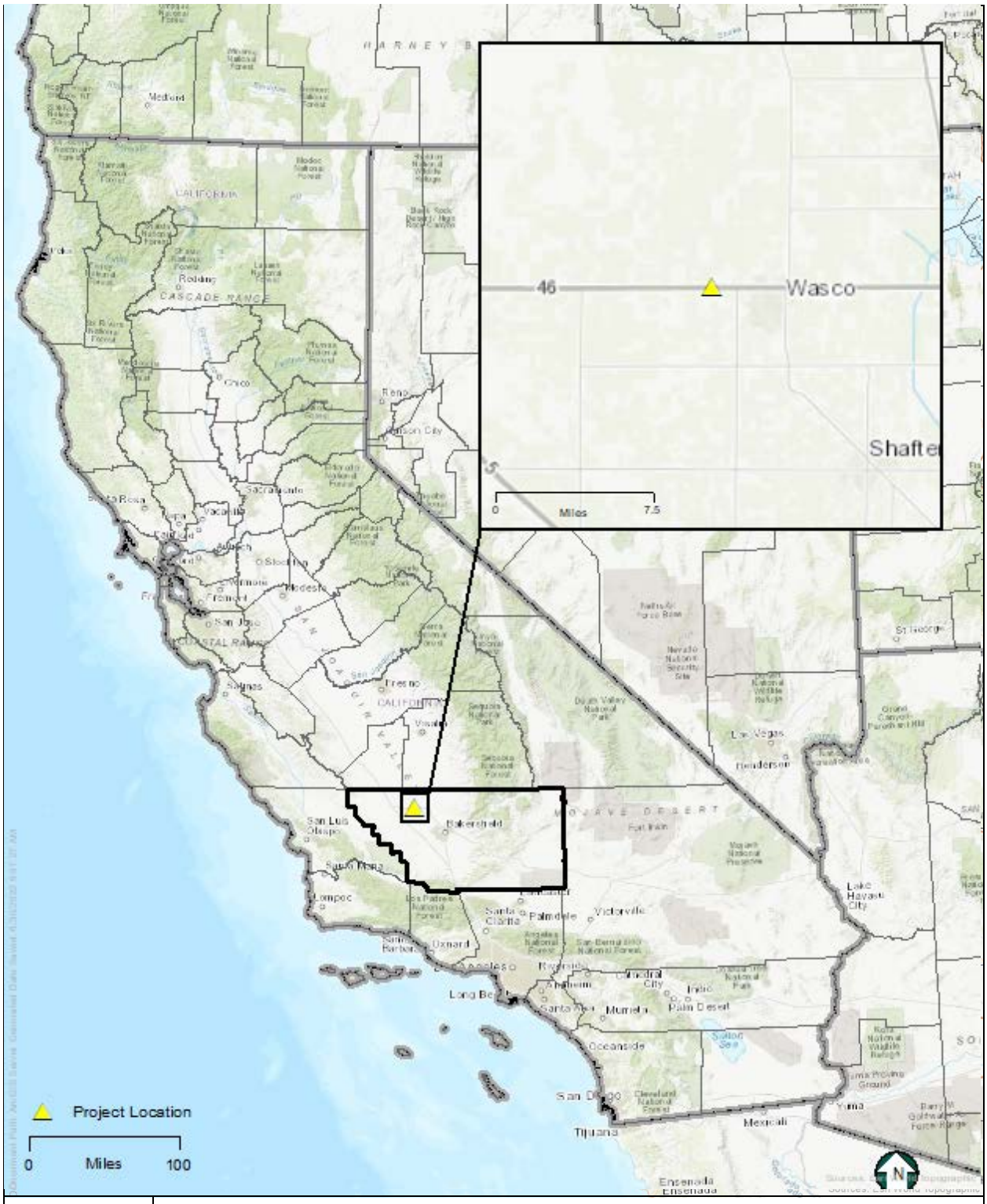


Figure - 1
Regional Location

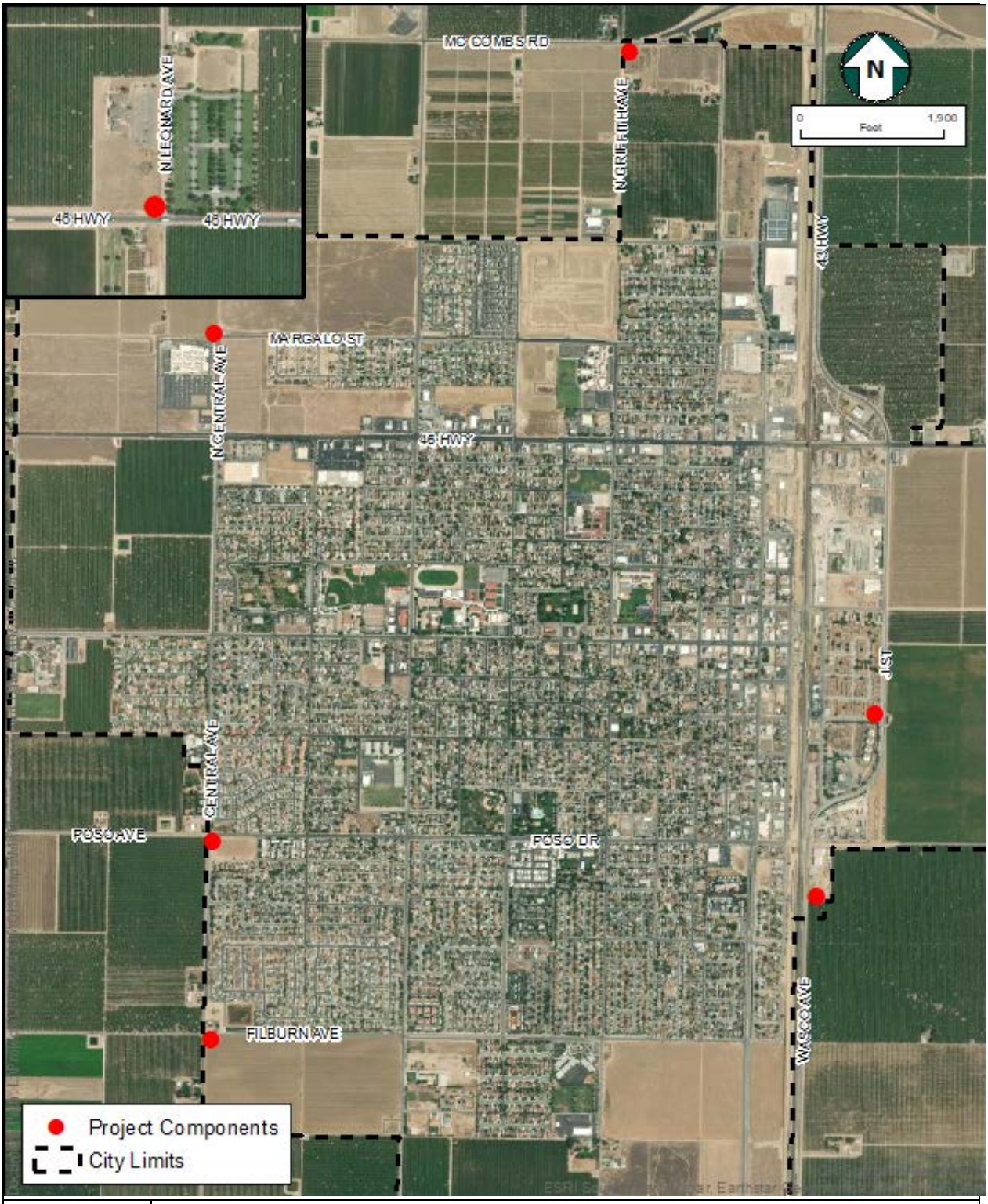


Figure - 2
Project Area

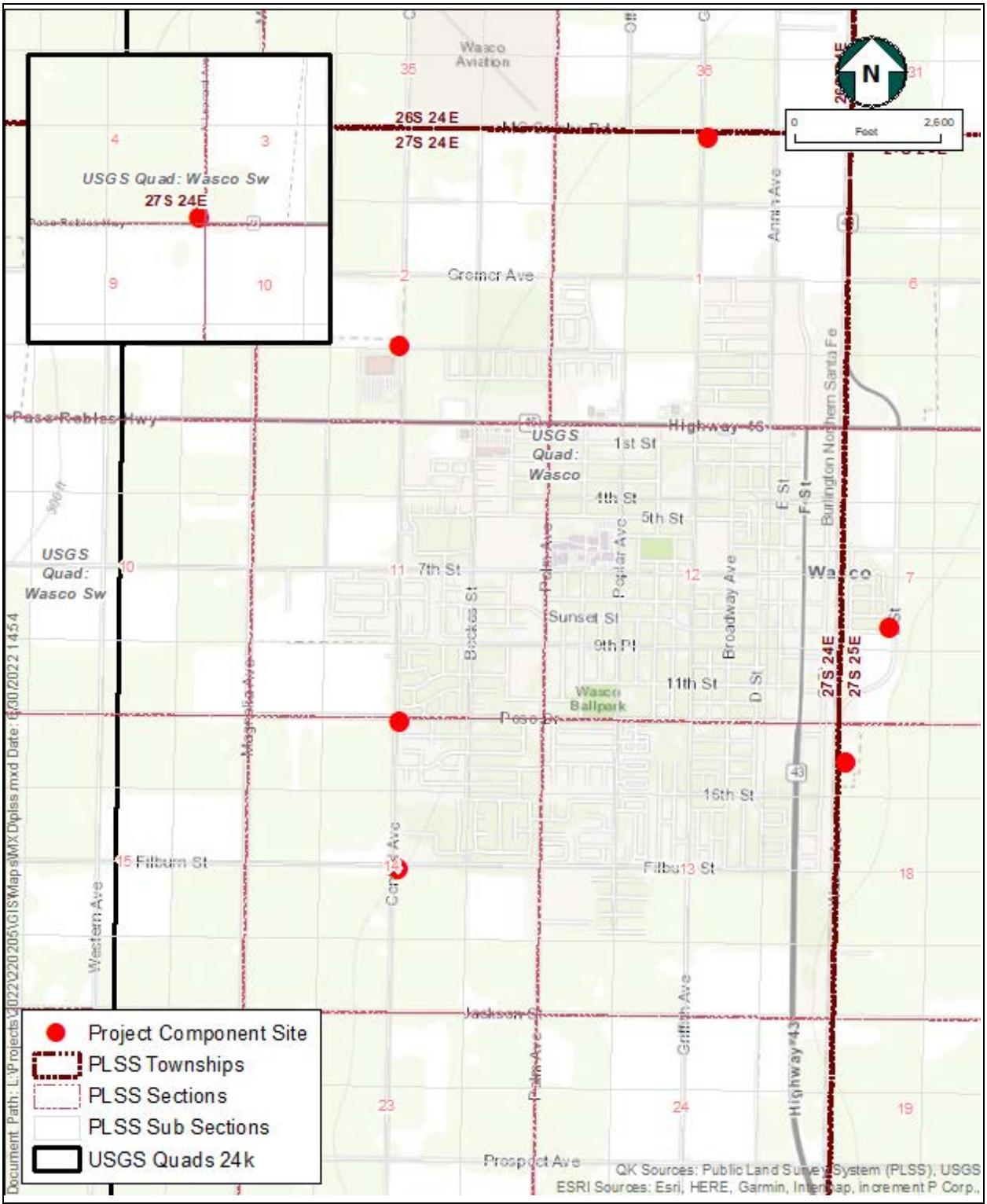


Figure - 3
PLSS/USGS Quad

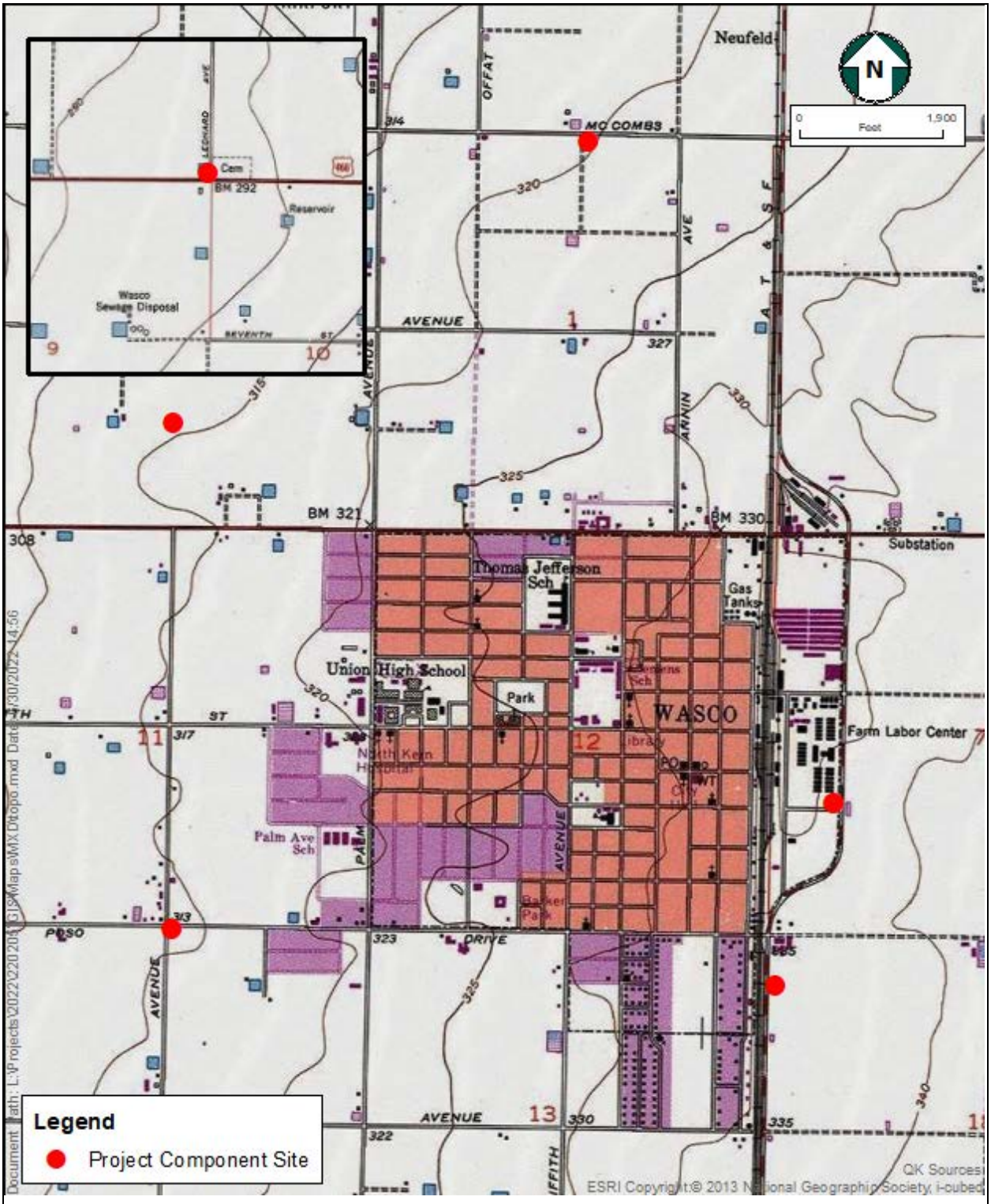


Figure - 4
Topo

TECHNICAL MEMORANDUM

Attachment B-
Sacred Lands File Response by the Native American Heritage Commission and Tribal Outreach

NATIVE AMERICAN HERITAGE COMMISSION

CHAIRPERSON
Laura Miranda
Luiseño

VICE CHAIRPERSON
Reginald Pagaling
Chumash

PARLIAMENTARIAN
Russell Attebery
Karuk

SECRETARY
Sara Dutschke
Miwok

COMMISSIONER
William Mungary
Paiute/White Mountain Apache

COMMISSIONER
Isaac Bojorquez
Ohlone-Costanoan

COMMISSIONER
Buffy McQuillen
Yokayo Pomo, Yuki, Nomlaki

COMMISSIONER
Wayne Nelson
Luiseño

COMMISSIONER
Stanley Rodriguez
Kumeyaay

EXECUTIVE SECRETARY
Raymond C. Hitchcock
Miwok/Nisenan

NAHC HEADQUARTERS
1550 Harbor Boulevard
Suite 100
West Sacramento,
California 95691
(916) 373-3710
nahc@nahc.ca.gov

September 30, 2022

Jaymie Brauer
Quad Knopf Inc.

Via Email to: jaymie.brauer@qkinc.com

Re: Native American Tribal Consultation, Pursuant to the Assembly Bill 52 (AB 52), Amendments to the California Environmental Quality Act (CEQA) (Chapter 532, Statutes of 2014), Public Resources Code Sections 5097.94 (m), 21073, 21074, 21080.3.1, 21080.3.2, 21082.3, 21083.09, 21084.2 and 21084.3, Water System Improvement & Treatment Project (220205), Kern County

Dear Mr. Brauer:

Pursuant to Public Resources Code section 21080.3.1 (c), attached is a consultation list of tribes that are traditionally and culturally affiliated with the geographic area of the above-listed project. Please note that the intent of the AB 52 amendments to CEQA is to avoid and/or mitigate impacts to tribal cultural resources, (Pub. Resources Code §21084.3 (a)) ("Public agencies shall, when feasible, avoid damaging effects to any tribal cultural resource.")

Public Resources Code sections 21080.3.1 and 21084.3(c) require CEQA lead agencies to consult with California Native American tribes that have requested notice from such agencies of proposed projects in the geographic area that are traditionally and culturally affiliated with the tribes on projects for which a Notice of Preparation or Notice of Negative Declaration or Mitigated Negative Declaration has been filed on or after July 1, 2015. Specifically, Public Resources Code section 21080.3.1 (d) provides:

Within 14 days of determining that an application for a project is complete or a decision by a public agency to undertake a project, the lead agency shall provide formal notification to the designated contact of, or a tribal representative of, traditionally and culturally affiliated California Native American tribes that have requested notice, which shall be accomplished by means of at least one written notification that includes a brief description of the proposed project and its location, the lead agency contact information, and a notification that the California Native American tribe has 30 days to request consultation pursuant to this section.

The AB 52 amendments to CEQA law does not preclude initiating consultation with the tribes that are culturally and traditionally affiliated within your jurisdiction prior to receiving requests for notification of projects in the tribe's areas of traditional and cultural affiliation. The Native American Heritage Commission (NAHC) recommends, but does not require, early consultation as a best practice to ensure that lead agencies receive sufficient information about cultural resources in a project area to avoid damaging effects to tribal cultural resources.

The NAHC also recommends, but does not require that agencies should also include with their notification letters, information regarding any cultural resources assessment that has been completed on the area of potential effect (APE), such as:

1. The results of any record search that may have been conducted at an Information Center of the California Historical Resources Information System (CHRIS), including, but not limited to:

- A listing of any and all known cultural resources that have already been recorded on or adjacent to the APE, such as known archaeological sites;
- Copies of any and all cultural resource records and study reports that may have been provided by the Information Center as part of the records search response;
- Whether the records search indicates a low, moderate, or high probability that unrecorded cultural resources are located in the APE; and
- If a survey is recommended by the Information Center to determine whether previously unrecorded cultural resources are present.

2. The results of any archaeological inventory survey that was conducted, including:

    - Any report that may contain site forms, site significance, and suggested mitigation measures.

      All information regarding site locations, Native American human remains, and associated funerary objects should be in a separate confidential addendum, and not be made available for public disclosure in accordance with Government Code section 6254.10.

3. The result of any Sacred Lands File (SLF) check conducted through the Native American Heritage Commission was negative.

4. Any ethnographic studies conducted for any area including all or part of the APE; and

5. Any geotechnical reports regarding all or part of the APE.

Lead agencies should be aware that records maintained by the NAHC and CHRIS are not exhaustive and a negative response to these searches does not preclude the existence of a tribal cultural resource. A tribe may be the only source of information regarding the existence of a tribal cultural resource.

This information will aid tribes in determining whether to request formal consultation. In the event that they do, having the information beforehand will help to facilitate the consultation process.

If you receive notification of change of addresses and phone numbers from tribes, please notify the NAHC. With your assistance, we can assure that our consultation list remains current.

If you have any questions, please contact me at my email address: Cameron.vela@nahc.ca.gov.

Sincerely,

Cameron Vela

Cameron Vela
Cultural Resources Analyst

Attachment

Native American Heritage Commission
Tribal Consultation List
Kern County
9/30/2022

Kitanemuk & Yowlumne Tejon Indians
Delia Dominguez, Chairperson
115 Radio Street
Bakersfield, CA, 93305
Phone: (626) 339 - 6785
2deedominguez@gmail.com

Kitanemuk
Southern Valley
Yokut

Santa Rosa Rancheria Tachi Yokut Tribe
Leo Sisco, Chairperson
P.O. Box 8
Lemoore, CA, 93245
Phone: (559) 924 - 1278
Fax: (559) 924-3583

Southern Valley
Yokut

Table Mountain Rancheria
Brenda Lavell, Chairperson
P.O. Box 410
Friant, CA, 93626
Phone: (559) 822 - 2587
Fax: (559) 822-2693
rpennell@tmr.org

Yokut

Tejon Indian Tribe
Octavio Escobedo, Chairperson
P.O. Box 640
Arvin, CA, 93203
Phone: (661) 834 - 8566
oescobedo@tejonindiantribe-nsn.gov

Kitanemuk

Tejon Indian Tribe
Colin Rambo,
P.O. Box 640
Arvin, CA, 93203
Phone: (661) 834 - 8566
colin.rambo@tejonindiantribe-nsn.gov

Kitanemuk

Tule River Indian Tribe
Neil Peyron, Chairperson
P.O. Box 589
Porterville, CA, 93258
Phone: (559) 781 - 4271
Fax: (559) 781-4610
neil.peyron@tulerivertribe-nsn.gov

Yokut

This list is current only as of the date of this document. Distribution of this list does not relieve any person of statutory responsibility as defined in Section 7050.5 of the Health and Safety Code, Section 5097.94 of the Public Resources Code and section 5097.98 of the Public Resources Code.

This list is only applicable for consultation with Native American tribes under Public Resources Code Sections 21080.3.1 for the proposed Water System Improvement & Treatment Project (220205), Kern County.

Local Government Tribal Consultation List Request

Native American Heritage Commission
1550 Harbor Blvd, Suite 100
West Sacramento, CA 95691
916-373-3710
916-373-5471 – Fax
nahc@nahc.ca.gov

Type of List Requested

■ **CEQA Tribal Consultation List (AB 52)** – ***Per Public Resources Code § 21080.3.1, subs. (b), (d), (e) and 21080.3.2***

☐ **General Plan (SB 18)** - ***Per Government Code § 65352.3.***

Local Action Type:

☐ **General Plan** ☐ **General Plan Element** ☐ **General Plan Amendment**

☐ **Specific Plan** ☐ **Specific Plan Amendment** ☐ **Pre-planning Outreach Activity**

Required Information

Project Title: Water System Improvement & Treatment Project (220205)

Local Government/Lead Agency: City of Wasco

Contact Person: Jaymie Brauer

Street Address: 5080 California Ave, Suite 220

City: Bakersfield **Zip:** 93309

Phone: 661-616-2600 **Fax:**

Email: jaymie.brauer@qkinc.com

Specific Area Subject to Proposed Action

County: Kern **City/Community:** Wasco

Project Description:

The proposed project includes drilling four new municipal water wells to replace existing water supply wells that exceed the State of California MCL for 1,2,3-TCP and occasionally for Nitrate. In addition, the City will install a new GAC treatment system at the existing Well No. 12 facility to remove 1,2,3-TCP. A new one-million-gallon storage tank and booster pump station will be installed at one of the proposed new well site locations and an existing well location. Finally, new remote read and AMI meters will be installed throughout the water system. All work will be done within the City limits of the City of Wasco. The wells will be abandoned in accordance with County of Kern requirements.

Additional Request

■ **Sacred Lands File Search** - ***Required Information:***

USGS Quadrangle Name(s): Wasco and Wasco SW

Township: 27S **Range:** 24 & 25 E **Section(s):** 1, 2, 4, 14, 18 & 7

ATTACHMENT A
PROJECT FIGURES

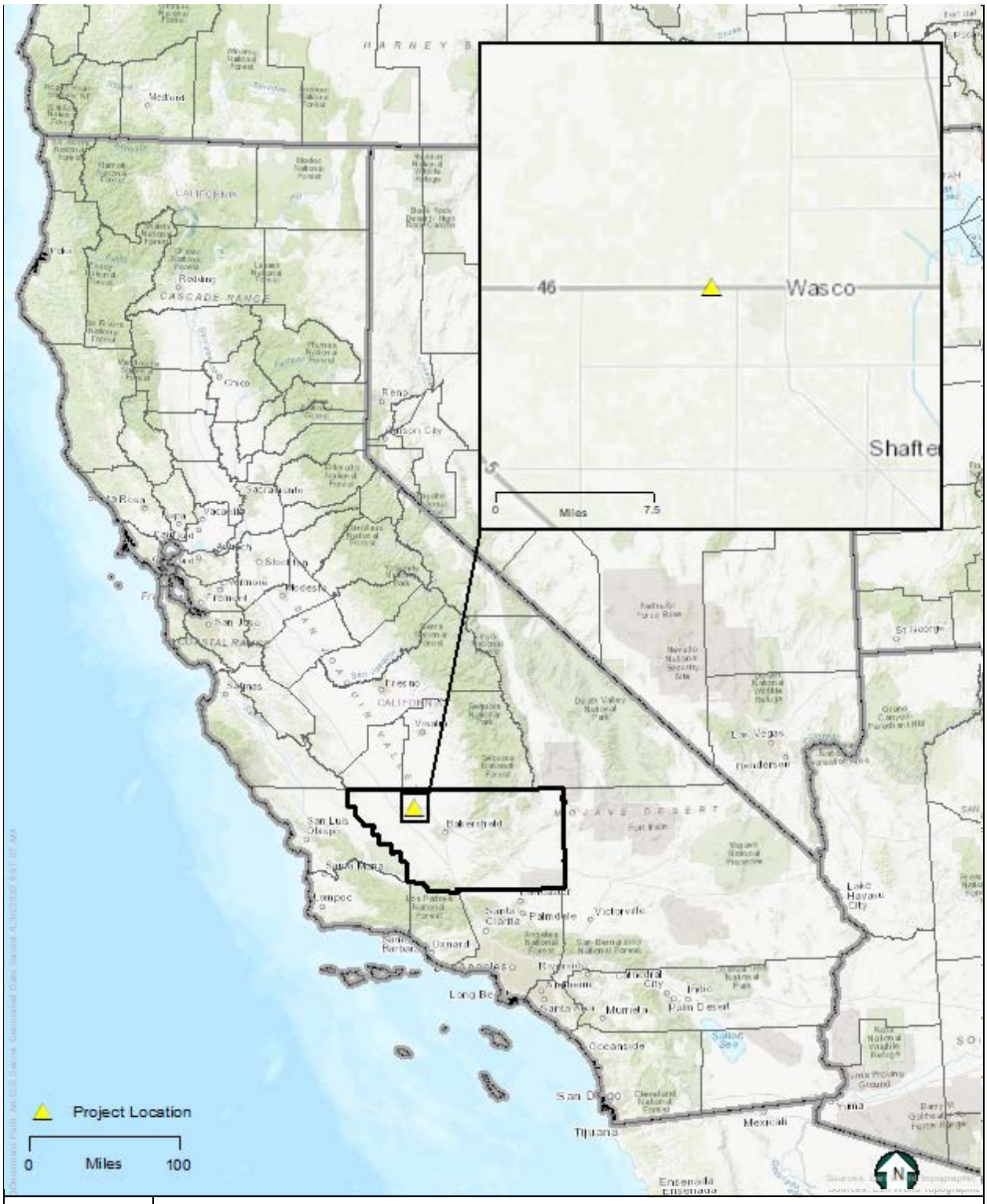


Figure - 1
Regional Location

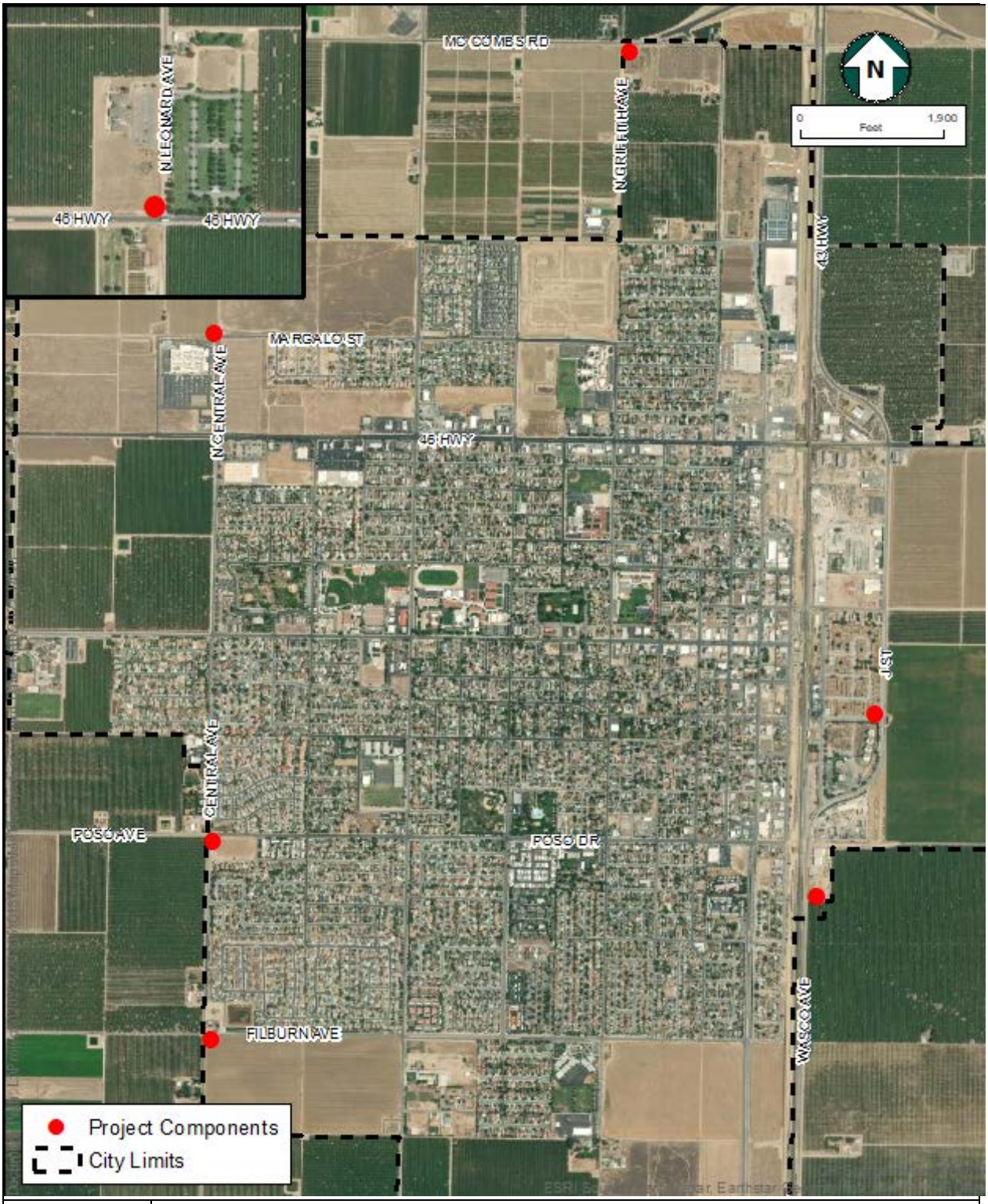


Figure - 2
Project Area

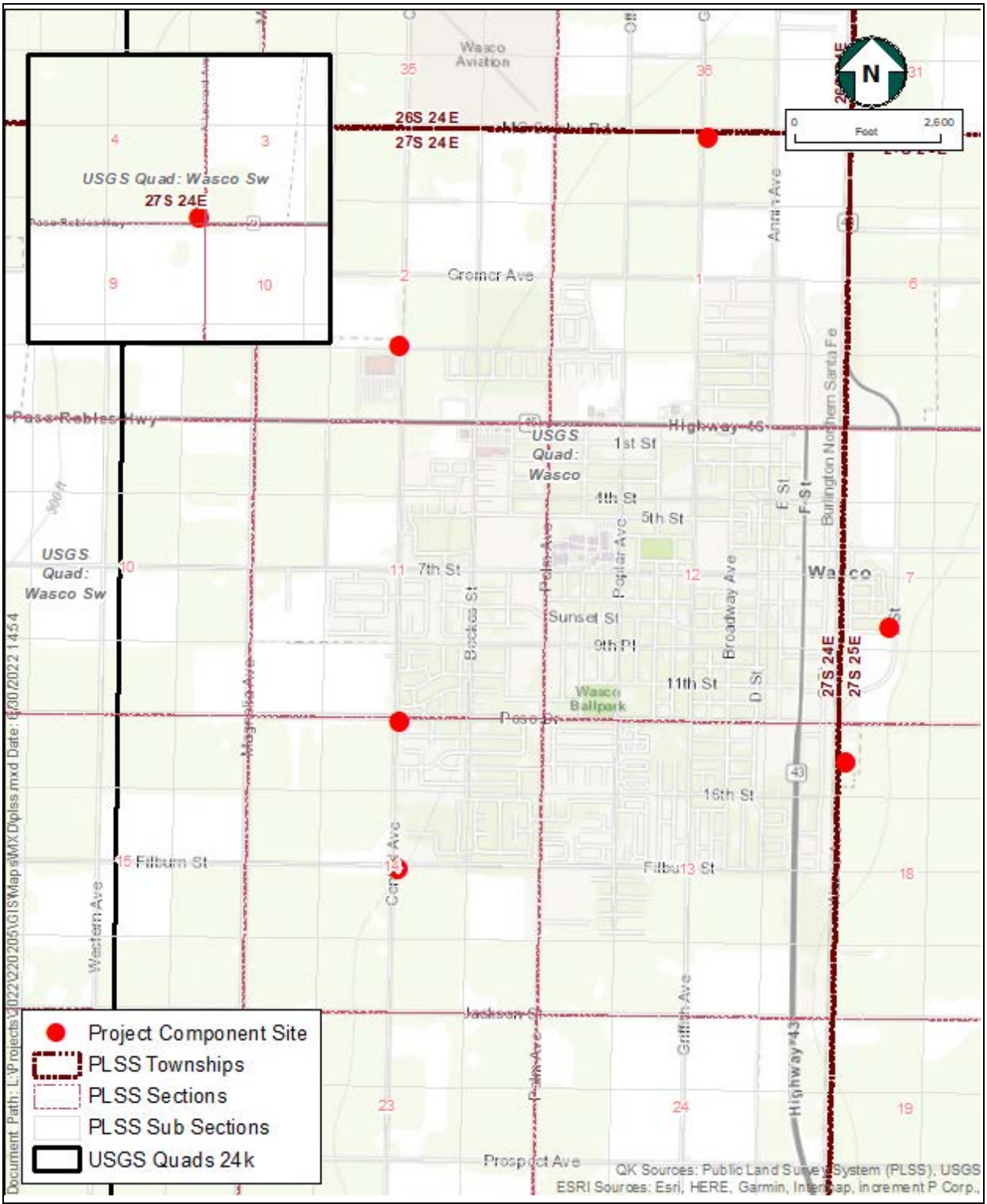


Figure - 3
PLSS/USGS Quad

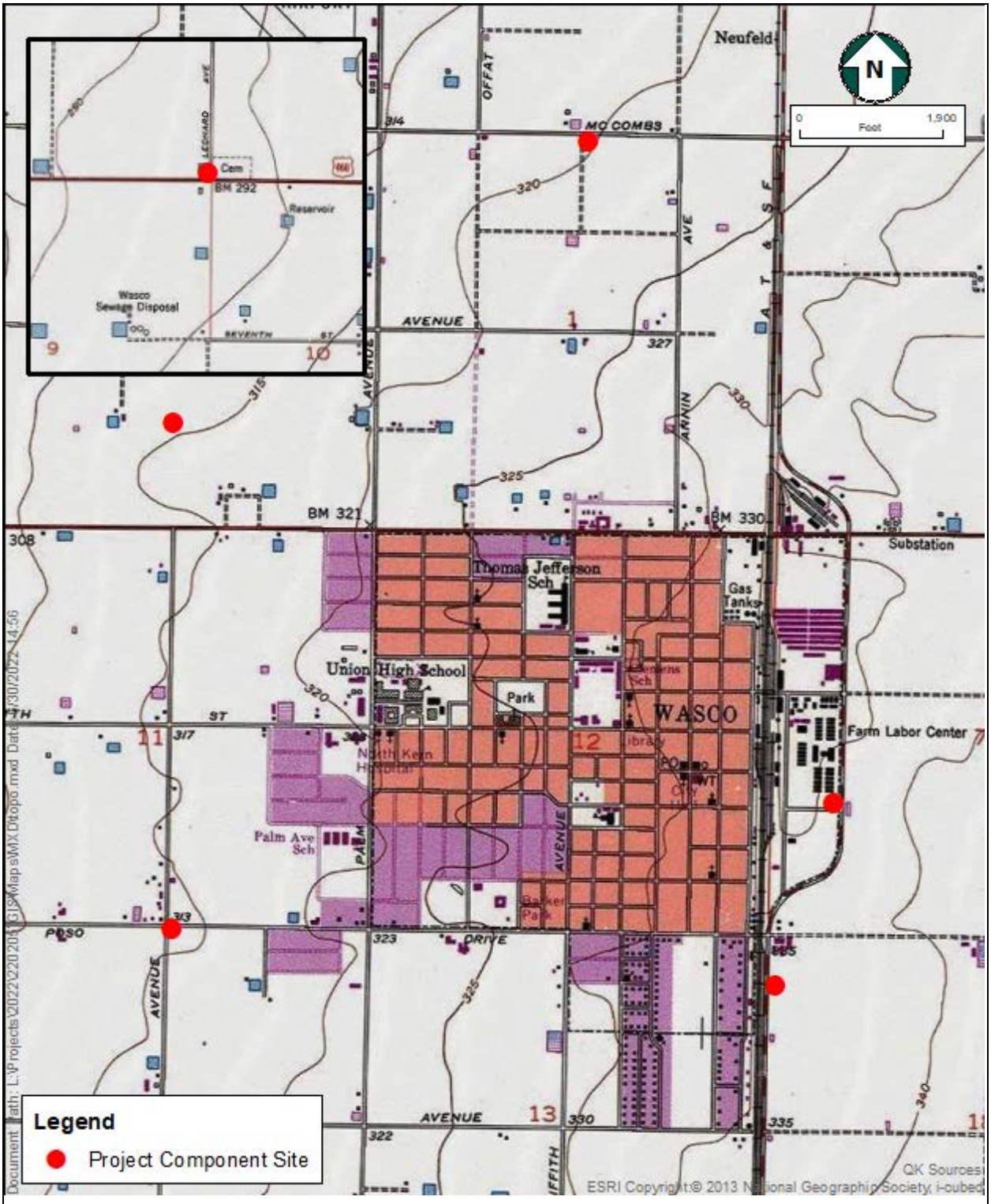


Figure - 4
Topo

5080 California Avenue, Ste. 220 I Bakersfield, CA 93309

August 15, 2022

RE: Tribal Cultural Resources under the California Environmental Quality Act, AB 52 (Gatto, 2014). A Formal Notification of a Decision to Undertake a Project and Notification of Consultation Opportunity, pursuant to Public Resources Code § 21080.3.1 (hereafter PRC) for the Water System Improvement & Treatment Project, Wasco, Kern County, California

Dear Chairperson:

The City of Wasco has decided to undertake the Water System Improvement & Treatment Project (Project). The City of Wasco is designated as Lead Agency under the California Environmental Quality Act (CEQA).

The City of Wasco (City) proposes to: (1) drill four new municipal water wells to replace existing water supply wells that exceed the State of California Maximum Contaminant Level for 1,2,3-Trichloropropane (TCP) and occasionally for Nitrate, (2) install a new granular activated carbon (GAC) treatment system at the existing Well No. 12 facility to remove 1,2,3-TCP; (3) rehabilitate the existing City Well No. 2; (4) construct two 1.0 MG welded steel storage tanks and booster pump stations; (5) install an Advanced Metering Infrastructure (AMI) system for remote read metering; and 6) replace or add new pipelines along existing roadways. All work will be done within the City limits of the City of Wasco and within currently existing, highly disturbed sites that already include water system infrastructure.

Figure 1 is a map of the regional location and Figure 2 shows the Project's aerial location. Figure 3 shows the PLSS/USGS quadrangle and Figure 4 shows the topography of the area.

Pursuant to PRC § 21080.3.1 (b), you have 30 days from the receipt of this letter to request consultation, in writing, with the Kern Community College District.

Should you have any comments or questions please contact our designated representative, Jaymie L. Brauer at (661) 616-2600 or at jaymie.brauer@QKinc.com

Sincerely,

Jaymie L. Brauer
Principal Planner/Project Manager

enclosures:

- Attachment A: Figure 1 through Figure 4

ATTACHMENT A
FIGURES



Figure 1
Regional Location

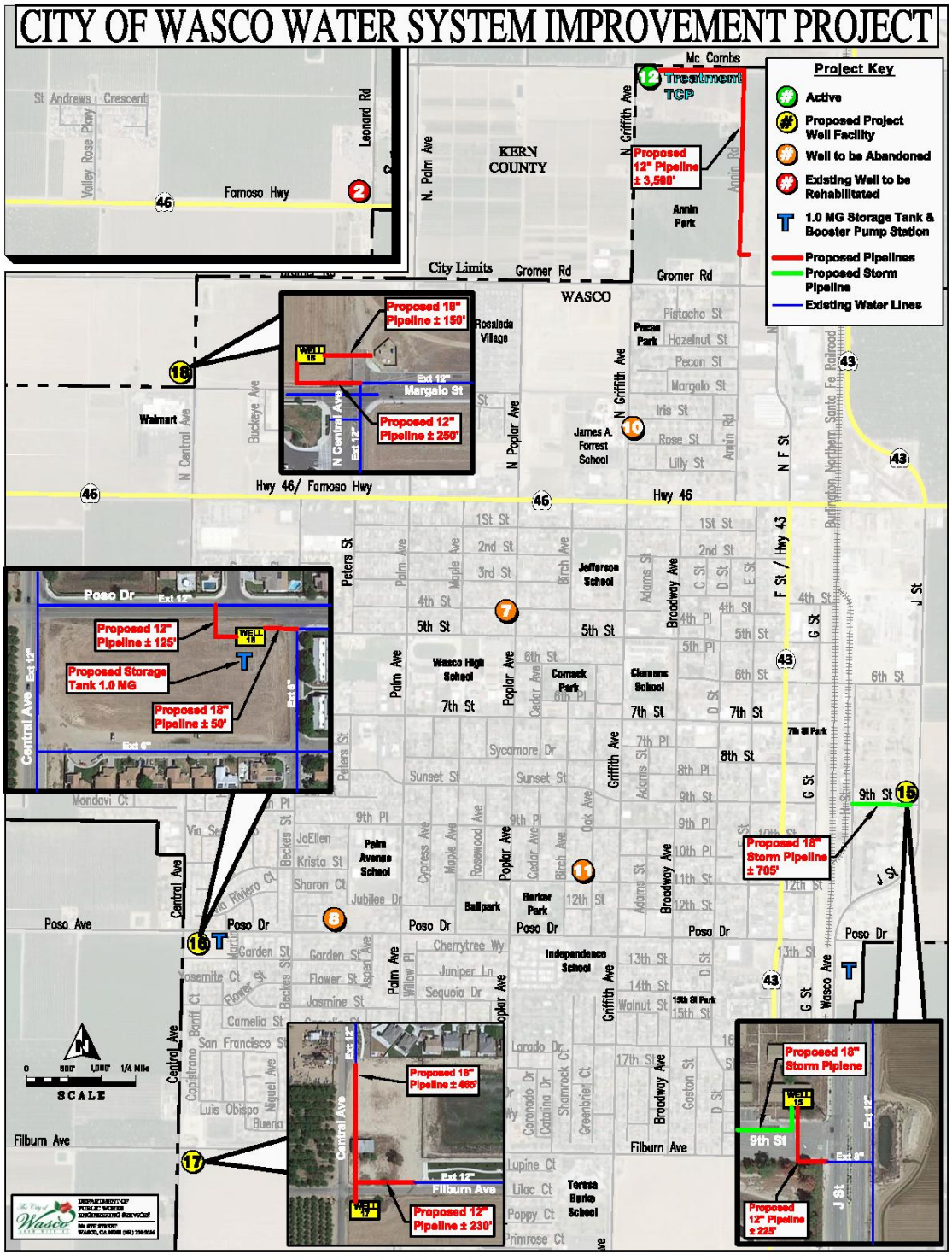


Figure 2
Project Area

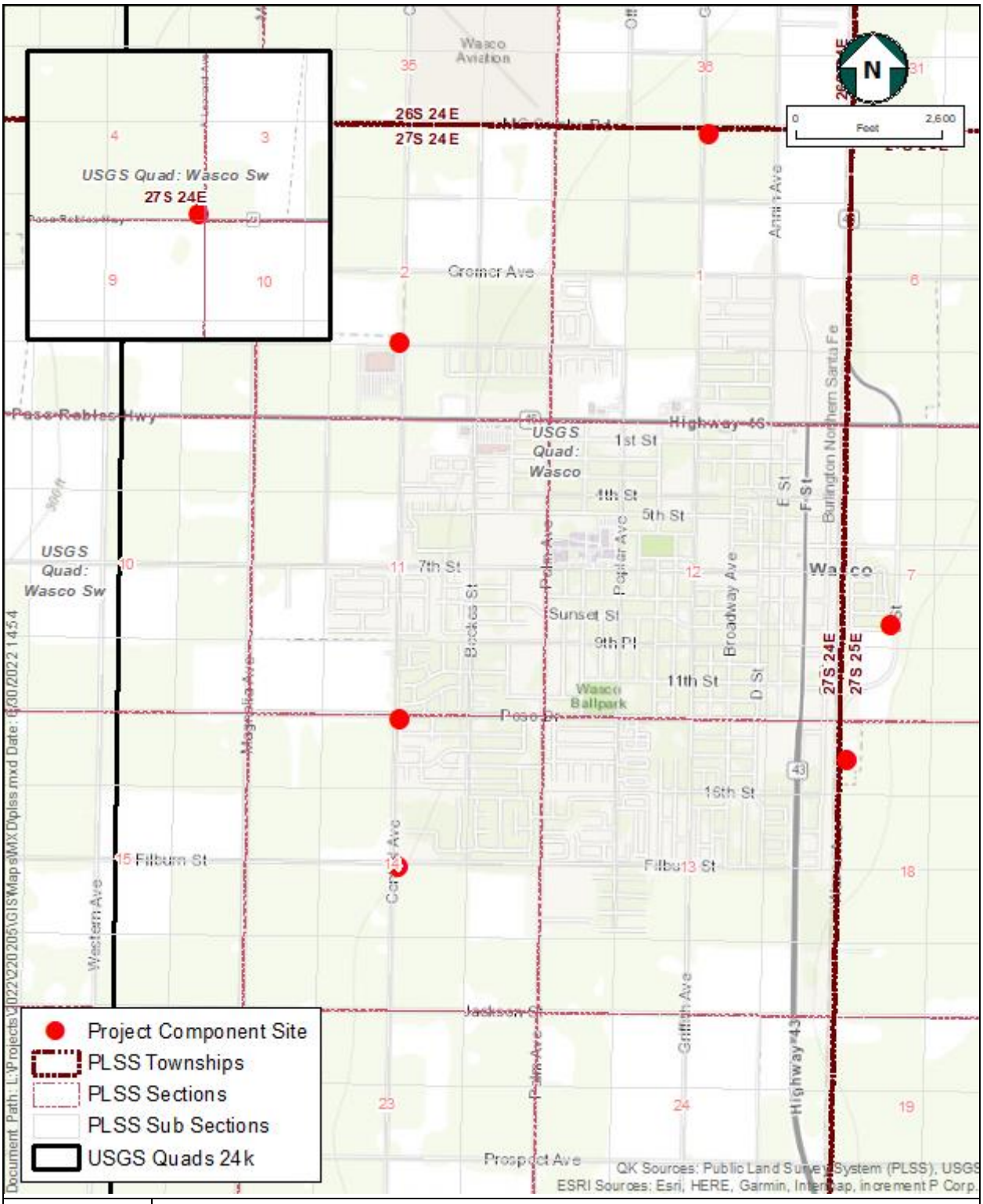


Figure 3
PLSS

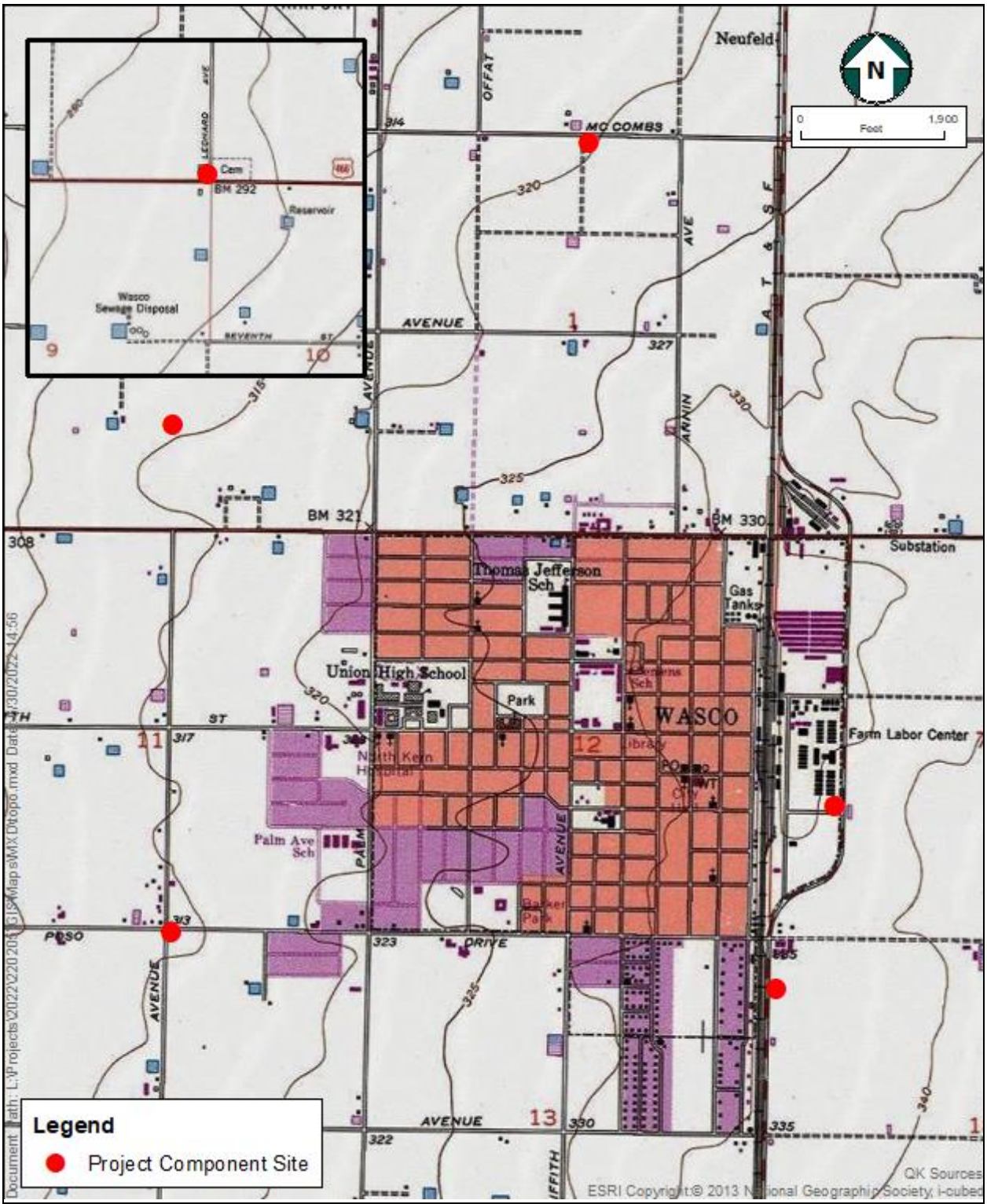


Figure 4
Topo

Wasco Water System Improvement & Treatment Tribal Consultation Letter

Tribe	Contact	Comments
Kitanemuk	Colin Rambo colin.rambo@tejonindiantribe-nsn.gov Octavio Escobedo oescobedo@tejonindiantribe-nsn.gov	Letter sent via email 8/16/22 Called on 9/30/22, left a voicemail
Yokut	Neil Peyron neil.peyron@tulerivertribe-nsn.gov	Letter sent via email 8/16/22 Called on 9/30/22, left a voicemail
Paiute-Shoshone	s.manning@bigpinepaiute.org d.gutierrez@bigpinepaiute.org j.rambeau@bigpinepaiute.org	Letter sent via email 8/16/22
Chumash	chumashtribe@sbcglobal.net	Letter sent via email 8/16/22
Southern Valley Yokut	SPowers@tachi-yokut-nsn.gov	Letter sent via email 9/30/22 Called on 9/30/22, left a voicemail
Kitanemuk Southern Valley Yokuts	Delia Dominguez 2deedominguez@gmail.com	Letter sent via email 8/16/22 Called on 9/30/22, left a voicemail
Yokut	Brenda Lavell rpennell@tmr.org	Letter sent via email 9/30/22

APPENDIX C
FEASIBILITY ANALYSIS REPORT

DEE JASPAR & ASSOCIATES, INC.
CONSULTING CIVIL ENGINEERS
2730 UNICORN ROAD, BLDG A
BAKERSFIELD, CA 93308
PHONE (661) 393-4796
FAX (661) 393-4799

MEMORANDUM

DATE: July 27, 2022

TO: State Water Board

FROM: Curtis Skaggs, P.E.

SUBJECT: City of Wasco
Feasibility Analysis Report for a Water Treatment Strategy for the City's Water Supply – Amendment No. 1

Amendment No. 1:

The City of Wasco prepared a Feasibility Analysis report referenced above that evaluated the water supply and demand for the City, evaluated treatment alternatives for 1,2,3-TCP and nitrate, provided cost estimates, and provided the following recommendations:

- Install GAC treatment in series at the Well #12 Facility for removal of 1,2,3-TCP

- Drill and equip four replacement wells for Well #7, #8, #10, and #11 which will be referred to as noted below:
  - Well No. 15 Facility at 9th Street and J Street
  - Well No. 16 Facility with a 1.0 MG Storage Tank and Booster Pump Station at Poso Avenue and Central Avenue
  - Well No. 17 Facility at Central Avenue and Filburn Street
  - Well No. 18 Facility at Central Avenue and Margalo Street

In addition, to these projects above, the City desires to include the following:

- Construction of a 1.0 MG Storage Tank and Booster Pump Station at the Well No. 13 Facility on the east side of Wasco Avenue and south of Poso Avenue.
  - The above referenced feasibility analysis recommended that the City have storage capacity in the range of 1.0 MG to 3.0 MG. They currently do not have any storage capacity, however the Well No. 16 Facility noted above will provide 1.0 MG of storage and this project will add another 1.0 MG of storage for a total City storage capacity of 2.0 MG.

- Rehabilitation of the existing Well No. 2 Facility
  - This is an existing well that the City would like to place back into service. The well was drilled in 1990 and is a 16-inch casing completed to a depth of 828-feet. It had an approximate capacity of 1,500 gpm at 50 psig. It needs to be equipped with a new vertical turbine pump and motor, discharge piping and appurtenances, pressure vessel, electrical and controls, site development, and potentially treatment. This will serve to provide back-up and emergency capacity for the City.

- SCADA Upgrades
  - The SCADA system will need to be expanded and upgraded to accommodate the above noted projects.

- Advanced Metering Infrastructure (AMI)
  - An AMI system will be installed throughout the City service area for remote meter reading and monitoring. The AMI system includes a propagation study, cell towers, antennas, gateways, and meter interface units.

- Rate Study
  - The City needs to perform a rate study to determine the appropriate water rates for City water customers in an effort to ensure the proper operations and maintenance of the proposed projects as well as plan and prepare for future capital improvement projects.

Updated Cost Estimates:

- Install GAC treatment in series at the Well #12 Facility

Capital Cost $2,914,550.00

	Well No. 12 Facility				
1	Mobilization, Demobilization, & Cleanup	1	LS	$100,000.00	$100,000.00
2	Well Site Earthwork and Subgrade Preparation	1	LS	$50,000.00	$50,000.00
3	Well On-Site Drain Piping and Appurtenances	1	LS	$90,000.00	$90,000.00
4	TCP Concrete Foundation	1	LS	$135,000.00	$135,000.00
5	GAC Vessels	1	LS	$800,000.00	$800,000.00
6	Influent Piping and Appurtenances	1	LS	$100,000.00	$100,000.00
7	Effluent Piping and Appurtenances	1	LS	$80,000.00	$80,000.00
8	Backwash Piping and Appurtenances	1	LS	$50,000.00	$50,000.00
9	Blowdown Piping and Appurtenances	1	LS	$600,000.00	$600,000.00
10	Well Discharge Piping and Appurtenances	1	LS	$75,000.00	$75,000.00
11	Chlorine Equipment and Structure	1	LS	$60,000.00	$60,000.00
12	Nitrate Analyzer System and Structure	1	LS	$120,000.00	$120,000.00
13	Miscellaneous Concrete and Rip-Rap	1	LS	$50,000.00	$50,000.00
14	Aggregate Base Ground Cover	1	LS	$60,000.00	$60,000.00
15	Electrical and Controls	1	LS	$150,000.00	$150,000.00
16	Start-Up and Performance Testing	1	LS	$15,000.00	$15,000.00
				Subtotal:	$2,535,000.00
				Engineering Design:	$76,050.00
				Environmental:	$50,700.00
				Bid Administration:	$10,000.00
				Permitting:	$5,000.00
				Labor Compliance:	$20,000.00
				Construction Staking:	$15,000.00
				Construction Inspection & Administration:	$202,800.00
				Well No. 12 TCP Estimate:	**$2,914,550**

- Drill and equip four replacement wells
  - Well No. 15 Facility at 9th Street and J Street

Capital Cost $6,890,306.00

	Well No. 15 Facility				
1	Mobilization, Demobilization, and Clean-up Including Sound Abatement	1	EA	$50,000.00	$50,000.00
2	Conductor Casing - Drill 50' Deep 48" Dia. Hole, Furnish and Install 50" OD 36" I.D. x 3/8 Wall Conductor Pipe, Grout in Place	50	LF	$1,000.00	$50,000.00
3	Drill 18" Dia. Pilot Hole to 1, 300' - Not Including Conductor Hole	1250	LF	$150.00	$187,500.00
4	Formation Sampling By Placing Sampling Tool, Airlifting, and Pumping	5	EA	$20,000.00	$100,000.00
5	Ream Pilot Hole to 28" Dia. from 920' to 1270'	875	LF	$150.00	$131,250.00
6	Ream Pilot Hole to 30" Dia. To 920' - Not Including Conductor Hole	345	LF	$150.00	$51,750.00
7	Furnish and Install 16-5/8" O.D. x 5/16" Wall, ASTM A242 HSLA Blank Casing 0' to 920' and 1240' to 1250'	933	LF	$350.00	$326,550.00
8	Furnish and Install 16-5/8" O.D. x 5/16" Wall Louvered Casing, ASTM A242 HSLA	300	LF	$450.00	$135,000.00
9	Furnish and Install A 16" Diameter Telescoping Compression Section, 20-FT Length	1	LS	$18,000.00	$18,000.00
10	Furnish and Install 4" Dia. Gravel Feed Tube	903	LF	$50.00	$45,150.00
11	Furnish and Install 3" Dia. Sounding Access Tube	918	LF	$40.00	$36,720.00
12	Furnish and Install Gravel Envelope	380	LF	$100.00	$38,000.00
13	Furnish and Install Cement Grout for Annular Seal, Including 10' of Fine Sand or Bentonite	890	LF	$90.00	$80,100.00
14	Conduct Preliminary Well Development by Swabbing and Air-Lifting	80	HRS	$500.00	$40,000.00
15	Conduct Well Development by Pumping and Surging	60	HRS	$450.00	$27,000.00
16	Conduct Well Production Test Pumping	24	HRS	$450.00	$10,800.00
17	Well Video	1	EA	$2,500.00	$2,500.00
18	Mobilization, Demobilization, & Cleanup	1	LS	$50,000.00	$50,000.00
19	Well Site Earthwork and Subgrade Preparation	1	LS	$120,000.00	$120,000.00
20	Well On-Site Drain Piping and Appurtenances	1	LS	$90,000.00	$90,000.00
21	Concrete Pump Foundation for Deep Well	1	EA	$12,000.00	$12,000.00
22	Vertical Hollow Shaft Electric Motor	1	EA	$75,000.00	$75,000.00
23	Deep Well Vertical Turbine Pump Assembly	1	EA	$315,000.00	$315,000.00
24	Well Discharge Piping and Appurtenances	1	LS	$260,000.00	$260,000.00
25	Hydropneumatic Tank and Concrete Footings	1	LS	$165,000.00	$165,000.00
26	12" PVC Conveyance Piping and Appurtenances from Well Discharge Piping to Ex. Distribution System	225	LF	$600.00	$135,000.00
27	18" RCP Off-Site Blow-Down Piping and Appurtenances from Well Site to Ex. Distribution System	705	LF	$800.00	$564,000.00
28	Liquid Chlorine Injection System including Building and Concrete Foundation	1	LS	$45,000.00	$45,000.00
29	Electrical Control Building Concrete Foundation & Flatwork	1	LS	$45,000.00	$45,000.00
30	Electrical Control Masonry Block Building & Appurtenances	1	LS	$200,000.00	$200,000.00
31	Well Site Ground Cover - Asphalt Paving	7,500	SF	$25.00	$187,500.00
32	Well Site Ground Cover - Aggregate Base	45,000	SF	$1.00	$45,000.00
33	Chain Link Fencing and Gates (including demo ex.)	1	LS	$35,000.00	$35,000.00
34	Masonry Block Wall	850	LF	$310.00	$263,500.00
35	Painting System	1	LS	$140,000.00	$140,000.00
36	Well VFD Drive	1	LS	$135,000.00	$135,000.00
37	Well Site Electrical and Controls	1	LS	$600,000.00	$600,000.00
38	Standby Diesel Generator Set and Appurtenances, including Concrete Foundation	1	LS	$835,000.00	$835,000.00
39	Start-Up and Performance Testing	1	LS	$25,000.00	$25,000.00
40	Site Lighting	1	LS	$15,000.00	$15,000.00
41	Nitrate Analyzer System	1	LS	$100,000.00	$100,000.00
42	Site Demolition	1	LS	$100,000.00	$100,000.00
				Subtotal:	$5,887,320.00
				Property Acquisition:	$150,000.00
				Test Well Construction:	$300,000.00
				Engineering Design:	$117,746.40
				Environmental:	$58,873.20
				Bid Administration:	$10,000.00
				Permitting:	$10,000.00
				Labor Compliance:	$42,000.00
				Construction Staking:	$20,000.00
				Construction Inspection & Administration:	$294,366.00
				Well No. 15 Estimate:	**$6,890,306**

- Drill and equip four replacement wells
  - Well No. 16 Facility with a 1.0 MG Storage Tank and Booster Pump Station at Poso Avenue and Central Avenue

Capital Cost $8,771,156.00

	Well No. 16 Facility				
1	Mobilization, Demobilization, and Clean-up Including Sound Abatement	1	EA	$50,000.00	$50,000.00
2	Conductor Casing - Drill 50' Deep 48" Dia. Hole, Furnish and Install 50" OD 36" I.D. x 3/8 Wall Conductor Pipe, Grout In Place	50	LF	$1,000.00	$50,000.00
3	Drill 18" Dia. Pilot Hole to 1, 300' - Not Including Conductor Hole	1250	LF	$150.00	$187,500.00
4	Formation Sampling By Placing Sampling Tool, Airlifting, and Pumping	5	EA	$20,000.00	$100,000.00
5	Ream Pilot Hole to 28" Dia. from 920' to 1270'	875	LF	$150.00	$131,250.00
6	Ream Pilot Hole to 30" Dia. To 920' - Not Including Conductor Hole	345	LF	$150.00	$51,750.00
7	Furnish and Install 16-5/8" O.D. x 5/16" Wall, ASTM A242 HSLA Blank Casing 0' to 920' and 1240' to 1250'	933	LF	$350.00	$326,550.00
8	Furnish and Install 16-5/8" O.D. x 5/16" Wall Louvered Casing, ASTM A242 HSLA	300	LF	$450.00	$135,000.00
9	Furnish and Install A 16" Diameter Telescoping Compression Section, 20-FT Length	1	LS	$18,000.00	$18,000.00
10	Furnish and Install 4" Dia. Gravel Feed Tube	903	LF	$50.00	$45,150.00
11	Furnish and Install 3" Dia. Sounding Access Tube	918	LF	$40.00	$36,720.00
12	Furnish and Install Gravel Envelope	380	LF	$100.00	$38,000.00
13	Furnish and Install Cement Grout for Annular Seal, Including 10' of Fine Sand or Bentonite	890	LF	$90.00	$80,100.00
14	Conduct Preliminary Well Development by Swabbing and Air-Lifting	80	HRS	$500.00	$40,000.00
15	Conduct Well Development by Pumping and Surging	60	HRS	$450.00	$27,000.00
16	Conduct Well Production Test Pumping	24	HRS	$450.00	$10,800.00
17	Well Video	1	EA	$2,500.00	$2,500.00
18	Mobilization, Demobilization, & Cleanup	1	LS	$50,000.00	$50,000.00
19	Well Site Earthwork and Subgrade Preparation	1	LS	$120,000.00	$120,000.00
20	Well On-Site Drain Piping and Appurtenances	1	LS	$90,000.00	$90,000.00
21	Concrete Pump Foundation for Deep Well	1	EA	$12,000.00	$12,000.00
22	Vertical Hollow Shaft Electric Motor	1	EA	$75,000.00	$75,000.00
23	Deep Well Vertical Turbine Pump Assembly	1	EA	$315,000.00	$315,000.00
24	Well Discharge Piping and Appurtenances	1	LS	$260,000.00	$260,000.00
25	Booster Pump Station Piping and Appurtenances	1	LS	$520,000.00	$520,000.00
26	Hydropneumatic Tank and Concrete Footings	1	LS	$165,000.00	$165,000.00
27	1MG Welded Steel Storage Tank and Appurtenances	1	LS	$1,300,000.00	$1,300,000.00
28	12" PVC Conveyance Piping and Appurtenances from Well Discharge Piping to Ex. Distribution System	125	LF	$750.00	$93,750.00
29	18" RCP Off-Site Blow-Down Piping and Appurtenances from Well Site to Ex. Distribution System	50	LF	$1,500.00	$75,000.00
30	Liquid Chlorine Injection System Including Building and Concrete Foundation	2	LS	$45,000.00	$90,000.00
31	Electrical Control Building Concrete Foundation & Flatwork	1	LS	$45,000.00	$45,000.00
32	Electrical Control Masonry Block Building & Appurtenances	1	LS	$200,000.00	$200,000.00
33	Well Site Ground Cover - Asphalt Paving	9,000	SF	$25.00	$225,000.00
34	Well Site Ground Cover - Aggregate Base	65,000	SF	$1.00	$65,000.00
35	Chain Link Fencing and Gates (including demo ex.)	1	LS	$35,000.00	$35,000.00
36	Masonry Block Wall	1,000	LF	$310.00	$310,000.00
37	Painting System	1	LS	$140,000.00	$140,000.00
38	Well VFD Drive	1	LS	$135,000.00	$135,000.00
39	Well Site Electrical and Controls	1	LS	$800,000.00	$800,000.00
40	Standby Diesel Generator Set and Appurtenances, Including Concrete Foundation	1	LS	$835,000.00	$835,000.00
41	Start-Up and Performance Testing	1	LS	$25,000.00	$25,000.00
42	Site Lighting	1	LS	$15,000.00	$15,000.00
43	Nitrate Analyzer System	1	LS	$100,000.00	$100,000.00
44	Concrete Curb and Gutter	1	LS	$25,000.00	$25,000.00
45	Concrete Curb Returns	1	LS	$10,000.00	$10,000.00
46	Concrete Sidewalk	1	LS	$30,000.00	$30,000.00
47	Concrete Drive Approaches	1	LS	$15,000.00	$15,000.00
48	Road Pavement Improvements	1	LS	$120,000.00	$120,000.00
				Subtotal:	$7,626,070.00
				Property Acquisition:	$150,000.00
				Test Well Construction:	$300,000.00
				Engineering Design:	$152,521.40
				Environmental:	$76,260.70
				Bid Administration:	$10,000.00
				Permitting:	$10,000.00
				Labor Compliance:	$45,000.00
				Construction Staking:	$20,000.00
				Construction Inspection & Administration:	$381,303.50
				Well No. 16 Estimate:	**$8,771,156**

- Drill and equip four replacement wells
  - Well No. 17 Facility at Central Avenue and Filburn Street

Capital Cost $6,804,716.00

	Well No. 17 Facility				
1	Mobilization, Demobilization, and Clean-up Including Sound Abatement	1	EA	$50,000.00	$50,000.00
2	Conductor Casing - Drill 50' Deep 48" Dia. Hole, Furnish and Install 50" OD 36" I.D. x 3/8 Wall Conductor Pipe, Grout in Place	50	LF	$1,000.00	$50,000.00
3	Drill 18" Dia. Pilot Hole to 1, 300' - Not Including Conductor Hole	1250	LF	$150.00	$187,500.00
4	Formation Sampling By Placing Sampling Tool, Airlifting, and Pumping	5	EA	$20,000.00	$100,000.00
5	Ream Pilot Hole to 28" Dia. from 920' to 1270'	875	LF	$150.00	$131,250.00
6	Ream Pilot Hole to 30" Dia. To 920' - Not Including Conductor Hole	345	LF	$150.00	$51,750.00
7	Furnish and Install 16-5/8" O.D. x 5/16" Wall, ASTM A242 HSLA Blank Casing 0' to 920' and 1240' to 1250'	933	LF	$350.00	$326,550.00
8	Furnish and Install 16-5/8" O.D. x 5/16" Wall Louvered Casing, ASTM A242 HSLA	300	LF	$400.00	$120,000.00
9	Furnish and Install A 16" Diameter Telescoping Compression Section, 20-FT Length	1	LS	$18,000.00	$18,000.00
10	Furnish and Install 4" Dia. Gravel Feed Tube	903	LF	$50.00	$45,150.00
11	Furnish and Install 3" Dia. Sounding Access Tube	918	LF	$40.00	$36,720.00
12	Furnish and Install Gravel Envelope	380	LF	$100.00	$38,000.00
13	Furnish and Install Cement Grout for Annular Seal, Including 10' of Fine Sand or Bentonite	890	LF	$90.00	$80,100.00
14	Conduct Preliminary Well Development by Swabbing and Air-Lifting	80	HRS	$500.00	$40,000.00
15	Conduct Well Development by Pumping and Surging	60	HRS	$450.00	$27,000.00
16	Conduct Well Production Test Pumping	24	HRS	$450.00	$10,800.00
17	Well Video	1	EA	$2,500.00	$2,500.00
18	Mobilization, Demobilization, & Cleanup	1	LS	$50,000.00	$50,000.00
19	Well Site Earthwork and Subgrade Preparation	1	LS	$120,000.00	$120,000.00
20	Well On-Site Drain Piping and Appurtenances	1	LS	$90,000.00	$90,000.00
21	Concrete Pump Foundation for Deep Well	1	EA	$12,000.00	$12,000.00
22	Vertical Hollow Shaft Electric Motor	1	EA	$75,000.00	$75,000.00
23	Deep Well Vertical Turbine Pump Assembly	1	EA	$315,000.00	$315,000.00
24	Well Discharge Piping and Appurtenances	1	LS	$260,000.00	$260,000.00
25	Hydropneumatic Tank and Concrete Footings	1	LS	$165,000.00	$165,000.00
26	12" PVC Conveyance Piping and Appurtenances from Well Discharge Piping to Ex. Distribution System	125	LF	$750.00	$93,750.00
27	18" RCP Off-Site Blow-Down Piping and Appurtenances from Well Site to Ex. Distribution System	50	LF	$1,500.00	$75,000.00
28	Liquid Chlorine Injection System including Building and Concrete Foundation	1	LS	$45,000.00	$45,000.00
29	Electrical Control Building Concrete Foundation & Flatwork	1	LS	$45,000.00	$45,000.00
30	Electrical Control Masonry Block Building & Appurtenances	1	LS	$200,000.00	$200,000.00
31	Well Site Ground Cover - Asphalt Paving	9,000	SF	$25.00	$225,000.00
32	Well Site Ground Cover - Aggregate Base	65,000	SF	$1.00	$65,000.00
33	Chain Link Fencing and Gates (including demo ex.)	1	LS	$35,000.00	$35,000.00
34	Masonry Block Wall	1,200	LF	$310.00	$372,000.00
35	Painting System	1	LS	$140,000.00	$140,000.00
36	Well VFD Drive	1	LS	$135,000.00	$135,000.00
37	Well Site Electrical and Controls	1	LS	$800,000.00	$800,000.00
38	Standby Diesel Generator Set and Appurtenances, including Concrete Foundation	1	LS	$835,000.00	$835,000.00
39	Start-Up and Performance Testing	1	LS	$25,000.00	$25,000.00
40	Site Lighting	1	LS	$15,000.00	$15,000.00
41	Nitrate Analyzer System	1	LS	$100,000.00	$100,000.00
42	Concrete Curb and Gutter	1	LS	$15,000.00	$15,000.00
43	Concrete Curb Returns	1	LS	$5,000.00	$5,000.00
44	Concrete Sidewalk	1	LS	$20,000.00	$20,000.00
45	Concrete Drive Approaches	1	LS	$10,000.00	$10,000.00
46	Road Pavement Improvements	1	LS	$150,000.00	$150,000.00
				Subtotal:	$5,808,070.00
				Property Acquisition:	$150,000.00
				Test Well Construction:	$300,000.00
				Engineering Design:	$116,161.40
				Environmental:	$58,080.70
				Bid Administration:	$10,000.00
				Permitting:	$10,000.00
				Labor Compliance:	$42,000.00
				Construction Staking:	$20,000.00
				Construction Inspection & Administration:	$290,403.50
				Well No. 17 Estimate:	**$6,804,716**

- Drill and equip four replacement wells:
  - Well No. 18 Facility at Central Avenue and Margalo Street

Capital Cost $7,067,966.00

	Well No. 18 Facility				
1	Mobilization, Demobilization, and Clean-up Including Sound Abatement	1	EA	$50,000.00	$50,000.00
2	Conductor Casing - Drill 50' Deep 48" Dia. Hole, Furnish and Install 50' OD 36" I.D. x 3/8 Wall Conductor Pipe, Grout in Place	50	LF	$1,000.00	$50,000.00
3	Drill 18" Dia. Pilot Hole to 1, 300' - Not Including Conductor Hole	1250	LF	$150.00	$187,500.00
4	Formation Sampling By Placing Sampling Tool, Airlifting, and Pumping	5	EA	$20,000.00	$100,000.00
5	Ream Pilot Hole to 28" Dia. from 920' to 1270'	875	LF	$150.00	$131,250.00
6	Ream Pilot Hole to 30" Dia. To 920' - Not Including Conductor Hole	345	LF	$150.00	$51,750.00
7	Furnish and Install 16-5/8" O.D. x 5/16" Wall, ASTM A242 HSLA Blank Casing 0' to 920' and 1240' to 1250'	933	LF	$350.00	$326,550.00
8	Furnish and Install 16-5/8" O.D. x 5/16" Wall Louvered Casing, ASTM A242 HSLA	300	LF	$400.00	$120,000.00
9	Furnish and Install A 16" Diameter Telescoping Compression Section, 20-FT Length	1	LS	$18,000.00	$18,000.00
10	Furnish and Install 4" Dia. Gravel Feed Tube	903	LF	$50.00	$45,150.00
11	Furnish and Install 3" Dia. Sounding Access Tube	918	LF	$40.00	$36,720.00
12	Furnish and Install Gravel Envelope	380	LF	$100.00	$38,000.00
13	Furnish and Install Cement Grout for Annular Seal, Including 10' of Fine Sand or Bentonite	890	LF	$90.00	$80,100.00
14	Conduct Preliminary Well Development by Swabbing and Air-Lifting	80	HRS	$500.00	$40,000.00
15	Conduct Well Development by Pumping and Surging	60	HRS	$450.00	$27,000.00
16	Conduct Well Production Test Pumping	24	HRS	$450.00	$10,800.00
17	Well Video	1	EA	$2,500.00	$2,500.00
18	Mobilization, Demobilization, & Cleanup	1	LS	$50,000.00	$50,000.00
19	Well Site Earthwork and Subgrade Preparation	1	LS	$120,000.00	$120,000.00
20	Well On-Site Drain Piping and Appurtenances	1	LS	$90,000.00	$90,000.00
21	Concrete Pump Foundation for Deep Well	1	EA	$12,000.00	$12,000.00
22	Vertical Hollow Shaft Electric Motor	1	EA	$75,000.00	$75,000.00
23	Deep Well Vertical Turbine Pump Assembly	1	EA	$315,000.00	$315,000.00
24	Well Discharge Piping and Appurtenances	1	LS	$260,000.00	$260,000.00
25	Hydropneumatic Tank and Concrete Footings	1	LS	$165,000.00	$165,000.00
26	12" PVC Conveyance Piping and Appurtenances from Well Discharge Piping to Ex. Distribution System	250	LF	$750.00	$187,500.00
27	18" RCP Off-Site Blow-Down Piping and Appurtenances from Well Site to Ex. Distribution System	150	LF	$1,500.00	$225,000.00
28	Liquid Chlorine Injection System including Building and Concrete Foundation	1	LS	$45,000.00	$45,000.00
29	Electrical Control Building Concrete Foundation & Flatwork	1	LS	$45,000.00	$45,000.00
30	Electrical Control Masonry Block Building & Appurtenances	1	LS	$200,000.00	$200,000.00
31	Well Site Ground Cover - Asphalt Paving	9,000	SF	$25.00	$225,000.00
32	Well Site Ground Cover - Aggregate Base	65,000	SF	$1.00	$65,000.00
33	Chain Link Fencing and Gates (including demo ex.)	1	LS	$35,000.00	$35,000.00
34	Masonry Block Wall	1,200	LF	$310.00	$372,000.00
35	Painting System	1	LS	$140,000.00	$140,000.00
36	Well VFD Drive	1	LS	$135,000.00	$135,000.00
37	Well Site Electrical and Controls	1	LS	$800,000.00	$800,000.00
38	Standby Diesel Generator Set and Appurtenances, including Concrete Foundation	1	LS	$835,000.00	$835,000.00
39	Start-Up and Performance Testing	1	LS	$25,000.00	$25,000.00
40	Site Lighting	1	LS	$15,000.00	$15,000.00
41	Nitrate Analyzer System	1	LS	$100,000.00	$100,000.00
42	Concrete Curb and Gutter	1	LS	$15,000.00	$15,000.00
43	Concrete Curb Returns	1	LS	$5,000.00	$5,000.00
44	Concrete Sidewalk	1	LS	$20,000.00	$20,000.00
45	Concrete Drive Approaches	1	LS	$10,000.00	$10,000.00
46	Road Pavement Improvements	1	LS	$150,000.00	$150,000.00
				Subtotal:	$6,051,820.00
				Property Acquisition:	$150,000.00
				Test Well Construction:	$300,000.00
				Engineering Design:	$121,036.40
				Environmental:	$60,518.20
				Bid Administration:	$10,000.00
				Permitting:	$10,000.00
				Labor Compliance:	$42,000.00
				Construction Staking:	$20,000.00
				Construction Inspection & Administration:	$302,591.00
				Well No. 18 Estimate:	**$7,067,966**

- Construction of a 1.0 MG Storage Tank and Booster Pump Station at the Well No. 13 Facility

  Capital Cost $3,602,400.00

	Storage Tank & Booster Pump Facility				
1	Mobilization, Demobilization, & Cleanup	1	LS	$50,000.00	$50,000.00
2	Well Site Earthwork and Subgrade Preparation	1	LS	$120,000.00	$120,000.00
3	Well On-Site Drain Piping and Appurtenances	1	LS	$90,000.00	$90,000.00
4	1MG Welded Steel Storage Tank and Appurtenances	1	LS	$1,300,000.00	$1,300,000.00
5	Well Discharge Piping and Appurtenances	1	LS	$150,000.00	$150,000.00
6	Booster Pump Station Piping and Appurtenances	1	LS	$520,000.00	$520,000.00
7	Relocate Existing Hydropneumatic Tank	1	LS	$50,000.00	$50,000.00
8	12" PVC Conveyance Piping and Appurtenances from Well Discharge Piping to Ex. Distribution System	300	LF	$500.00	$150,000.00
9	18" RCP Site Drain Piping and Appurtenances	300	LF	$800.00	$240,000.00
10	Liquid Chlorine Injection System including Building and Concrete Foundation	1	LS	$45,000.00	$45,000.00
11	Painting System	1	LS	$50,000.00	$50,000.00
12	Booster Pump VFD Drives	1	LS	$75,000.00	$75,000.00
13	Well Site Electrical and Controls	1	LS	$400,000.00	$400,000.00
14	Start-Up and Performance Testing	1	LS	$25,000.00	$25,000.00
15	Site Lighting	1	LS	$15,000.00	$15,000.00
				Subtotal:	$3,280,000.00
				Engineering Design:	$65,600.00
				Environmental:	$32,800.00
				Bid Administration:	$10,000.00
				Permitting:	$10,000.00
				Labor Compliance:	$25,000.00
				Construction Staking:	$15,000.00
				Construction Inspection & Administration:	$164,000.00
				Storage Tank and BPP Estimate:	**$3,602,400**

- Rehabilitation of the existing Well No. 2 Facility

Capital Cost $3,833,440.00

	Well No. 2 Facility Rehabilitation				
1	Well Video	1	EA	$2,500.00	$2,500.00
2	Mobilization, Demobilization, & Cleanup	1	LS	$50,000.00	$50,000.00
3	Well Site Earthwork and Subgrade Preparation	1	LS	$75,000.00	$75,000.00
4	Well On-Site Drain Piping and Appurtenances	1	LS	$90,000.00	$90,000.00
5	Concrete Pump Foundation for Deep Well	1	EA	$12,000.00	$12,000.00
6	Vertical Hollow Shaft Electric Motor	1	EA	$75,000.00	$75,000.00
7	Deep Well Vertical Turbine Pump Assembly	1	EA	$315,000.00	$315,000.00
8	Well Discharge Piping and Appurtenances	1	LS	$260,000.00	$260,000.00
9	Hydropneumatic Tank and Concrete Footings	1	LS	$165,000.00	$165,000.00
10	12" PVC Conveyance Piping and Appurtenances from Well Discharge Piping to Ex. Distribution System	225	LF	$600.00	$135,000.00
11	18" RCP Off-Site Blow-Down Piping and Appurtenances from Well Site to Ex. Distribution System	100	LF	$800.00	$80,000.00
12	Liquid Chlorine Injection System including Building and Concrete Foundation	1	LS	$45,000.00	$45,000.00
13	Electrical Control Building Concrete Foundation & Flatwork	1	LS	$45,000.00	$45,000.00
14	Electrical Control Masonry Block Building & Appurtenances	1	LS	$200,000.00	$200,000.00
15	Well Site Ground Cover - Asphalt Paving	5,000	SF	$25.00	$125,000.00
16	Well Site Ground Cover - Aggregate Base	40,000	SF	$1.00	$40,000.00
17	Chain Link Fencing and Gates (including demo ex.)	1	LS	$35,000.00	$35,000.00
18	Masonry Block Wall	850	LF	$310.00	$263,500.00
19	Painting System	1	LS	$80,000.00	$80,000.00
20	Well VFD Drive	1	LS	$125,000.00	$125,000.00
21	Well Site Electrical and Controls	1	LS	$600,000.00	$600,000.00
22	Standby Diesel Generator Set and Appurtenances, including Concrete Foundation	1	LS	$535,000.00	$535,000.00
23	Start-Up and Performance Testing	1	LS	$25,000.00	$25,000.00
24	Site Lighting	1	LS	$15,000.00	$15,000.00
25	Site Demolition	1	LS	$100,000.00	$100,000.00
				Subtotal:	$3,493,000.00
				Engineering Design:	$69,860.00
				Environmental:	$34,930.00
				Bid Administration:	$10,000.00
				Permitting:	$10,000.00
				Labor Compliance:	$26,000.00
				Construction Staking:	$15,000.00
				Construction Inspection & Administration:	$174,650.00
				Well No. 2 Rehabilitation Estimate:	**$3,833,440**

- SCADA Upgrades

Capital Cost $155,950.00

SCADA System Upgrades					
1	Create and Map Tags, Create Screens, and Configure New Connections to PLC on Gateway	6	EA	$15,000.00	$90,000.00
2	Programming Modifications	6	EA	$5,000.00	$30,000.00
3	Start-Up and Performance Testing	6	EA	$2,500.00	$15,000.00
				Subtotal:	$135,000.00
				Engineering Design:	$2,700.00
				Bid Administration:	$10,000.00
				Labor Compliance:	$1,500.00
				Construction Inspection & Administration:	$6,750.00
				SCADA System Upgrade Estimate:	**$155,950**

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- Advanced Metering Infrastructure (AMI)

Capital Cost $4,193,388.00

AMI Metering System					
1	Propogation Study	1	LS	$10,000.00	$10,000.00
2	Meter and Meter Interface Unit Replacement	5,173	EA	$700.00	$3,621,100.00
3	Cell Towers, Antennas, Gateways, etc.	1	LS	$200,000.00	$200,000.00
4	Start-Up and Performance Testing	1	LS	$10,000.00	$10,000.00
				Subtotal:	$3,841,100.00
				Engineering Design:	$76,822.00
				Environmental:	$38,411.00
				Bid Administration:	$10,000.00
				Permitting:	$10,000.00
				Labor Compliance:	$25,000.00
				Construction Inspection & Administration:	$192,055.00
				AMI Metering Estimate:	**$4,193,388**

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- Rate Study

Capital Cost $50,000.00

Rate Study					
1	Data Compiling for Water System Expenditures & Revenues	1	LS	$5,000.00	$5,000.00
2	Development of anticipated Capital Improvement Programs	1	LS	$5,000.00	$5,000.00
3	Meetings and Correspondence	1	LS	$5,000.00	$5,000.00
4	Preparation of Report with Recommendations	1	LS	$35,000.00	$35,000.00
				Subtotal:	$50,000.00
				Rate Study Estimate:	**$50,000**

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The total updated project cost is therefore $44,283,872.00.

o	Well #12 TCP Treatment	$2,914,550.00
o	Well #15 Facility	$6,890,306.00
o	Well #16 Facility with 1.0 MG Tank	$8,771,156.00
o	Well #17 Facility	$6,804,716.00
o	Well #18 Facility	$7,067,966.00
o	1.0 MG Tank & Booster Pump Station	$3,602,400.00
o	Well #2 Rehabilitation	$3,833,440.00
o	SCADA System Upgrades	$155,950.00
o	AMI Metering	$4,193,388.00
o	Rate Study	$50,000.00
	Total:	$44,283,872.00