New Agreement ARV-17-008 (To be completed by CGL Office)

<table>
<thead>
<tr>
<th>Division Agreement Manager</th>
<th>Phone</th>
</tr>
</thead>
<tbody>
<tr>
<td>600 Fuels and Transportation Division</td>
<td>Akasha Kaur Khalsa</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Recipient's Legal Name</th>
<th>Federal ID Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>California Bioenergy LLC</td>
<td>26-1940499</td>
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<table>
<thead>
<tr>
<th>Title of Project</th>
<th>Term and Start Date</th>
<th>End Date</th>
<th>Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>Kern Dairy Cluster Biomethane Upgrading Facility Project</td>
<td>4 / 11 / 2018</td>
<td>3 / 31 / 2022</td>
<td>$3,050,000</td>
</tr>
</tbody>
</table>

ARFVTP agreements $75K and under delegated to Executive Director.

Proposed Business Meeting Date 4 / 11 / 2018
Business Meeting Presenter Akasha Kaur Khalsa
Time Needed: 5 minutes

Please select one list serve. Altfuels (AB118- ARFVTP)

Agenda Item Subject and Description

Proposed resolution adopting California Environmental Quality Act Findings for California Bioenergy LLC’s Kern Dairy Cluster Biomethane Upgrading Facility Project and approving Agreement ARV-17-008 with California Bioenergy LLC. (ARFVTP funding) Contact: Akasha Kaur Khalsa. (Staff presentation: 5 minutes)

a. CALIFORNIA ENVIRONMENTAL QUALITY ACT FINDINGS. Findings that, based on the lead agency Kern County’s 2015 Final Environmental Impact Report for Revisions to the Kern County Zoning Ordinance, the proposed project presents no new significant or substantially more severe environmental impacts beyond those already considered and mitigated.

b. CALIFORNIA BIOENERGY LLC’s KERN DAIRY CLUSTER BIOMETHANE UPGRADING FACILITY PROJECT. Agreement with California Bioenergy LLC for a $3,050,000 grant to design, build and operate a centralized biomethane upgrading facility to clean biogas from anaerobic digesters at a dairy cluster in Kern County. The project will produce 500,000 diesel gallon equivalents of renewable natural gas per year, which will be used to fuel heavy duty compressed natural gas trucks and buses.

1. Is Agreement considered a “Project” under CEQA?
   - Yes (skip to question 2)
   - No (complete the following (PRC 21065 and 14 CCR 15378)):
     Explain why Agreement is not considered a “Project”:
     Agreement will not cause direct physical change in the environment or a reasonably foreseeable indirect physical change in the environment because .

2. If Agreement is considered a “Project” under CEQA:
   - a) Agreement IS exempt. (Attach draft NOE)
     - Statutory Exemption. List PRC and/or CCR section number:
     - Categorical Exemption. List CCR section number:
     - Common Sense Exemption. 14 CCR 15061 (b) (3)
     Explain reason why Agreement is exempt under the above section:
   - b) Agreement IS NOT exempt. (Consult with the legal office to determine next steps.)
     Check all that apply
     - Initial Study
     - Negative Declaration
     - Mitigated Negative Declaration
     - Environmental Impact Report
     - Statement of Overriding Considerations

Legal Company Name: Budget
No contracts signed, list of proposed attached
$0
$0
Legal Company Name:
List of proposed attached

<table>
<thead>
<tr>
<th>Funding Source</th>
<th>Funding Year of Appropriation</th>
<th>Budget List No.</th>
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<td>ARFVTP</td>
<td>16/17</td>
<td>601.118I</td>
<td>$3,050,000</td>
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<td>Funding Source</td>
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<td>Funding Source</td>
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<td>Funding Source</td>
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</table>

R&D Program Area: Select Program Area $3,050,000

Explanation for "Other" selection

Reimbursement Contract #: Federal Agreement #:

Name: N. Ross Buckenham Name: Neil Black
Address: California Bioenergy LLC Address: California Bioenergy LLC
         324 S. Santa Fe Street, Suite B 324 S. Santa Fe Street, Suite B
City, State, Zip: Visalia, CA 93292 City, State, Zip: Visalia, CA 93292
Phone: 214-849-9886 Fax: 214-849-3215 Phone: 559-334-4213 Fax: 559-802-3215
E-Mail: rbuckenham@calbioenergy.com E-Mail: nblack@calbioenergy.com

☒ Competitive Solicitation ☐ First Come First Served Solicitation Solicitation #: GFO-15-606

1. Exhibit A, Scope of Work ☒ Attached
2. Exhibit B, Budget Detail ☒ Attached
3. CEC 105, Questionnaire for Identifying Conflicts ☒ Attached
4. Recipient Resolution ☐ N/A ☐ Attached
5. CEQA Documentation ☐ N/A ☒ Attached

Agreement Manager ___________ Date ___________ Office Manager ___________ Date ___________ Deputy Director ___________ Date ___________
List of ARV-17-008 possible subcontractors (major and minor) and equipment vendors:

<table>
<thead>
<tr>
<th>Legal Company Name:</th>
<th>CEC Share</th>
<th>Match Share Committed</th>
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</thead>
<tbody>
<tr>
<td>TBD, gas upgrading equipment provider</td>
<td>$3,050,000</td>
<td>$0</td>
</tr>
<tr>
<td>CalBioGas-Kern LLC</td>
<td></td>
<td>$3,850,000</td>
</tr>
<tr>
<td>A controlled subsidiary of California Bioenergy LLC</td>
<td></td>
<td></td>
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List of key partners providing in-kind match manure feedstock and biogas feedstock:

<table>
<thead>
<tr>
<th>Legal Company Name:</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>BV Dairy</td>
<td>Kern Cluster dairy partner</td>
</tr>
<tr>
<td>dba BV Dairy Biogas</td>
<td>Digester at BV Dairy</td>
</tr>
<tr>
<td>Lakeview Farms Dairy</td>
<td>Kern Cluster dairy partner</td>
</tr>
<tr>
<td>ABEC #3 LLC</td>
<td>Digester at Lakeview Farms</td>
</tr>
</tbody>
</table>

List of possible other key partners:

<table>
<thead>
<tr>
<th>Legal Company Name:</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>4 Creeks, Inc.</td>
<td>engineering</td>
</tr>
</tbody>
</table>
## Exhibit A
### SCOPE OF WORK

### TECHNICAL TASK LIST

<table>
<thead>
<tr>
<th>Task #</th>
<th>CPR</th>
<th>Task Name</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td></td>
<td>Administration</td>
</tr>
<tr>
<td>2</td>
<td>X</td>
<td>Fuel Sales</td>
</tr>
<tr>
<td>3</td>
<td>X</td>
<td>Biomethane Upgrading Facility</td>
</tr>
<tr>
<td>4</td>
<td>X</td>
<td>Low-Pressure Biogas Gathering Line Reporting</td>
</tr>
<tr>
<td>5</td>
<td></td>
<td>Outreach</td>
</tr>
<tr>
<td>6</td>
<td>X</td>
<td>Project Startup &amp; Operations</td>
</tr>
<tr>
<td>7</td>
<td></td>
<td>Data Collection &amp; Analysis</td>
</tr>
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</table>

### KEY NAME LIST

<table>
<thead>
<tr>
<th>Task #</th>
<th>Key Personnel</th>
<th>Key Subcontractor(s)</th>
<th>Key Partner(s)</th>
</tr>
</thead>
</table>
| 1      | Neil Black – California Bioenergy (CalBio)  
Ross Buckenham – CalBio |                               |                |
| 2      | Neil Black – CalBio  
Ross Buckenham – CalBio | CalBioGas Kern LLC                     |                |
| 3      | Neil Black – CalBio  
Ross Buckenham – CalBio  
David DeGroot – 4 Creeks | CalBioGas Kern LLC  
4Creeks, Inc.  
BV Dairy,  
Bidart Dairy (Old River Farm),  
Lakeview Farms Dairy,  
Carlos Echeverria & Sons Dairy |                |
| 4      | Neil Black – CalBio  
Ross Buckenham – CalBio | TBD                                   | 4Creeks, Inc.,  
BV Dairy Biogas,  
ABEC Bidart-Old River LLC  
ABEC #3 LLC,  
ABEC #4 LLC |                |
| 5      | Neil Black – CalBio  
Ross Buckenham – CalBio |                                    | Bidart Dairy (Old River Farm)  
BV Dairy, Lakeview Farms Dairy  
Carlos Echeverria & Sons Dairy |                |
| 6      | Neil Black – CalBio  
Ross Buckenham – CalBio | CalBioGas Kern LLC  
4Creeks, Inc.,  
BV Dairy Biogas,  
ABEC Bidart-Old River LLC  
ABEC #3 LLC,  
ABEC #4 LLC |                |
| 7      | Neil Black – CalBio  
Ross Buckenham – CalBio |                               |                |
**GLOSSARY**

*Specific terms and acronyms used throughout this scope of work are defined as follows:*

<table>
<thead>
<tr>
<th>Term/Acronym</th>
<th>Definition</th>
</tr>
</thead>
<tbody>
<tr>
<td>AD</td>
<td>Anaerobic digester</td>
</tr>
<tr>
<td>ARFVTP</td>
<td>Alternative and Renewable Fuel and Vehicle Technology Program</td>
</tr>
<tr>
<td>BTU</td>
<td>British Thermal Unit</td>
</tr>
<tr>
<td>BUF</td>
<td>Biomethane upgrading facility</td>
</tr>
<tr>
<td>CAM</td>
<td>Commission Agreement Manager</td>
</tr>
<tr>
<td>CARB</td>
<td>California Air Resources Board</td>
</tr>
<tr>
<td>CEQA</td>
<td>California Environmental Quality Act</td>
</tr>
<tr>
<td>CI</td>
<td>Carbon Intensity</td>
</tr>
<tr>
<td>CNG</td>
<td>Compressed Natural Gas</td>
</tr>
<tr>
<td>CO2</td>
<td>Carbon Dioxide</td>
</tr>
<tr>
<td>CPR</td>
<td>Critical Project Review</td>
</tr>
<tr>
<td>DGE</td>
<td>Diesel Gallon Equivalent</td>
</tr>
<tr>
<td>EPC</td>
<td>Engineering Procurement Construction</td>
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<tr>
<td>FTD</td>
<td>Fuels and Transportation Division of the California Energy Commission</td>
</tr>
<tr>
<td>gCO2e/MJ</td>
<td>Grams of carbon dioxide equivalent per megajoule</td>
</tr>
<tr>
<td>GHG</td>
<td>Greenhouse Gas</td>
</tr>
<tr>
<td>HBTU</td>
<td>High BTU</td>
</tr>
<tr>
<td>LCFS</td>
<td>Low Carbon Fuel Standard</td>
</tr>
<tr>
<td>MGPY</td>
<td>Million Gallons Per Year</td>
</tr>
<tr>
<td>MT</td>
<td>Metric Ton</td>
</tr>
<tr>
<td>NG</td>
<td>Natural Gas</td>
</tr>
<tr>
<td>NOPA</td>
<td>Notice of Proposed Award</td>
</tr>
<tr>
<td>NOx</td>
<td>Oxides of Nitrogen</td>
</tr>
<tr>
<td>R-CNG</td>
<td>Renewable Compressed Natural Gas, fungible with natural gas</td>
</tr>
<tr>
<td>Recipient</td>
<td>California Bioenergy LLC</td>
</tr>
<tr>
<td>RFS</td>
<td>Renewable Fuel Standard</td>
</tr>
<tr>
<td>RIN</td>
<td>Renewable Identification Number</td>
</tr>
<tr>
<td>RNG</td>
<td>Renewable Natural Gas</td>
</tr>
<tr>
<td>SCFM</td>
<td>Standard Cubic Feet per Minute</td>
</tr>
<tr>
<td>SJVAPCD</td>
<td>San Joaquin Valley Air Pollution Control District</td>
</tr>
<tr>
<td>Term/Acronym</td>
<td>Definition</td>
</tr>
<tr>
<td>-------------</td>
<td>-----------------------------</td>
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<tr>
<td>SLCP</td>
<td>Short-Lived Climate Pollutant</td>
</tr>
</tbody>
</table>

**Background**

Assembly Bill (AB) 118 (Núñez, Chapter 750, Statutes of 2007), created the Alternative and Renewable Fuel and Vehicle Technology Program (ARFVTP). The statute authorizes the California Energy Commission (Energy Commission) to develop and deploy alternative and renewable fuels and advanced transportation technologies to help attain the state’s climate change, clean air, and alternative energy policies. AB 8 (Perea, Chapter 401, Statutes of 2013) re-authorizes the ARFVTP through January 1, 2024. The ARFVTP has an annual budget of approximately $100 million and provides financial support for projects that:

- Reduce California’s use and dependence on petroleum transportation fuels and increase the use of alternative and renewable fuels and advanced vehicle technologies.
- Produce sustainable alternative and renewable low-carbon fuels in California.
- Expand alternative fueling infrastructure and fueling stations.
- Improve the efficiency, performance and market viability of alternative light-, medium-, and heavy-duty vehicle technologies.
- Retrofit medium- and heavy-duty on-road and non-road vehicle fleets to alternative technologies or fuel use.
- Expand the alternative fueling infrastructure available to existing fleets, public transit, and transportation corridors.
- Establish workforce training programs and conduct public outreach on the benefits of alternative transportation fuels and vehicle technologies.

The Energy Commission issued solicitation GFO-15-606 for low carbon biofuel production facilities to increase production capacity. To be eligible for funding under GFO-15-606, projects must also be consistent with the Energy Commission’s ARFVTP Investment Plan, updated annually. In response to GFO-15-606, California Bioenergy LLC (Recipient) submitted application 20, which was proposed for funding in the Energy Commission’s revised Notice of Proposed Awards on April 21, 2017. GFO-15-606 and Recipient’s aforementioned application are hereby incorporated by reference into this Agreement in their entirety.

In the event of any conflict or inconsistency between the terms of the Solicitation and the terms of the Recipient’s Application, the Solicitation shall control. In the event of any conflict or inconsistency between the Recipient’s Application and the terms of the Energy Commission’s Award, the Energy Commission’s Award shall control. Similarly, in the event of any conflict or inconsistency between the terms of this Agreement and the Recipient’s Application, the terms of this Agreement shall control.

Recipient is expressly precluded from using any CEC funding for any expenditures associated with the permitting or construction of the gathering pipeline.
**Problem Statement:**
The California Air Resources Board (CARB) estimates that the common dairy industry practice of manure storage in open ponds releases 25%\(^1\) of all anthropogenic methane statewide. Plus, California is dependent on 1.5 billion gallons of fossil fuel diesel for on-road transportation fuel annually. Both threaten our climate, clean air and water.

With the Kern Dairy Cluster Biomethane Upgrading Facility Project California Bioenergy (CalBio, Recipient) addresses escaping methane and fossil fuel reduction and seeks to implement the first dairy digester cluster in California that produces biomethane for transportation fuel. Under this Agreement, the Recipient will construct and operate a biomethane upgrading facility. The biogas will be delivered to the biomethane upgrading facility via a gathering pipeline. Harnessing the investments made for electricity generation by previous California Energy Commission grants, a portion of the biogas produced by the anaerobic digestion facilities will generate electric and thermal energy to enable the facilities to be self-sufficient and sell electric power.

The biogas-to-vehicle-fuel-infrastructure is critical in order to help advance the dairy biogas industry and help the state achieve its methane reduction targets. Although the proposed technology is not new, this project implements the technology in an aggregated and organized manner that overcomes significant market barriers for the capture and beneficial reuse of methane from dairy manure. CalBio will demonstrate that when dairies are organized in clusters, the economic viability of projects to capture, produce and deliver pipeline quality biomethane to be used as a vehicle fuel in California dramatically increases. The project will provide the following benefits:

- Displace 500,000 gallons of diesel fuel each year.
- Demonstrate dramatic NOx reduction when the R-CNG is used in a vehicle compared to diesel.
- Clean high-value, minimal-impact dairy biogas into biomethane for transportation fuel, with multiple co-benefits, including significant NOx reductions relative to electric generation.
- Enhance the commercial viability and sustainability of dairy farms, an important sector of California's agricultural economy.
- Show reduced financial uncertainty and increased economic sustainability for dairy anaerobic digestion projects that can choose to sell electricity or transportation RNG when the Low Carbon Fuel Standard (LCFS) program and/or federal RFS provide sufficient price stability (assuming no regulatory prohibitions).
- R-CNG fuel with a carbon intensity of -272.97 gCO2e/MJ as measured by CARB (and which may change) will reduce an estimated 22,700 metric tons of greenhouse gas (GHG) emissions annually.
- 5-year GHG reduction of 113,000 metric tons of CO2e.
- Cost-Effectiveness of $26.88 grant dollars per metric ton of CO2e emissions avoided over 5 years.
- Cultivate green technical jobs in an area of California afflicted by the distressed economy.

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\(^1\) arb.ca.gov/cc/shortlived/meetings/03142017/final_slcp_report.pdf pages 56 and 61 3/14/17
Goals of the Agreement:
- Produce biomethane transportation fuel from dairy digester biogas from dairy manure and, potentially, co-digestion substrates.
- Aggregate biogas from multiple dairy digesters from at least 2 dairies.
- Upgrade biogas to utility-quality biomethane in centralized cleaning equipment.
- Deliver pipeline quality biomethane for use as a vehicle fuel in California.

Objectives of the Agreement:
The objectives of this Agreement are to:
- Produce 500,000 diesel gallon equivalents (DGE) each year of renewable natural gas (RNG) from dairy digesters for transportation fuel.
- Design the Kern Dairy Cluster Biomethane Upgrading Facility Project with the potential to increase production above 500,000 DGE/year.
- Design, procure and have installed centralized biogas cleaning equipment that produces utility-quality biomethane.
- Sell R-CNG for use at CNG fueling stations or by fleets anywhere in California that are attached to a natural gas pipeline.

TASK 1 ADMINISTRATION

Task 1.1 Attend Kick-off Meeting
The goal of this task is to establish the lines of communication and procedures for implementing this Agreement. The CAM shall designate the date and location of this meeting and provide an agenda to the Recipient prior to the meeting.

The Recipient shall:
- Attend a “Kick-Off” meeting with the Commission Agreement Manager, the Grants Officer, and a representative of the Accounting Office. The Recipient shall bring its Project Manager, Agreement Administrator, Accounting Officer, and others designated by the Commission Agreement Manager to this meeting.
- Discuss the following administrative and technical aspects of this Agreement:
  - Agreement Terms and Conditions
  - Critical Project Review (Task 1.2)
  - Match fund documentation (Task 1.6) No reimbursable work may be done until this documentation is in place.
  - Permit documentation (Task 1.7)
  - Subcontracts needed to carry out project (Task 1.8)
  - The CAM’s expectations for accomplishing tasks described in the Scope of Work
  - An updated Schedule of Products and Due Dates
  - Monthly Progress Reports (Task 1.4)
  - Technical Products (Product Guidelines located in Section 5 of the Terms and Conditions)
  - Final Report (Task 1.5)

Recipient Products:
- Updated Schedule of Products
- Updated List of Match Funds
- Updated List of Permits
Commission Agreement Manager Product:

- Kick-Off Meeting Agenda

Task 1.2 Critical Project Review (CPR) Meetings

CPRs provide the opportunity for frank discussions between the Energy Commission and the Recipient. The goal of this task is to determine if the project should continue to receive Energy Commission funding to complete this Agreement and to identify any needed modifications to the tasks, products, schedule or budget.

The Commission Agreement Manager may schedule CPR meetings as necessary, and meeting costs will be borne by the Recipient.

Meeting participants include the CAM and the Recipient and may include the Commission Grants Officer, the Fuels and Transportation Division (FTD) biofuel lead, other Energy Commission staff and Management as well as other individuals selected by the CAM to provide support to the Energy Commission.

The CAM shall:

- Determine the location, date, and time of each CPR meeting with the Recipient. These meetings generally take place at the Energy Commission, but they may take place at another location.
- Send the Recipient the agenda and a list of expected participants in advance of each CPR. If applicable, the agenda shall include a discussion on both match funding and permits.
- Conduct and make a record of each CPR meeting. Prepare a schedule for providing the written determination described below.
- Determine whether to continue the project, and if continuing, whether or not modifications are needed to the tasks, schedule, products, and/or budget for the remainder of the Agreement. Modifications to the Agreement may require a formal amendment (please see section 8 of the Terms and Conditions). If the CAM concludes that satisfactory progress is not being made, this conclusion will be referred to the Lead Commissioner for Transportation for his or her concurrence.
- Provide the Recipient with a written determination in accordance with the schedule. The written response may include a requirement for the Recipient to revise one or more product(s) that were included in the CPR.

The Recipient shall:

- Prepare a CPR Report for each CPR that discusses the progress of the Agreement toward achieving its goals and objectives. This report shall include recommendations and conclusions regarding continued work of the projects. This report shall be submitted along with any other products identified in this scope of work. The Recipient shall submit these documents to the CAM and any other designated reviewers at least 15 working days in advance of each CPR meeting.
- Present the required information at each CPR meeting and participate in a discussion about the Agreement.
CAM Products:
- Agenda and a list of expected participants
- Schedule for written determination
- Written determination

Recipient Product:
- CPR Report(s)

Task 1.3 Final Meeting
The goal of this task is to closeout this Agreement.

The Recipient shall:
- Meet with Energy Commission staff to present the findings, conclusions, and recommendations. The final meeting must be completed during the closeout of this Agreement.

This meeting will be attended by, at a minimum, the Recipient, the Commission Grants Office Officer, and the Commission Agreement Manager. The technical and administrative aspects of Agreement closeout will be discussed at the meeting, which may be two separate meetings at the discretion of the Commission Agreement Manager.

The technical portion of the meeting shall present an assessment of the degree to which project and task goals and objectives were achieved, findings, conclusions, recommended next steps (if any) for the Agreement, and recommendations for improvements. The Commission Agreement Manager will determine the appropriate meeting participants.

The administrative portion of the meeting shall be a discussion with the Commission Agreement Manager and the Grants Officer about the following Agreement closeout items:
  - What to do with any equipment purchased with Energy Commission funds (Options)
  - Energy Commission’s request for specific “generated” data (not already provided in Agreement products)
  - Need to document Recipient’s disclosure of “subject inventions” developed under the Agreement
  - “Surviving” Agreement provisions
  - Final invoicing and release of retention

- Prepare a schedule for completing the closeout activities for this Agreement.

Products:
- Written documentation of meeting agreements
- Schedule for completing closeout activities

Task 1.4 Monthly Progress Reports
The goal of this task is to periodically verify that satisfactory and continued progress is made towards achieving the objectives of this Agreement on time and within budget. The objectives of this task are to summarize activities performed during the reporting period, to identify activities planned for the next reporting period, to identify issues that may affect
performance and expenditures, and to form the basis for determining whether invoices are consistent with work performed.

The Recipient shall:
• Prepare a Monthly Progress Report which summarizes all Agreement activities conducted by the Recipient for the reporting period, including an assessment of the ability to complete the Agreement within the current budget and any anticipated cost overruns. Each progress report is due to the Commission Agreement Manager within 10 days of the end of the reporting period. The recommended specifications for each progress report are contained in Section 6 of the Terms and Conditions of this Agreement.
• In the first Monthly Progress Report and first invoice, document and verify match expenditures and provide a synopsis of project progress, if match funds have been expended or if work funded with match share has occurred after the notice of proposed award but before execution of the grant agreement. If no match funds have been expended or if no work funded with match share has occurred before execution, then state this in the report. All pre-execution match expenditures must conform to the requirements in the Terms and Conditions of this Agreement.

Product:
• Monthly Progress Reports

Task 1.5 Final Report
The goal of the Final Report is to assess the project's success in achieving the Agreement’s goals and objectives, advancing science and technology, and providing energy-related and other benefits to California.
The objectives of the Final Report are to clearly and completely describe the project's purpose, approach, activities performed, results, and advancements in science and technology; to present a public assessment of the success of the project as measured by the degree to which goals and objectives were achieved; to make insightful observations based on results obtained; to draw conclusions; and to make recommendations for further projects and improvements to the FTD project management processes.
The Final Report shall be a public document. If the Recipient has obtained confidential status from the Energy Commission and will be preparing a confidential version of the Final Report as well, the Recipient shall perform the following activities for both the public and confidential versions of the Final Report.

The Recipient shall:
• Prepare an Outline of the Final Report, if requested by the CAM.
• Prepare a Final Report following the latest version of the Final Report guidelines which will be provided by the CAM. The CAM shall provide written comments on the Draft Final Report within fifteen (15) working days of receipt. The Final Report must be completed at least 60 days before the end of the Agreement Term.
• Submit one bound copy of the Final Report with the final invoice.
Products:
- Outline of the Final Report, if requested
- Draft Final Report
- Final Report

Task 1.6 Identify and Obtain Matching Funds
The goal of this task is to ensure that the match funds planned for this Agreement are obtained for and applied to this Agreement during the term of this Agreement.

The costs to obtain and document match fund commitments are not reimbursable through this Agreement. Although the Energy Commission budget for this task will be zero dollars, the Recipient may utilize match funds for this task. Match funds shall be spent concurrently or in advance of Energy Commission funds for each task during the term of this Agreement. Match funds must be identified in writing and the associated commitments obtained before the Recipient can incur any costs for which the Recipient will request reimbursement.

The Recipient shall:
- Prepare a letter documenting the match funding committed to this Agreement and submit it to the Commission Agreement Manager at least 2 working days prior to the kick-off meeting. If no match funds were part of the proposal that led to the Energy Commission awarding this Agreement and none have been identified at the time this Agreement starts, then state such in the letter. If match funds were a part of the proposal that led to the Energy Commission awarding this Agreement, then provide in the letter a list of the match funds that identifies the:
  - Amount of each cash match fund, its source, including a contact name, address and telephone number and the task(s) to which the match funds will be applied.
  - Amount of each in-kind contribution, a description, documented market or book value, and its source, including a contact name, address and telephone number and the task(s) to which the match funds will be applied. If the in-kind contribution is equipment or other tangible or real property, the Recipient shall identify its owner and provide a contact name, address and telephone number, and the address where the property is located.
- Provide a copy of the letter of commitment from an authorized representative of each source of cash match funding or in-kind contributions that these funds or contributions have been secured. For match funds provided by a grant a copy of the executed grant shall be submitted in place of a letter of commitment.
- Discuss match funds and the implications to the Agreement if they are reduced or not obtained as committed, at the kick-off meeting. If applicable, match funds will be included as a line item in the progress reports and will be a topic at CPR meetings.
- Provide the appropriate information to the Commission Agreement Manager if during the course of the Agreement additional match funds are received.
- Notify the Commission Agreement Manager within 10 days if during the course of the Agreement existing match funds are reduced. Reduction in match funds must be approved through a formal amendment to the Agreement and may trigger an additional CPR meeting.
Products:

- A letter regarding match funds or stating that no match funds are provided
- Copy(ies) of each match fund commitment letter(s) (if applicable)
- Letter(s) for new match funds (if applicable)
- Letter that match funds were reduced (if applicable)

Task 1.7 Identify and Obtain Required Permits

The goal of this task is to obtain all permits required for work completed under this Agreement in advance of the date they are needed to keep the Agreement schedule on track. Permit costs and the expenses associated with obtaining permits are not reimbursable under this Agreement. Although the Energy Commission budget for this task will be zero dollars, the Recipient shall budget match funds for any expected expenditures associated with obtaining permits. Permits must be identified in writing and obtained before the Recipient can make any expenditure for which a permit is required.

The Recipient shall:

- Prepare a letter documenting the permits required to conduct this Agreement and submit it to the Commission Agreement Manager at least 2 working days prior to the kick-off meeting. If there are no permits required at the start of this Agreement, then state such in the letter. If it is known at the beginning of the Agreement that permits will be required during the course of the Agreement, provide in the letter:
  - A list of the permits that identifies the:
    - Type of permit
    - Name, address and telephone number of the permitting jurisdictions or lead agencies
  - The schedule the Recipient will follow in applying for and obtaining these permits.
- Discuss the list of permits and the schedule for obtaining them at the kick-off meeting and develop a timetable for submitting the updated list, schedule and the copies of the permits. The implications to the Agreement if the permits are not obtained in a timely fashion or are denied will also be discussed. If applicable, permits will be included as a line item in the Progress Reports and will be a topic at CPR meetings.
- If during the course of the Agreement additional permits become necessary, provide the appropriate information on each permit and an updated schedule to the Commission Agreement Manager.
- As permits are obtained, send a copy of each approved permit to the Commission Agreement Manager.
- If during the course of the Agreement permits are not obtained on time or are denied, notify the Commission Agreement Manager within 5 working days. Either of these events may trigger an additional CPR.

Products:

- Letter documenting the permits or stating that no permits are required
- A copy of each approved permit (if applicable)
• Updated list of permits as they change during the term of the Agreement (if applicable)
• Updated schedule for acquiring permits as changes occur during the term of the Agreement (if applicable)
• A copy of each final approved permit (if applicable)

**Task 1.8 Obtain and Execute Subcontracts**
The goal of this task is to ensure quality products and to procure subcontractors required to carry out the tasks under this Agreement consistent with the Agreement Terms and Conditions and the Recipient's own procurement policies and procedures. It will also provide the Energy Commission an opportunity to review the subcontracts to ensure that the tasks are consistent with this Agreement, and that the budgeted expenditures are reasonable and consistent with applicable cost principles.

**The Recipient shall:**
- Manage and coordinate subcontractor activities.
- Submit a draft of each subcontract required to conduct the work under this Agreement to the Commission Agreement Manager for review.
- Submit a final copy of the executed subcontract.
- If Recipient decides to add new subcontractors, then the Recipient shall notify the CAM.

**Products:**
- Letter describing the subcontracts needed, or stating that no subcontracts are required.
- Draft subcontracts
- Final subcontracts

**TECHNICAL TASKS**
Recipient is expressly precluded from using any CEC funding for any expenditures associated with the permitting or construction of the gathering pipeline.

**Task 2 FUEL SALES**
The goals of this task are to request, collect and submit dispensing data from buyers of the RNG fuel produced.

**The Recipient shall:**
- Request dispensing data from buyer(s) of RNG fuel produced, including fuel volume per day per vehicle and miles traveled per day per vehicle.
- Prepare and submit each Month to CAM a Monthly Dispensed RNG Fuel Report to confirm that CalBio renewable gas was used for transportation. This report shall include but not be limited to:
  - A description of how the RNG fuel was delivered to the buyers;
  - Quantity of RNG fuel delivered to the buyers;
  - Any dispensing data acquired from buyers of RNG fuel including, as available, fuel volume per day per vehicle and miles traveled per day per vehicle; and
  - A graph of the total amount of RNG fuel dispensed by month.
Products:

- Monthly Dispensed RNG Fuel Report

[CPR WILL OCCUR DURING THIS TASK. See Task 1.2 for details.]

Task 3 BIOMETHANE UPGRADING FACILITY
The goal of this task is to design and build the CalBio Biomethane Upgrading Facility, a conditioning plant in which the various components of the gas stream will be separated and appropriately managed and where the methane stream will be purified and concentrated to the utility pipeline gas specifications.

Task 3.1 BIOMETHANE UPGRADING FACILITY LOCATION
The goal of this task is to obtain site control.

The Recipient shall:

- Write and submit a letter to the CAM on letterhead giving Notice of Securing Site including, but not limited to:
  - Address of site;
  - Site marked on a copy of the gathering line map;
  - Size of plot;
  - Color photos at least 4” x 6” of two or more views; and
  - Name of owner of property

Products:

- Written Notice of Securing Site

Task 3.2 BIOMETHANE UPGRADING FACILITY PLANNING & DESIGN
The goals of this task are to quantify the baselines for biogas available; develop a set of pre-engineering documents common to the construction of any biomethane upgrading facility separate from the specific parameters of a particular site; choose appropriate vendor(s); design for the chosen site and purpose; prepare drawings and plans; and specify system components.

The Recipient shall:

- Design at least 500,000 DGE/year (and express the corresponding volume also as SCF/year) of final product production capacity.
- Control the systems automatically to the extent possible, and remotely to the extent possible.
- Establish the feedstock supply baselines. For each dairy digester, either prepare an Initial Conditions Report or submit an existing recent report, prior to project operation, divided by digester, including but not limited to:
  - A description of the volume and condition of each facility’s waste stream entering the digester;
  - A description of the waste stream’s percentage composition of dairy manure and other substrates;
  - A flow-chart of the biomass to biogas conversion processes.
  - A description of the biogas actual production quantity; the nameplate capacity;
  - A description of biogas quality, including humidity and purity;
The quantity of anaerobic digester electricity generation prior to project operation, if available; and
The quantity of flared gas in the most recent 12 months.

Prepare and submit to the CAM a CalBio Technical Overview Report to describe the project technology including, but not limited to:
The gas purification system, including, as appropriate, modular skid, built off-site and delivered in working condition;
Maximum capacity of biogas to be treated;
The compressor horsepower;
The required metering, controls, automated shut-off control, and sensors;
Monitoring and security features;
Process Flow Diagrams;
Expected Performance Characteristics;
Whether facility operates unmanned;
Whether facility is remotely operable;
Plans to interconnect to a single outgoing utility interconnection;
List of outputs including fuels, power, heat, and value-added co-products; and
List of inputs including utilities and feedstocks.

Design the facility.
Prepare and submit to the CAM the Site Plan, including but not limited to:
Precise locations of each device to scale; and
The location of the control system panel.
Include the Site Plan in the System Training and Safety Manual.
List and submit to the CAM the Equipment List, to include but not limited to: brand, model, air emissions if applicable, estimated cost, capacity, purpose, seller’s name and contact information.
Prepare and submit to the CAM a Written Notice of Completion of Design letter including but not limited to:
The design work completion date
A process flow chart
The design “name-plate” capacity of biogas in and sellable volume of transportation fuel biomethane out
Status of all CEQA mitigation measures if any
Develop and submit to the CAM a Construction Timeline with major milestones including the intended date to begin construction, commissioning, and commercial operation date.
Prepare and submit to the CAM a Written Notification of Readiness to Construct stating this Task has obtained all permits, third party agreements, binding construction and equipment bids, and all other items necessary to begin construction.

Products:

- 3.2.1 Notice of Contractor Chosen
- 3.2.2 Initial Conditions Report-(Old River Farm) Bidart Dairy
- 3.2.3 Initial Conditions Report- Lakeview Farm
- 3.2.4 Initial Conditions Report- CE&S Dairy
- 3.2.5 CalBio Technical Overview Report
- 3.2.6 Site Plan
- 3.2.7 Equipment List
3.2.8 Written Notice of Completion of Design
3.2.9 Construction Timeline
3.2.10 Written Notification of Readiness to Construct

Task 3.3 BIOMETHANE UPGRADING FACILITY CONSTRUCTION
The goal of this task is to construct the biomethane upgrading facility.

The Recipient shall:
- Construct the biomethane upgrading facility according to the finalized design, and as outlined in the Construction Timeline and Equipment List.
- Submit a Written Notice of Completion of Construction to the CAM within ten working days of commercial operation of the project. This document will include, but not be limited to:
  - The date the project achieved commercial operation;
  - One paragraph narrative on the current status of the project and initial operations suitable for a press release;
  - As-built process flow chart; and
  - Documentation of construction with a series of photographs showing:
    - Earthwork during construction;
    - Trenching and piping during construction;
    - Installation of each major system component; and
    - Completed system.
- Prepare and submit to the CAM a Draft System Training and Safety Manual sections including, but not limited to:
  - Pre-Startup Safety Review;
  - Site Plan;
  - Process Flow Chart;
  - Startup Procedure;
  - Biomethane upgrading facility control parameters and manual shut-off instructions;
  - Gas upgrade mechanism automated control parameters and manual shut-off instructions;
  - Compressor automated control parameters and manual shut-off instructions;
  - Gathering line automated control parameters and manual shut-off instructions;
  - Signage for first responders; and
  - Security System features.

Products:
- Written Notice of Completion of Construction
- System Training and Safety Manual (Draft Version)

[CPR WILL OCCUR DURING THIS TASK. See Task 1.2 for details.]

Task 4 LOW-PRESSURE BIOGAS GATHERING LINE REPORTING
The goals of this task are to report on the biogas collection system, in which biogas is moved from the dairy anaerobic digesters to the central biomethane upgrading facility. No Energy Commission funding shall be used for the design build or construction of the biogas collection system.
Task 4.1 LOW-PRESSURE BIOGAS GATHERING LINE DESIGN REPORTING

The goal of this task is to report on the design of a biogas collection system with low pressure biogas gathering line piping, valves, metering, and blower equipment.

The Recipient shall:

- Prepare and submit to the CAM the Predevelopment Activities Plan that includes, but is not limited to:
  - The design of the low pressure biogas collection system of valves, sensors and gathering line piping for the Kern Dairy Cluster, with the potential to connect 12 dairies, presented to Kern County for CEQA Notice of Exemption project titled “PLN16-01073” and described “Install 23.25 Mile Gas Line”.
  - Clearly marked map of the gathering line with portions and phases.
  - A short description of the multiple phases of gathering line construction for addition of dairy biogas contributors to explain the gathering line maps. Identify right-of-way.
  - Define the “First Mile Gathering Line” as a portion of the gathering line from the ABEC #3 LLC anaerobic digester (AD) to the BUF and the BV Dairy AD to the BUF.
  - Define the portion to build as “Low Pressure Gathering Line Phase I”.
  - List property addresses for the Low Pressure Gathering Line Phase I, including:
    - Up or near Old River Road from the Old River Dairy north to Bear Mountain Boulevard
    - Across or near Bear Mountain Boulevard from the BVDairy east to Old River Road
  - Diameter of the pipe
  - Maximum volume of biogas that could be moved
  - Process Flow Diagrams
  - Expected performance characteristics
  - Security system features

- Prepare and submit to the CAM the Equipment List to include but not be limited to: brand, model, air emissions if applicable, estimated cost, capacity, purpose, seller's name and contact information.

- Develop and submit to the CAM a Construction Timeline with major milestones.

- Send to the CAM a Written Notice of Low Pressure Gathering Line Phase I Design Completion on letterhead, signed, within 10 days of completion.

- Prepare and submit to the CAM a Written Notification of Readiness to Construct stating all permits, third party agreements, binding construction and equipment contracts, and all other items necessary to begin construction have been obtained.

- Prepare and submit a Revised Predevelopment Activities Plan that tells “as built” conditions compared to the Predevelopment Activities Plan.

Products:

- Predevelopment Activities Plan
- Equipment List
- Construction Timeline
Task 4.2 LOW-PRESSURE BIOGAS GATHERING LINE PROCUREMENT AND CONSTRUCTION REPORTING

The goal of this task is to report on the procurement, construction, and installation of the biogas collection system.

The Recipient shall:

- Send to the CAM a Written Notice of “First Mile Gathering Line” Construction Completion on letterhead, signed, within 10 days of completion.
- Confirm registration of the pipeline into the 811 service for prevention of utility line digging damage.
- Submit to the CAM a Written Notice of Completion of Construction within ten working days of commercial operation of the project. This document will include, but not be limited to:
  - The date the project achieved commercial operation; and
  - Short narrative on the current status of the project and initial operations suitable for a press release.

Products:

- Written Notice of “First Mile Gathering Line” Construction Completion
- Written Notice of Completion of Construction

[CPR WILL OCCUR DURING THIS TASK. See Task 1.2 for details.]

Task 5 OUTREACH

The goal of this task is to spread awareness about dairy-based RNG and the project. The main messages will emphasize best practices development, new CNG-fueled truck motors, and show the community the benefits of the project.

The Recipient shall:

- Give presentations and tours of the facilities.
- Send Written Notification of Outreach Activities to CAM.

Products:

- Written Notification of Outreach Activities

Task 6 PROJECT STARTUP & OPERATIONS

The goals of this task are to start-up and commercially operate all parts of the project.

Task 6.1 PROJECT STARTUP

The goals of this task are to start up the systems, test and fine tune equipment before operations begin.

The Recipient shall:

- Prepare and submit to the CAM the final version of the System Training and Safety Manual.
- Train operational personnel.
• Develop and submit to the CAM the Operational Readiness Test Plan that describes system performance testing and includes, but is not limited to: test objectives, procedures, conditions, facilities, and equipment.
• Execute Operational Readiness Testing in accordance with Operational Readiness Test Plan.
• Startup the biogas collection system.
• Startup the plant.
• Commission the plant.
• Prepare a Written Notification of Operations and submit it to the CAM within ten working days of the beginning of operations, which is more than 350 scfm for at least 3 hours. The Written Notification shall contain, but not be limited to, the following elements:
  o A succinct statement similar to: “low carbon biofuel production has begun at the new biofuel production facility (name) with production capacity of x DGE (y MMSCF) biomethane funded by the ARFVTP solicitation GFO-15-606 in the community-scale funding category”;
  o A short, high level narrative on the current status of the project;
  o The facility purified x% nameplate capacity for the first week;
  o The date the project finished commissioning and the date it achieved operational status;
  o Operational Readiness Testing results;
  o Any changes made from the project as originally proposed and reasons for those changes;
  o Whether sales did (or did not) start; and
  o Show a table of what was actually found during commissioning versus specification documents such as SoCalGas Gas Rule 30 or a variant thereof.

Products:
• System Training and Safety Manual Final Version
• Operational Readiness Test Plan
• Written Notification of Operations

Task 6.2 OPERATIONS
The goal of this task is to operate the Biomethane Upgrading Facility for at least 6 months.

The Recipient shall:
• Produce RNG from the Recipient's biogas for transportation fuel.
• Prepare and submit to the CAM a Detailed System Report. This mix of graphs and narrative about operational highlights shall include, but not be limited to:
  o Operational hours;
  o Explanation of stoppages in production;
  o A statement of the project's compliance with regulatory requirements;
  o Quantity and quality of the feedstock supply including the total amount of dairy biogas processed on a monthly basis per dairy;
    ▪ Biogas into CalBio Kern Dairy Cluster Biomethane Upgrading Facility, data and graph.
  o The amount of products produced on a monthly basis. Products include:
    ▪ The percentage of nameplate capacity biomethane purified;
    ▪ Electricity used for CalBio Kern Dairy Cluster Biomethane Upgrading Facility and balance of system;
- Flaring volumes;
- Biomethane received by the point of receipt, data and graph;
  - Recommendations;
  - Photographs as appropriate.
- Prepare and submit one Incentive Report including, but not limited to:
  - LCFS Registration Status;
  - LCFS credits earned, and LCFS credits auctioned if managed and controlled by Recipient and if sold in period; and
  - Federal Renewable Fuel Standard (RFS2) registration status, RINs issued and RINs sold if managed and controlled by Recipient and if sold in period.

Products:
- Detailed System Report
- Incentive Report

[CPR WILL OCCUR DURING THIS TASK. See Task 1.2 for details.]

Task 7 DATA COLLECTION AND ANALYSIS
The goal of this task is to collect operational data from the project, to analyze that data for economic and environmental impacts, and to include the data and analysis in the Final Report.

The Recipient shall:
- Develop a data collection plan.
- Troubleshoot any issues identified.
- Collect at least six months of data, including:
  - Throughput, usage, and operations data
  - Normal operating hours, up time, down time, and explanations of variations
  - Feedstock supply summary
  - Maximum capacity of the new fuel production system in diesel gallon equivalents (DGE) and ordinary units
  - Gallons of gasoline and/or diesel fuel displaced (with associated mileage information), along with value converted into DGE
  - Record of wastes from production processes (waste water, solid waste, criteria emissions, etc.)
  - Expected air emissions reduction, for example:
    - Non-methane hydrocarbons
    - Oxides of nitrogen
    - Non-methane hydrocarbons plus oxides of nitrogen
    - Particulate Matter
    - Formaldehyde
  - Duty cycle of the current fleet and the expected duty cycle of future vehicle acquisitions
  - Specific jobs and economic development resulting from this project
  - Finished fuel price subject to confidentiality
  - Analysis of total facility costs, operation and maintenance costs, marginal abatement costs
• Comply with the Petroleum Industry Information Reporting Act (PIIRA) and complete CEC Form M810E and CEC Form M13 on a monthly basis for submission to the California Energy Commission's PIIRA Data Collection Unit.
• Provide a written record of registering with the Low Carbon Fuel Standard and Renewable Fuel Standard programs.
• Identify any current and planned use of renewable energy at the facility.
• Describe any energy efficiency measures used in the facility that may exceed Title 24 standards in Part 6 of the California Code Regulations.
• Provide data on potential job creation, economic development, and increased state revenue as a result of expected future expansion.
• Provide a quantified estimate of the project's carbon intensity values or provide an Air Resources Board approved pathway carbon intensity.
• Estimate annual life-cycle greenhouse gas emission reduction.
• Compare any project performance and expectations provided in the proposal to Energy Commission with actual project performance and accomplishments.
• Collect data, information, and analysis described above and include in the Final Report.

Products:
• Data collection information and analysis will be included in the Final Report
To: Robert B. Weisenmiller  
    Karen Douglas  
    David Hochschild  
    Andrew McAllister  
    Janea A. Scott  

From: Akasha Kaur Khalsa  

Subject: Background and California Environmental Quality Act Analysis for proposed Agreement ARV-17-008 with California Bioenergy LLC  

I, Akasha Kaur Khalsa, am a Mechanical Engineer, employed in the position Associate Energy Specialist in the Fuels and Transportation Division, California Energy Commission (CEC). I am the Commission Agreement Manager for proposed Agreement ARV-17-008 (“Agreement”) with California Bioenergy LLC (CalBio).

The CEC released GFO-15-606 titled “Community-Scale and Commercial-Scale Advanced Biofuels Production Facilities”, on July 15, 2016. CalBio submitted an application in response to the GFO and received a proposed award of $3,050,000 in a Notice of Proposed Awards (NOPA) dated February 17, 2017 to design, build and operate a biomethane production facility and a gathering line within a dairy cluster in Kern County.

CalBio’s project, as originally proposed in its application to GFO-15-606, included two main components - a biomethane upgrade facility and a gathering line (a small pipeline) to deliver biogas to the upgrade facility. The gathering line would connect 2 - 12 existing dairy anaerobic digesters to a biomethane upgrading facility. The biomethane upgrading facility would be expected to clean the CO2, water, and contaminants from the biomethane with a membrane system that uses much less water than other options. The gas produced, 500,000 diesel gallon equivalent per year, would be used for fueling CNG vehicles that replace diesel – fueled trucks and buses.

The gathering line through which the biogas would be delivered was described by Kern County as a “by right” permit. Environmental determinations for the gathering line were premised on an Environmental Impact Report done by Kern County pursuant to the California Environmental Quality Act (CEQA) in adopting its “Revisions to the Kern County Zoning Ordinance- 2015 C, focused on Oil and Gas Local Permitting” (Oil and Gas FEIR).

After the NOPA for GFO-15-606 was issued, CEC staff learned that the Oil and Gas FEIR was being challenged in Kern County Superior Court. To date, the challenge to the Oil and Gas FEIR has not been resolved. As a result, CEC staff and CalBio staff have worked together to alter the proposed Agreement so that any work done under the proposed Agreement does not include any work on, or any funding for, construction of...
the gathering line. Therefore, the primary purpose of the proposed grant Agreement is to fund the construction of the biomethane upgrading facility.

The biomethane upgrading facility received a conditional use permit from Kern County on September 28, 2017. Kern County, as lead agency, found that the biomethane upgrading facility was exempt from CEQA under CEQA Guidelines Section 15183 as a Special Situation and filed a Notice of Exemption on October 26, 2017. The 35 day statute of limitations to challenge the exemption finding expired on November 30, 2017 with no challenge being filed.

Although the proposed grant Agreement will not fund the gathering line the potential environmental effects of the both the gathering line and the biomethane upgrading facility are evaluated in this memorandum for purposes of CEQA compliance because CEQA defines a “project” as the whole of the action contemplated. (Cal. Code Regs., tit. 14, § 15378)

I have reviewed (1) the proposed Agreement documents, (2) Kern County’s Oil and Gas FEIR, which evaluated the environmental impacts of the gathering line, and (3) the County’s “Conditional Use Permit Case No. 18, Map No. 141”, and Notice of Exemption for a biomass conversion facility, which were both approved on September 28, 2017 by Kern County.  It is my opinion that the work to be performed under the proposed Agreement, along with the identified mitigation measures, will eliminate or mitigate the environmental effects of the Agreement project to less than significant levels.

Based on my review and consideration of the above documents, it is my independent and professional opinion that, since the above CEQA documents have been finalized, there have been no new Agreement changes, and no new, additional, or increased significant environmental impacts have occurred. Furthermore, I have not identified any new information which would change the conclusions of the County’s CEQA documents, or render those conclusions inadequate.

It is also my independent and professional opinion that the work to be performed under the proposed Agreement falls within the scope of the County’s CEQA documents. The Agreement will not result in any new significant environmental impacts. Finally, I have not identified any new mitigation measures, within the CEC’s authority, that would lessen or further mitigate the impacts of the Agreement.

The reasons for my conclusions are as follows:

Aesthetics
The proposed Agreement project will not have any impact on aesthetics, and will not change the impacts identified in the County’s CEQA documents.

Agriculture and Forest Resources
The proposed Agreement project will convert less than a third of an acre of ranchland to nonagricultural use. The proposed Agreement will not have any impact on Agriculture
and Forest Resources, and will not change the impacts identified in the County’s CEQA documents.

Air Quality
No new significant air emissions, beyond those originally identified in the County’s CEQA documents, either for criteria pollutants or toxics, would occur, should the Energy Commission approve the Agreement. The San Joaquin Valley Air Pollution Control District (District) has developed plans to attain state and federal standards for ozone and PM. The District has listed no mitigations from those air quality plans for the Agreement in the revised Authorization to Construct (ATC) permit of 3/1/18, which says, “The criteria pollutant emissions and toxic air contaminant emissions associated with the proposed project are not significant, and there is minimal potential for public concern for this particular type of facility/operation.”

Biological Resources
Some Agreement-specific mitigation measures were finished prior to permit issuance including a Biological Reconnaissance Survey that searched for bat maternity roosts, San Joaquin kit fox and American badger dens, etc. listed in Mitigation Measure 4.4. The proposed Agreement will not have any impact on Biological Resources, and will not change the impacts identified in the County’s CEQA documents.

Cultural Resources
The proposed Agreement project will not have any impact on cultural resource, and will not change the impacts identified in the County’s CEQA documents.

Geology and Soils
The proposed Agreement project will not have any impact on Geology and Soils, and will not change the impacts identified in the County’s CEQA documents.

Greenhouse Gas Emissions
The proposed Agreement project will cause less than significant greenhouse gas emissions.

Hazards and Hazardous Materials
The impact is reduced to less than significant by mitigations, and will not change the impacts identified in the County’s CEQA documents.

Hydrology and Water Quality
Surface water runoff, stormwater control, spill prevention, and other hydrology best practice mitigations will be used. Thus, the proposed Agreement will not have any impact on Hydrology and Water Quality, and will not change the impacts identified in the County’s CEQA documents.

Land Use and Planning
The proposed Agreement project will not have any impact on Land Use and Planning, and will not change the impacts identified in the County’s CEQA documents.
Mineral Resources
No natural gas, oil or non-renewable resources will be extracted from the earth. The proposed Agreement will not have any impact on Mineral Resources, and will not change the impacts identified in the County’s CEQA documents.

Noise
At the biomethane upgrade facility (BUF), compressors are proposed. All compressors make some fan noise. The Agreement will have less than significant impact on noise, and will not change the impacts identified in the County’s CEQA documents. Construction noise impacts are short-term and cease upon completion of the capital expansion. The proposed installation of the low-pressure biogas gathering line (not funded under the Agreement) may exceed the thresholds of significance for noise impacts for a few days during construction. To bury pipes, motorized equipment will trench the earth parallel to the shoulder of rural roads, including near residences. However, considering the 30 year life of the gathering line, the proposed Agreement will have less than significant impact on noise, and will not change the impacts identified in the County’s CEQA documents.

Population and Housing
The proposed Agreement project will not have any impact on population and/or housing, and will not change the impacts identified in the County’s CEQA documents.

Public Services
The proposed Agreement project will have no impact on Public Services, and will not change the impacts identified in the County’s CEQA documents.

Recreation
The proposed Agreement project will have no impact on recreation, and will not change the impacts identified in the County’s CEQA documents.

Transportation/Traffic
The proposed Agreement project will have no impact on the Transportation/Traffic, and will not change the impacts identified in the County’s CEQA documents.

Utilities and Service Systems
Containment and disposal of water after industrial use and other utility best practices will have less than significant impact on the utilities and service systems, and will not change the impacts identified in the County’s CEQA documents.

Water Resources
The County Oil and Gas FEIR fully discloses that available ground water supplies are a significant issue for the 3,100 square-mile Project Area. Water quantity is finite, so each new permit for consumption affects all water users. The proposed Agreement’s 2,000 gallons of water per day usage volume is small when considered among thousands of oil and gas projects in Kern County. The proposed Agreement will result in less than
significant impact on the Water Resources, which are supplied under agricultural permit. The agreement will not change the impacts identified in the County’s CEQA documents.
A copy of lead agency Kern County’s 2015 Final Environmental Impact Report for Revisions to Kern County Zoning Ordinance- 2015 C, focused on Oil and Gas Local Permitting can be found at the following link:

BEFORE THE BOARD OF SUPERVISORS
COUNTY OF KERN, STATE OF CALIFORNIA

Resolution No. 2015-298

In the matter of:

APPROVING AMENDMENTS TO TITLE 19
OF THE KERN COUNTY ORDINANCE CODE
CONCERNING OIL AND GAS LOCAL PERMITTING
AND ADOPTING RELATED FINDINGS AND
MAKING RELATED DETERMINATIONS
(KERN COUNTY PLANNING AND
COMMUNITY DEVELOPMENT DEPARTMENT)

I, KATHLEEN KRAUSE, Clerk of the Board of Supervisors of the County of Kern, do certify that the following resolution, on motion of Supervisor Maggard, seconded by Supervisor Scriver, was duly passed and adopted by the Board of Supervisors at an official meeting this 9th day of November, 2015, by the following vote:

AYES: Gleason, Scrivner, Maggard, Couch, Perez

NOES: None

ABSENT: None

KATHLEEN KRAUSE
Clerk of the Board of Supervisors
County of Kern, State of California

Respectfully submitted,

[Signature]
Deputy Clerk

RESOLUTION

Section 1. WHEREAS:

(a) Pursuant to California Government Code sections 65000 et seq, this Board has adopted the Official Land Use and Zoning Ordinance for the County of Kern which is located in Title 19 of the Kern County Ordinance Code (Zoning Ordinance); and

Resolution No. 2015-298
(b) In response to a referral from the Board of Supervisors on January 22, 2013, The Planning and Community Development Department, with technical assistance from Western State Petroleum Association, California Independent Petroleum Association, and Independent Oil Producers Agency have requested revisions be made to the Zoning Ordinance concerning oil and gas local permitting which would apply Countywide; and

(c) The Planning and Community Development Department has prepared and considered a Final Environmental Impact Report (SCH# 2013081079) (FEIR) with all notices and scoping in compliance with the California Environmental Quality Act (CEQA) Statues and Guidelines, relating to the requested revisions and has the found FEIR to be complete and adequate in scope for the consideration of the requested revisions to be made to the Zoning Ordinance; and

(d) The Planning and Community Development Department has ensured that proper notice has been given of this public hearing; and

(e) A copy of the FEIR and the recommendations of the Planning and Community Development Department have been on file and available for examination as required by law; and

(f) This request was considered by the Kern County Planning Commission on October 5, 2015 and, with the exception of Commissioner Poole who recused herself, the Commission unanimously recommended that this Board approve the requested revisions to the Kern County Zoning Ordinance and the proposed CEQA actions, which include certifying the FEIR and adopting the proposed Findings of Fact pursuant to CEQA Guidelines Section 15091, the proposed Statements of Overriding Considerations pursuant to CEQA Guidelines Section 15093 and, the proposed Mitigation Monitoring and Reporting Program; and

(g) The Director of the Planning and Community Development Department furnished to this Board, and this Board has incorporated in the record of this matter, a document setting forth the significant environmental effects identified in the FEIR, with proposed findings, and evidence supporting the proposed findings, for consideration by this Board in relation to the significant effects for the purpose of Public Resources Code section 21081 and State CEQA Guidelines sections 15091 and 15093. A member of the Planning and Community Development Department also appeared before this Board and gave additional testimony in support of the proposed findings; and

(h) During the hearing, this Board reviewed and considered the information contained and provided by the Planning and Community Development Department, along with public comments and the whole of the record, with respect to the merits of the matters under consideration including: the adequacy and scope of the FEIR, the proposed Findings of Fact pursuant to CEQA Guidelines section 15091, proposed Statements of Overriding Considerations pursuant to CEQA Guidelines section 15093, and proposed Mitigation Monitoring and Reporting Program; and
(i) The public hearing was timely conducted on this matter and all persons desiring to comment were given the opportunity to do so before this Board closed the public hearing and considered the matter.

Section 2. IT IS RESOLVED by the Board of Supervisors of the County of Kern, State of California, as follows:

1. This Board finds that the recited facts are true and that it has the jurisdiction to consider, approve, and adopt this Resolution.

2. This Board incorporates and makes all the findings recommended by staff, whether verbally or in their written reports.

3. This Board finds and determines that the applicable provisions of the California Environmental Quality Act of 1970 ("CEQA"), the State CEQA Guidelines, and the Kern County Guidelines for implementation thereof were duly observed in conjunction with the hearing and the consideration of the requested revisions to the Zoning Ordinance concerning oil and gas local permitting.

4. The requested revisions to the Zoning Ordinance concerning oil and gas local permitting, which are specifically set forth in Ordinance G-8605, are hereby approved despite the existence of certain significant environmental effects identified in the FEIR.

5. This Board makes and adopts the findings with respect to each significant environmental effect set forth in the Findings of Fact (Exhibit "A"), pursuant to Public Resources Code section 21081 and CEQA Guidelines section 15091, as recommended by the Planning and Community Development Department, and declares that it considered the evidence described in connection with each finding and that the evidence is substantial and supports each finding.

6. This Board approves and adopts a "Statement of Overriding Considerations" (Exhibit "B"), pursuant to Public Resources Code section 21081(b) and CEQA Guidelines section 15093, as recommended by the Planning and Community Development Department, and finds that the impacts of the project which remain significant and unavoidable are outweighed by the project's overriding benefits.

7. This Board finds, determines and certifies that the FEIR is complete and adequate in scope and was completed in compliance with CEQA, the State CEQA Guidelines, and the Kern County Guidelines for implementation thereof; and that this Board has fully reviewed and considered the information in the each with respect to the project described, and the related proposed Mitigation Measure Monitoring Program is hereby adopted (Exhibit "C")

8. This Board finds and determines adoption of the Zoning Ordinance text changes (Exhibit "D") and recommended changes to Section 19.98.145 is necessary to promote the public health, safety and welfare of Kern County's residents and communities while providing permit streamlining for oil and gas activities in the County.
9. This Board finds and determines adoption of the Zoning Ordinance text changes include additional procedures and compliance standards that address changes in laws and regulations by other agencies, and technological advancements within the oil and gas industry, for the purpose of reducing or eliminating potential significant adverse environmental impacts, to the extent feasible, of future oil and gas activities, and thereby promote current County ordinances reflecting the County’s interest in protecting the health, safety, and general welfare of residents and visitors.

10. This Board finds and determines that the changes implement this Board’s policy direction to encourage ongoing economic development by the oil and gas industry that creates quality, high paying jobs and the promotion of capital investment in Kern County, which enables the County to invest in capital improvement projects and social programs, which benefit County residents, retail businesses, and capital industries which ensures the County’s fiscal stability.

11. This Board finds and determines the adoption of the Zoning Ordinance text changes continue Kern County’s ongoing commitment to consult and cooperate with Federal, State, Regional, and local agencies by periodically reviewing adopted regulations to ensure the long-term viability of Kern County’s resources.

12. This Board finds and determines the adoption of the Zoning Ordinance text changes will continue to improve and streamline current energy regulations and support efficient permitting at the State and Federal level for Oil and Gas activities; protect areas of important mineral, petroleum, and agricultural resource potential for future use by promoting sustainability and encouraging best management practices, which are mutually beneficial, through strategic short- and long-range planning; and promote the protection of environmental resources by emphasizing the conservation of productive agricultural lands, the encouragement of planned urban growth, the promotion of clean air strategies to address existing air quality issues, and the promotion of long term water conservation strategies which will promote the quality and adequacy of surface and groundwater supplies for future growth of all of Kern County’s industries.

13. This Board finds and determines the adoption of the Zoning Ordinance text changes will contain new development within an area large enough to meet generous projections of foreseeable need, but in locations that will not impair the economic strength derived from residential developments, agriculture, rangeland, mineral resources, or diminish the other amenities that exist in Kern County.

14. This Board finds and determines that the adoption of the requested Zoning Ordinance text changes, as recommended by the Planning and Community Development Department, will serve the public interest and welfare, and the request is accepted and approved.

15. This Board finds and determines that the adoption of the requested Zoning Ordinance text changes are consistent with and implement the policies and goals of the Kern County General Plan, the Kern County Metropolitan Bakersfield General Plan, all Specific Plans in
the boundary area and the Airport Land Use Compatibility Plan protecting the safety of the public, users of the public use airports and military flight and training operations in airspace in the county.

16. The Clerk of this Board shall cause the payment of fees to the California Department of Fish and Wildlife, as required by AB 3158 (Public Resources Code section 10005) and the filing of a Notice of Determination with the County Clerk.

17. The Clerk of this Board shall transmit copies of this Resolution to:

Planning and Community Development Department
Public Works
Fire Chief
Environmental Health Services
Animal Services
County Counsel
California Department of Conservation/Division of Oil, Gas and Geothermal, Resources
California Regional Water Quality Control Board
California Department of Fish and Wildlife
California Air Resources Board
California Environmental Protection Agency
California Natural Resources Agency
California Department of Conservation
San Joaquin Valley Air Pollution Control District
Western States Petroleum Association
California Independent Producers Association
Independent Oil Producers Agency
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FINDINGS OF FACT IN SUPPORT OF DETERMINATIONS
RELATED TO SIGNIFICANT ENVIRONMENTAL IMPACTS

State CEQA Guidelines Section 15091

For

REVISIONS TO THE KERN COUNTY
ZONING ORDINANCE – 2015(C) PROJECT

California Independent Petroleum Association
Independent Oil Producers Association
Western States Petroleum Association

Final Environmental Impact Report

(SCH# 2013081079)

Lead Agency: Kern County Planning and
Community Development Department

SECTION I. INTRODUCTION

The following findings of fact are based in part on the information contained in the Draft and Final Environmental Impact Report (EIR) for the Revisions to the Kern County Zoning Ordinance – 2015(C) Project ("Project"), as well as additional facts found in the complete record of proceedings. The EIR is hereby incorporated by reference and is available for review at the Kern County Planning and Community Development Department, 2700 "M" Street, Suite 100, Bakersfield, California 93301, during normal business hours.

Public Resources Code section 21002 provides that “public agencies should not approve projects as proposed if there are feasible alternatives or feasible mitigation measures available which would substantially lessen the significant environmental effects of such projects[.]” The same statute provides that the procedures required by CEQA “are intended to assist public agencies in systematically identifying both the significant effects of projects and the feasible alternatives or feasible mitigation measures which will avoid or substantially lessen such significant effects.” Section 21002 goes on to provide that “in the event [that] specific economic, social, or other conditions make infeasible such project alternatives or such mitigation measures, individual projects may be approved in spite of one or more significant effects thereof.”

The mandate and principles announced in Public Resources Code section 21002 are implemented, in part, through the requirement that agencies must adopt findings before approving projects for which EIRs are required. For each significant environmental effect identified in an EIR for a project, the approving agency must issue a written finding reaching one or more of three permissible conclusions. The first such finding is that changes or alterations have been required in, or incorporated into, the project which avoid or substantially lessen the significant environmental effect as identified in the Final EIR. The second permissible finding is that such
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changes or alterations are within the responsibility and jurisdiction of another public agency and not the agency making the finding, and such changes have been adopted by such other agency or can and should be adopted by such other agency. The third potential conclusion is that specific economic, legal, social, technological, or other considerations, including provision of employment opportunities for highly trained workers, make infeasible the mitigation measures or project alternatives identified in the Final EIR. (CEQA Guidelines, § 15091.) Public Resources Code section 21061.1 defines “feasible” to mean “capable of being accomplished in a successful manner within a reasonable period of time, taking into account economic, environmental, social, legal, and technological factors.” CEQA Guidelines section 15364 adds another factor: “legal” considerations. (See also Citizens of Goleta Valley v. Bd. of Supervisors (1990) 52 Cal.3d 553, 565 (Goleta II).)

The concept of “feasibility” also encompasses the question of whether a particular alternative or mitigation measure promotes the underlying goals and objectives of a project. (City of Del Mar v. City of San Diego (1982) 133 Cal.App.3d 410, 417 (City of Del Mar); Sierra Club v. County of Napa (2004) 121 Cal.App.4th 1490, 1506-1509 [court upholds CEQA findings rejecting alternatives in reliance on applicant’s project objectives]; see also California Native Plant Society v. City of Santa Cruz (2009) 177 Cal.App.4th 957, 1001 (CNPS) [“an alternative ‘may be found infeasible on the ground it is inconsistent with the project objectives as long as the finding is supported by substantial evidence in the record’”] (quoting Kostka & Zischke, Practice Under the Cal. Environmental Quality Act [Cont.Ed.Bar 2d ed. 2009] (Kostka), § 17.39, p. 825); In re Bay-Delta Programmatic Environmental Impact Report Coordinated Proceedings (2008) 43 Cal.4th 1143, 1165, 1166 (Bay-Delta) [“[i]n the CALFED program, feasibility is strongly linked to achievement of each of the primary project objectives”; “a lead agency may structure its EIR alternative analysis around a reasonable definition of underlying purpose and need not study alternatives that cannot achieve that basic goal”].) Moreover, “feasibility” under CEQA encompasses “desirability” to the extent that desirability is based on a reasonable balancing of the relevant economic, environmental, social, legal, and technological factors.” (City of Del Mar, supra, 133 Cal.App.3d at p. 417; see also CNPS, supra, 177 Cal.App.4th at p. 1001 [“an alternative that ‘is impractical or undesirable from a policy standpoint’ may be rejected as infeasible”] (quoting Kostka, supra, § 17.29, p. 824); San Diego Citizenry Group v. County of San Diego (2013) 219 Cal.App.4th 1, 17.)

For purposes of these findings (including the table described below), the term “avoid” refers to the effectiveness of one or more mitigation measures to reduce an otherwise significant effect to a less than significant level. Although CEQA Guidelines section 15091 requires only that approving agencies specify that a particular significant effect is “avoid[ed] or substantially lessen[ed],” these findings, for purposes of clarity, in each case will specify whether the effect in question has been “avoided” (i.e., reduced to a less than significant level).

CEQA requires that the lead agency adopt mitigation measures or alternatives, where feasible, to substantially lessen or avoid significant environmental impacts that would otherwise occur. Project modification or alternatives are not required, however, where such changes are infeasible or where the responsibility for modifying the project lies with some other agency. (CEQA Guidelines, § 15091, subd. (a), (b).)

With respect to a project for which significant impacts are not avoided or substantially lessened, a public agency, after adopting proper findings, may nevertheless approve the project if the agency first adopts a statement of overriding considerations setting forth the specific reasons why the agency found that the project’s “benefits” rendered “acceptable” its “unavoidable adverse environmental effects.” (CEQA Guidelines, §§ 15093, 15043, subd. (b); see also Pub. Resources
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Code, § 21081, subd. (b). The California Supreme Court has stated, "[t]he wisdom of approving ... any development project, a delicate task which requires a balancing of interests, is necessarily left to the sound discretion of the local officials and their constituents who are responsible for such decisions. The law as we interpret and apply it simply requires that those decisions be informed, and therefore balanced." (Goleta II, supra, 52 Cal.3d at p. 576.) The EIR for the Project concluded the Project would create any significant and unavoidable impacts; thus, a Statement of Overriding Considerations is required.

These findings constitute the County’s best efforts to set forth the evidentiary and policy bases for its decision to approve the Project in a manner consistent with the requirements of CEQA. To the extent that these findings conclude that various mitigation measures outlined in the Final EIR are feasible and have not been modified, superseded or withdrawn, the County hereby binds itself to implement these measures. These findings, in other words, are not merely informational, but rather constitute a binding set of obligations that will come into effect when the County adopts a resolution approving the Project.

In addition, a Mitigation Monitoring and Reporting Program (MMRP) has been prepared for the Project, and is being approved by the Board of Supervisors by the same Resolution that has adopted these findings. The County will use the MMRP to track compliance with Project mitigation measures. The Mitigation Monitoring and Reporting Program will remain available for public review during the compliance period. The Final Mitigation Monitoring and Reporting Program is attached to and incorporated into the environmental document approval resolution and is approved in conjunction with certification of the EIR and adoption of these Findings of Fact.

SECTION II. FINDINGS REGARDING THE POTENTIAL ENVIRONMENTAL EFFECTS OF THE PROJECT

Kern County Planning and Community Development Department issued a Notice of Preparation of a Draft Environmental Impact Report on August 28, 2013. Based on the Initial Study and Notice of Preparation, a determination was made that the EIR would contain a comprehensive analysis of all environmental issues, identified in Appendix G of the California Environmental Quality Act (CEQA) Guidelines.

An Environmental Impact Report (EIR) was prepared for this project in accordance with the California Environmental Quality Act (CEQA) Guidelines. As required by CEQA, the EIR includes appropriate review, analysis, and mitigation measures for the environmental impacts of the proposed project. This Final EIR could be utilized by other permitting agencies in their capacity as Responsible and Trustee agencies under CEQA.

To initiate the EIR process, a Notice of Preparation/Initial Study (NOP/IS) (State Clearinghouse No. (2013081079) was circulated for a 30-day public review period beginning on beginning August 30, 2013 and ending on September 30, 2013. Four scoping meetings were noticed and held at the following locations and dates:

Lost Hills Recreation Building, Lost Hills Park, Hwy 46, Lost Hills, CA (September 16, 2013)

Taft Veterans Hall, Room 1, 218 Taylor Street, Taft, CA (September 18, 2013)

Kern County Board Chambers, 1st Floor Board Chambers, 1115 Truxtun Ave, Bakersfield, CA (September 23, 2013)
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Shafer Veterans Building, Room 2, 309 California Avenue, Shafer CA (September 25, 2013)

Thirty Seven (37) written comments were received in response to the circulated Notice of Preparation/Notice of Intent and were used in the preparation of the EIR. An additional ten (10) comments were received after the close of the public comment period. However, Staff included these comments in the NOP Appendix of the EIR (Appendix D).

Based on the analysis contained in the Initial Study and comments received in response to the Notice of Preparation, a Draft EIR was prepared and circulated for a public review period, beginning on July 8, 2015. During the initial review period, Staff notified all recipients of the DEIR and posted a notice on the Planning Department website that the review period was extended to September 11, 2015. In total, over 700 Notices of availability of the Draft EIR were distributed. The Draft EIR was also available on the Kern County Planning and Community Development Department’s webpage, as well as the CSUB, Beale, Boron, Arvin, Baker Branch, Delano Branch, Buttonwillow Branch, California City Branch, Kernville Branch, Frazier Park Branch, Holloway/Gonzales Branch, Jackson/McFarland Branch, Kern River Valley Branch, Lamont Branch, Rathburn Branch, Mojave Branch, Northeast Branch, Shafer Branch, Ridgecrest Branch, Wanda Kirk/Rosamond Branch, Tehachapi Branch, Southwest Branch, and Taft Branch Public Libraries. On July 29, 2015, the Planning and Community Development Department extended the review period from August 24, 2015 to September 11, 2015. A Joint Planning Commission and Board of Supervisors Workshop was held on July 27, 2015. As well as two workshops in Shafer and Taft on August 10, 2015 and August 17, 2015, respectively. The workshop comments were included in Chapter 7 – Response to Comments Appendix D-1. Seventy-one (71) written comments from individuals or agencies/organizations were received on the Draft EIR during this public review period. As required by Section 15088 of the State CEQA Guidelines, responses to these comments were prepared and provided to the agencies and interested parties that submitted return addresses. The Response to Comments was provided 10 days before this hearing.

For the purposes of CEQA, and the findings herein set forth, the administrative record for the Project consists of those items listed in Public Resources Code section 21167.6, subdivision (e). The record of proceedings for the County’s decision on the Project consists of the following documents, at a minimum, which are incorporated by reference and made part of the record supporting these findings:

- The NOP and all other public notices issued by the County in conjunction with the Project;
- The Draft EIR for the Project and all documents relied upon or incorporated by reference;
- All comments submitted by agencies or members of the public during the 45-day comment period on the Draft EIR;
- All comments and correspondence submitted to the County during the public comment period on the Draft EIR, in addition to all other timely comments on the Draft EIR;
- The Final EIR for the Project, including the Planning Commission staff report, minutes of the Planning Commission public hearing; Board of Supervisors staff report; minutes of the Board of Supervisors public hearing; comments received on the Draft EIR; the County’s responses to those comments; technical appendices; and all documents relied upon or incorporated by reference;
- The mitigation monitoring and reporting program (MMRP) for the Project;
- All findings and resolutions adopted by the County in connection with the Project, and all documents cited or referred to therein;
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- All reports, studies, memoranda, maps, staff reports, or other planning documents relating to the Project prepared by the County, consultants to the County, or responsible or trustee agencies with respect to the County's compliance with the requirements of CEQA and with respect to the County's action on the Project;
- All documents submitted to the County by other public agencies or members of the public in connection with the Project, up through the close of the public hearing;
- Any minutes and/or verbatim transcripts of all information sessions, public meetings, and public hearings held by the County in connection with the Project;
- Any documentary or other evidence submitted to the County at such information sessions, public meetings and public hearings;
- All resolutions adopted by the County regarding the Project, and all staff reports, analyses, and summaries related to the adoption of those resolutions;
- The County's General Plan and applicable Specific Plans and all updates and related environmental analyses;
- Matters of common knowledge to the County, including, but not limited to Federal, State, and local laws and regulations;
- The County's Zoning Code;
- Any documents expressly cited in these findings, in addition to those cited above; and
- Any other materials required for the record of proceedings by Public Resources Code section 21167.6, subdivision (e).

Pursuant to Guidelines section 15091(e), the administrative record of these proceedings is located and available for review at the Kern County Planning and Community Development Department, 2700 "M" Street, Suite 100, Bakersfield, California 93301, during normal business hours. The custodian of these documents and other materials is the Kern County Planning and Community Development Department.

The County has relied on all of the documents listed above in reaching its decisions on the proposed Project even if not every document was formally presented to the Board of Supervisors or County Staff as part of the County files generated in connection with the Project. Without exception, any documents set forth above not found in the Project files fall into one of two categories. Many of them reflect prior planning or legislative decisions of which the Board of Supervisors was aware in approving the Project. (See City of Santa Cruz v. Local Agency Formation Commission (1978) 76 Cal.App.3d 381, 391-391; Dominey v. Department of Personnel Administration (1988) 205 Cal.App.3d 729, 738, fn. 6.) Other documents influenced the expert advice provided to County Staff or consultants, who then provided advice to the Planning Commission and the Board of Supervisors as final decision makers. For that reason, such documents form part of the underlying factual basis for the County's decisions relating to approval of the Project. (See Pub. Resources Code, § 21167.6, subd. (e)(10); Browning-Ferris Industries v. City Council of City of San Jose (1986) 181 Cal.App.3d 852, 866; Stanislaus Audubon Society, Inc. v. County of Stanislaus (1995) 33 Cal.App.4th 144, 153, 155.)

Based upon the evidence before it, the County finds that the Project will result in one or more "significant and unavoidable" impacts. Therefore, a statement of overriding considerations is required. In other words, the City must consider whether overriding economic, social, and other considerations outweigh the significant, unavoidable effects of the Project, because the Project simply will not create any significant unavoidable effects. The required statement of overriding considerations is included herein. Despite concluding that certain impacts would be less than significant or would have no impact, the EIR nonetheless incorporated mitigation measures to comply with the goals, policies, and implementation measures of the Kern County General Plan.
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or other adopted regulations. The Board of Supervisors finds that these effects are less than significant or have no impact before and after implementation of these mitigation measures. With respect to all impacts identified as “less than significant” or as having “no impact” in the EIR, the Board of Supervisors finds that those impacts have been described accurately and are less than significant or have no impact as so described in the EIR, as follows:

1. AESTHETICS


The Project will not have a substantial adverse effect on a scenic vista (Impact 4.1-1).

The Project will not substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a State scenic highway (Impact 4.1-2).

B. Environmental Effects of the Project That Are Potentially Significant, but That Can Be Mitigated to Less Than Significant Levels.

None.

C. Environmental Effects of the Project That Cannot Be Mitigated to a Level Less Than Significant.

Significant Effect:

Without mitigation, the Project has the potential to substantially degrade the existing visual character or quality of the site and its surroundings (Impact 4.1-3).

Description of Specific Impact:

Impacts on aesthetic resources due to construction, operation, well stimulation, or decommissioning/abandonment of oil and gas development facilities would result from changes to existing views of the landscape by viewers with high visual sensitivity (i.e., people with high interest and concern for the visual quality of the landscape and changes to it, such as residents from the vicinity of their homes or people engaging in recreation or leisure activities). Aesthetic impacts may include a substantial change to the landscape character (e.g., from rural, agricultural, or natural to more developed or industrial-appearing) or reduction in scenic quality (e.g., substantially altering views of agricultural, agrarian, or natural landscapes that characterize the area or are valued by local or regional residents for their scenic quality).

While the aesthetic impacts of most single wells or associated facilities could be mitigated, the annual addition of as many as approximately 2,700 wells and the associated ancillary facilities could change the landscape in Kern County. Although most future oil and gas activities would occur in Tier 1 and Tier 2, and more than 2,000 wells could also be removed annually from these areas, there is the potential that areas that are currently primarily agricultural or open space and that have a predominantly rural or natural aesthetic character could be converted to a predominantly industrial developed character with the addition of large numbers of highly visible and noticeable construction and exploratory equipment, materials, vehicles, and construction activities including well stimulation, and decommissioning/abandonment. While less visible, visible facilities during routine operations including well pads, pumping facilities, storage tanks,
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access roads, and ancillary facilities could also intensify in these areas. The addition of large amounts of new industrial elements in areas where they currently do not occur or are a minor element in the landscape could substantially reduce the intactness, unity, and vividness of existing views of the landscape throughout the Project Area. Accordingly, the overall aesthetic effects of oil and gas development for this Project could be significant.

Finding:

Although implementation of mitigation measures would reduce the adverse visual changes experienced at individual key observation point locations, there are no mitigation measures that would preserve the existing visual character and quality of the Project Area and its surroundings. Project-related oil and gas activities would continue to produce visible changes to the existing environment and the resultant visual impact is considered significant and unavoidable. All feasible and reasonable changes or alterations have been required in, or incorporated into, the Project to substantially lessen the potentially significant effects identified in the EIR.

Brief Explanation of the Rationale for the Finding:

CEQA requires that all feasible and reasonable mitigation be applied to reduce the Project’s impacts to the existing visual character or quality of the environment. Because Project-related oil and gas activities would continue to produce visible changes to, and thus degrade, the existing environment, there are no feasible and reasonable mitigation measures that can be implemented to reduce this impact to a less than significant level. The following mitigation measures will be incorporated into the Project to lessen the impacts to visual quality to the greatest extent possible:

**MM 4.1-1** The Applicant shall use existing roads to access oil production areas, or shall construct new roads (or extend existing roads) to minimize the amount of disturbance without impeding existing surface use.

**MM 4.1-2** All derricks, boilers, and other drilling equipment used to drill, repair, clean out, deepen or redrill any well with oil, gas, or other hydrocarbon shall be removed from the drill site within 90 days after completion of production tests or after abandonment of any well. Earthen sumps used in drilling shall be filled within 90 days after any well has been placed in production (unless such sumps are to be used within six months for the drilling of another well), and any sump used in productions shall be filled after its abandonment and restored to a uniform grade within ninety days.

**MM 4.1-3** Sumps and ponds shall be permitted only to the extent authorized by the Central Valley Regional Water Quality Control Board (via waiver, Waste Discharge Requirements, or other form of authorized written documentation) and shall comply with all applicable legal requirements and mitigation measures for sumps serving as storage, percolation or evaporation ponds for produced water.

**MM 4.1-4** Except where located within agricultural land, new oil or gas tanks located within 200 feet of any sensitive receptor shall be partially screened from public view by shrubs, trees or solid screen fencing. Similarly, new pump sites (including multiple well pump sites) within 500 feet of any dwelling must be surrounded by a fence, at least 6 feet in height, constructed of dark-colored chain-link with wood or metal slates, dark green or brown fabric material, or other more visually restrictive fencing material. The height of all new pumping units shall not exceed
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80 feet, and shall be painted in accordance with the Kern County Zoning Ordinance.

MM 4.1-5 Project signage is limited to directional, warning, safety, security and identification signs in connection with oil, gas, or other hydrocarbon drilling and development operations in accordance with Chapter 19.84.135 of the Kern County Zoning Ordinance. For any signage necessary for wayfinding, safety, or security, the Applicant shall use the minimum necessary to adequately communicate the required information.

Significant Effect:

Without mitigation, the Project has the potential to create a new source of substantial light or glare which will adversely affect day or nighttime view in the area (Impact 4.1-4).

Description of Specific Impact:

Impacts on aesthetic resources due to construction, operation, well stimulation, or decommissioning/abandonment of oil and gas development facilities would result from activities that create a new source of substantial light or glare that would adversely affect day or nighttime views in the vicinity of the activities. Construction activities generally occur during daytime hours, and may generate glare from construction equipment, materials, and vehicles. Operation activities and elements that are likely to create new sources of substantial light that would adversely affect nighttime views in the area include nighttime safety and security lighting of storage tank facilities and nighttime flaring of natural gas as a byproduct of production. Flaring would be intermittent and only occur for limited periods in a few locations. Operation activities or elements that are likely to create new sources of substantial glare that would adversely affect daytime views in the area include elements such as pipes, pumping units, tanks, and other facilities with polished metal surfaces or smooth or light-colored finishes. Impacts from glare would primarily result from reflectance of sunlight off of highly reflective surfaces and be dependent upon the location of the sun and orientation of the operation elements relative to viewers. Aesthetic impacts due to substantial glare during operation of oil and gas development facilities are most likely to occur in areas that have very few or no noticeable existing oil and gas or other facilities in the area.

With respect to construction impacts, in the Eastern Subarea, aesthetic impacts of creating a new source of substantial light or glare that would adversely affect day or nighttime views in the area for construction activities for oil and gas development for KOPs 1, 2 and 3 would be less than significant, however, aesthetic impacts of creating a new source of substantial light or glare that would adversely affect day or nighttime views in the area for construction activities for oil and gas development for KOPs 4 and 5 would be significant. In the Central Subarea, aesthetic impacts of creating a new source of substantial light or glare that would adversely affect day or nighttime views in the area for construction activities for oil and gas development for KOPs 7 and 8 would be significant. In the Western Subarea, aesthetic impacts of creating a new source of substantial light or glare that would adversely affect day or nighttime views in the area for construction activities for oil and gas development for KOPs 6 and 10 would be less than significant, but this impact would be significant for KOP 9.

With respect to operation impacts, in the Eastern Subarea, aesthetic impacts of creating a new source of substantial light or glare that would adversely affect day or nighttime views in the area for operation activities for oil and gas development for KOPs 1, 2, 3 and 4 would be less than
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significant, but could be significant for KOP 5. In the Central Subarea, aesthetic impacts of creating a new source of substantial light or glare that would adversely affect day or nighttime views in the area for operation activities for oil and gas development for KOP 7 would be less than significant, but could be significant for KOP 8. In the Western Subarea, aesthetic impacts of creating a new source of substantial light or glare that would adversely affect day or nighttime views in the area for operation activities for oil and gas development for KOPs 6 and 10 would be less than significant, but would be significant for KOP 9 within Tier 2 lands.

Because the equipment, vehicles, and materials used for well stimulation, decommissioning and abandonment would appear similar to those used for construction and drilling, the new sources of substantial light and glare in the views from KOPs 1 through 10 would be temporary and similar to those described for construction. For these reasons, aesthetic impacts of creating a new source of substantial light or glare that would adversely affect day or nighttime views in the area for oil and gas development during well stimulation are considered similar to aesthetic impacts for construction of oil and gas development facilities.

Finding:

Without mitigation, the Project has the potential to cause the introduction of a new source of substantial light or glare, which would adversely affect day or nighttime view in the area. Although most of these impacts will be less than significant after mitigation, operation activities and elements could create new sources of substantial light that would significantly adversely affect nighttime views in the area, such as nighttime safety and security lighting of storage tank facilities and nighttime flaring of natural gas as a byproduct of production. All feasible and reasonable changes or alterations have been required in, or incorporated into, the Project that substantially lessen the potentially significant effects identified in the EIR.

Brief Explanation of the Rationale for the Finding:

CEQA requires that all feasible and reasonable mitigation be applied to reduce the impacts to the environment caused by the introduction of a new source of substantial light or glare. The impacts to nighttime views are anticipated to be significant, and there are no feasible and reasonable mitigation measures that can be implemented to reduce these impacts to a level that is less than significant. The impacts associated with glare are anticipated to be significant; however, mitigation measures can reduce the impacts, though not to less than significant levels. The following mitigation measures will be incorporated into the Project to lessen the impacts to views of the night sky and glare to the greatest extent possible:

MM 4.1.6 Permanent nighttime lighting that will be installed for new facility operations will only be lighting required for safety or security. During operations when the lighting is in use, lighting for safety and security will be shielded and oriented downward, bare bulbs will be fully screened from view from sensitive viewing receptors such as residences, and on-demand lighting and/or timers will be used to minimize visual impacts of lighting. In doing so, the Applicant shall comply with the standards in the amended Chapter 19.81 – Outdoor Lighting “Dark Sky Ordinance.”


None.
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E. Cumulative Environmental Effects of the Proposed Project That Will Have a Significant Impact on the Environment.

Significant Effect:

The Project will contribute to cumulative visual impacts with respect to degrading the existing visual character or quality of the site and its surroundings, and with respect to additional light or glare which would adversely affect day or nighttime views.

Description of Specific Impact:

Kern County is a growing community, and the cities within Kern County are likewise planning for continued growth. While the Project will continue to allow, with more stringent mitigation measures as well as expanded substantive and procedural Ordinance mandates, the County’s 100+-year industry of oil and gas production activities, this industry does have a visible presence on the landscape and, in combination with the implementation of other reasonably foreseeable plans, will continue to result in visible changes within Kern County. Visible changes to the landscape will occur even with implementation of the mitigation measures and other goals, policies, implementation policies, and mitigation measures for these other General Plans and regional plans, and some may view these visual changes as adverse aesthetic impacts.

Accordingly, cumulative impacts to aesthetic impacts are considered significant, and the Project’s incremental contribution to this cumulative impact is considered cumulatively considerable.

Finding:

The Project will combine with impacts of past, present and reasonably foreseeable projects to result in significant and unavoidable cumulative aesthetic impacts to the environment. Specifically, the Project will make a cumulatively significant contribution the introduction of a new source of substantial light or glare, which would adversely affect day or nighttime view in the area. All feasible and reasonable changes or alterations have been required in, or incorporated into, the Project that substantially lessen the potentially significant effects identified in the EIR, though not to a less than significant level. This impact is thus significant and unavoidable.

Brief Explanation of the Rationale for the Finding:

CEQA requires that all feasible and reasonable mitigation be applied to reduce the Project’s impacts to the aesthetic character of the environment. Implementation of Mitigation Measures 4.1-1 through 4.1-6 described above, will reduce the effects of the Project on the aesthetic quality of the Project Area to the greatest extent possible. Despite these mitigation measures, however, the Project will result in significant cumulative impacts to views. There are no feasible and reasonable mitigation measures that will prevent the Project from impacting views. The Project’s cumulative visual impact is considered significant and unavoidable.

2. AGRICULTURE AND FOREST RESOURCES


The Project will not conflict with existing agricultural zoning or Williamson Act Contracts (Impact 4.2-2).
EXHIBIT A

The Project will not conflict with existing zoning for, or cause rezoning of, forest land or timberland (Impact 4.2-3).

The Project will not result in the loss of forest land or conversion of forest land to non-forest use (Impact 4.2-4).

The Project will not result in the cancellation of an open space contract made pursuant to the California Land Conservation Act of 1965 or Farmland Security Zone contract for any parcel of 100 or more acres (Impact 4.2-6).

B. Environmental Effects of the Project That Are Potentially Significant, but That Can Be Mitigated to Less Than Significant Levels.

Significant Effect:

Without mitigation, the Project has the potential to convert prime farmland, unique farmland, or farmland of statewide importance to non-agricultural use (Impact 4.2-1).

Description of Specific Impact:

Oil and gas exploration and production activities that would be authorized through implementation of the proposed Project could result in land disturbance throughout the Project Area. Approximately 364,724 acres of the Core Areas are located within mapped FMMP lands, a majority of which are located within Tier 2 (93%). To provide a conservative analysis, it is assumed that all land disturbed by oil and gas activities within Tier 2 areas would be Farmlands, although, in fact, not all land within Tier 2 is in that category. Therefore, the proposed Project could result in the conversion of 298 acres of Prime Farmland, Farmland of Statewide Importance, or Unique Farmland (collectively, Farmland) annually, with 148 acres of conversion occurring in the Western Subarea, 60 acres occurring in the Central Subarea, and 90 acres in the Eastern Subarea. Given the estimated acreage of agricultural land converted annually, the projected amount of FMMP farmland that could be converted between the years 2015 and 2040 in Tier 2 is a total of 7,450 acres. This represents less than 1% of the total acreage of Farmland (828,973 acres) in Tier 2. Nonetheless, based on the importance of agricultural lands in Kern County and the San Joaquin Valley, this impact is considered significant.

Finding:

Without mitigation, the Project has the potential to convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance to non-agricultural use. These impacts will be reduced to a level that is less than significant with implementation of the mitigation measures described below.

Brief Explanation of the Rationale for the Finding:

CEQA requires that all feasible and reasonable mitigation be applied to reduce the Project’s environmental effects related to the conversion prime farmland, unique farmland, or farmland of statewide importance to non-agricultural use. The following mitigation measure will be incorporated into the Project to reduce this impact to a less than significant level:

MM 4.2-1 For new oil and gas exploration and extraction activities that are: 1) on land designated Prime, Farmland of Statewide Importance or Unique Farmland; and 2) that have been actively farmed 5 years or more out of the last 10 years,
EXHIBIT A

agricultural land mitigation is required at a ratio of 1:1. The 1:1 ratio is applied to actual ground disturbance area for oil and gas activities (inclusive of temporary construction and permanent operational impact areas), but excludes non-farmed existing areas such as roads, and tank and maintenance areas, and lands for which agricultural mitigation has previously been provided at a 1:1 ratio. Prior to ground disturbing activity, the Applicant shall submit to the County written evidence of completion of one or more of the following measures to achieve this 1:1 mitigation ratio:

a. Funding and/or purchasing agricultural conservation easements or similar instrument acceptable to the County (to be managed and maintained by an appropriate entity).

b. Purchasing of credits for conservation of agricultural lands from an established agricultural farmland mitigation bank or an equivalent agricultural farmland preservation program managed by the County.

c. Restoring agricultural lands to productive use through the removal of legacy oil and gas production equipment, including well abandonment and removal of surface equipment.

d. Participating in any agricultural land mitigation program adopted by Kern County that provides equal or more effective mitigation than the measures listed above.

Mitigation lands shall meet the definition of Prime Farmland, Farmland of Statewide Importance, and/or Unique Farmland, and be of similar or higher agricultural quality as the lands, as established by the California Department of Conservation. Completion of the selected measure or, with the Kern County Planning and Community Development Director’s approval, a combination of measures, are to occur on qualifying land in Kern County. If qualifying lands cannot be found in Kern County, upon written application to the County, the mitigation lands may be located within the San Joaquin Valley (San Joaquin, Stanislaus, Merced, Fresno, Madera, Kings, Tulare, or Kern County) or outside the San Joaquin Valley with written evidence that the same or equivalent crops can be produced on the mitigation land. Mitigation consisting of removal of legacy equipment within active agricultural fields shall not require recordation of an agricultural conservation easement or conservation easement. Available mitigation funding shall be prioritized for acquisition of large blocks of agricultural land for preservation, and removal of legacy equipment, to minimize and mitigate fragmentation and edge impacts.

Significant Effect:

Without mitigation, the Project has the potential to involve other changes in the existing environment which, because of their location or nature, could result in conversion of Farmland to non-agricultural use or conversion of forest land to non-forest use (Impact 4.2-5)

Description of Specific Impact:
EXHIBIT A

Although Kern County Zoning considers oil and gas and agriculture as compatible land uses, certain agricultural practices and portions of the oil and gas production cycle, if conducted in close proximity, would not be compatible and would have direct impacts. Fragmentation of farmland into smaller field sizes could make it difficult for farmers to operate certain types of equipment that are necessary to their planting, production, and harvest operations, or to viably produce certain types of crops. Oil and gas development within agricultural lands could also disrupt irrigation or field drainage systems (see Figure 4.2-3). Truck traffic could generate dust which could harm the photosynthetic processes of plants and potentially cause localized damage to fruit, vegetables, and greens. Row crops could most readily be adjusted to farm plot size and configuration, but removal of orchard trees or supported vines that take years to reach productive maturity may not be as adaptable to changes and, therefore, this impact is considered significant.

Clearing and grading involved with construction of access roads and well pad construction would disturb the agricultural soil and potentially mix topsoil and subsoil, and create dust. Use of heavy equipment, including trucks, and tanks used during oil and gas production activities would result in soil compaction beneath roads leading to well pad areas. Temporary pits and sumps that collect non-hazardous drilling fluids, wellbore cuttings, drilling wastes, crude oil, or produced water, may increase the risk of exposure of agricultural soils to potentially hazardous chemicals and materials.

Finding:

Without mitigation, the Project has the potential to involve other changes in the existing environment which, because of their location or nature, could result in conversion of Farmland to non-agricultural use or conversion of forest land to non-forest use. These impacts will be reduced to a level that is less than significant with implementation of the mitigation measures described below.

Brief Explanation of the Rationale for the Finding:

CEQA requires that all feasible and reasonable mitigation be applied to reduce the Project's environmental effects related to other changes in the existing environment which, because of their location or nature, could result in conversion of Farmland to non-agricultural use or conversion of forest land to non-forest use. The following mitigation measure will be incorporated into the Project to reduce this impact to a less than significant level:

**MM 4.2-2** To protect crops and structures adjacent to oil and gas activities on active agricultural lands, each Applicant/operator shall comply with the following mitigation measures set forth in other chapters of this Environmental Impact Report:

a. Surface water runoff and drainage on the well pads shall be mitigated as described in mitigation measures for Hydrology and Water Quality.

b. A Spill Prevention Countermeasure and Contingency Plan or Division of Oil Gas and Geothermal Resources Assembly Bill 1960 spill plan, as applicable, shall be prepared for the site and oil and chemical spills treated in accordance with the Division of Oil Gas and Geothermal Resources Senate Bill 4 Regulations for the site to protect adjacent farmland, as described in mitigation measures for Hazards.
EXHIBIT A

c. Speed limits for oil and gas trucks shall be posted on unpaved roads to reduce dust generation; in the absence of signage, speed limits shall be limited to 25 miles per hour (or an alternate, more stringent dust suppression standard as adopted by the San Joaquin Valley Air Pollution Control District), and Applicants shall attest that employees have been trained in the appropriate speed limits.

d. Unpaved roads shall be watered or otherwise treated for dust suppression and control as described in Mitigation Measure for Air Quality, unless speeds are restricted to 15 mph.

e. Vehicle tracking control shall be installed where unpaved roads intersect with public paved roads, to prevent tracking of mud, dust, and weed seeds off site, unless speeds are restricted to 15 mph. This shall consist of a 50-foot length of a 3 inch-thick layer of gravel one inch or larger in diameter (or an alternate, more stringent dust suppression technique as approved by the San Joaquin Valley Air Pollution Control District).

f. Stormwater control shall be required at construction sites during well drilling, reworking, and/or decommissioning as described in mitigation measures for Hydrology.

g. Hazardous materials shall be stored within secondary containment as described in mitigation measures for Hazards.

h. Overhead electrical or communication lines shall be shown on the Site Plan, and shall be aligned to the greatest extent feasible with existing access roads and the minimum distance between the access road and the well installation or other oil and gas facility, parallel to tree or row crops, described further in mitigation measures for Public Utilities. If the use of existing roads is not feasible, lines shall be routed to minimize surface disturbance and minimize the impacts to surface activity.

i. Underground pipelines serving the Project shall be shown on the Site Plan with locations marked and recorded with USAA, and periodically inspected and maintained as described in mitigation measures for Hazards.

C. Environmental Effects of the Project That Cannot Be Mitigated to a Level Less Than Significant.

None.


None.

E. Cumulative Environmental Effects of the Proposed Project That Will Have a Significant Impact on the Environment.

**Significant Effect:**
EXHIBIT A

The Project will contribute to cumulative impacts to agricultural or forest resources.

Description of Specific Impact:

With respect to agricultural farmland conversion, from 1998 to 2013, in Kern County, the average annual agricultural lands conversion rate has been 1,085 acres. Under the worst-case scenario, 298 acres of Prime Farmland, Farmland of Statewide Importance, or Unique Farmland could be converted annually from the implementation of the proposed Project. This 298 acres of converted Farmland would combine with other losses throughout the County to result in a significant cumulative impact on agriculture. Population growth is expected to continue in the County, and conversion of agricultural land to non-agricultural use can also be expected to occur from the need for additional residential development and infrastructure to accommodate the growth in the County.

Finding:

Impacts of the Project will combine with impacts of past, present and reasonably foreseeable projects to result in significant and unavoidable cumulative impacts to agricultural and forest resources. Specifically, the Project will make a cumulatively significant contribution to the conversion of Prime Farmland, Farmland of Statewide Importance, or Unique Farmland to non-agricultural uses. All feasible and reasonable changes or alterations have been required in, or incorporated into, the Project that substantially reduce the potentially significant effects identified in the EIR, though not to a less than significant level. This impact is significant and unavoidable.

Brief Explanation of the Rationale for the Finding:

CEQA requires that all feasible and reasonable mitigation be applied to reduce the Project’s cumulatively significant contribution to the conversion of Prime Farmland, Farmland of Statewide Importance, or Unique Farmland to non-agricultural uses. Implementation of MM 4.2-1 and MM 4.2-2, described above, will reduce the cumulative effects of the Project on agricultural or forest resources to the greatest extent feasible. Despite these mitigation measures, however, the Project will cause significant cumulative impacts to agricultural or forest resources. There are no feasible and reasonable mitigation measures that will prevent this cumulative impact of the Project. The Project’s cumulative impact to agricultural or forest resources is significant and unavoidable.

3. AIR QUALITY

A. Environmental Effects of the Project Found To Have No Impact on the Environment, or Have a Less Than Significant Impact on the Environment.

None.

B. Environmental Effects of the Project That Are Potentially Significant, but That Can Be Mitigated to Less Than Significant Levels.

Significant Effect:

Without mitigation, the Project has the potential to conflict with or obstruct implementation of the applicable air quality plan (Impact 4.3-1).
EXHIBIT A

Description of Specific Impact:

The San Joaquin Valley Air Pollution Control District (SJVAPCD or District) has developed plans to attain state and federal standards for ozone and PM. The District’s air quality plans include emissions inventories to identify the sources and quantities of air pollutant emissions, evaluate how well different control methods have worked, and demonstrate how air pollution will be reduced. Emission increases associated with activities under the Project’s permitted sources would come from boilers, cogeneration plants, process heaters, reciprocating internal combustion engines, steam generators, production tanks, thermally enhanced oil recovery wells, and VOCDD (flares). These sources would be subject to SJVAPCD prohibitory rules, notably Rule 4455 (Components at Petroleum Refineries, Gas Liquids Processing Facilities, and Chemical Plants) and Rule 4623 (Storage of Organic Liquids). Emissions from new permitted sources would also be required to be mitigated by emission offsets under Rule 2201 (New and Modified Stationary Source Review). Therefore, permitted source emissions would be consistent with the SJVAPCD’s adopted regulatory program to attain state and federal ozone and particulate matter standards.

Non-permitted sources and activities would be subject to the following federal and state regulatory programs, which are incorporated within the attainment plans for state and federal ozone and particulate matter standards: (i) heavy-duty engine and on-road vehicle standards enacted by CARB and the EPA (California standards codified at 13 CCR Section 1956.8); (ii) light and medium on-road vehicle standards enacted by CARB (starting at 13 CCR Section 1900). Non-permitted source/activity emissions were calculated using CARB’s EMFAC2011 (January 2013) emissions model, which reflects adopted California on-road vehicle emission standards, and CARB’s OFFROAD2011 model to generate fleet average emission factors for off-road mobile sources and portable equipment operated within the SJVAB. Fugitive dust emissions were calculated using predictive emission factors recommended by the EPA in AP42, Fifth Edition. Therefore, non-permitted source/activities would be consistent with adopted regulatory programs incorporated within the SJVAPCD’s ozone and particulate matter attainment plans.

Future oil and gas exploration and production activities that would be authorized under the Project would also be required to comply with the policies and measures of the Kern County General Plan and, to the extent applicable to County land, the Metropolitan Bakersfield General Plan.

Oil and gas activities that would be authorized under the Project could conflict with or obstruct implementation of the applicable air quality plan or potentially be inconsistent with the General Plan measures and therefore could be significant.

Finding:

Without mitigation, Project impacts caused by air pollutant emissions could conflict with or obstruct implementation of the applicable air quality plan or potentially be inconsistent with applicable general plan policies or measures. These impacts will be reduced to a level that is less than significant with implementation of the mitigation measures described below.

Brief Explanation of the Rationale for the Finding:

CEQA requires that all feasible and reasonable mitigation be applied to reduce the Project’s impacts on the environment caused by the introduction of air pollutant emissions during construction and operation. The following mitigation measures will reduce emissions during both construction and operation to a level that will not obstruct the implementation of an applicable air
EXHIBIT A

quality plan or applicable general plan policies and measures. The following mitigation measures will be incorporated into the Project to reduce this impact to a less than significant level:

**MM 4.3-1** Consistent with the requirements of the San Joaquin Valley Air Pollution Control District Regulation II-Permits, the Applicant shall obtain an Authority to Construct permit and a Permit to Operate for any facility or equipment requiring a permit from the San Joaquin Valley Air Pollution Control District, such as stationary sources required to obtain permits pursuant to District Rule 2010. All emissions increases from permitted equipment shall comply with District Rule 2201.

**MM 4.3-2** The Applicant shall develop and implement a Fugitive Dust Control Plan in compliance with San Joaquin Valley Air Pollution Control District fugitive dust suppression regulations to further reduce emissions, during construction, of particulate matter that is 10 microns or less and 2.5 microns or less in diameter. The Fugitive Dust Control Plan shall include:

a. Name(s), address(es), and phone number(s) of person(s) responsible for the preparation, submission, and implementation of the plan.

b. Description and location of operation(s).

c. Listing of all fugitive dust emissions sources included in the operation.

d. The following dust control measures shall be implemented:

1. All on-site unpaved roads shall be effectively stabilized using water or chemical soil stabilizers that can be determined to be as efficient as or more efficient for fugitive dust control than California Air Resources Board approved soil stabilizers, and that shall not increase any other environmental impacts including loss of vegetation.

2. All material excavated or graded will be sufficiently watered to prevent excessive dust. Watering will occur as needed with complete coverage of disturbed areas. The excavated soil piles will be watered as needed to limit dust emissions to less than 20% opacity or covered with temporary coverings.

3. Construction activities that occur on unpaved surfaces will be discontinued during windy conditions when winds exceed 25 miles per hour and those activities cause visible dust plumes. Construction activities may continue if dust suppression measures are used to minimize visible dust plumes.

4. Track-out debris onto public paved roads shall not extend 50 feet or more from an active operation and track-out shall be removed or isolated such as behind a locked gate at the conclusion of each workday, except on agricultural fields where speeds are limited to 15 mph.

5. All hauling materials should be moist while being loaded into dump trucks.
EXHIBIT A

6. All haul trucks hauling soil, sand, and other loose materials on public roads shall be covered (e.g., with tarps or other enclosures that would reduce fugitive dust emissions).

7. Soil loads should be kept below 6 inches or the freeboard of the truck.

8. Drop heights should be minimized when loaders dump soil into trucks.

9. Gate seals should be tight on dump trucks.

10. Traffic speeds on unpaved roads shall be limited to 25 miles per hour.

11. All grading activities shall be suspended when visible dust emissions exceed 20%.

12. Other fugitive dust control measures as necessary to comply with San Joaquin Valley Air Pollution Control District Rules and Regulations.

13. Disturbed areas should be minimized.

14. Disturbed areas should be re-vegetated as soon as possible after disturbance if area is no longer needed for oil and gas activities.

MM 4.3-3 All off-road construction diesel engines not registered under California Air Resources Board’s Statewide Portable Equipment Registration Program, which have a rating of 50 horsepower or more, shall meet, at a minimum, the Tier 3 California Emission Standards for Off-road Compression-Ignition Engines as specified in California Code of Regulations, Title 13, section 2423(b)(1) unless that such engine is not available for a particular item of equipment. In the event a Tier 3 engine is not available for any off-road engine larger than 100 horsepower, that engine shall be equipped with retrofit controls that would provide nitrogen oxides and particulate matter emissions that are equivalent to Tier 3 engine.

a. All equipment shall be turned off when not in use. Engine idling of all equipment shall be limited to five minutes, except under exemptions specified in California Code of Regulations Title 13 Section 2449(d)(2)(A).

b. All equipment engines shall be maintained in good operating condition and in proper tune per manufacturers’ specifications.

MM 4.3-4 To further reduce emissions of oxides of nitrogen from on-road heavy-duty diesel haul vehicles:

a. 2007 engines or pre-2007 engines shall comply with California Air Resources Board retrofit requirements set forth in California Code of Regulations Title 13 Section 2025.

b. All on-road construction vehicles, except those meeting the 2007/California Air Resources Board-certified Level 3 diesel emissions controls, shall meet all applicable California on-road emission standards and shall be licensed in the State of California. This does not apply to worker personal vehicles.
EXHIBIT A

c. All on-road construction vehicles shall be properly tuned and maintained in accordance with the manufacturers’ specifications.

**Significant Effect:**

Without mitigation, the Project will violate any air quality standard as adopted in (c)i or (c)ii, or established by the United States Environmental Protection Agency or Air District or contribute substantially to an existing or projected air quality violation (Impact 4.3-2).

**Description of Specific Impact:**

Emissions generated by the Project were evaluated against the SJVAPCD Air Quality Thresholds of Significance for Criteria Pollutants. Air quality impacts associated with the Project were separated by construction and operational emissions.

Total Project emissions resulting from the construction of new facilities on an annual basis would exceed the SJVAPCD Criteria Pollutant Significance Thresholds except SO2. However, construction of new facilities would be subject to the District’s air permitting process, which would ensure that all such emissions would have to be fully offset. Therefore, there would no net increase in these emissions.

Permit-exempt equipment and small production settings consist mainly of pressure vessels and piping components. Future production activities would entail the construction of these types of small production settings. The emissions of all criteria pollutants except SO2 associated with construction activities related to permit-exempt equipment and small production settings would exceed the SJVAPCD construction emissions threshold. These types of construction activities do not require air permits and therefore these emissions would not be offset.

The construction activities related to wells include well drilling, rework of wells, well stimulation and well abandonment. Emissions associated with well construction activities would exceed SJVAPCD Construction Emissions Thresholds and, without mitigation, would be a significant impact.

With respect to operations, emissions from permitted stationary sources, permit-exempt equipment, and mobile sources at a Project level would result in emissions levels that would exceed SJVAPCD Operational Emissions Threshold. Only the permitted stationary sources would be required to be off-set because it is a condition of SJVAPCD air permit. Therefore, there would be no net increase in these emissions. Permit-exempt equipment and mobile sources would also result in emissions level that would exceed the District’s Operation Emission Threshold, but would not be required to be offset. These emissions would thus result in a considerable net increase of certain criteria pollutants and would be a significant impact without mitigation.

**Finding:**

Without mitigation, Project impacts caused by air pollutant emissions could violate any air quality standard as adopted in (c)i or (c)ii, or established by the United States Environmental Protection Agency or Air District or contribute substantially to an existing or projected air quality violation. These impacts will be reduced to less than significant with implementation of all reasonable and feasible mitigation measures, as described below. Therefore this impact is less than significant with mitigation.
EXHIBIT A

Brief Explanation of the Rationale for the Finding:

CEQA requires that all feasible and reasonable mitigation be applied to reduce the Project’s impacts on the environment caused by the introduction of air pollutant emissions during construction and operation. The following mitigation measures will reduce emissions during both construction and operation to a level that will not violate any air quality standard as adopted in (c)i or (c)ii, or established by the United States EPA or Air District, or contribute substantially to an existing or projected air quality violation. The following mitigation measures will be incorporated into the Project to reduce this impact to a less than significant level: MM 4.3-1, MM 4.3-2, MM 4.3-3, and MM 4.3-4, described above.

Significant Effect:

Without mitigation, the Project has the potential to expose sensitive receptors to substantial pollutant concentrations (Impact 4.3-3).

Description of Specific Impact:

Project construction and operational emissions would exceed the current 10 in one million CEQA significance threshold for cancer risk if a 10,000-foot well is drilled, and if a 5,000-foot well is drilled for the years 2015 to 2017, assuming that the risk level in years 2016 and 2017 would be the same as in 2015. The cancer risk from all oil processing equipment emissions would exceed 10 in one million from the fenceline to 478 to 701 feet, depending on the Subarea. Emissions and risk from any future proposed facilities would be required to meet the Air District’s risk threshold which is currently 10 in one million. Therefore, this impact would be significant without mitigation. Moreover, onsite construction workers potentially could be exposed to Valley Fever from fugitive dust generated during construction of the proposed Project, notably during excavation, grading, and other earthmoving activities. The risks associated with exposure to Valley Fever are also significant without mitigation.

Finding:

Project impacts to sensitive receptors from emissions during construction and operations, and risks associated with exposure to Valley Fever from fugitive dust, will be reduced to less than significant levels with the incorporation of mitigation measures. These impacts will be reduced to a level that is less than significant with implementation of the mitigation measures described below.

Brief Explanation of the Rationale for the Finding:

CEQA requires that all feasible and reasonable mitigation be applied to reduce the Project’s impacts to the environment caused by the introduction of air pollutant emissions during construction and operation. The following mitigation measures will reduce emissions during both construction and operation to a level that will not expose sensitive receptors to substantial pollutant concentrations. The following mitigation measures will be incorporated into the Project to reduce this impact to a less than significant level:

MM 4.3-5 Construction:

The Site Plan Application shall include a Site Vicinity Figure showing the location of any sensitive receptor(s) within 3,000 feet of the construction site.
EXHIBIT A

(potential impact area) for the proposed new well or other ancillary facility or equipment (excluding pipelines).

a. If there are no sensitive receptors within this potential impact area, then no construction mitigation measures shall be required.

b. If there are sensitive receptors within the potential impact area, then additional information must be provided showing the setback from the closest edge of the well pad to the property line of the nearest sensitive receptor. The minimum distances shall be as follows:

<table>
<thead>
<tr>
<th>Well Depth (Feet)</th>
<th>Minimum Setback Distance from Well Site to Adjacent Property Line of an Existing Sensitive Receptor (Feet)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Western Subarea</td>
<td></td>
</tr>
<tr>
<td>10,000</td>
<td>367</td>
</tr>
<tr>
<td>5,000</td>
<td>116</td>
</tr>
<tr>
<td>2,000</td>
<td>NA</td>
</tr>
<tr>
<td>Central Subarea</td>
<td></td>
</tr>
<tr>
<td>10,000</td>
<td>367</td>
</tr>
<tr>
<td>5,000</td>
<td>116</td>
</tr>
<tr>
<td>2,000</td>
<td>NA</td>
</tr>
<tr>
<td>Eastern Subarea</td>
<td></td>
</tr>
<tr>
<td>10,000</td>
<td>296</td>
</tr>
<tr>
<td>5,000</td>
<td>NA</td>
</tr>
<tr>
<td>2,000</td>
<td>NA</td>
</tr>
</tbody>
</table>

c. If the above setbacks cannot be met, and for existing wells, the Applicant shall provide a site-specific or other risk assessment to the San Joaquin Valley Air Pollution Control District, which may include implementation of one or more of the following risk minimization measures, or other such measures that are demonstrated by the Applicant to the San Joaquin Valley Air Pollution Control District, to achieve a level of risk less than the threshold risk level, and shall provide confirmation from the San Joaquin Valley Air Pollution Control District that the activity that is the subject of the application will not exceed the risk threshold:

1. Placement of engines in the potential impact area away from the sensitive receptors.
EXHIBIT A

2. Utilize directional drilling to locate rig away further from the sensitive receptor(s).

3. Use of late-model engines, low-emission diesel products, alternative cleaner fuels (e.g., natural gas or liquefied petroleum gas), engine retrofit technology, add-on devices such as diesel particulate filters or oxidation catalyst, and/or other options as such become available to reduce emissions from off-road and other equipment.

4. Utilize electricity line power if available.

5. Shutdown all equipment when not in use, and otherwise minimize engine idling by limiting idling to 15 minutes.

6. Use of automatic rigs.

7. Assist and pay to relocate residents to temporary lodging during well construction, drilling, and completion activities, if such residents voluntarily agree to such relocation.

MM 4.3-6 Applicants shall include in their Worker Environmental Awareness Program information on how to recognize the symptoms of Valley Fever and to promptly report suspected symptoms of work-related Valley Fever to a supervisor. Workers exposed to fugitive dust shall be provided with the option of using a filter fitted over their nose and mouth, secured by a strap, including training for appropriate mask practices as part of the Worker Environmental Awareness Training Program.

C. Environmental Effects of the Project That Cannot Be Mitigated to a Level Less Than Significant.

Significant Effect:

The Project will create objectionable odors that affect a substantial number of people (Impact 4.3-4)

Description of Specific Impact:

During construction activities, odorous compounds may be present in the exhausts from on-road vehicles and off-road construction equipment. The operations of drilling, completing, and stimulation of wells may also result in the release of odorous compounds. According to the SJVAPCD, there was only one unconfirmed odor complaint related to construction activities filed over three years. Since the District’s threshold for unconfirmed complaints is three or more complaints per year averaged over three years (that is, nine unconfirmed complaints over three years), odor impacts from construction operations are not expected to be significant.

With respect to the operation of permitted equipment used for crude oil and natural gas production and processing, less than three unconfirmed complaints and less than two confirmed complaints were filed over a three-year period. Both the number of unconfirmed and confirmed complaints do not exceed the thresholds of significance established by the odor complaints for a given petroleum production or gas processing facility. This indicates that in general operation of permitted equipment does not result in an appreciable amount of emissions of odorous...
EXHIBIT A

compounds. In addition to the complaints analysis, the odor assessment screening tool based on
the list of facilities presented in EIR Table 4.3-38 shows that oil and gas production and
processing facilities are not included in the list of common facilities that are likely to have
potentially significant odor emissions.

Non-permitted activities with a potential to release odors consists mainly in on-road travel and
well maintenance. During well maintenance, a fluid is normally introduced into the well bore, and
the hydraulic pressure exerted by the fluid prevents gas from escaping into the atmosphere.
 Diesel-fueled trucks traveling on local roadways would produce exhaust odors that could be
considered offensive to some individuals. Although, in general, odors associated with diesel
fumes are temporary and disperse rapidly with distance from the source, exposure of receptors to
objectionable odor emissions from mobile-sources represent an unavoidable nuisance.

Finding:

The Project will continue to create odors, but based on past and projected future operations has
not resulted in any significant adverse impacts to nearby sensitive receptors. However, exposure
of receptors to objectionable odor emissions from mobile-sources represent an unavoidable
nuisance. Therefore, the Project could create objectionable odors that affect a substantial number
of people. These impacts will be reduced with implementation of all reasonable and feasible
mitigation measures, as described below, but not to less than significant levels. Therefore this
impact is significant and unavoidable.

Brief Explanation of the Rationale for the Finding:

CEQA requires that all feasible and reasonable mitigation be applied to reduce the Project’s
potential to create objectionable odors that affect a substantial number of people. Implementation
of MM 4.3-7, described below and incorporated into the Project, will reduce the Project’s odor
impacts to the greatest extent feasible. Despite this mitigation measure, however, the Project will
cause significant odor impacts. There are no feasible and reasonable mitigation measures that
will prevent this impact of the Project. The Project’s odor impacts are significant and
unavoidable.

MM 4.3-7 Applicant shall submit an Odor Complaint Management Plan to the County prior
to receiving its first Site Plan conformity review approval. The Plan shall include
a designated contact for odor complaints, creation of a log for odor complaints,
and protocol for handling odor complaints. The odor log and report files shall be
available for public review upon request.

D. Cumulative Environmental Effects of the Proposed Project That Will Have a Less

None.

E. Cumulative Environmental Effects of the Proposed Project That Will Have a

Significant Effect:
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The Project will result in a cumulatively considerable net increase of a criteria pollutant for which the region is in nonattainment under an applicable federal or state ambient air quality standard (Impact 4.3-5).

Description of Specific Impact:

The San Joaquin Valley Air Basin (SJVAB) is in nonattainment for PM$_{2.5}$, PM$_{10}$, and ozone. Ozone is addressed by examining its precursors which are NO$_X$, VOC, and CO. The construction and operational activities of oil and gas activities that would be authorized under this Project would result in a considerable net increase of the following criteria pollutants NO$_X$, VOC, CO, PM$_{10}$ and PM$_{2.5}$, in excess of the recommended criteria pollutant significance threshold adopted by the SJVAPCD Board. Moreover, the Project would contribute between two and 14% of these pollutants in the SJVAB or between 19% and 97% of Kern County’s contribution. The EIR’s analysis indicates that most SO$_2$ emissions in Kern County would originate from oil and gas activities and the majority of NO$_X$ emissions. Therefore, the proposed Project would have a cumulatively considerable contribution of criteria pollutant (NO$_X$, PM$_{10}$, PM$_{2.5}$, CO and SO$_2$) emissions to the Kern County portion of the SJVAB. Therefore, the contribution of Project-related impacts to air quality would be cumulatively considerable.

Finding:

Air quality impacts of the Project will combine with impacts of past, present and reasonably foreseeable projects to result in a cumulatively considerable net increase of criteria pollutants for which the Project region is in nonattainment under an applicable federal or state ambient air quality standard. Specifically, the Project will make a cumulatively significant contribution of criteria pollutant (NO$_X$, PM$_{10}$, PM$_{2.5}$, CO and SO$_2$) emissions to the Kern County portion of the SJVAB, which is in nonattainment for PM$_{2.5}$, PM$_{10}$, and ozone precursors (i.e., NO$_X$, VOC, and CO). All feasible and reasonable changes or alterations have been required in or incorporated into, the Project that substantially reduce the potentially significant effects identified in the EIR, though not to a less than significant level. Thus, this impact is significant and unavoidable.

Brief Explanation of the Rationale for the Finding:

CEQA requires that all feasible and reasonable mitigation be applied to reduce the Project’s potential to result in a cumulatively considerable net increase of criteria pollutants for which the Project region is in nonattainment under an applicable federal or state ambient air quality standard. Implementation of MM 4.3-1, MM 4.3-2, MM 4.3-3, and MM 4.3-4, described above, and MM 4.3-8, described below, will reduce the Project’s potential to result in a cumulatively considerable net increase of criteria pollutants for which the Project region is in nonattainment. Despite these mitigation measures, however, this cumulative impact will remain significant. There are no feasible and reasonable mitigation measures that will prevent this cumulative impact of the Project. Accordingly, this impact is significant and unavoidable.

MM 4.3-8 For criteria emissions not required to be offset under a District rule as described in MM 4.3-1, and for Project vehicle and other mobile source emissions, the County will enter into an emission reduction agreement with the San Joaquin Valley Air Pollution Control District, pursuant to which the Applicant shall pay fees to fully offset Project emissions of oxides of nitrogen, reactive organic gases, and particulate matter of 10 microns or less in diameter (including as applicable mitigating for reactive organic gases by additive reductions of particulate matter of 10 microns or less in diameter) (collectively, “designated
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criteria emissions”) to avoid any net increase in these pollutants. The air quality mitigation fee shall be paid to the County as part of the Site Plan review and approval process, and shall be used to reduce designated criteria emissions to fully offset Project emissions that are not otherwise required to be fully offset by District permit rules and regulations.

As an alternative to paying the fee, an Applicant may reduce emissions for one or more designated criteria emissions through actual reductions in air emissions from other Applicant sources, as submitted to the County and validated by the District. This Project offset requirement alternative shall be enforced by the County and verified by San Joaquin Valley Air Pollution Control District, and must be approved in advance by the San Joaquin Valley Air Pollution Control District. If a voluntary emission reduction agreement is not executed by the County and San Joaquin Valley Air Pollution Control District, then each Applicant must mitigate for the full amount of designated criteria pollutants as verified by the San Joaquin Valley Air Pollution Control District, with evidence of such District-verified offsets presented as part of the Site Plan Conformity Review application documentation.

Examples of feasible air emission reduction activities that may be funded by air quality fees paid by Applicant or proposed and implemented by the Applicant under the emission reduction agreement include, but are not limited to, the following:

a. Replacing or retrofitting diesel-powered stationary equipment such as motors on generators, pumps and wells with electric or other lower-emission engines that are not subject to Title V reductions.

b. Replacing or retrofitting diesel-powered school, transit, municipal and other community mobile sources such as buses, car fleets, and maintenance equipment, with electric or other lower-emission engines.

c. Reducing emissions from public infrastructure sources such as water and wastewater treatment and conveyance facilities, and reducing water-related emissions through water conservation and reclamation.

d. Funding lower-emission equipment and processes for local businesses, schools, non-profit and religious institutions, hospitals, city and county facilities.

4. BIOLOGICAL RESOURCES


None.

B. Environmental Effects of the Project That Are Potentially Significant, but That Can Be Mitigated to Less Than Significant Levels.

Significant Effect:
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Without mitigation, the Project has the potential to cause 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 by the California Department of Fish and Wildlife or the United States Fish and Wildlife Service. (Impact 4.4-1).

Description of Specific Impact:

Potential Special Status Plant Impacts.

As explained in EIR section 4.4, potential impacts to special status plants were analyzed by using: (1) statistical and habitat suitability models for 9 plant species, and (2) an assessment of the occurrence potential of 31 plant species by tier and subarea for which sufficient modeling data is not available.

Potential Impacts to Modeled Special Status Plants

If the maximum level of annual disturbance conservatively assumed in EIR Table 4.4-71 occurred each year for 25 years, impacts to modeled special status plants in the Project Area could range from 0.9% (Kern County larkspur) to 33.9% (Lost Hills crownscale) of the total modeled high quality habitat. On an annual basis, potential impacts would range from 0.04% (Kern County larkspur) to 1.36% (Lost Hills crownscale) of the total Project Area modeled high quality habitat. Impacts to the Lost Hills crownscale, heartscale San Joaquin woolly-threads, Kern mallow, recurved larkspur, and California jewelflower could range from 0.41% to 1.36% per year, and 10.2% to 33.9% over 25 years, of total Project Area high quality modeled habitat. Impacts to poor to moderate quality modeled habitat would range from 0.24% to 0.24% per year and 5.9% to 6.2% over 25 years for each of the six modeled plants for which such data was available. These impacts to modeled special status plants would be significant without mitigation.

Potential Impacts to Non-Modeled Special Status Plants

Eight of the non-modeled plants occur in all three subareas: Bakersfield smallscale, Coulter’s goldfield, Horn’s milk vetch, Tejon poppy, Mason’s neststraw, Munz’s tidy tips, Oil neststraw, and Hispid bird’s-beak. These species are the most widely distributed in the Project Area, and could also occur in both Tier 1 and Tier 2 locations where more than 97% of future disturbance is projected to occur. As a result, impacts to these species would be significant without mitigation.

Seven of the non-modeled plants occur only in the Eastern Subarea: Calico monkeyflower, California satintail, California tortula moss (California screw-moss), Comanche Point layia, Shevock’s golden aster, Striped adobe-lily, and Vasek’s clarkia. All of these species could also occur in Tiers 1 through 3 within the Eastern Subarea. As discussed above, about 21% (1,003 acres per year) of all Project Area future disturbance is projected to occur in the Eastern Subarea, of which 84% would occur in Tier 1, 9% in Tier 2, and 6% in Tier 3. As a result, the seven non-modeled plant species that occur only in the Eastern Subarea of the Project Area also could occur in Tiers 1 through 3 which account for 99% of the total projected future disturbance in the subarea. Impacts to these species would be significant without mitigation.

Six of the non-modeled plants occur only in the Western Subarea: Diamond-petaled California poppy, Hall’s tarplant, Jared’s pepper-grass, Lemmon’s jewel flower, Showy golden madia, and Temblor buckwheat. All of these species could also occur in Tier 1 and Tier 2 within the Western Subarea. As discussed above, about 71% (3,460 acres per year) of all Project Area future disturbances is projected to occur in the Western Subarea, of which 94% would occur in Tier 1...
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and 4.5% would occur in Tier 2. As a result, the six non-modeled plant species that occur only in the Western Subarea also could occur in Tiers 1 through 2, which account for 98.5% of the total projected future disturbance in the subarea. Impacts to these species would be significant without mitigation.

One non-modeled plant, Erectstem saltbush, occurs only in the Central Subarea. This species is not expected to occur in Tier 1, but could occur in Tiers 2 through 4 of the Central Subarea. About 8% of total Project Area disturbance is projected to occur in the Central Subarea, and 24% of this potential activity (about 93 acres per year) would occur in Tiers 2 through 4. The species is associated with seasonal wetlands and washes located in the northern portion of the Central Subarea, some of which is protected in existing preserve lands. Although impacts to Erectstem saltbush would likely be lower than for other non-modeled plant species due to the limited locations in which the species occurs, potential impacts could still be significant without mitigation in the event future oil and gas activities occur in these areas.

One non-modeled plant, spiny-sepaled button-celery, occurs only in the Central and Eastern Subareas. This species could also occur within Tiers 1 through 4 of in the Central and Eastern Subareas. About 29% of total Project Area disturbance is projected to occur in the Central and Eastern Subareas, and 99.9% of this potential activity (about 1,395 acres per year) would occur in Tiers 1 through 4. Potential impacts to the spiny-sepaled button-celery would be significant without mitigation because the species occurs in locations where almost all future oil and gas disturbance would be concentrated in the Central and Eastern Subareas.

Three non-modeled plants, Pale yellow layia, Piute Mountains navarretia, and Round-leaved filaree, only occur in hilly terrain within the Western and Eastern Subareas. These species could also occur within Tiers 1 through 4 of in the Western and Eastern Subareas. About 92% of total Project Area disturbance is projected to occur in the Western and Eastern Subareas, and 99.9% of this potential activity (about 4,460 acres per year) would occur in Tiers 1 through 4. Potential impacts to the Pale yellow layia, Piute Mountains navarretia, and Round-leaved filaree, would be significant without mitigation because these species occur in locations where almost all future Project Area oil and gas disturbance would be concentrated.

Five non-modeled plants, Alkali mariposa lily, Deltoid bract saltbush (Subtle orache), Lesser saltscale, Slough thistle, and Kings gold, only occur within the Western and Central subareas. These species could also occur within Tiers 1 through 4 of in the Western and Central Subareas. About 79% of total Project Area disturbance is projected to occur in the Western and Central Subareas, and 99.9% of this potential activity (about 3,851 acres per year) would occur in Tiers 1 through 4. Potential impacts to the Alkali mariposa lily, Deltoid bract saltbush, Lesser saltscale, Slough thistle, and Kings gold would be significant without mitigation because these five species occur in locations where almost all future oil and gas disturbance would be concentrated in the Western and Central Subareas.

Potential Special Status Wildlife Impacts

Potential impacts to special status wildlife were analyzed by using: (1) statistical and habitat suitability models for 28 wildlife species, and (2) an assessment of the occurrence potential of 19 special status wildlife species by tier and subarea for which sufficient modeling data is not available.

Potential Impacts to Special Status Mammals
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As shown in EIR Tables 4.4-79 to 81, potential impacts to 13 special status mammals were evaluated, including 10 modeled and 3 non-modeled species. The modeled species include the San Joaquin kit fox, the “umbrella” species identified by the SJV Recovery Plan, and three “keystone species” in the SJV Recovery Plan, the giant, Tipton, and short-nosed kangaroo rats.

EIR Table 4.4-79 shows that impacts to high quality modeled habitat for several mammals would either substantially (San Joaquin pocket mouse, San Joaquin kit fox, Tipton kangaroo rat) or largely (San Joaquin antelope squirrel, giant kangaroo rat, Tulare grasshopper mouse, short-nosed kangaroo rat) occur in Tier 1 locations and in the Western Subarea. Impacts to American badger high quality modeled habitat would also be concentrated in Tier 1 locations, but would occur in the Eastern Subarea to a greater extent than in the Western Subarea. Impacts to modeled high quality habitat for the western mastiff bat would be smaller in magnitude than for other mammals and largely confined to Western Subarea Tier 1 locations. Buena Vista shrew high quality habitat is relatively rare in the Project Area and generally associated with isolated existing or historical lakebed locations. About 1.2 acres of modeled Buena Vista shrew high quality habitat could be impacted each year, primarily in the Central Subarea. Impacts to modeled high quality mammal habitat would range from 3,000 to nearly 4,000 acres per year for the San Joaquin kit fox and pocket mouse, and from about 300 acres to over 1,700 acres per year for the San Joaquin antelope squirrel, American badger, giant kangaroo rat, Tulare grasshopper mouse, short-nosed kangaroo rat, and Tipton kangaroo rat.

EIR Table 4.4-80 shows that, for most species, modeled poor to moderate quality habitat comprises the majority of the land in each tier and subarea. Consequently, impacts to modeled poor to moderate quality special status mammal habitats would generally occur to the greatest extent in the Western Subarea, to a lesser extent in the Eastern Subarea, and mainly in Tier 1 areas because the largest amount of future disturbance is projected to occur in these portions of the Project Area. Special status mammals with the greatest amount of poor to moderate quality modeled habitat, and the largest level of potential impacts to such habitat, include the western mastiff bat (foraging), Tipton kangaroo rat, short-nosed kangaroo rat, and Tulare grasshopper mouse. Table 4.4-80 also indicates that certain species with proportionately higher amounts of high quality habitat in the Project Area, including the American badger, San Joaquin antelope squirrel, and San Joaquin kit fox, would also be subject to potential impacts to poor to moderate quality habitat ranging from 1,787 acres (San Joaquin kit fox) to nearly 3,500 acres per year (American badger). Given the proximity of large amounts of high-quality habitat in the Project Area, it is more likely that impacts to occupied habitat could also occur to these species in areas of modeled poor to moderate quality habitat.

EIR Table 4.4-82 analyzes the amount of total modeled high quality habitat for each modeled special status mammal, and low to moderate quality habitat for each species except the San Joaquin pocket mouse in the Project Area that could be impacted by the projected annual level of disturbance summarized in Table 4.4-72 over 25 years.

EIR Table 4.4-82 indicates that, if the maximum level of annual disturbance conservatively assumed in Table 4.4-71 occurred each year for 25 years, impacts in the Project Area could range from 0.4% (Buena Vista shrew) to 27.7% (giant kangaroo rat) of the total modeled high quality habitat. On an annual basis, potential impacts would range from 0.02% (Buena Vista shrew) to 1.11% (giant kangaroo rat) of the total Project Area modeled high quality habitat. Impacts to the giant kangaroo rat, San Joaquin antelope squirrel, short-nosed kangaroo rat, San Joaquin kit fox, Tulare grasshopper mouse, and San Joaquin pocket mouse could range from 0.43% to 1.11% per year, and 10.8% to 27.7% over 25 years, of total Project Area high quality modeled habitat. Impacts to poor to moderate quality modeled habitat would range from 0.12% (San Joaquin kit
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fox) to 0.26% (Tipton Kangaroo rat) per year and 3% to 6.6% over 25 years. Impacts to the Buena Vista Lake shrew would affect less than 0.5% of total high quality modeled habitat and 4.1% of poor to moderate quality modeled habitat in the Project Area if the maximum level of potential impacts occurred annually for 25 years. Potential impacts to special status mammals would be significant without mitigation.

The occurrence assessment for the pallid bat, ringtail, and Townsend’s big-eared bat indicates that these species could occur in Tiers 1 through 4 in the Western and Eastern Subareas. About 92% of the total potential annual impacts in the Project Area (4,460 acres) would occur in these locations. The Townsend’s big-eared bat could also occur in the Central Subarea. Potential impacts to these species could be significant without mitigation. The ringtail is a nocturnal species that requires access to perennial water sources and generally prefers areas with high vegetative cover. It is more likely to occur in higher elevations, or in deeper canyons with reliable water supplies, than in most of the lower elevation, drier, and sparsely-covered portions of the Project Area. Potential impacts to the ringtail would be unlikely to occur in most of the Project Area other than deeper canyons and in higher elevation locations with significant groundcover and access to perennial water sources.

Potential Impacts to Special Status Reptiles and Amphibians

As shown in EIR Tables 4.4-79 to 4.4-81, potential impacts to 10 special status reptiles and amphibians were evaluated, including seven modeled and three non-modeled species. The modeled species include the blunt-nosed leopard lizard (BNLL), a state and federal endangered and state fully protected species, and the Tehachapi slender salamander, as state threatened species.

EIR Table 4.4-79 shows that impacts to modeled high quality habitat for BNLL and the San Joaquin coachwhip would largely occur in Tier 1 locations and in the Western Subarea. Impacts to BNLL high quality modeled habitat would, using the conservative assumptions summarized in EIR Table 4.4-72, be about 1,774 acres per year, and 1,269 acres per year for the San Joaquin coachwhip. Impacts to other modeled species’ high quality habitat, including the silvery legless lizard, western pond turtle, coast horned lizard, Tehachapi slender salamander, and western spadefoot would range from 0.03 acres per year (western spadefoot) to 103 acres per year for the silvery legless lizard. Potential impacts to modeled high quality habitat for the Tehachapi slender salamander would be limited to the Eastern Subarea, and to the Western Subarea for the western spadefoot. Potential impacts to other modeled high quality habitat could occur in all three subareas (silvery legless lizard, western pond turtle) and the Western and Southern Subareas (coast horned lizard).

EIR Table 4.4-80 indicates that modeled poor to moderate quality habitat comprises the majority of the land in each tier and subarea. Consequently, impacts to modeled poor to moderate quality reptile and amphibian habitats would generally occur to the greatest extent in the Western Subarea, to a lesser extent in the Eastern Subarea, and mainly in Tier 1 areas because the largest amount of future disturbance is projected to occur in these portions of the Project Area. Reptiles and amphibians with the greatest amount of poor to moderate quality modeled habitat, and the largest level of potential impacts to such habitat, include the western spadefoot, coast horned lizard, western pond turtle and silvery legless lizard. Two species, the BNLL and the coachwhip, have relatively high amounts of modeled high quality habitat in the Project Area. Impacts to occupied habitat may also be more likely to occur to these species in areas of modeled poor to moderate quality habitat.
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EIR Table 4.4-83 analyzes the amount of total modeled high quality habitat for each modeled special status reptile and amphibian, and low to moderate quality habitat for each species except the Tehachapi slender salamander in the Project Area that could be impacted by the projected annual level of disturbance summarized in Table 4.4-72 over 25 years.

EIR Table 4.4-79 indicates that, if the maximum level of annual disturbance conservatively assumed in Table 4.4-72 occurred each year for 25 years, impacts in the Project Area could range from 0.5% (western spadefoot, Tehachapi slender salamander) to 22.4% (San Joaquin coachwhip) of the total modeled high quality habitat. On an annual basis, potential impacts would range from 0.02% (western spadefoot, Tehachapi slender salamander) to 0.89% (San Joaquin coachwhip) of the total Project Area modeled high quality habitat. Impacts to the BNLL, western pond turtle, coachwhip and silvery legless lizard could range from 0.40% to 0.89% per year, and 9.9% to 22.4% over 25 years, of total Project Area modeled high quality habitat. Potential annual and 25-year impacts to modeled high quality habitat for the coast horned lizard, Tehachapi slender salamander and western spadefoot would affect between 0.5% to 0.7% of total modeled high quality habitat in the Project Area if the maximum level of potential impacts occurred annually for 25 years. As discussed below, mitigation measures that require the avoidance (unless fully permitted by state and federal resource agencies) impacts to riparian and aquatic habitats in addition to species-related mitigation measures would reduce the level of the potential impacts to the Tehachapi slender salamander, western spadefoot and western pond turtle by avoiding the primary habitats where these species occur. Impacts to modeled poor to moderate quality habitat would range from 0.18% (BNLL) to 0.26% (coast horned lizard) per year and 4.5% to 6.5% over 25 years. These impacts would be significant without mitigation.

The occurrence assessment for the California red-legged frog, California tiger salamander, Kern Canyon slender salamander, and Yellow-blotched salamander indicates that the Project would be unlikely to significantly impact these species. None have a substantial likelihood of occurring in Tier 1 areas, where over 90% of future disturbance is projected to be concentrated. The potential occurrence of the California red-legged frog and California tiger salamander is generally limited to Tier 2 locations in the far northwest corner of the Project Area and where critical habitat has been designated for these species (see Figure 4.4-3). The Kern Canyon slender salamander is generally limited to the Tier 2 and Tier 3 areas in the vicinity of the Kern River canyon. The yellow blotched salamander generally occurs in Tier 2 and Tier 4 areas in the Eastern and Western Subareas. As discussed below, mitigation measures that require the avoidance (unless fully permitted by state and federal resource agencies) of impacts to riparian and aquatic habitats in addition to species-related mitigation measures would reduce the level of the potential impacts to the Kern Canyon slender salamander in aquatic habitats associated with the Kern River and aquatic habitats that also support the yellow blotched salamander in the Eastern and Western Tier 2 and Tier 4 locations. Potential impacts to could occur in occupied north-facing slope habitat outside of aquatic and riparian areas that these species may also occupy.

Potential Impacts to Special Status Birds

As shown in EIR Tables 4.4-79 to 4.4-81, potential impacts to 20 special status birds were evaluated, including 11 modeled and 9 non-modeled species. The modeled species include the unlisted burrowing owl, the tricolored blackbird (state endangered), and the least bell’s vireo (state and federal endangered). As discussed in EIR section 4.4, the modeling data is generally confined to Project Area locations below about 2000 feet in elevation. Models of high quality habitat for the golden eagle (state fully protected) and Swainson’s hawk (state threatened) were also used to evaluate potential Project impacts to these species in lower elevation locations.
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EIR Table 4.4-79 shows that impacts to modeled high quality habitat for the burrowing owl, grasshopper sparrow, lesser sandhill crane and tricolored blackbird would be largely concentrated in Tier 1 areas and in the Western Subarea. Almost all of the projected impacts to Le Conte’s thrasher modeled high quality habitat would occur in Tier 1 of the Western Subarea. Burrowing owl and lesser sandhill crane modeled high quality habitat impacts could occur to lesser extent in the Central Subarea, and impacts could also occur to burrowing owl and grasshopper sparrow modeled high quality habitat in the Eastern Subarea. Potential impacts to modeled high quality habitat would primarily occur in Tiers 1-2 of the Eastern Subarea for the northern harrier and Tier 1 and Tier 3 of the subarea for the least bell’s vireo. Impacts to mountain plover high quality modeled habitat would mainly occur in Tier 2 of the Central Subarea. Potential impacts to yellow headed blackbird modeled high quality habitat would occur in each of the three subareas and mainly in Tiers 1-2.

The models do not identify high quality habitat for the golden eagle or the Swainson’s hawk within the lower elevation portions of the Project Area. The TUMSHCP EIS and the Biological Opinion for the TUMSHCP issued by the USFWS in 2013 show that, in contrast with the lower elevation portions of the Project Area, locations above 2,000 feet are known to support active golden eagle territories, nests, and high quality breeding and foraging habitat. Based on data from Tejon Ranch surveys conducted for the TUMSHCP, the USFWS concluded that, due to abundant prey, breeding pairs of golden eagles in higher elevations along the southern border of the Project Area likely maintain smaller than average territories (i.e., about 5,000 to 8,000 acres), which could result in greater than typical species densities in these locations (USFWS 2013d). To provide a conservative assessment, the EIR assumes that all Project Area land located above 2,000 feet in elevation is high quality golden eagle habitat, and that disturbance in these areas could result in significant impacts to the species without mitigation. The Swainson’s hawk was not included in the TUMSHCP.

EIR Table 4.4-79 shows that acreage impacts to modeled high quality habitat vary by species. Impacts to burrowing owl, Le Conte’s thrasher, grasshopper sparrow and lesser sandhill crane modeled high quality habitat would, using the conservative assumptions summarized in EIR Table 4.4-71, range from 128 acres per year (lesser sandhill crane) to 1,003 acres per year (burrowing owl). Potential impact to modeled high quality habitat for the tricolored blackbird, least Bell’s vireo, northern harrier, mountain plover and yellow-headed blackbird would range from 2.42 acres per year (yellow headed blackbird) to 42 acres per year (tricolored blackbird).

EIR Table 4.4-80 shows that, consistent with the results for most mammals, reptiles and amphibians, most of the Project Area is modeled as poor to moderate quality modeled avian habitat for many species. Impacts to poor to moderate habitat for these species, including the Swainson’s hawk, golden eagle, mountain plover, northern harrier, tricolored blackbird and Le Conte’s thrasher, would range from just under 4,000 acres (Le Conte’s thrasher) to more than 4,800 acres (Swainson’s hawk, golden eagle, mountain plover, northern harrier) and would occur in the Western Subarea, to a lesser extent in the Eastern Subarea, and mainly in Tier 1 areas because the largest amount of future disturbance is projected to occur in these portions of the Project Area. Birds that have large amounts of modeled poor to moderate quality habitat in addition to modeled high quality habitat in the Project Area include the Le Conte’s thrasher, burrowing owl, grasshopper sparrow and yellow-headed blackbird. Impacts to occupied habitat may also be more likely to occur to these species in areas of modeled poor to moderate quality habitat.

EIR Table 4.4-84 analyzes the amount of total modeled high quality habitat for each modeled special status bird, and modeled poor to moderate quality habitat for each species except the least
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Bells’ vireo in the Project Area that could be impacted by the projected annual level of disturbance summarized in EIR Table 4.4-72 over 25 years.

EIR Table 4.4-84 indicates that, if the maximum level of annual disturbance conservatively assumed in EIR Table 4.4-71 occurred each year for 25 years, impacts in the Project Area could range from 0.3% (mountain plover) to 28.8% (Le Conte’s thrasher) of total modeled high quality habitat. On an annual basis, potential impacts would range from 0.01% (mountain plover) to 1.15% (Le Conte’s thrasher) of the total Project Area modeled high quality habitat. Impacts to the Le Conte’s thrasher and burrowing owl could range from 1.15% to 0.45% per year, and 28.8% to 11% over 25 years, of total Project Area high quality modeled habitat. Potential 25-year impacts to high quality modeled habitat for the least Bell’s vireo, tricolored blackbird, and grasshopper sparrow could range from 3.4% to 6.6%. Potential 25-year impacts to high quality modeled habitat for the lesser sandhill crane, yellow headed blackbird, northern harrier and mountain plover could range between 0.3% to 1.1%. Impacts to poor to moderate quality modeled habitat would range from 0.02% (lesser sandhill crane) to 0.61% (grasshopper sparrow) per year and 0.5% to 15.2% over 25 years. These impacts would be significant without mitigation.

The occurrence assessment for the Fulvous whistling-duck indicates that the species is only likely to occur in Tier 2 areas within the Western and Central Subareas. About 4% (208 acres per year) of total Project Area impacts would occur in these locations, and mitigation measures that require the avoidance (unless fully permitted by state and federal resource agencies) of impacts to riparian and aquatic habitats in addition to species-related mitigation measures would reduce potential impacts to an additional extent. Project activities are unlikely to significantly affect the Fulvous whistling-duck. The occurrence assessments for the loggerhead shrike, long-eared owl, short-eared owl, western snowy plover and white-tailed kite indicate that each of these species can occur in the Western Subarea and at least one additional subarea (long-eared owl, short-eared owl, western snowy plover) or the other two subareas (loggerhead shrike, white-tailed kite). All of these species could also occur in Tiers 1-4. Projected Project impacts would occur primarily in the Western Subarea and in Tiers 1-4. Potential impacts to the loggerhead shrike, long-eared owl, short-eared owl, western snowy plover and white-tailed kite could be significant without mitigation.

As discussed in EIR section 4.4, the occurrence assessments for non-modeled species are conservative and treat any historical evidence of occurrence as indicating the possibility of future occurrence in an applicable tier or subarea. Using this approach, the occurrence assessment indicates that the California condor could occur in Tiers 1-5 of the Western and Eastern Subareas based on historical records that in most instances predate the capture of the existing population in the 1970s and subsequent re-release. Condor activity for the current population is regularly monitored by the USFWS using transmitters that are positioned on individual birds. The data for periods since 2000 were recently compiled and analyzed by the USFWS in conjunction with the TUMSHCP and show that, in contrast with historical reports, condors currently do not utilize lower elevation portions of the Project Area, other than very rare occurrences at the base of the adjacent mountain ranges (Figure 4.4-5). The TUMSHCP approved by the USFWS in 2013 found that condor movement is topographically constrained to upland areas that produce updrafts, and that although prehistoric condors possibly made use of San Joaquin Valley floor habitat, and that the contemporary condor population appears to largely avoid the Central Valley floor for foraging, probably due to the lack of thermal activity and food sources (USFWS 2013d). Consequently, condor occurrence in the lower elevation portions, particularly any significant distance from the surrounding mountains that generate updrafts used by the species for movement (see Figure 4.4-9) is highly unlikely. In contrast, condor use of Project Area and adjacent locations above 2000 feet, particularly along the southern and eastern boundaries, has been well
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documented to occur, and is likely to occur to greater extent over time as the population recovers in the wild. To provide a conservative assessment, the EIR assumes that all Project Area land located above 2,000 feet in elevation is high quality condor, and that disturbance in these areas could result in significant impacts to the species without mitigation.

Similarly, the occurrence assessment for the bald eagle is conservatively based on species migration patterns, and the occasional observation of the species in the Tiers 1-5 and the three subareas over time. Bald eagles generally migrate south through the Project Area to southern locations during the winter. High quality wintering locations are characterized by trees for roosting and perennial waterbodies with food sources, including fish. Very few locations, and virtually none within the lower elevations of the Project Area meet these criteria. The limited extent of high quality bald eagle habitat in the region is indicated by the TUMSHCP analysis of the species, in which the USFWS determined that the 141,886-acre Tejon Ranch contained only 518 acres of modeled foraging habitat and 1,438 acres of modeled winter roosting habitat, all located exclusively around Castaic Lake. Castaic Lake is outside of the Project Area to the south. The modeling indicated no other locations within the ranch representing bald eagle foraging or wintering habitat, although eagles may temporarily use portions of the site during migration. Bald eagles are also not known to breed within the lower or upper elevations of the Project Area, or in the uplands to the south (USFWS 2013d). The Project Area is primarily used by bald eagles for temporary migratory purposes and does not provide high quality breeding, wintering or foraging habitat for the species.

Potential Impacts to Special Status Aquatic Species and Insects

As shown in EIR Table 4.4-81, occurrence assessments were used to analyze potential impacts to the Kern brook lamprey, vernal pool fairy shrimp, longhorn fairy shrimp and the Kern primrose sphinx moth. The Kern brook lamprey could occur in streams in the Eastern Subarea. The vernal pool fairy shrimp could occur in seasonally inundated areas in the Central and Eastern Subareas, and the longhorn fairy shrimp could occur in seasonally inundated areas in the Western and Central Subareas. All of these species occur in pooled areas that remain inundated for a sufficient time period and exhibit suitable pH and other characteristics that support their reproductive cycle. Project impacts to habitats that may contain these species would be significant. As discussed below, mitigation measures require the avoidance (unless fully permitted by state and federal resource agencies) impacts to riparian and aquatic habitats, and potential Project impacts to these species in these habitat types would be reduced to less than significant levels. However, where vernal pool fairy shrimp and longhorn fairy shrimp occur outside of aquatic or riparian habitats, impacts could be significant.

The sphinx moth is known to presently occur in only three general locations, all of which are outside of the Project Area: the Walker Basin on the eastern side of the Sierra range, the Carrizo Plain to the west of the Project Area, and the Cuyama Valley to the west of the Carrizo Plains. In 2007, the USFWS conducted a 5-year review of the species and did not identify oil and gas activity as factor affecting species survival or recovery. The review also indicated that the species has a high probability of recovery because suitable habitat exists on public land in the Carrizo Plain and Cuyama Valley areas that may support the species and pupae can diapause for several years in response to adverse conditions. In addition, the review concluded that species recovery did not conflict with “economical and land development practices within the area of known Kern primrose sphinx moth distribution” (USFWS 2013). Oil field activities were well-established in 2007 along the Temblor Range to the east of the Carrizo Plain, the closest area of known species occupation. Project Area activities are not likely to impact the known locations of, or suitable habitat for the species in the Walker Basin, Carrizo Plain, or Cuyama Valley. It is possible that
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sandy washes with appropriate vegetation may exist within the Western Subarea that support the moth. Given the limited distribution of the species, impacts in these locations would be significant without mitigation.

Finding:

Without mitigation, the Project has the potential to cause substantial adverse effects, 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 by the California Department of Fish and Wildlife or the United States Fish and Wildlife Service. However, these significant adverse impacts will be reduced to a level that is less than significant by implementation of mitigation measures described below.

Brief Explanation of the Rationale for the Finding:

CEQA requires that all feasible and reasonable mitigation be applied to reduce the Project’s potential substantial adverse effects, 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 by the California Department of Fish and Wildlife or the United States Fish and Wildlife Service. The following mitigation measures will be incorporated into the Project to reduce this impact to a less than significant level:

MM 4.4-1 A qualified biologist shall conduct a biological reconnaissance survey in potential special-status species habitat to advise the project proponent of potential project impacts, potential surveying needs, and advise on the need for focused special status surveys. Early consultation with United States Fish and Wildlife Service and California Department of Fish and Wildlife would confirm the biologist’s advice and/or inform project proponents of additional recommendations. Based on the information gathered from the biological reconnaissance survey and any informal consultation with United States Fish and Wildlife Service and California Department of Fish and Wildlife, focused/protocol surveys shall be conducted by a qualified or permitted biologist (whichever is applicable) well in advance of ground disturbing activities to determine the presence/absence of sensitive species protected by state and federal Endangered Species Acts and potential project impacts to those species. The survey shall be conducted in accordance with the most current standard protocol of United States Fish and Wildlife Service and California Department of Fish and Wildlife. The purpose of focused/protocol surveys is to confirm the presence or absence of any species listed as threatened or endangered under the federal Endangered Species Act, threatened or endangered under the California Endangered Species Act, rare or endangered in the California Native Plant Protection Act, or designated as fully-protected in the California Fish and Game Code (collectively, “Protected Species”), and to confirm the presence or absence of any other species considered “sensitive” under California Environmental Quality Act (“Sensitive Species”), and to identify and implement feasible avoidance and minimization measures for such species. The surveys shall be conducted in accordance with all currently-applicable presence and absence survey and/or species protocols established by the United States Fish and Wildlife Service and the California Department of Fish and Wildlife (“Species Protocols”). In the absence of any approved protocols, the survey shall extend for a minimum of 250 feet from all areas where any ground disturbance activities
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would occur, provided that permission to access has been obtained. As an alternative to individual pre-disturbance surveys for each application, and after consultation with and concurrence by the California Department of Fish and Wildlife and the United States Fish and Wildlife Service, multiple parcels or areas of oil and gas production lands (including lands which may have multiple surface or mineral ownership) may be consolidated for the purpose of more efficiently managing pre-disturbance surveys and determinations regarding the absence of protected species in areas of proposed new ground disturbance activities. A biological monitor shall be present during ground-disturbing activities in project locations that have special-status species habitat or are adjacent to potential special-status species habitat. Within 30 days before any ground-disturbing activities in special-status species habitat, a qualified biologist shall conduct a pre-disturbance survey to record existing conditions of the site, determine if conditions have changed since the reconnaissance or focused/protocol surveys were conducted, and to determine where sensitive species avoidance buffers will be established.

MM 4.4-2 No incidental take of any species listed as threatened or endangered under the federal Endangered Species Act, threatened or endangered under the California Endangered Species Act, rare or endangered in the California Native Plant Protection Act, or designated as fully-protected in the California Fish and Game Code (Protected Species) may occur unless the incidental take is authorized by applicable state and federal wildlife agencies in the form of a permit or other written authorization, an approved state or federal conservation plan, or in accordance with an approved regional plan such as the Draft Valley Floor Habitat Conservation Plan and/or Natural Community Conservation Plan.

MM 4.4-3 Protective buffers shall be used, where effective and feasible in the opinion and guidance of the qualified biologist, to avoid any unauthorized incidental take of Protected Species, and to minimize any incidental take of Sensitive Species, by separating the planned disturbance area from any locations where biological reconnaissance surveys, previously conducted focused/protocol surveys, or pre-disturbance surveys have detected the presence of Protected Species or Sensitive Species. Protective buffers shall be delineated using brightly colored stakes and/or flagging or similar materials and remain until construction activities are complete, at which time of completion the buffers must be removed. If special-status plant or animal species are found adjacent to the project during biological surveys, protective buffers shall be established around active dens and/or burrows of special-status animal species, or populations of special-status plant species to avoid unauthorized take of protected species as listed in the table below. The protective buffer distance shall be increased if required to avoid unauthorized incidental take of any Protected Species as determined by a qualified biologist. Protective buffer distances and other avoidance measures that may be implemented to avoid impacts to Protected Species or Sensitive Species must be consistent with the United States Fish and Wildlife Service and/or the California Department of Fish and Wildlife, and shall be implemented and overseen by a qualified biologist.
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Table: Disturbance Buffers for Sensitive Resources

<table>
<thead>
<tr>
<th>Sensitive Resource</th>
<th>Buffer Zone from Disturbance (feet)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Potential San Joaquin kit fox den</td>
<td>50</td>
</tr>
<tr>
<td>Known San Joaquin kit fox den</td>
<td>100</td>
</tr>
<tr>
<td>Natal San Joaquin kit fox den</td>
<td>Contact California Department of Fish &amp; Wildlife, United States Fish &amp; Wildlife Service</td>
</tr>
<tr>
<td>Atypical San Joaquin kit fox den</td>
<td>50</td>
</tr>
<tr>
<td>Rodent burrows</td>
<td>50</td>
</tr>
<tr>
<td>Listed bird species active nests</td>
<td>0.5 mile</td>
</tr>
<tr>
<td>Burrowing owl burrow (breeding and non-breeding season)</td>
<td>Pursuant to California Department of Fish &amp; Wildlife guidelines (see Table 4.4-85)</td>
</tr>
<tr>
<td>San Joaquin coachwhip, silvery legless lizard, coast horned lizard</td>
<td>30</td>
</tr>
<tr>
<td>American badger:</td>
<td></td>
</tr>
<tr>
<td>Non-maternity dens</td>
<td>50</td>
</tr>
<tr>
<td>Maternity dens</td>
<td>200</td>
</tr>
<tr>
<td>Special-status plants</td>
<td>50</td>
</tr>
</tbody>
</table>

MM 4.4-4 Occupied burrowing owl burrows shall not be disturbed during the species nesting season (February 1 through August 31). The following distances shall be maintained between all disturbance areas and burrowing owl nesting sites (Table 4.4-85).

Table 4.4-85: Setback Distances for Burrowing Owl Nesting Sites by Level of Proposed Project Impacts

<table>
<thead>
<tr>
<th>Location</th>
<th>Nesting sites</th>
<th>Nesting sites</th>
<th>Nesting sites</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Time of Year</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>April 1–Aug 15</td>
<td>Aug 16–Oct 15</td>
<td>Oct 16–Mar 31</td>
<td></td>
</tr>
</tbody>
</table>
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### Table 4.4-85: Setback Distances for Burrowing Owl Nesting Sites by Level of Proposed Project Impacts

<table>
<thead>
<tr>
<th>Project Impact Level</th>
<th>Low</th>
<th>Medium</th>
<th>High</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>656 feet (200 meters)</td>
<td>656 feet (200 meters)</td>
<td>164 feet (50 meters)</td>
</tr>
<tr>
<td></td>
<td>1,640 feet (500 meters)</td>
<td>656 feet (200 meters)</td>
<td>328 feet (100 meters)</td>
</tr>
<tr>
<td></td>
<td>1,640 feet (500 meters)</td>
<td>1,640 feet (500 meters)</td>
<td>1,640 feet (500 meters)</td>
</tr>
</tbody>
</table>

Burrowing owls present in proposed disturbance areas or within 500 feet or as specified under an approved Habitat Conservation Plan (as identified during pre-disturbance surveys) outside of the breeding season (between September 1 and January 31) may be moved away from the disturbance area using passive relocation techniques approved by the California Department of Fish and Wildlife. Passive relocation techniques in the California Department of Fish and Wildlife Staff Report on Burrowing Owl Mitigation Guidelines (California Department of Fish and Game 2012) include installing one-way doors in burrow entrances for 48 hours, to ensure the owl(s) have left the burrow, daily monitoring during the passive relocation period, and collapsing existing burrows to prevent reoccupation. A minimum of one or more weeks will be required to relocate the owl(s) and allow for acclimatization to alternate off-site burrows. Prior to burrow exclusion or eviction, a burrowing owl management plan shall be prepared and approved by the California Department of Fish and Wildlife. Destruction of burrows shall occur only pursuant to a management plan for the species approved by the California Department of Fish and Wildlife; burrow excavation shall be conducted by hand whenever possible.

As an alternative to passive relocation, occupied burrows identified off-site within 500 feet of construction activities may be buffered with hay bales, fencing (e.g. sheltering in place), or as directed by the qualified biologist and the California Department of Fish and Wildlife, to avoid disturbance of burrows.

**MM 4.4-5** The pre-disturbance surveys shall determine whether active bat maternity roosts are located in or within 250 feet of any disturbance area. All active bat maternity roosts shall be avoided during breeding periods, including postponing disturbance activities if required, and to the maximum extent feasible at other times. If an active bat maternity roost location cannot feasibly be avoided by disturbance, the United States Fish and Wildlife Service and California Department of Fish and Wildlife must be contacted to identify appropriate impact minimization measures prior to initiating any disturbance that would affect the roost.

**MM 4.4-6** Any potential San Joaquin kit fox dens (as defined in United States Fish and Wildlife Service 2011) detected during reconnaissance or focused/protocol
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surveys shall be reevaluated for species activity no more than 30 days prior to the commencement of ground disturbance. Potential kit fox dens shall be marked and a 50-foot avoidance buffer shall be delineated using brightly colored stakes and flagging or similar materials to prevent inadvertent damage to the potential den. If a potential den cannot feasibly be avoided, the den may be hand excavated in accordance with the United States Fish and Wildlife Service Standardized Recommendations for Protection of the Endangered San Joaquin Kit Fox Prior to or During Ground Disturbance (United States Fish and Wildlife Service 2011). If species activity is detected, the location shall be identified as a “known” kit fox den in accordance with the U.S. Fish and Wildlife Service species guidelines (United States Fish and Wildlife Service 2011). A minimum 100-foot buffer from any disturbance area shall be maintained for known dens and a minimum 500-foot buffer from any disturbance area shall be maintained for natal dens. No excavation of a known or natal den shall occur without prior authorization from the United States Fish and Wildlife Service and the California Department of Fish and Wildlife. For activities occurring on land covered under an approved federal and/or State incidental take authorization, the requirements set forth in those documents shall be implemented. Other standard measures to protect San Joaquin kit fox, including capping pipes, covering trenches, adding exit ramps to excavated areas, shall be implemented in accordance with MM 4.4-15.

MM 4.4-7 Occupied American badger dens detected during pre-disturbance surveys shall be flagged and ground-disturbing activities avoided within 50 feet of the den. Maternity dens shall be avoided and a minimum 200-foot buffer from disturbance shall be maintained during pup-rearing season (February 15 through July 1). Maternity dens must be avoided to the maximum extent feasible. If a maternity den cannot feasibly be avoided, the California Department of Fish and Wildlife must be contacted to identify appropriate impact minimization measures prior to initiating any disturbance that would affect the den, including potential passive relocation by excavation before or after the rearing season.

MM 4.4-8 Pre-disturbance surveys for all sites located above 2,000 feet in elevation, or within 200 feet down gradient from the 2,000-foot elevation contour line, shall specifically survey for any golden eagle nests located within 2 miles of the site. If golden eagle nests are detected by the surveys, the qualified biologist shall conduct a nest-specific viewshed analysis. No disturbance may occur within 0.25 mile, or within 0.5 mile of the viewshed of an active golden eagle nest, unless otherwise authorized by State and federal wildlife agencies. The United States Fish and Wildlife Service and California Department of Fish and Wildlife must be notified prior to the commencement of any disturbance activities within 1 mile of an active golden eagle nest to avoid golden eagle take.

MM 4.4-9 All sites located above 2,000 feet in elevation, or within 200 feet down gradient from the 2,000-foot elevation contour line, shall implement the following measures to avoid and minimize potential adverse impacts to the California condor:

a. The site shall, at all times, be maintained to avoid any trash, debris, food sources and microtrash, such as bottle caps, that could be ingested by or
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attract California condor. Trash shall be disposed in animal-proof containers as required in BIO 4.4-19.

b. The Worker Environmental Awareness Program described in BIO MM 4.4-18 shall include information about microtrash and potential effects to California condor, and shall prohibit the disposal of trash (and microtrash) on the site of oil and gas activities.

c. If a condor is observed in a proposed construction site, all disturbance activities must immediately cease within 500 feet of the condor until the animal has moved from the site. If condor occurrence persists, the United States Fish and Wildlife Service and the California Department of Fish and Wildlife must be contacted to identify appropriate avoidance measures prior to initiating or resuming any disturbance activity.

d. All condor observations shall be reported within 24 hours to the United States Fish and Wildlife Service and the California Department of Fish and Wildlife.

e. All tanks, liquid storage facilities, and any open area containing water or other liquid materials, including drilling sumps, must be covered or otherwise shielded in a manner that prevents condor intrusion and potential entrapment.

f. No overhead transmission lines may be used at the site without the prior approval of the United States Fish and Wildlife Service and the California Department of Fish and Wildlife.

MM 4.4-10 Pre-disturbance surveys for active bird nests must be conducted no more than 10 days prior to the commencement of disturbance. Surveys shall follow United States Fish and Wildlife and California Department of Fish and Wildlife guidance and/or protocols, as applicable. If no active nests or nesting birds are identified, then Project construction activities may proceed and no further mitigation measures for nesting birds are required. If active nest(s) are identified, the active nest(s) should be continuously surveyed for the first 24 hours after detection, to establish a behavioral baseline prior to any construction-related activities. Once construction commences, all nests shall be continuously monitored to detect any behavioral changes as a result of the Project (i.e., nest avoidance or abandonment). If behavioral changes are observed, the work causing that change should cease and the California Department of Fish and Wildlife and the United States Fish and Wildlife should be consulted for additional avoidance and minimization measures. If continuous monitoring of identified nests by a qualified wildlife biologist is not feasible, a minimum no-disturbance buffer of 250 feet will be established around active nests and a 500-foot no-disturbance buffer around the nests of raptors until the breeding season has ended, or until a qualified biologist has determined that the birds have fledged and are no longer reliant upon the nest or parental care for survival, and any adult birds are no longer occupying the nest. Variance from these no-disturbance buffers may be implemented a qualified biologist concludes that work within the buffer area would not cause nest avoidance or abandonment (e.g., when the disturbance area would be concealed from a nest site by
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topography). The California Department of Fish and Wildlife and the United States Fish and Wildlife must be notified in advance of implementing of a variance in the no-disturbance buffer.

MM 4.4-11 The following measures will be implemented to avoid take of blunt-nosed leopard lizard and to ensure protection of these animals during Project activities:

a. Project activities will avoid all potential burrows that may be occupied by blunt-nosed leopard lizards. Suitable burrows within and adjacent to potential habitat for the species should be avoided by a minimum distance of 50-feet in all areas where ground-disturbing Project activities will occur.

b. No more than one year prior to ground disturbing activities, focused surveys following current California Department of Fish and Wildlife and United States Fish and Wildlife protocols for detection of this species or other methods approved by both agencies shall be conducted in all potential blunt-nosed leopard lizard habitat within the work site and a 250-foot buffer area. If no individual blunt-nosed leopard lizards are observed during focused surveys, and surveys are current (e.g., completed in the same calendar year), then Project activities may proceed.

c. If blunt-nosed leopard lizards are detected during focused surveys, a blunt-nosed leopard lizard avoidance plan shall be prepared for the Project that will result in avoidance of incidental take of this species unless take is separately authorized under a Natural Communities Conservation Plan and appropriate federal authorization is obtained. At a minimum, the blunt-nosed leopard lizard avoidance plan shall be provided to the California Department of Fish and Wildlife and the County, and shall contain the following elements:

1. A Worker Environmental Awareness Program shall be implemented for all construction personnel before construction begins (see MM 4.4-18).

2. During periods that are optimal for blunt-nosed leopard lizard activity (early spring through late fall), a qualified biologist will be present during all ground disturbing activities. The qualified biologist will check the Project site(s) and access route(s) daily during the blunt-nosed leopard lizard active season to determine presence or absence of lizards in or near the work areas. Monitoring by a qualified biologist is not required during periods of inactivity (the winter season).

3. All open trenches or excavations shall be covered at the end of each workday or protected with the use of exclusion fencing to prevent wildlife entrapment. If an excavation is too large to cover, escape ramps shall be installed at an incline ratio of no greater than 2:1. All trenches and pipes shall be inspected for the presence of wildlife each day prior to the commencement of work. If blunt-nosed leopard lizards are observed at the work site during construction, construction shall cease within a 250-foot radius and the United States Fish and Wildlife Service and the California Department of Fish and Wildlife shall be consulted to determine what additional measures would be necessary to prevent take of this species.
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4. Offsite locations where blunt-nosed leopard lizards have been observed or are likely to occur shall be clearly marked to prevent workers from driving off the road and to prevent inadvertent destruction of burrows. Barriers, such as exclusionary fencing may be installed. All construction equipment and construction personnel vehicles will be checked prior to moving to ensure no blunt-nosed leopard lizard are under equipment/vehicles.

5. A speed limit of 10 miles per hour shall be posted and observed within 0.25 miles of any reported blunt-nosed leopard lizard observation.

6. Construction activities shall avoid burrows that may be used by blunt-nosed leopard lizards. Any location of proposed construction activity with potential to collapse or block burrows (i.e., stockpile storage, parking areas, staging areas, trenches) will be identified prior to construction in the blunt-nosed leopard lizard avoidance plan and approved by the qualified biologist. The qualified biologist may allow certain activities in burrow areas if the combination of soil hardness and activity impact is not expected to collapse burrows and no blunt-nosed leopard lizards have been found during pre-Project surveys in the impact area.

7. All individual blunt-nosed leopard lizards observed above-ground will be avoided. Any individual blunt-nosed leopard lizard that may enter the Project site(s) would be allowed to leave unobstructed, and on its own accord. If a blunt-nosed leopard lizard is detected during biological monitoring or observed at any other point, the California Department of Fish and Wildlife and the United States Fish and Wildlife Service shall be notified to determine what additional measures would be necessary to prevent take of the species.

MM 4.4-12 The Applicant shall comply with the following:

a. Plant surveys for Protected Species and Sensitive Species must be completed by a qualified biologist during the appropriate blooming periods for species identification and detection. Plant surveys shall be conducted in accordance with all applicable protocols established by the United States Fish and Wildlife Service and the California Department of Fish and Wildlife for particular plant species ("Plant Survey Protocol"), and shall extend 50 feet from areas where any new disturbance would occur unless a greater survey distance is specified in the Plant Survey Protocol. All detected plant populations of Protected Species and Sensitive Species shall be identified in the field during the surveys with temporary flags or other appropriate materials to avoid and minimize impacts to the plant populations from any disturbance activities.

b. No incidental take or relocation of any plant listed under the federal Endangered Species Act, the California Endangered Species Act, or the California Native Plant Protection Act may occur unless the incidental take is authorized by the United States Fish and Wildlife Service and/or the California Department of Fish and Wildlife in a permit or other
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authorization, or in an approved Habitat Conservation Plan or Natural Communities Conservation Plan. If focused plan surveys detect the presence of any listed plant, the plant populations shall be buffered from disturbance activities by implementing applicable impact avoidance protocols established by the United States Fish and Wildlife Service and/or the California Department of Fish and Wildlife unless incidental take authority is obtained. Projects covered under incidental take authority shall conduct activities in accordance with the take authorization. The California Department of Fish and Wildlife may be contacted to determine the appropriate buffer required to prevent incidental take of a listed plant if avoidance protocols have not been established for the species. The qualified biologist shall confirm that all applicable listed plant buffers have been implemented prior to the commencement of any disturbance activity.

c. If any non-listed sensitive plant species are identified that may be impacted by new ground disturbing activities, populations must be avoided by a 50-foot buffer.

MM 4.4-14

A Worker Environmental Awareness Program shall be developed and implemented for all personnel who could access the site prior to commencing any disturbance activities. The program shall consist of an on-site or center presentation that will describe the locations and types of sensitive plant, wildlife, and sensitive natural communities (collectively, "Biological Resources") on and near the site, an overview of the laws and regulations governing the protection of Biological Resources, the reasons for protecting the Biological Resources, the specific protection and avoidance measures that are applicable to the site, and the identity of designated points of contact should questions or issues arise, including the qualified biologist. The program shall provide training to recognize, avoid and report to applicable qualified biologists any Biological Resources on the site.

a. The Worker Environmental Awareness Program shall emphasize the need to avoid contact with onsite wildlife, and avoid entry into areas where Biological Resources have been identified based on pre-disturbance field surveys and to implement the buffer avoidance or other protection measures established by the United States Fish and Wildlife Service shall be identified California Department of Fish and Wildlife or required by the Biological Resource mitigation measures. The training shall emphasize the importance of not feeding or domesticating wildlife and the need to avoid any trash, microtrash, or potential food disposal onsite except in animal-proof containers emptied daily to avoid attracting, or causing adverse impacts to special status wildlife.

b. All onsite personnel must sign a statement verifying that they have completed the Worker Environmental Awareness Program, and that they understand and agree to implement the biological requirements for the worksite. If signed employee statements are not available, documentation may be provided by Worker Environmental Awareness Program training records, which shall be kept by the Applicant for a minimum of 5 years. Each Applicant shall maintain a list of all persons who have completed the training program, and shall provide the list to the County or to state and federal wildlife agency representatives upon request.
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MM 4.4-15 The following additional measures shall be implemented to avoid and minimize potential significant adverse impacts to Protected and Sensitive Species:

a. All vehicles shall observe a 20-mile-per-hour speed limit in all areas of disturbance and on unpaved roads unless otherwise posted. Off-road traffic outside of designated access routes is prohibited. Speed limit signs shall be posted in visible locations at the point of site entry and at regular intervals on all unpaved access roads.

b. All disturbance activities, except emergency situations or drilling that may require continuous operations, shall only occur during daylight hours. Night time disturbance activity for drilling purposes shall use directed lighting, shielding methods, or reduced lumen intensity to avoid unnecessary visual disturbance to wildlife and to comply with applicable lighting mitigation measures.

c. All food-related trash items and all forms of microtrash, such as wrappers, cans, bottles, bottle tops, and food scraps shall be disposed of in closed, animal proof containers and removed daily from the site.

d. Excavations, spoils piles, access roadways, and parking and staging areas shall subject to dust control as set forth in the dust control mitigation measures.

e. The use of herbicides for vegetation control shall be restricted to those approved by the United States Fish and Wildlife Service and the California Department of Fish and Wildlife. No rodenticides shall be used on any site unless approved by the United States Fish and Wildlife Service, and the California Department of Fish and Wildlife, and shall observe label and other restrictions mandated by the United States Environmental Protection Agency, California Department of Food and Agriculture, and state and federal laws and regulations. For split estates, no herbicides for vegetation control may occur in Tier 2 areas without surface owner approval.

f. No plants or wildlife shall be collected, taken, or removed from the site or any adjacent locations except as necessary for Project-related vegetation removal or wildlife relocation by a qualified biologist and subject to all applicable permits and authorizations.

g. All open trenches or excavations shall be covered at the end of each workday to prevent wildlife entrapment. If an excavation is too large to cover, escape ramps shall be installed at an incline ratio of no greater than 2:1. All trenches and pipes shall be inspected for the presence of wildlife each day prior to the commencement of work.

h. To enable San Joaquin kit foxes and other wildlife to pass through the Project site, any perimeter fencing shall include a 4- to 8-inch opening between the fence mesh and the ground or the fence shall be raised 4 inches above the ground except blunt-nosed leopard lizard exclusion fencing. The bottom of the fence fabric shall be knuckled (wrapped back to form a smooth edge) to protect wildlife.
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i. All vertical tubes used in Project construction and chain link fencing poles, shall be temporarily or permanently capped to avoid the entrapment and death of special-status wildlife and birds. All pipes 1.5 inches or greater in diameter stored overnight on a project location must have end caps or other physical barriers that prevent wildlife from entering the pipe.

j. All dead or injured special status wildlife shall be left in place and reported to the United States Fish and Wildlife Service and the California Department of Fish and Wildlife within 48 hours of discovery for rescue or salvage. Discovery of state or federal listed species that are injured or dead shall also be managed consistent with regulatory requirements, including being reported immediately via telephone and within 24 hours in writing, and with a copy to Kern County Planning and Community Development.

k. All drilling installations and operations will comply at all times with the applicable federal, State, county, and local law ordinances and regulations.

l. All activity shall use previously disturbed areas to the maximum extent feasible to minimize the amount of new disturbance.

m. All concrete and asphalt debris should be removed from the site for recycling or proper disposal.

n. No vehicles or construction equipment shall be parked within a wetland or waterbody/dry wash.

o. Tracked vehicles and other construction equipment must be washed or maintained to be weed-free prior to entering and working within areas of new disturbance.

p. All washing of trucks, paint, equipment, or similar activities should occur in areas where runoff is fully contained for collection and offsite disposal. Wash water may not be discharged from the site and shall be located at least 100 feet from any water body, or sensitive Biological Resources.

q. Locate all extra work areas (such as staging areas and additional spoil storage areas) at least 50 feet away from wetland boundaries or waterbody, except where the adjacent upland consists of cultivated or rotated cropland or other disturbed land.

r. All areas that must be avoided as result of the pre-disturbance surveys, and areas where new disturbance will occur, shall be clearly delineated by fencing or staking and flagging and/or rope or cord.

s. No firearms shall be allowed on any site.

t. No pets shall be allowed on any site.

u. No smoking may occur except in designated areas.
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v. If ground disturbance is intended to be temporary and does not occur on cultivated and crop lands, perform topsoil segregation during construction activities to preserve the seed bank for restoration efforts. Store the segregated topsoil separate from the subsoil and restore segregated topsoil to its original location.

Ground disturbance shall be mitigated at a 1.0 to 1.0 ratio (one-acre of new disturbance shall require one-acre of mitigation) except in Tier 1 areas that contain existing disturbance of 70% or greater which shall be mitigated at a 1.0 to 0.5 ratio (one-acre of new disturbance shall require one-half acre of mitigation), for the land included in the Site Plan. This compensatory mitigation requirement does not apply to construction on ground for which compensatory mitigation has already been provided, or on ground that has been previously disturbed (e.g., cleared of vegetation for other oil and gas extraction uses, existing unpaved roads, and existing unvegetated well pads). Ground disturbance activities that are authorized by permits or other written authorizations approved by the United States Fish and Wildlife Service and the California Department of Fish and Wildlife, which include avoidance and compensatory mitigation acreage requirements, may be used to satisfy this County compensatory mitigation ratio. Compensatory mitigation shall be required for the actual acreage of ground disturbance documented during the site plan review and completion process. New disturbance mitigation may be satisfied by one or a combination of the following measures:

a. The recordation of a conservation easement or similar permanent, long-term conservation management agreement in a form acceptable to the County for land within the Project Area on land that has mitigation value. The easement lands may be owned by an Applicant or a third party under contract with an Applicant. Larger land areas may be placed under a conservation easement or similar agreement, and an Applicant may “draw down” the conserved land as needed to satisfy the acreage mitigation requirements for multiple site plan review conformity permits or other authorizations from the County for oil and gas activities.

b. Acquisition of land preservation credits from a mitigation bank located within the Project Area which is owned by the County, on other lands approved by the County, or on lands approved for mitigation or conservation purposes by the United States Fish and Wildlife Service or the California Department of Fish and Wildlife.

c. Removal of legacy oil and gas equipment, inclusive of compliance with applicable legal requirements (e.g., well plugging and abandonment requirements under state or federal regulations), restoration of the surface grade to be consistent with surrounding lands, complete a reseeding effort using native species, and notification of the site owner (if not the Applicant) of the completion of the removal and grading restoration work.

d. Enhancement or restoration of existing habitat on lands already subject to a conservation easement or similar agreement, or which become subject to a conservation easement or similar agreement subsequent to the certification of this Environmental Impact Report, provided that such activities are covered
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in a permit or authorization, conservation plan, Habitat Conservation Plan, or Natural Community Conservation Plan, approved by the United States Fish and Wildlife Service or the California Department of Fish and Wildlife.

e. Payment of a biological resources mitigation fee for the acquisition and management of mitigation lands, legacy equipment removal, and/or land enhancement already subject to conservation easements or a similar agreements under the terms of any biological resource mitigation program that is adopted by Kern County and approved by the United States Fish and Wildlife Service or the California Department of Fish and Wildlife. The County shall coordinate with the United States Fish and Wildlife Service or the California Department of Fish and Wildlife to identify priority conservation areas and potential conservation partners and funding sources to increase the efficiency and effectiveness of mitigation fee expenditures.

Significant Effect:

Without mitigation, the Project has the potential to have a substantial adverse effect on any riparian or other sensitive natural community identified in local or regional plans, policies, regulations, or by the California Department of Fish and Wildlife or the United States Fish and Wildlife Service (Impact 4.4-2).

Description of Specific Impact:

The location of sensitive natural communities in the Project Area is shown in EIR Figure 4.4-4. As discussed in EIR Section 4.4.2, Environmental Setting, the sensitive natural communities identified within the Project Area include wetlands, water and other riparian habitat that are subject to state or federal permit requirements prior to physical disturbance. EIR Tables 4.4-86 and 4.4-87 indicate that the largest extent of potential impacts could occur to the great valley mesquite scrub, desert scrub, desert wash, great valley cottonwood riparian forest, and native valley foothill riparian sensitive natural communities. The great valley mesquite scrub community is primarily located in Tier 1 of the Central Subarea, the location where most of the future impacts would occur in that location. Potential impacts to great valley mesquite scrub could be over 3% of the total acreage in the Project Area per year, and 83.5% of the total acreage in the Project Area over 25 years. The desert scrub community is primarily located in the Western Subarea and occurs in Tier 1 locations where most of the future Project Area disturbance is projected to occur. Potential impacts to desert scrub could be about 1.1% of the total acreage in the Project Area per year, and 28.6% of the total acreage in the Project Area over 25 years. The desert wash community primarily occurs in Tier 1 of the Western Subarea, and impacts to total acreage in the Project Area could be 0.84% per year and 21.03% over 25 years. The great valley cottonwood riparian forest community primarily occurs in the Eastern Subarea, including Tier 1 locations, and impacts to total acreage in the Project Area could be 0.31% per year and 7.9% over 25 years. Potential impacts to the native valley foothill riparian community would primarily occur in Tier 1 areas of the Eastern Subarea and, to a lesser extent, the Western Subarea. Potential impacts to the native valley foothill riparian community could be about 0.21% of the total acreage in the Project Area per year, and 5.2% of the total acreage in the Project Area over 25 years.

Potential impacts to the valley saltbush scrub, mixed chaparral, coastal and valley freshwater marsh, vernal pool, stabilized interior dunes, valley oak woodland, valley needlegrass grassland, montane hardwood, valley sacaton grassland, valley sink scrub and alkali seep natural communities would range from 0.01% of the total acreage in the Project Area (valley sink scrub
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and alkali seep) to 0.7% (valley saltbush scrub and mixed chaparral) per year. Over 25 years, potential impacts to the total acreage of these communities in the Project Area could range from 0.29% (alkali seep) to 1.7% (valley saltbush scrub). Impacts to sensitive natural communities and riparian habitats in the Project Area would be significant without mitigation.

Finding:

Without mitigation, the Project has the potential to have a substantial adverse effect on any riparian or other sensitive natural community identified in local or regional plans, policies, regulations, or by the California Department of Fish and Wildlife or the United States Fish and Wildlife Service. These impacts will be reduced to a level that is less than significant with implementation of the mitigation measures described below.

Brief Explanation of the Rationale for the Finding:

CEQA requires that all feasible and reasonable mitigation be applied to reduce the Project’s potential substantial adverse effect on any riparian or other sensitive natural community identified in local or regional plans, policies, regulations, or by the California Department of Fish and Wildlife or the United States Fish and Wildlife Service. The following mitigation measures, along with MM 4.4-1 through MM 4.4-16, will be incorporated into the Project to reduce this impact to a less than significant level:

MM 4.4-17 Pre-disturbance surveys shall be conducted by a qualified biologist during the appropriate periods for detecting Sensitive Natural Communities that could occur within the Project Area. The surveys shall be completed consistent with applicable protocols approved by the United States Fish and Wildlife Service and/or the California Department of Fish and Game, including the Protocols for Surveying and Evaluating Impacts to Special Status Native Plant Populations and Natural Communities (California Department of Fish and Wildlife 2009). The qualified person shall map and identify all sensitive natural communities, including riparian communities that occur in or within 100 feet of any new disturbance area. The site plan for the proposed activity shall identify waters, wetlands, resources subject to section 1600 of the CFGC and other riparian habitats that occur in and within 100 feet of the disturbance area.

MM 4.4-18 No land disturbance activity in any Sensitive Natural Community that requires a state or federal permit, including state or federally regulated wetlands and waters, shall occur unless the activity is specifically authorized by the issuance of permits or approvals as required by state and federal law. This provision is not intended to restrict survey activities or restrict permit approvals for such disturbance activities. However, no new wells, tanks, sumps or ponds shall be constructed within 50 feet of federal or state waters or wetlands.

Significant Effect:

Without mitigation, the Project has the potential to have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal poos, coastal, etc.) through direct removal, filing, hydrological interruption or other means (Impact 4.4-3).

Description of Specific Impact:
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As discussed in EIR Section 4.4.2, Environmental Setting, the occurrence of wetlands and waters within the Project Area was estimated by using spatial data from the NWI and the NHD. EIR Tables 4.4-88 and 4.4-89 summarize the acreage of potentially jurisdictional wetlands and linear feet of waters in the Project Area estimated from the available databases. As described in the EIR’s discussion of Impact 4.4-2, federally jurisdictional wetlands, and other waters and riparian habitats that are subject to state or federal jurisdiction, are included in the analysis of the sensitive natural communities within the Project Area. Any oil and gas activity that could be authorized under this Project that occurred in wetlands or other water would have a significant impact.

Finding:

Without mitigation, the Project has the potential to have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pools, coastal, etc.) through direct removal, filling, hydrological interruption or other means. These impacts will be reduced to a level that is less than significant with implementation of the mitigation measures described in section II(4) of these findings related to Biological Resources. Other mitigation measures identified in the EIR would further reduce potential state or federally jurisdictional wetland and waters, including the dust control mitigation measures described in section II(3) of these findings related to Air Quality, the spill and hazardous material avoidance and containment mitigation measures described in section II(8) of these findings related to Hazards and Hazardous Materials, and the surface and subsurface water quality and hydrology mitigation measures described in section II(9) of these findings related to Hydrology and Water Quality.

Brief Explanation of the Rationale for the Finding:

CEQA requires that all feasible and reasonable mitigation be applied to reduce the Project’s potential substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pools, coastal, etc.) through direct removal, filling, hydrological interruption or other means. The mitigation measures described in section II(4) of these findings related to Biological Resources, will be incorporated into the Project to reduce this impact to a less than significant level. These impacts will be further reduced through implementation of the dust control mitigation measures described in section II(3) of these findings related to Air Quality, the spill and hazardous material avoidance and containment mitigation measures described in section II(8) of these findings related to Hazards and Hazardous Materials, and the surface and subsurface water quality and hydrology mitigation measures described in section II(9) of these findings related to Hydrology and Water Quality, which will also be incorporated into the Project.

Significant Effect:

Without mitigation, the Project has the potential to 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 (Impact 4.4-4).

Description of Specific Impact:

As discussed in EIR Section 4.4.2, Environmental Setting, and shown in EIR Figure 4.4-11, the generalized patterns of wildlife movement in and through the Project Area have been characterized in certain studies. The length and width of these corridors have not been precisely determined and most correspond with major geographic features that are likely to facilitate
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species movement, including the Kern River and Poso Creek channels, and along the base of the mountain ranges that border the Project Area to the east, south and west.

Oil and gas exploration and production activities are more porous and maintain wildlife movement to a greater extent than urban development, and, depending on species requirements, agricultural uses that modify surface vegetation, soils and irrigation. A recent study conducted in 2008-2010 for the BLM found that species assemblages in saltbush scrub habitat remain relatively intact in oilfield locations with up to 70% disturbance in Kern County. This result indicates that even moderately developed oilfields as documented in the 2011 survey would retain the capacity for wildlife movement. However, oilfield development with more than 70% disturbance could reduce species movement, and potential impacts to wildlife movement in higher density locations would be significantly impacted by Project activities without mitigation.

Finding:

Without mitigation, the Project has the potential to 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. These impacts will be reduced to a level that is less than significant with implementation of the mitigation measures described in section II(4) of these findings related to Biological Resources. Other mitigation measures identified in the EIR would further reduce potential state or federally jurisdictional wetland and waters, including the dust control mitigation measures described in section II(3) of these findings related to Air Quality, the spill and hazardous material avoidance and containment mitigation measures described in section II(8) of these findings related to Hazards and Hazardous Materials, and the surface and subsurface water quality and hydrology mitigation measures described in section II(9) of these findings related to Hydrology and Water Quality.

Brief Explanation of the Rationale for the Finding:

CEQA requires that all feasible and reasonable mitigation be applied to reduce the Project’s potential to 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. The mitigation measures described in section II(4) of these findings related to Biological Resources, will be incorporated into the Project to reduce this impact to a less than significant level. These impacts will be further reduced through implementation of the dust control mitigation measures described in section II(3) of these findings related to Air Quality, the spill and hazardous material avoidance and containment mitigation measures described in section II(8) of these findings related to Hazards and Hazardous Materials, and the surface and subsurface water quality and hydrology mitigation measures described in section II(9) of these findings related to Hydrology and Water Quality, which will also be incorporated into the Project.

Significant Effect:

Without mitigation, the Project has the potential to conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance (Impact 4.4-5).

Description of Specific Impact:

The Kern County General Plan and other ordinances and the Metropolitan Bakersfield General Plan include policies that protect several biological resources as summarized in Section 4.4.3,
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Regulatory Setting, including special status species, sensitive natural communities, wetlands, waters and riparian habitats and the Kern River corridor. As discussed in Impacts 4.4-1 through 4.4-4, potential impacts to these resources would be mitigated to less than significant levels.

Kern County has adopted oak tree conservation policies and implementation measures in Section 1.10.10 of the Kern County General Plan Land Use, Open Space and Conservation Element. These policies and measures generally require avoidance of oak tree impacts, and the implementation of other protection measures for sites that have more than 10% oak tree cover (oak woodlands) and sites that have less than 10% oak tree cover. Impacts to oak trees are not anticipated to occur from oil and gas exploration and development activity because oak trees can generally be avoided by modifying the disturbance envelope. As shown in Table 4.4-86, the valley oak woodland community occurs within the Project Area and could be subject to 3 acres of impacts per year, mainly in Tier 2 locations in the Eastern Subarea (about 2 acres per year) and the Western Subarea (about 1 acre per year).

Finding:

Without mitigation, the Project has the potential to conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance. These impacts will be reduced to a level that is less than significant with implementation of the mitigation measures described below.

Brief Explanation of the Rationale for the Finding:

CEQA requires that all feasible and reasonable mitigation be applied to reduce the Project’s potential to conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance. The following mitigation measure will be incorporated into the Project to reduce this impact to a less than significant level:

MM 4.4-19 In the event that new disturbance would occur at a site within an oak woodland area as defined in Section 1.10.10 of the Kern County General Plan Land Use, Open Space and Conservation Element (10% or greater oak tree cover), the Applicant shall comply with the minimum 30% canopy retention standard in Section 1.10.10 KK (a). Impacts to oak trees in other locations, and in locations that meet the criteria for an oak woodland area, shall be avoided to the maximum extent practicable, including modification of the disturbance area, if feasible, to avoid existing oak trees within a site.

Significant Effect:

Without mitigation, the Project has the potential to conflict with the provisions of an adopted habitat conservation plan, natural community conservation plan, or other approved local, regional, or state habitat conservation plan (Impact 4.4-6).

Description of Specific Impact:

As discussed in EIR Section 4.4.3, Regulatory Setting, the following HCPs have been adopted within, include portions of or are located in areas adjacent to the Project Area: Freeport-McMoRan Oil & Gas HCP; Aera Coles Levee HCP (previously Arco Western Energy) HCP; Chevron Pipeline HCP; California Aqueduct - San Joaquin Field Division HCP; Kern County Waste Facilities HCP; Pacific Gas and Electric (PG&E) San Joaquin Valley Operations and
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Maintenance Program HCP; TUMSHCP; Metropolitan Bakersfield HCP; CRC Non-Unit HCP. Moreover, three HCPs have been proposed but have not yet been approved for the Project Area: VFHCP; Chevron North American Exploration and Production LHCP; California Resources Corporation EHHCP. The proposed Zoning Ordinance amendment would not conflict with any adopted HCP in or adjacent to the Project Area and would also be consistent with the proposed Chevron LHCP and California Resources Corporation EHHCP. The VFHCP would cover activities from multiple sectors, including most of the oil and gas production activities included in the Project, within the Valley Floor portion of the Project Area. Kern County is the lead Applicant for the VFHCP. Kern County and other stakeholders are also considering the potential for completing a Natural Communities Conservation Plan (NCCP) under California law, alongside a federal HCP. There is no pending draft HCP or proposed NCCP, and thus consistency with these plans cannot be evaluated in detail at this time. It is anticipated, however, that a VFHCP/NCCP would be consistent with, or impose more stringent requirements than, the mitigation measures, procedural and substantive requirements included in this Project and EIR. However, the EIR conservatively determines that potential impacts related to conflicts with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan could be significant.

Finding:

Without mitigation, the Project has the potential to conflict with the provisions of an adopted habitat conservation plan, natural community conservation plan, or other approved local, regional, or state habitat conservation plan. This impact will be reduced to a level that is less than significant with implementation of the mitigation measures described below.

Brief Explanation of the Rationale for the Finding:

CEQA requires that all feasible and reasonable mitigation be applied to reduce the Project’s potential to 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 following mitigation measure will be incorporated into the Project to reduce this impact to a less than significant level:

MM 4.4-20 Applicants shall fund through the Site Conformity Review administrative fee, preparation by Kern County of, an annual report describing the Project’s ground disturbance acreage, and the acreage of compensatory mitigation lands, in each sub-area. For Covered Activities within areas included in proposed HCPs, the requirements of MM 4.4-1 – 4.4-19 may be superseded by specific requirements imposed by USFWS as part of approval of a federal incidental take permit (e.g., under Section 10 or Section 7 of the Endangered Species Act), or by CDFW as part of approval of a state incidental take permit (e.g., under the Fish and Game Code), provided that USFWS (in the case of a federal incidental take permit) or CDFW (in the case of a state incidental take permit) concludes in writing that such requirements provide equivalent or greater protection than MM 4.4-1 – 4.4-19 (or any subset thereof).

C. Environmental Effects of the Project That Cannot Be Mitigated to a Level Less Than Significant.

None.

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None.

E. Cumulative Environmental Effects of the Proposed Project That Will Have a Significant Impact on the Environment.

Significant Effect:

The Project will make a considerable contribution to significant cumulative biological resources impacts (Impact 4.4-7).

Description of Specific Impact:

Future oil and gas exploration and production activities related to the proposed Zoning Ordinance amendment could contribute to a significant cumulative impact on Project Area biological resources because future use and development of federal, state and incorporated urban lands are not within the County’s jurisdiction or control. Future land uses and development could affect biological resources in each of these jurisdictions and would be undertaken as independent actions with associated impacts, avoidance and minimization requirements, and mitigation, if required, under applicable federal, state, regional and local agency law.

Finding:

The Project will make a considerable contribution to significant cumulative biological resources impacts. All feasible and reasonable changes or alterations have been required in, or incorporated into, the Project that substantially reduce this potentially significant effect identified in the EIR, though not to a less than significant level. Thus, this impact is significant and unavoidable.

Brief Explanation of the Rationale for the Finding:

CEQA requires that all feasible and reasonable mitigation be applied to reduce the Project’s contribution to unavoidable cumulative environmental impacts to biological resources. There are no feasible and reasonable mitigation measures that can reduce the Project’s contribution to cumulative impacts on biological resources in the Project Area to a level that is less than significant. However, implementation of Mitigation Measures 4.4-1 through 4.4-20 will reduce these Project impacts to the greatest extent possible. These cumulative impacts will be further reduced through implementation of the dust control mitigation measures described in section II(3) of these findings related to Air Quality, the spill and hazardous material avoidance and containment mitigation measures described in section II(8) of these findings related to Hazards and Hazardous Materials, and the surface and subsurface water quality and hydrology mitigation measures described in section II(9) of these findings related to Hydrology and Water Quality, which will also be incorporated into the Project.

5. CULTURAL RESOURCES


None.

B. Environmental Effects of the Project That Are Potentially Significant, but That Can Be Mitigated to Less Than Significant Levels.
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**Significant Effect:**

Without mitigation, the Project has the potential to cause a substantial adverse change in the significance of an historical resource as defined in CEQA Guidelines Section 15064.5 (Impact 4.5-1).

**Description of Specific Impact:**

Future oil and gas exploration and production activities that would be authorized under the Project may adversely change the significance of historic resources, primarily during construction, by damaging the resource so that it no longer has integrity and is no longer representative of its period of significance. Potential construction impacts include damage to, or destruction of, historic resources from earthmoving, including vibration damage.

**Finding:**

Without mitigation, the Project has the potential to cause a substantial adverse change in the significance of an historical resource as defined in CEQA Guidelines Section 15064.5. These impacts will be reduced to a level that is less than significant with implementation of the mitigation measures described below.

**Brief Explanation of the Rationale for the Finding:**

CEQA requires that all feasible and reasonable mitigation be applied to reduce the Project's potential to cause a substantial adverse change in the significance of an historical resource as defined in CEQA Guidelines Section 15064.5. The following mitigation measure will be incorporated into the Project to reduce this impact to a less than significant level.

**MM 4.5-1** Prior to initiating ground disturbance activities for an activity for which a conformity review is required, the Applicant shall:

a. Provide an archival records search completed by a qualified archaeologist. This shall include an examination of the California Historical Resources Information Files at the Southern San Joaquin Valley Information Center, California State University, Bakersfield, and a search of the Native American Heritage Commission Sacred Lands Files, Sacramento. The Applicant may rely on a previously performed records search for subsequent ground disturbing activities.

b. If an application location has been previously surveyed and no cultural resources have been recorded on it, no further cultural resources studies shall be required.

c. Implement either:

1. If a site plan includes land that has experienced 100% previous ground-surface disturbance, or is within a section with 300 or more existing oil wells or other agricultural, industrial or urban uses, and the records searches indicate that no cultural or Native American resources are known on it, no further cultural resources studies shall be required. All other application locations shall be subject to intensive (100%)
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pedestrian ground-surface survey (Phase I survey/Class III inventory) by qualified archaeologists. The Applicant may rely on a previously performed ground surface survey for subsequent ground disturbing activities; or

2. If an application location has not been previously surveyed based on the records search information, an intensive (100%) pedestrian ground-surface survey (Phase I survey/Class III inventory) by qualified archaeologists shall be required.

d. All prehistoric/Native American archaeological sites, whether identified during the records searches or during the intensive survey, shall be demarcated by a qualified archaeologist, fenced by the Applicant, and preserved in place.

e. Historical (Euro-American) archaeological sites that are potentially eligible for listing in the National Register of Historic Places shall be evaluated by a qualified archaeologist and must meet the requirements of the National Historic Preservation Act of 1966 in order to qualify. Qualifying sites, structures and equipment that are identified during the records search or field survey shall be fenced and preserved in open-space, removed and curated, or treated using appropriate data recovery procedures.

f. Historical (Euro-American) archaeological site types relating to oil and gas activities that have been determined Not Significant/Unique shall require no archaeological study or treatment.

g. All oil and gas industry employees conducting work in the area identified on the Conformity Site Plan shall complete Worker Environmental Awareness Program training including training dedicated to cultural resources protection.

Significant Effect:

Without mitigation, the Project has the potential to cause a substantial adverse change in the significance of an archaeological resource as defined in CEQA Guidelines Section 15064.5 (Impact 4.5-2).

Description of Specific Impact:

Future oil and gas exploration and production activities that would be authorized under the Project may adversely change the significance of archaeological resources, primarily during construction, but also during operations. Potential construction impacts include damage to, or destruction of, archaeological resources from earthmoving and unauthorized collecting. Potential impacts during operations include unauthorized collecting from surface historic trash scatters, but other impacts are not anticipated. Archaeological resources include both prehistoric and historic period sites.

Finding:
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Without mitigation, the Project has the potential to cause a substantial adverse change in the significance of an archaeological resource as defined in CEQA Guidelines Section 15064.5. These impacts will be reduced to a level that is less than significant with implementation of the mitigation measures described below.

Brief Rationale for the Finding:

CEQA requires that all feasible and reasonable mitigation be applied to reduce the Project’s potential to cause a substantial adverse change in the significance of an archaeological resource as defined in CEQA Guidelines Section 15064.5. Mitigation measure MM 4.5-1, described above, will be incorporated into the Project and its implementation will reduce this impact to a less than significant level.

Significant Effect:

Without mitigation, the Project has the potential to directly or indirectly destroy a unique paleontological resource or site or unique geologic feature (Impact 4.5-3).

Description of Specific Impact:

Future oil and gas exploration and production activities that would be authorized under the Project have the potential to adversely impact unique paleontological resources. Adverse impacts may occur to paleontological resources due to grading, other earth disturbance, grubbing, vehicular off-road travel, and other activities that disturb the ground surface, including the demolition of existing structures, facilities, and equipment.

Finding:

Without mitigation, the Project has the potential to directly or indirectly destroy a unique paleontological resource or site or unique geologic feature. These impacts will be reduced to a level that is less than significant with implementation of the mitigation measures described below.

Brief Explanation of the Rationale for the Finding:

CEQA requires that all feasible and reasonable mitigation be applied to reduce the Project’s potential to directly or indirectly destroy a unique paleontological resource or site or unique geologic feature. The following mitigation measures will be incorporated into the Project to lessen the impacts to those resources to a level that is less than significant.

MM 4.5-2 As part of any Worker Environmental Awareness Program training, all construction personnel shall be trained regarding the recognition of possible buried paleontological resources and protection of paleontological resources during construction, prior to the initiation of construction or ground-disturbing activities. Training shall inform construction personnel of the procedures to be followed upon the discovery of paleontological materials. All personnel shall be instructed that unauthorized collection or disturbance of fossils is unlawful.

MM 4.5-3 All permits for new wells that use Enhanced Oil Recovery or Well Stimulation methods shall pay a mitigation fee of $50 per well shall be paid to the Buena Vista Museum to fund the continued education and curation of paleontological
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resources and provide educational support regarding the paleontological history of the region.

Significant Effect:

Without mitigation, the Project has the potential to disturb human remains, including those interred outside of formal cemeteries (Impact 4.5-4).

Description of Specific Impact:

Any disturbance of human remains would be significant. Burials, prehistoric or historic, are below the surface and usually are not marked even in the case of historic burials as the original wooden markers have deteriorated. Potential impacts to human remains would most likely occur during construction. Earthmoving, such as grading, may reveal human skeletal materials and all work should cease upon discovery. Potential impacts to human remains are unlikely during operations except where new ground disturbance occurs.

Finding:

Without mitigation, the Project has the potential to disturb human remains, including those interred outside of formal cemeteries. These impacts will be reduced to a level that is less than significant with implementation of the mitigation measures described below.

Brief Explanation of the Rationale for the Finding:

CEQA requires that all feasible and reasonable mitigation be applied to reduce the Project’s impacts to potential human remains in the Project Area. The following mitigation measures will be incorporated into the Project to lessen the impacts to those resources to a level that is less than significant.

MM 4.5-4 In the event archaeological materials are encountered during the course of ground disturbance or construction, the Project operator/contractor shall cease any ground disturbing activities within 50 feet of the find. The qualified archaeologist shall evaluate the significance of the resources and recommend appropriate treatment measures. Per California Environmental Quality Act Guidelines Section 15126.4(b)(3), Project redesign and preservation in place shall be the preferred means to avoid impacts to significant historical resources. Consistent with California Environmental Quality Act Guidelines Section 15126.4(b)(3)(C), if it is demonstrated that resources cannot be avoided, the qualified archaeologist shall develop additional treatment measures in consultation with the County, which may include data recovery or other appropriate measures. The Planning and Community Development Department shall consult with appropriate Native American representatives in determining appropriate treatment for unearthed cultural resources if the resources are prehistoric or Native American in nature. If after consultation it is deemed appropriate, archaeological materials recovered during any investigation shall be curated at an accredited curation facility. The qualified archaeologist shall prepare a report documenting evaluation and/or additional treatment of the resource. A copy of the report shall be provided to the Kern County Planning and Community Development Department and to the Southern San Joaquin Valley Information Center. In the event archaeological
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materials are encountered, in Tier 2 the surface owner shall be notified immediately.

**MM 4.5-5**

If human remains are uncovered during Project construction, the Applicant shall immediately halt all work, contact the Kern County Coroner to evaluate the remains, and follow the procedures and protocols set forth in Section 15064.4 (e)(1) of the California Environmental Quality Act Guidelines. The Kern County Planning and Community Development Department shall be notified concurrently. If the County Coroner determines that the remains are Native American, the Project proponent shall contact the Native American Heritage Commission, in accordance with Health and Safety Code Section 7050.5, subdivision (c), and Public Resources Code 5097.98 (as amended by Assembly Bill 2641). The Native American Heritage Commission shall designate a Most Likely Descendant for the remains per Public Resources Code 5097.98. Per Public Resources Code 5097.98, the applicant, in coordination with the landowner, shall ensure that the immediate vicinity, according to generally accepted cultural or archaeological standards or practices, where the Native American human remains are located, is not damaged or disturbed by further development activity until the discussion and conference with the Most Likely Descendant has occurred, if applicable, taking into account the possibility of multiple human remains. If the remains are determined to be neither of forensic value to the Coroner, nor of Native American origin, provisions of the California Health and Safety Code (7100 et. seq.) directing identification of the next-of-kin will apply. In the event human remains are uncovered, in Tier 2 the surface owner shall be notified immediately.

C. **Environmental Effects of the Project That Cannot Be Mitigated to a Level Less Than Significant.**

None.

D. **Cumulative Environmental Effects of the Proposed Project That Will Have a Less Than Significant Impact on the Environment.**

None.

E. **Cumulative Environmental Effects of the Proposed Project That Will Have a Significant Impact on the Environment.**

**Significant Effect:**

The Project will contribute to cumulative impacts to historical, archaeological, or paleontological resources and human remains (Impact 4.5-5).

**Description of Specific Impact:**

The geographic scope for cumulative impacts to cultural and paleontological resources includes the area within a one-mile radius from the Project Area. Analysis of cumulative impacts takes into consideration the entirety of impacts that the proposed Project would have on cultural resources. Future development and construction could encounter potentially significant cultural and paleontological resources during ground-disturbing construction activities, including
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grubbing, grading, and excavation. Potential impacts on cultural resources include the potential to be destroyed by construction equipment and Project-related vehicles, exposure of alluvium during construction that could subject the rocks to increased weathering and erosion, unauthorized collection of fossils by Project personnel (as well as amateur and commercial collectors who would have greater access to the area), and vandalism. Cumulative impacts may result when paleontological, historical, and archaeological resources or human remains cannot be avoided by future projects.

Finding:

The Project will contribute to cumulative impacts to historical, archaeological, or paleontological resources and human remains. All feasible and reasonable changes or alterations have been required in, or incorporated into, the Project to reduce this impact (as discussed below), but such measures will not reduce this impact to a less than significant level. This impact is significant and unavoidable.

Brief Explanation of the Rationale for the Finding:

CEQA requires that all feasible and reasonable mitigation be applied to reduce the Project’s cumulative impacts to the cultural resources of the Project Area and its surroundings. There are no feasible and reasonable mitigation measures that can reduce the Project’s impacts on cultural resources in the area to a level that is less than significant. However, Mitigation Measures MM 4.5-1 through MM 4.5-5 will be incorporated into the Project to lessen the cumulative impacts to cultural resources to the greatest extent possible. This impact is thus significant and unavoidable.

6. GEOLOGY AND SOILS


None.

B. Environmental Effects of the Project That Are Potentially Significant, but That Can Be Mitigated to Less Than Significant Levels.

Significant Effect:

Without mitigation, the Project has the potential to expose people or structures to substantial adverse effects, including the risk of loss, injury or death involving the rupture of a known earthquake fault (Impact 4.6-1).

Description of Specific Impact:

The Project Area is located in a seismically active area containing active fault systems. This includes such fault systems as the San Andreas fault system located near the western portion of the Project Area. An expression of seismic faults may include a surface rupture, which are the result of movement along an existing fault, which breaks the land surface. Project activities including high volume hydraulic fracturing and injection of waste water from drilling activities have the potential to induce seismicity, however the potential for hydraulic fracturing to cause felt induced seismic events is considered to be low unless hydraulic fracturing occurs in active fault zones which may result in a felt seismic event. Induced seismicity may also be caused by deep
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wastewater injection. However, as discussed EIR Section 4.6, Geology and Soils, wastewater injection in California occurs at much shallower depths (4,700 to 7,700 feet) than in other parts of the U.S. and the volume of wastewater injected in California is about four times less than wells in other locations where induced seismic events have occurred. In addition, more oil and gas production in California occurs in sedimentary basins that are less susceptible to induced seismicity from wastewater injection as compared to injection into fractured hard rock. Moreover, in California, injection wells have been in use for more than 50 years, with 42,000 oilfield injection wells currently operating, and seismicity rates have remained relatively constant for the last 77 years. Thus, the seismic hazard related to current wastewater injection practices in California is low (BSK 2015).

Strong seismic activity could damage current and/or future oil and gas exploration and production activities, such as drilling, well stimulation, and Enhanced Oil Recovery. In addition, well and production infrastructure could be damaged resulting in the degradation of well casing or seals, as well as plugs of abandoned wells. Pipelines transporting oil, gas, waste gas, and/or produced could crack and begin to leak. Damage to active or abandoned well could result in the leakage to underground formations. Although the 2014 CCST study on advanced well stimulation technologies in California indicated that well failure, or blowout rates in the Project Area have been significantly reduced over time by improved well construction technologies, a significant ground shaking event could still potentially cause well failure or other damage to Project-related infrastructure. In addition, future oil and gas exploration and production activities that would be authorized under the Project would involve the installation of buildings and infrastructure that could be occupied by people. Although building codes would have to be implemented in the infrastructure, there would still be a risk of impacts associated with Project activities resulting in the rupture of a known earthquake fault and, therefore, impacts could be significant.

Finding:

Without mitigation, the Project has the potential to expose people or structures to substantial adverse effects, including the risk of loss, injury or death involving the rupture of a known earthquake fault. However, these significant adverse impacts will be reduced to a level that is less than significant by implementation of mitigation measures described below.

Brief Explanation of the Rationale for the Finding:

CEQA requires that all feasible and reasonable mitigation be applied to reduce the Project's potential to expose people or structures to substantial adverse effects, including the risk of loss, injury or death involving the rupture of a known earthquake fault. The following mitigation measures will be incorporated into the Project to lessen the impacts to a level that is less than significant:

MM 4.6-1 Prior to beginning a ground disturbance activity, the Applicant shall comply with the following regulations (as applicable) and confirm compliance in its Site Plan Conformity Review application documentation:


c. Division of Oil Gas and Geothermal Resources regulations, as identified in the California Code of Regulations, Title 14, Division 2, Chapter 4, including
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regulations implementing Senate Bill 4 as applicable. If hydraulic fracturing is conducted for any well associated with the Site Plan Conformity Review, the Applicant shall comply with requirements to monitor the California Integrated Seismic Network for indication of an earthquake of magnitude 2.7 or greater for the period of 10 days following the end of hydraulic fracturing. The earthquake search radius shall be consistent with Division of Oil Gas and Geothermal Resources Senate Bill 4 regulations. The data will be submitted to Division of Oil Gas and Geothermal Resources for an evaluation of the risks and actions consistent with the Division of Oil Gas and Geothermal Resources Senate Bill 4 regulations. In approving a well stimulation treatment permit that would authorize, within an urban area (i.e., an area with a population over 50,000, as defined by the U.S. Census Bureau), the emplacement of well stimulation fluids into an oil or gas formation that has not been previously been subject to well stimulation activity, and/or into an oil or gas formation for which Division of Oil Gas and Geothermal Resources does not yet possess adequate information about formation fracture geometries, Division of Oil Gas and Geothermal Resources shall impose a permit condition requiring that the applicant conduct ground monitoring to characterize as-built fracture geometries prior to, during, and post-hydraulic fracturing. Monitoring shall also be conducted during fracturing treatments by use of applicable microseismic fracture mapping, tilt measurements, tracers, or proppant tagging. Copies of ground monitoring records shall be provided to the County and Division of Oil Gas and Geothermal Resources for review and approval within 30 days of well stimulation treatment.

d. Additionally, the Applicant shall:

1. Avoid placement of structures intended for human occupancy on or within 50 feet of any active faults designated and mapped pursuant to the Alquist-Priolo Earthquake Fault Zoning Act where the fault breaks the surface.

2. Have a professional geologist prepare a fault rupture hazard evaluation according to guidelines in California Geological Survey Special Publication 42, 2007 for new developments with structures that are intended for human occupancy.

3. All Class II injection wells shall be authorized, and shall comply with all applicable legal requirements, Underground Injection Control Program Approval permit conditions, and be operated according to the California Code of Regulations Title 14 requirements, as described in the mitigation measures for Hydrology and Water Quality.

4. Ensure that active fault trace placement restrictions are in place for all permanent tanks and storage reservoirs used to store, treat, or transport hazardous materials or materials that are considered pollutants to surface water and groundwater, located in an Earthquake Fault Zone.

Ensure that all newly installed pipelines subject to 49 Code of Federal Regulations (CFR) Parts 192 and 195, are engineered and constructed in
compliance with the requirements of the pipeline safety regulations, as set forth by the Pipeline Hazardous Materials Safety Administration (PHMSA). All other newly installed pipelines that transport gas or hazardous liquids are to be constructed, tested operated and maintained in accordance with good oilfield practice and applicable standards set forth and approved by the State Oil and Gas Supervisor. Ensure that all new pipelines designated for or water used for fire suppression are engineered and constructed in compliance with the requirements of California Building Code Chapter 9, Fire Protection Systems, and the California Fire Code to address potential fault rupture displacements.

**MM 4.6-2**

All structures designed for human occupancy shall be designed to withstand substantial ground shaking in accordance with applicable California Building Code seismic design standards and Kern County Building Code.

**Significant Effect:**

Without mitigation, the Project has the potential to expose people or structures to substantial adverse effects, including the risk of loss, injury, or death involving strong seismic ground shaking (Impact 4.6-2).

**Description of Specific Impact:**

Project activities of hydraulic fracturing and deep wastewater injection have the limited potential to induce seismic activity. However, there are no cases where strong seismic shaking (>4.0) have occurred as a result of induced seismicity. Even in other areas of the country, where induced seismicity from hydraulic fracturing and wastewater injection has occurred, the seismic events have not exceeded levels that would damage structures. Significant impacts would occur if the magnitude of earthquakes from strong ground shaking rose to a level that could cause damage to structures or facilities. However, to minimize the effects to people, DOGGR regulates operation of injection wells. Over-pressuring of injected zones is controlled by operating all injection wells according to CCR Title 14, Division 2, Chapter 4, Subchapter 1, Article 3 Requirements.

**Finding:**

Without mitigation, the Project has the potential to expose people or structures to substantial adverse effects, including the risk of loss, injury, or death involving strong seismic ground shaking. However, these significant adverse impacts will be reduced to a level that is less than significant by implementation of mitigation measures described below.

**Brief Explanation of the Rationale for the Finding:**

CEQA requires that all feasible and reasonable mitigation be applied to reduce the Project’s potential to expose people or structures to substantial adverse effects, including the risk of loss, injury, or death involving strong seismic ground shaking. Mitigation Measures **MM 4.6-1** and **MM 4.6-2**, described above, will be incorporated into the Project to reduce this potential impact to a less than significant level.

**Significant Effect:**
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Without mitigation, the Project has the potential to expose people or structures to substantial adverse effects, including the risk of loss, injury, or death involving seismic-related ground failure, including liquefaction (Impact 4.6-3).

Description of Specific Impact:

Liquefaction occurs when saturated, loose materials are weakened and transformed from a solid to a near liquid state due to increased pore water pressure caused by strong ground motion from an earthquake. Project activities such as hydraulic fracturing and deep waste water injection are unlikely to cause induce strong seismic events and their impact is considered a less than significant. However, naturally occurring earthquakes have the potential to cause liquefaction and cause damage to structures. Liquefaction generally can occur in areas of high groundwater (<50 feet) and fine sandy or silty soils and typically consist of more recent Holocene deposits. In the Project Area, areas of high groundwater are located mainly in the northwest portion and southern tip of the Central Subarea and east-central and southeast portions of the Western Subarea. Most of the deposits in the Project Area tend to be more recent deposits. Although impacts from liquefaction have been observed from many major earthquakes around the world including the 1964 earthquakes in China and Alaska, the Christchurch, New Zealand earthquake in 2011, and more recently, the 2015 earthquake in Nepal, the Project is not expected to be the cause of any significant seismic events, and thus, the liquefaction potential from any Project activities is low. Impacts could be significant; however, implementation of MM 4.6-1 and MM 4.6-2 would further reduce the potential for adverse effects as a result of liquefaction; therefore, the impact would be less than significant with mitigation.

Finding:

Without mitigation, the Project has the potential to expose people or structures to substantial adverse effects, including the risk of loss, injury, or death involving seismic-related ground failure, including liquefaction. However, these significant adverse impacts will be reduced to a level that is less than significant by implementation of mitigation measures described below.

Brief Explanation of the Rationale for the Finding:

CEQA requires that all feasible and reasonable mitigation be applied to reduce the Project’s potential to expose people or structures to substantial adverse effects, including the risk of loss, injury, or death involving seismic-related ground failure, including liquefaction. Mitigation Measures MM 4.6-1 and MM 4.6-2, described above, will be incorporated into the Project to reduce this impact to a less than significant level.

Significant Effect:

Without mitigation, the Project has the potential to expose people or structures to substantial adverse effects, including the risk of loss, injury, or death involving landslides (Impact 4.6-4).

Description of Specific Impact:

Landslides occur due to a number of natural and man-made factors, such as earthquakes, volcanic eruptions, wildfires, and floods. Landslides also are caused by other factors such as strength of underlying material surface and groundwater conditions, surface vegetation, seasonal rainfall (i.e., soil saturation), and areas of steep slopes (generally greater than 30%). They can also occur from anthropogenic practices such as vegetation removal. Landslides caused by Project activities
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are not expected as the area of disturbance for each well pad is relatively small (< 3 acres). The Project Area is located in a seismically active area containing several active fault systems; however, volcanic activity is not likely. Wildfires and flooding can occur in localized areas, therefore, the potential for landslides in the Project Area may exist if the other factors are present (steep slopes, ground saturation, and lack of vegetation). The only area of high landslide incidence (where 15% of the area is involved in landsliding), is the southern border of the Project Area (Western, Central, and Eastern Subareas), typically in areas with steep slopes. Development in this area could result in potentially significant adverse effects to people and property in this area; however, it is likely that oil and gas development would not occur on these steep slopes and therefore unlikely that oil and gas activities would induce landslides if these areas would be avoided.

Finding:

Without mitigation, the Project has the potential to expose people or structures to substantial adverse effects during landslides. However, these significant adverse impacts will be reduced to a level that is less than significant by implementation of the mitigation measures described below.

Brief Explanation of the Rationale for the Finding:

CEQA requires that all feasible and reasonable mitigation be applied to reduce the Project’s potential to expose people or structures to substantial adverse effects, including the risk of loss, injury, or death involving landslides. The following mitigation measure will be incorporated into the Project to lessen the impacts to a level that is less than significant:

**MM 4.6-3** Operators shall avoid siting wells or accessory equipment and facilities on slopes greater than 30% unless the Applicant determines that mineral recovery is infeasible from a different location, and site-specific Professional Engineering certification is submitted concluding that the new equipment will not cause landslides.

**Significant Effect:**

Without mitigation, the Project has the potential to result in substantial soil erosion or the loss of topsoil (Impact 4.6-5).

**Description of Specific Impact:**

Soil erosion is caused by a number of factors including: lack of vegetation/roots to bind the soil (from farming, overgrazing, other development); steep slopes and long slope lengths, poor farming practices, catastrophic weather events, everyday water and wind erosion, as well as other anthropogenic influences. In the Project Area, soils with high water erosion factors occur in 44% of the Western Subarea, 49% of the Central Subarea, and 12% of the Eastern Subarea and soils with high wind erosion factors occur in 49%, 38%, and 47%, respectively. Only a small percentage (7%, 0%, and 8%, respectively) exhibit areas with significant slope lengths. Project activities that would involve earth movement include constructing roads to a well site, grading a well pad, constructing pits/sumps, trenching for pipelines, and other excavations. Disturbed areas have a high potential for either wind or water driven erosion. Well pads are expected to have a small 1 to 5 acre footprint. The potential for erosion would be greatest in portions of the Project Area where there are both the high erosion factors and significant slope lengths. In these areas, there could be substantial soil erosion or topsoil loss, resulting in
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significant adverse effects. Erosion control measures would be necessary to reduce potential for soil erosion.

Finding:

Without mitigation, the Project has the potential to result in substantial soil erosion or the loss of topsoil. However, this significant adverse impact will be reduced to a level that is less than significant by implementation of the mitigation measures described below.

Brief Explanation of the Rationale for the Finding:

CEQA requires that all feasible and reasonable mitigation be applied to reduce the Project’s potential to result in substantial soil erosion or the loss of topsoil. The stormwater mitigation measures described in EIR Section 4.9, Hydrology and Water Quality, will be incorporated into the Project to reduce this impact to a level that is less than significant:

Significant Effect:

Without mitigation, the Project has the potential to be located on a geologic unit or soil that is unstable, or that would become unstable because of the Project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction, or collapse (Impact 4.6-6).

Description of Specific Impact:

Portions of the Eastern and Western Subareas in the foothill area have sufficiently steep slopes that may potentially expose structures to slope instability or landslides that could cause significant damage or collapse. Grading or construction activities that alter the slope gradient or add loads to slopes could potentially cause slope instability and failure resulting in damaging structures. Structures built on potentially unstable slopes could result in a potentially significant impact. In addition, structures built on liquefiable soils could collapse or be significantly deformed causing structural collapse or be damaged such that the structural integrity is compromised. This would be considered a potentially significant impact. Differential settlement of soils from hydrocompaction of near surface soils that may result in damage to Project-related structures placed on susceptible soil would be a potentially significant impact. Subsidence due to oilfield fluid withdrawal activities (water withdrawal) could be a potentially significant impact.

Finding:

Without mitigation, the Project has the potential to be located on a geologic unit or soil that is unstable, or that would become unstable because of the Project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction, or collapse. However, these significant adverse impacts will be reduced to a level that is less than significant by implementation of the mitigation measures described below.

Brief Explanation of the Rationale for the Finding:

CEQA requires that all feasible and reasonable mitigation be applied to reduce the environmental impacts of the Project caused by landslide, soil liquefaction, or collapse. Mitigation Measure MM 4.6-3, described above, and Mitigation Measure MM 4.6-4, described below, will incorporated into the Project to reduce this impact to a level that is less than significant:
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MM 4.6-4 The Applicant shall confirm compliance with, and shall implement, a Division of Oil Gas and Geothermal Resources approved re-pressuring plan as required by Division 3, Chapter 1, Article 5.5 of the Public Resources Code, commencing with Section 3315. In developed areas where subsidence is confirmed or suspected, subsidence monitoring shall be required using Synthetic Aperture Radar studies and/or other methods as approved by the Division of Oil Gas and Geothermal Resources to quantify and evaluate the potential effect on the area.

**Significant Effect:**

Without mitigation, the Project has the potential to 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 (Impact 4.6-7).

**Description of Specific Impact:**

Structures built on soils with high swelling potential may experience shifting, cracking, and breaking damage as these soils expand and contract. Thus, soils that are predominantly clay or have high clay content are considered potentially expansive. As discussed above in the Potential Geologic Hazards subsection, 54% of the Western Subarea, 39% of the Central Subarea, and 40% of the Eastern Subarea contain soils with expansive potential. Therefore, structural damage to Project infrastructure due to inadequate soil and foundation engineering or the placement of oil and gas structures directly on expansive soils could cause potentially significant impacts.

**Finding:**

Without mitigation, the Project has the potential to be located on expansive soil, as defined in Section 1802.3.2 of the California Building Code (2007), creating substantial risks to life or property. However, this significant adverse impact will be reduced to a level that is less than significant by implementation of mitigation measures described below.

**Brief Explanation of the Rationale for the Finding:**

CEQA requires that all feasible and reasonable mitigation be applied to reduce the Project's potential to be located on expansive soil, as defined in Section 1802.3.2 of the California Building Code. The following mitigation measure will be incorporated into the Project to lessen the impacts to a level that is less than significant:

**MM 4.6-5** The Applicant shall avoid building infrastructure on expansive soils unless the Applicant determines that mineral recovery is infeasible from a different location, and site-specific Professional Engineering certification is submitted concluding that the new equipment will not cause substantial risks to life or property.

**Significant Effect:**

Without mitigation, the Project has the potential to have soils that are incapable of adequately supporting the use of septic tanks or alternative wastewater systems where sewers are not available for the disposal of wastewater (Impact 4.6-8).

**Description of Specific Impact:**
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Potential Project activities such as installation of oil and gas well, construction of pipelines and other oilfield related jobs may require the housing of temporary employees or an increase in permanent residents requiring residential structures. While well pad activities would generally utilize portable sanitation units, company structures offices and any temporary housing may require the use of septic systems where public water systems would not be available. The placement of septic systems in areas of slow to very slow infiltration rates may cause adverse impacts to soils and soil stability including areas of saturated soil. There are areas of slow to very slow infiltration rates within the Project Area, typically in upland areas along the perimeter of the Project Area and in some instances in the Central Subarea. Most of the Project Area has high to moderate infiltration rates. Thus, the installation of septic systems in soils with slow to very slow infiltration rates could have significant impacts; however, all new septic system installations require permitting from the County to restrict such impacts.

Future oil and gas exploration and production activities could result in a need for temporary housing for workers. This increase in residential structures could have an impact on soils incapable of adequately supporting the use of septic tanks. Wastewater disposal from temporary housing and from oil and gas production activities could also impact soils and soil stability. All new septic system installations require permitting from the County, therefore, such impacts would be less than significant.

Finding:

Without mitigation, the Project has the potential to have soils that are incapable of adequately supporting the use of septic tanks or alternative wastewater systems where sewers are not available for the disposal of wastewater. These impacts will be reduced to a less than significant level by implementation of the mitigation measure described below.

Brief Explanation of the Rationale for the Finding:

CEQA requires that all feasible and reasonable mitigation be applied to reduce the Project’s potential to have soils that are incapable of adequately supporting the use of septic tanks or alternative wastewater systems where sewers are not available for the disposal of wastewater. Mitigation Measure MM 4.6-1, described above, will be incorporated into the Project to lessen the impacts to a level that is less than significant.

C. Environmental Effects of the Project That Cannot Be Mitigated to a Level Less Than Significant.

None.


Significant Effect:

Without mitigation, the Project has the potential to contribute to cumulative geologic and soil impacts (Impact 4.6-9).

Description of Specific Impact:
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Proposed oil and gas production development in the Project Area would alter landforms through activities such as site grading and road construction. In addition, hydraulic fracturing and deep waste water injection may cause low level induced seismicity, but not at a level that would be expected to result in structural damage. Cumulative impacts may occur if multiple seismic inducing activities occurred simultaneously. However, for reasons stated above, although it is anticipated that over 1,000 wells will be hydraulically fractured annually, significant induced seismicity has not been observed and is not anticipated. In addition, although in California, injection wells have been in use for more than 50 years, with 42,000 oilfield injection wells currently operating, seismicity rates have remained relatively constant for the last 77 years and are not anticipated to change. Under these circumstances, oil and gas activities are unlikely to induce multiple seismic events at a level that would cumulatively cause significant damage. Therefore, the contribution of Project-related activities to cumulative impacts on geologic resources and soils would be less than significant.

Naturally occurring impacts to soils and geology, such as naturally occurring earthquakes, may also expose workers and structures to geologic hazards that could result in cumulatively considerable or significant impacts. In these instances, conducting mitigation measures described above would result in cumulative impacts that are less than significant. Prior to beginning Project activities, the Applicant would have to comply with all appropriate rules, mitigation measures, and regulations as described above.

Finding:

Without mitigation, the Project has the potential to contribute to cumulative geologic and soil impacts. These impacts will be reduced to a level that is less than significant with implementation of the mitigation measures described below.

Brief Explanation of the Rationale for the Finding:

CEQA requires that all feasible and reasonable mitigation be applied to reduce the Project’s potential to make a considerable contribution to cumulative geologic and soil impacts. Mitigation Measures MM 4.6-1 through MM 4.6-5 will be incorporated into the Project to lessen the cumulative impacts to a level that is less than significant.

E. Cumulative Environmental Effects of the Proposed Project That Will Have a Significant Impact on the Environment.

None.

7. GREENHOUSE GAS EMISSIONS


None.

B. Environmental Effects of the Project That Are Potentially Significant, but That Can Be Mitigated to Less Than Significant Levels.

Significant Effect:
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Without mitigation, the Project has the potential to generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment (Impact 4.7-1).

Description of Specific Impact:

GHG emissions would occur during all aspects of oil and gas activities, including the construction and operation of permitted sources, and the operation of non-permitted sources in the Western, Central, and Eastern Subareas. Total emissions resulting from the construction and operation of new facility equipment during a Project year (i.e., any year between 2015 and 2035), and the construction and operation of facilities over the Project period (2015 - 2035) are summarized in EIR Tables 4.7-8 and 4.7-9. GHG emissions from construction and operation of oil and gas wells will continue to be subject to CARB’s AB 32 Cap-and-Trade Program and other regulatory mandates, so that oil and gas production in Kern County would not conflict with statewide GHG emissions goals and objectives. The Project would be consistent with the Cap-and-Trade Regulation because all significant facility emissions are subject to the Cap-and-Trade Regulation, either as stationary source emissions for which the facility operator has a compliance obligation, or as emissions from fuel combustion, for which the fuel supplier has a compliance obligation; methane emissions will be limited by the new CARB methane rule expected to be adopted by the end of 2015. However, GHG emissions not covered by Cap-and-Trade Regulations and the BPS, and fugitive emissions may contribute a net increase of GHG in the region that would be a potentially significant impact. To account for additional sources of Project-related GHG emissions not estimated in this analysis (i.e., indirect sources, fugitive emissions), the County has determined to conservatively mitigate Project direct GHG emissions to net zero.

Finding:

Without mitigation, the Project has the potential to generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment. These impacts will be reduced to a less than significant level by implementation of the mitigation measures described below.

Brief Explanation of the Rationale for the Finding:

CEQA requires that all feasible and reasonable mitigation be applied to reduce the Project’s potential to generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment. The following mitigation measures will be incorporated into the Project to reduce this impact to a less than significant level:

MM 4.7-1 An Applicant covered by the Cap-and-Trade Program with permitted stationary sources shall comply with the Cap-and-Trade regulation (especially by surrendering greenhouse gas allowances or offset credits to satisfy their compliance obligation under the Program), and implement Best Performance Standards applicable to greenhouse gas reduction for Components at Light Crude Oil and Natural Gas Production, Natural Gas Processing Facilities, Petroleum Refineries, Gas Liquids Processing Facilities, and Chemical Plants (San Joaquin Valley Air Pollution Control District 2010), Thermally Enhanced Oil Recovery Wells (San Joaquin Valley Air Pollution Control District 2010a), Steam Generators (San Joaquin Valley Air Pollution Control District 2010b), and Frontline Organic Liquid Storage Tanks (San Joaquin Valley Air Pollution Control District 2011).
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MM 4.7-2 Each Applicant covered by the Cap-and-trade Program shall comply with applicable Cap and Trade regulations, and other applicable greenhouse gas emission control and reduction regulations as these may be adopted or amended over time, to reduce, avoid, mitigate and/or sequester greenhouse gas emissions from Project-related air emissions.

MM 4.7-3 Each Applicant shall implement methods to recover for reuse or destroy methane existing in associated gas and casinghead gas, as follows:

a. Recover all associated gas produced from the reservoir via new wells, regardless of the well type, except for gas produced from wildcat and delineation wells or as a result of start-up, shutdown and maintenance activities (whether planned or unplanned), system failures, and emergencies in accordance with San Joaquin Valley Air Pollution Control District regulations (Rule 4401 and 4409), as this may be amended over time.

b. Compliance with the expected California Air Resources Board methane regulation.

MM 4.7-4 Each Applicant shall offset all greenhouse gas emissions not covered by the Cap-and-Trade program or other mandatory greenhouse gas emission reduction measures through Applicant reductions of greenhouse gas emissions as verified by Kern County, through acquisition of offset credits from the California Air Pollution Control Officers Association Exchange Register or other third party greenhouse gas reductions, with consultation as to the validity of methodology for calculating reductions verified by the San Joaquin Valley Air Pollution Control District and accepted by Kern County, or through inclusion in an Emission Reduction Agreement, to offset Project-related greenhouse gas emissions that are not included in the Cap and Trade program to assure that no net increase in greenhouse gas emissions from the Project.

C. Environmental Effects of the Project That Cannot Be Mitigated to a Level Less Than Significant.

Significant Effect:

The Project will conflict with an applicable plan, policy or regulation of an agency adopted for the purpose of reducing the emissions of greenhouse gases (Impact 4.7-2).

Description of Specific Impact:

The proposed Project will be consistent with California’s adopted California Climate Change Scoping Plan, CARB’s GHG Cap-and-Trade Program, and other applicable adopted standards and regulations. Impacts are therefore anticipated to be less than significant. However, impacts from the Project on applicable plans, policies, or regulations adopted for the purpose of reducing the emissions of GHG emissions would be potentially significant on a cumulative basis. While implementation of MM 4.7-1 through MM 4.7-3 and the 2014 Regional Transportation Plan (RTP) mitigation measures would encourage reduction in GHG emissions at a regional level, they do not provide a mechanism that guarantees GHG emission reductions on a cumulative basis. Kern County also lacks the jurisdiction and control over the many cumulative sources of GHG emissions, and over the global source of GHG emissions, that collectively contribute to climate
change. Many other agencies with the requisite jurisdiction are taking steps to reduce GHG emissions; however, the County cannot assure that these steps will ultimately be implemented or sufficient to address global climate change. Therefore, Impact 4.7-2 would be significant.

Finding:

The Project’s potential to conflict with an applicable greenhouse gas emissions reduction plan, policy or regulation of an agency cannot be feasibly prevented. All feasible and reasonable changes or alterations have been required in, or incorporated into, the Project that substantially lessen the potentially significant cumulative effects identified in the EIR, but such measures cannot reduce this potential impact to a less than significant level. This impact is therefore significant and unavoidable.

Brief Explanation of the Rationale for the Finding:

The Project’s potential to conflict with an applicable greenhouse gas emissions reduction plan, policy or regulation of an agency is considered significant and unavoidable because such impact cannot be feasibly avoided. Mitigation Measure MM 4.7-3, described above, will be incorporated into the Project to reduce this impact to the greatest feasible extent, but implementation of this mitigation measure will not reduce this impact to a less than significant level. Therefore, this impact is significant and unavoidable.


None.

E. Cumulative Environmental Effects of the Proposed Project That Will Have a Significant Impact on the Environment.

Significant Effect:

The Project will make a considerable contribution to cumulative greenhouse gas emission impacts (Impact 4.7-3).

Description of Specific Impact:

Impacts from the Project on cumulative GHG emissions would be potentially significant. While implementation of MM 4.7-1 through MM 4.7-3 and the 2014 RTP mitigation measures would encourage reduction in GHG emissions at a regional level, they do not provide a mechanism that guarantees GHG emission reductions on a cumulative basis. Kern County also lacks the jurisdiction and control over the many cumulative sources of GHG emissions, and over the global source of GHG emissions, that collectively contribute to climate change. Many other agencies with the requisite jurisdiction are taking steps to reduce GHG emissions; however, the County cannot assure that these steps will ultimately be implemented or sufficient to address global climate change. Therefore, Impact 4.7-3 would remain significant and unavoidable.

Finding:

The Project’s potential to make a considerable contribution to greenhouse gas emission impacts cannot be feasibly prevented. All feasible and reasonable changes or alterations have been
required in, or incorporated into, the Project that substantially lessen the potentially significant cumulative effects identified in the EIR, but such measures cannot reduce this potential impact to a less than significant level. This impact is therefore significant and unavoidable.

Brief Explanation of the Rationale for the Finding:

The Project’s potential to make a considerable contribution to greenhouse gas emission impacts is considered significant and unavoidable because such impact cannot be feasibly avoided. Mitigation Measure MM 4.7-4, described above, will be incorporated into the Project to reduce this impact to the greatest feasible extent, but implementation of this mitigation measure will not reduce this impact to a less than significant level. Therefore, this impact is significant and unavoidable.

8. HAZARDS AND HAZARDOUS MATERIALS


The Project will not result in a safety hazard for people residing or working in the Project Area and within the vicinity of a private airstrip (Impact 4.8-6).

The Project will not impair implementation of, or physically interfere with, an adopted emergency response plan or emergency evacuation plan (Impact 4.8-7).

B. Environmental Effects of the Project That Are Potentially Significant, but That Can Be Mitigated to Less Than Significant Levels.

Significant Effect:

Without mitigation, the Project has the potential to create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials (Impact 4.8-1).

Description of Specific Impact:

Regulations governing the transportation of hazardous material via truck and pipelines are comprehensive and serve to prevent or mitigate releases of hazardous materials in many situations. Historical data suggest that releases have occurred at a frequency such that they occur during routine operations, though the vast majority of these releases have been minor. Further, many of the incidents reported above occurred before enactment of AB 1960 in January 2009 and prior to implementation of the AB 1960 regulations on January 29, 2011, which were enacted to improve, among other things, leak detection, corrosion prevention, and pipeline integrity. Nevertheless, potential releases have the potential to contaminate the environment or expose the public to hazardous materials and, therefore, the impacts could be significant.

The use, handling, storage and disposal of hazardous materials is also regulated. Despite the implementation of federal and state regulations, releases or spills have occurred in the Project Area and would be expected to continue to occur in oil and gas activities authorized under this Project. Since these potential releases could contaminate the environment or expose the public to hazardous materials, the impacts could be significant.

Finding:
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Without mitigation, the Project has the potential to create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials. The potential for such impact will be reduced to a less than significant level by implementation of the mitigation measures described below.

Brief Explanation of the Rationale for the Finding:

CEQA requires that all feasible and reasonable mitigation measures be applied to the Project to reduce the potential impacts caused by the transportation and use of hazardous materials. The following mitigation measures will be incorporated into the Project and will reduce this impact to a less than significant level:

**MM 4.8-1** The Applicant shall provide a comprehensive Worker Environmental Awareness Program to the County with its first Site Plan Conformity Review permit application in each calendar year. The program shall include all training requirements identified in Applicant Best Management Practices and mitigation measures, and include training for all field personnel (including Applicant employees, agents and contractors). The Worker Environmental Awareness Program shall include protocols and training for responding to and handling of hazardous materials and hazardous waste management, and emergency preparedness, release reporting, and response requirements. In Tier 2, the Worker Environmental Awareness Program shall be provided to the surface owner at the time of the application pathway process so the surface owner may educate employees as well.

**MM 4.8-2** The Applicant shall arrange for transportation, storage and disposal of all hazardous materials in compliance with the Hazardous Materials Transportation Act. Drivers transporting hazardous materials or wastes should follow the measures recommended by the Federal Motor Carrier Safety Administration for avoiding roll-over accidents. To avoid roll-over accidents involving cargo tank trucks:

a. Avoid sudden movements that may lead to roll-overs.

b. Control your load in turns and on straight roadways.

c. Identify high risk areas on roads.

d. Remain alert and attentive behind the wheel.

e. Control speed and maintain proper “speed cushions.”

**MM 4.8-3** The Applicant shall implement the following practices:

a. Construction activities shall be conducted to allow for easy clean-up of spills. Construction crews shall have sufficient tools, supplies, and absorbent and barrier materials to contain and recover spilled materials.

b. Fuels and lubricants shall be stored only at designated staging areas. Fuel and lubricant tanks shall have appropriate secondary spill containment (e.g., curbs). Compliance with laws and regulations is required, including
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compliance with hazardous materials and hazardous waste storage laws, as applicable.

c. Storage of fuel and lubricants in the staging area shall be at least 100 feet away from the edge of water bodies. Refueling and lubrication of equipment shall be restricted to upland areas at least 100 feet away from stream channels and wetlands.

d. Any fuel truck shall carry an oil spill response kit and spill response equipment at all times.

e. Applicants shall be required to perform all routine equipment maintenance at the well pad or other suitable locations (i.e., maintenance yards), and promptly collect and lawfully dispose of wastes in compliance with existing regulatory requirements.

f. Berms and/or dikes (secondary containment) shall be constructed around the permanent above-ground bulk tanks and the foundations shall be installed with a passive leak detection system, so that potential spill materials shall be contained and collected in specified areas isolated from any water bodies. Tanks shall not be placed in areas subject to periodic flooding or washout. Compliance with laws and regulations is required, including compliance with hazardous materials and hazardous waste storage laws as applicable, including for secondary containment, such as Division of Oil, Gas and Geothermal Resources regulation (Title 14, C.C.R. § 1773.1), which requires secondary containment in “an engineered impoundment such as a catch basin, which can include natural topographic features, that is designed to capture fluid released from a production facility.”

g. A sufficient supply of sorbent and barrier materials shall be maintained on construction sites consistent with the type and level of construction activities. Sorbent and barrier materials shall also be utilized to contain runoff from contaminated areas where appropriate.

1. Shovels and drums shall be stored at each well pad or be readily available. If small quantities of soil become contaminated, hand tools such as shovels or other appropriate tools, shall be used to collect the soil and the material shall be stored in storage drums. Large quantities of contaminated soil may be bio-remediated on-site or at a designated remediation facility, subject to government approval, or collected utilizing heavy equipment, and stored in drums or other suitable containers prior to disposal. Should contamination occur adjacent to staging areas as a result of runoff, shovels and/or heavy equipment shall be utilized to collect the contaminated material. Contaminated soil shall be disposed of in accordance with state and federal regulations.

2. Above-ground tanks, valves and other equipment shall be visually inspected monthly and when the tank is refilled. Inspection records shall be maintained. Applicants shall periodically check tanks for leaks or spills.
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3. Drain valves on all tanks shall be locked to prevent accidental or unauthorized discharges from the tank.

4. Equipment maintenance shall be conducted in staging areas or other suitable locations (i.e., maintenance shops or yards) to the extent practical.

5. The Applicant shall maintain equipment in operating condition to reduce the likelihood of fuel or oil line breaks and leakage. Any vehicles with chronic or continuous leaks shall be removed from the site and repaired before being returned to operation.

h. Applicants are encouraged, but not required, to use an alternate to silica sand as a proppant, after Division of Oil Gas and Geothermal Resources has determined that such an alternative does not introduce new hazards.

MM 4.8-4

The Applicant shall implement the following measures to prevent, repair, and remediate accidental leaks and spills from oil and gas operations.

a. The Applicant shall identify gas, oil and produced water pipelines to be used for each new or reworked well site in its Site Plan, and shall show the location of any sensitive receptor located within 300 feet of any such pipeline. For any pipeline located within 300 feet of a sensitive receptor, the Applicant shall present evidence that each such pipeline has been integrity tested using pressure testing or other accepted test methods by a qualified professional within a two-year period prior to submittal of the Site Plan, and shall provide a copy of the test result to the County. For all waste gas lines less than or equal to 4 inches in diameter, a Pipeline Management Plan shall be developed and implemented in accordance with Division of Oil Gas and Geothermal Resources regulations Title 14, Division 2, Chapter 4, Section 1774.2. The Pipeline Management Plan shall include:

1. A listing of information on each pipeline including, but not limited to:
   i. Pipeline type.
   ii. Grade.
   iii. Installation date of pipeline.
   iv. Design and operational pressure.
   v. Any leak, repair, inspection and testing history.

2. A description of the testing method and schedule for all pipelines.

b. The Applicant shall notify the Kern County Environmental Health Division, Certified Union Program Agency (CUPA), surface landowner, and sensitive receptors located within 300 feet, of any hazardous materials/waste release immediately upon discovery, and to other applicable agencies as required by other laws. The Applicant shall immediately contain the leak (e.g., by isolating or shutting down the leaking equipment), clean up contaminated media (e.g., soils), and repair the leak prior to recommencing operations. The Applicant shall report the status and progress of the leak repair and remediation work to the County and the CUPA on monthly intervals or
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predetermined intervals until the repair has been completed. Contaminated media shall be analyzed according to 22 C.C.R. §§ 66261.21-66261.24 for determination of appropriate hazardous waste disposal. Hazardous Waste Determination procedures are provided in 22 C.C.R. §66262.11.

c. As part of the Site Plan, the Applicant shall identify the location and right of way for all pipelines to be used for the transport of oil, gas, and produced water, including pipelines that intersect the main transport line, based on existing data and using commercially available technology, and, based on the results of this analysis, shall identify any sensitive receptors within 300 feet of the pipeline for purposes of complying with Mitigation Measure 4.8-4. Mechanical integrity testing of all such pipeline lengths within 300 feet of a sensitive receptor shall be required pursuant to Mitigation Measure 4.8.4-a.

d. If a release, identified pursuant to subsection (b), cannot be repaired or remediated within 48 hours, and has potential impact to sensitive receptors, the Applicant shall incur costs to sample and analyze the potentially affected area, which may include soil, groundwater, outdoor or indoor air of sensitive receptors within 300 feet of the leak. Applicant shall pay all temporary relocation costs (e.g., housing, food, and transportation) for any exposed sensitive receptor until such time as the leak has been repaired and post-indoor air testing has been completed, as confirmed by identified agency having oversight of the remediation.

MM 4.8-5

If, during grading or excavation work, the Applicant observes evidence of contamination or if soil contamination is suspected, work near the excavation site shall be terminated, the work area cordoned off and appropriate health and safety procedures implemented for the location by the contractor’s Health and Safety Officer. Samples shall be collected by a trained and qualified individual. Analytical data from suspected contaminated material shall be reviewed by the contractor’s Health and Safety Officer. If the sample testing determines that contamination is not present, work may proceed at the site; however, if contamination is detected above regulatory limits, the Kern County Public Health Services Department shall be notified. All actions related to encountering unanticipated hazardous materials at the site shall be documented and submitted to the Kern County Public Health Services Department.

MM 4.8-6

The Applicant shall implement measures to prevent the release or accidental spillage of solid waste, garbage, construction debris, sanitary waste, industrial waste, naturally occurring radioactive materials, oil and other petroleum products, and other wastes into water bodies or water sources, including all applicable practices included in the most up-to-date versions of the following documents: Exemption of Oil and Gas Exploration and Production Wastes From Federal Hazardous Waste Regulations (EPA 2002). Equivalent industry standards such as Environmental Protection for Onshore Oil and Gas Productions and Leases (American Petroleum Institute 2009) and related standards may also be utilized, provided that a professional engineer, certified industrial hygienist or certified safety professional certifies to the County that such alternative standards are as or more protective of human health and the environment, as compared to the standards in the referenced Environmental Protection Agency manual. The determination of when and the extent to which a measure is “practical” is to be
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made by the Applicant; however, all of the below activities must comply with all applicable legal requirements, including federal and state laws and regulations, County ordinances, and the mitigation measures included in this Final EIR.

a. Classify the various oil and gas exploration and production wastes for proper disposal as described in United States Environmental Protection Agency 2002, and in accordance with applicable California laws and regulations.

b. Size reserve pits properly to avoid overflows.

c. Use closed loop mud systems when practical, particularly with oil-based muds.

d. Review safety data sheets of materials used, and select less toxic alternatives when possible.

e. Minimize waste generation, such as by designing systems with the smallest volumes possible (e.g., drilling mud systems).

f. Reduce the amount of excess fluids entering reserve and production pits.

g. Keep non-exempt wastes out of reserve or production pits.

h. Design the drilling pad to contain stormwater and rigwash.

i. Recycle and reuse oil-based muds and high density brines, when practical, and when such recycling and reuse complies with hazardous waste laws and recycling laws.

j. Perform routine equipment inspections and maintenance to prevent leaks or emissions.

k. Reclaim oily debris and tank bottoms when practical, and when such reclamation complies with hazardous waste laws and recycling laws.

l. Minimize the volume of materials stored at facilities.

m. Construct adequate berms around materials and waste storage areas to contain spills.

n. Perform routine inspections of materials and waste storage areas to locate damaged or leaking containers.

o. Train personnel to use sensible waste management practices.

MM 4.8-7 Conduct exploration and development activities as described in Surface Operating Standards and Guidelines for Oil and Gas Exploration and Development The Gold Book (Bureau of Land Management 2007) or equivalent industry standard such as Environmental Protection for Onshore Oil and Gas Production Operations and Leases (American Petroleum Institute 2009) and related standards. The following specific measures should be undertaken at a minimum:
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a. Sufficient impervious secondary containment, such as containment dikes, containment walls, and drip pans, should be constructed and maintained around all qualifying petroleum facilities, including tank batteries and separation and treating areas consistent with the Environmental Protection Agency’s Spill Prevention, Control, and Countermeasures regulation (40 Code of Federal Regulations 112). The containment structure must have sufficient volume to contain, at a minimum, the content of the largest storage tank containing liquid hydrocarbons within the facility/battery and sufficient freeboard to contain precipitation, unless more stringent protective requirements are deemed necessary by the authorized officer. Drip pans should be routinely checked and cleaned of petroleum or chemical discharges and designed to prevent access by wildlife and livestock.

b. Chemical containers should not be stored on bare ground, and should be maintained in good condition and placed within secondary containment in case of a spill or high velocity puncture.

c. Containment dikes are not to be constructed with topsoil or coarse, insufficiently impervious spoil material. Containment is strongly suggested for produced water tanks. Chemicals should be placed within secondary containment and stored so that the containers are not in contact with soil or standing water and product and hazard labels are not exposed to weathering.

d. Maintain a clean well location. Remove trash, junk, and other materials not in current use.

e. In approving a well stimulation treatment permit, the applicant shall include in the spill contingency plan required by Section 1722.9 of Title 14 of the California Code of Regulations a protocol for measuring and reporting earthquake and earth consequences that occur during the well stimulation process, for however many well stimulation treatments are proposed to occur simultaneously at any given time. The Spill Contingency Plan shall include requirements for adequate personnel and equipment that may be necessary to conduct post-earthquake inspection and repair plans to evaluate any damage that has occurred. The Spill Contingency Plan shall include spill prevention, control and countermeasure plans to address the hazardous substances associated with well stimulation activities. The post-earthquake inspection procedures shall ensure the integrity of the mechanical systems and well integrity of wells used for stimulation or wastewater injection and idle wells that might have become conduits for escaping fluids or gases. The plan shall include procedures describing the necessary steps to be taken after service is disrupted in order to make the facilities secure, operational and safe as soon as possible.

MM 4.8-8 Applicants shall use the appropriate American Petroleum Institute Standards, or other recognized sources imposing the same or equivalent standards, for their facility, such as the following:

a. Use cements and well materials in well completions as described in Specifications for Cements and Materials for Well Cementing (American Petroleum Institute 2011).
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b. Prior to start-up of all new facilities, verify and prove the construction, installation, integration, testing, and preparation of systems have been completed as designed following the practices described in Facilities Systems Completion Planning and Execution (American Petroleum Institute 2013a).

c. When the use of centralizers and stop-collars are required during well completion activities, follow the installation and testing requirements described in Recommended Practice for Centralizer Placement and Stop-collar Testing (American Petroleum Institute 2010a).

d. Limit the environmental footprint of oil and gas exploration and production and reduce the incidence of releases of hazardous substances following the practices described in Environmental Protection for Onshore Oil and Gas Production Operations and Leases (American Petroleum Institute 2009).

e. Minimize improper disposal by following the practices described in American Petroleum Institute Order No. G00004, Guidelines for Commercial Exploration and Production Waste Management Facilities (American Petroleum Institute 2001) or other recognized methods. These guidelines discuss the relevant regulations and permitting requirements; siting, construction, and technical consideration for various waste disposal options; as well as mitigation options.

f. Minimize the environmental footprint of exploration and production activities following the practices described in Land Drilling Practices for Protection of the Environment (American Petroleum Institute 2010b) or other recognized sources.

g. When pressure testing is required by State or federal law, prior to pressurizing or re-pressurizing petroleum product pipelines, ensure the integrity of pipelines following the practices described in Recommended Practice for the Pressure Testing of Steel Pipelines for the Transportation of Gas, Petroleum Gas, Hazardous Liquids, Highly Volatile Liquids, or Carbon Dioxide (American Petroleum Institute 2013b) or other recognized sources.

h. To minimize releases of hazardous substances during oilfield construction, pit and sump operations shall be conducted in accordance with State Water Resources Control Board General Orders or appropriate Regional Water Quality Control Board waste discharge requirements or general orders.

MM 4.8-9  For all operations subject to the Oil and Gas Conformity Review, the Applicant shall comply with the pipeline management plan, including inspection and maintenance requirements, as administered by the Division of Oil Gas and Geothermal Resources pursuant to 14 California Code of Regulations 1774.

MM 4.8-16  The applicant shall not use any well stimulation fluid unless the applicant presents one of the following:

1. Safety Data Sheet that accurately describes the physical and chemical properties of the well stimulation fluid; or
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2. Safety Data Sheets that accurately describe the physical and chemical properties of all chemical compounds in the well stimulation fluid; or

3. Toxicological report prepared by a qualified laboratory and/or the fluid vendor confirming the environmental profile of the well stimulation fluid is known; or

4. Results of an aquatic bioassay by a qualified laboratory confirming the environmental profile of the well stimulation fluid is known.

For purposes of this mitigation measure, the term “environmental profile” means the physical and chemical properties of a compound that determine its risk to human health and the environment. This mitigation measure shall be superseded by any list of approved well stimulation treatment fluids, chemicals or additives published by the State of California or by any applicable State of California regulation pertaining to chemical use in well stimulation treatment.

Significant Effect:

Without mitigation, the Project has the potential to 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 (Impact 4.8-2).

Description of Specific Impact:

Oil and gas activities could result in spills from accidents or improper handling or disposal of fuels or hazardous materials. Spills, release, overflow of tanks, or breach of containment can occur from operator error or limited storage capacity, water ingress from stormwater or floods, poor construction or failure of tanks and/or liners, or pipeline failure. A worst-case scenario would be a breach at central processing facility where petroleum products or hazardous materials are stored in bulk. A spill or release could expose workers and the public to levels of hazardous materials in excess of applicable regulations.

The most commonly spilled materials are crude oil and produced water, but also acids, condensates, and drilling muds. The most common causes are from most to least common:

- Production line failure due to corrosion, but also from the use of PVC lines instead of steel lines;
- Equipment failure mostly from valves, fittings, storage tanks, and pumps;
- Human error mostly from valves left open;
- Surface break-through by drilling mud, crude oil, and produced water during steam treatment of wells for enhanced oil recovery. Break-through occurred at nearby wells, abandoned wells, hillsides, and at a well during drilling.

Although the new production lines associated with the implementation of this Project would not be subject to corrosion right away, the number of spills from existing facilities could increase as those facilities age. Equipment failure and human error would still be possible; therefore, there
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could be leaks or releases that could have a significant impact to public safety and the environment.

The amount of cyclic steaming could increase compared to baseline levels consistent with the general increase in oil and gas activities that might occur pursuant to the Project. Cyclic steaming at or above the fracture gradient into zones with low permeability (e.g., tight reservoirs) has the potential to increase the occurrence of inadvertent releases of oil, water, steam, or mud to the surface. These releases are commonly referred to as “surface expressions.” A blowout is the worst-case surface expression. Due to the potentially catastrophic events that can occur to public safety and the environment if blow-outs or a pressure/steam-related event occur, impacts could be significant if a blowout or pressure/steam related event were to occur.

Finding:

Without mitigation, the Project has the potential to 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. This significant adverse impact will be reduced to a level that is less than significant by implementation of mitigation measures described below.

Brief Explanation of the Rationale for the Finding:

CEQA requires that all feasible and reasonable mitigation be applied to reduce the Project’s potential to 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. Incorporation of Mitigation Measures MM 4.8-1 through MM 4.8-9, described above, and incorporation of the following mitigation measures into the Project will reduce this impact to a level that is less than significant:

**MM 4.8-10** The Applicant shall incorporate annual maintenance checks for leaks and corrosion that cause releases into current operations, maintenance, and inspection schedules as provided by the Division of Oil Gas and Geothermal Resources pursuant to 14 California Code of Regulations Sections 1774.1 and 1774.2, the Applicant shall visually inspect all above-ground pipelines for leaks and corrosion at least once per year, comply with the pipeline testing requirements included therein, shall maintain records of such inspections and testing; and shall make inspection and testing records available to the County for review upon request.

**MM 4.8-11** As part of the Hazardous Materials Business Plan and the spill prevention, control, And countermeasures Plan, the Applicant shall require annual worker training requirements to: increase awareness of the most common types of failures and methods to avoid mistakes, shall maintain records of employee training, and shall make such records available to the County for review upon request.

**MM 4.8-12** An Applicant who plans to perform cyclic steam injection activities above reservoir fracture pressures shall conduct such activities in accordance with the requirements set forth in the Division of Oil Gas and Geothermal Resources site-specific Project Approval Letter for the injection Project. The following requirements from a Project Approval Letter for an injection Project are examples of the types of conditions that would be triggered if a surface

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expression were to occur, though such conditions may be modified by the Division of Oil Gas and Geothermal Resources to reflect site-specific conditions and changing regulatory requirements.

a. Cease cyclic steaming operations in accordance with the site-specific Project Approval Letter. Streaming can resume following the Division of Oil Gas and Geothermal Resources specifications outlined in the Project Approval Letter.

b. All new or reactivated surface expressions that discharge oil in a reportable quantity shall be reported as an oil spill to the California Emergency Management Agency at (800) 852-7550.

c. Any measures to address surface expressions from the well and associated Project shall be reviewed by the Division of Oil Gas and Geothermal Resources prior to initiating.

d. Immediately control any water, steam, or oil flowing from a surface expression and contained. All discharged material shall be removed and disposed of in a manner approved by all state and local agencies.

e. Cordon off and clearly mark all surface expressions to prevent inadvertent access.

f. Conduct air sampling of any emissions associated to a recent surface expression in accordance to the local air board requirements to ensure a health hazard condition does not exist.

g. Report immediately to the Division of Oil Gas and Geothermal Resources all surface expressions within 300 feet of the Project site. If the surface expression continues to flow after five days, all wells within a 300-foot radius shall cease steaming until the surface expression ceases to flow. If the surface expression continues to flow, the damage will be evaluated at the Supervisor’s discretion, as assigned by Section 3106 of the Public Resources Code and existing laws and regulations.

MM 4.8-13 The Applicant shall comply with the Division of Oil Gas and Geothermal Resources requirements for assuring safe drilling and drill casing practices, well design, construction and well management requirements, blowout requirements, and all other provisions of 14 California Code of Regulations 1744 and other applicable Division of Oil Gas and Geothermal Resources regulations. The Applicant shall also reduce the incidence of well control loss by following the practices described in Recommended Practice for Well Control Operations (American Petroleum Institute 2012).

MM 4.8-14 The Applicant shall report contamination caused by oil and gas activities, including previously unknown injection wells, of a reportable quantity of hazardous substances, as specified in the Code of Federal Regulations Title 40 and/or the California Code of Regulations Titles 22 and 23, which is discovered during Project construction activities and operations. Notification must be made to Kern County Environmental Health Division and the appropriate
implementing regulatory agency that has responsibility or oversight of the specific contamination conditions. The Applicant shall remediate such contamination outside Tier 1 areas as required by the Kern County Environmental Health Division and the appropriate implementing regulatory agency.

**Significant Effect:**

The Project will emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school (Impact 4.8-3).

**Description of Specific Impact:**

A Health Risk Assessment (HRA) was completed to assess the potential health effects of the Project. A detailed discussion of the risk assessment and its results are included in EIR's discussion of Impact 4.3-4. The HRA shows that the potential cancer risk exceeds the CEQA significance thresholds of 10 in 1 million for drilling a 10,000-foot well in 2015 to a distance 367 feet, and for drilling a 5,000-foot well in year 2015 to a distance of 116 feet, and for operations of the oil processing equipment to a distance of 701 feet. By 2018, due to emission reductions resulting from compliance deadlines occurring from CARB current diesel regulations, the risks associated with drilling a 5,000-foot (or shallower) well would not exceed the 10 in one million threshold. This analysis suggests that at 0.25 mile, risks from construction activities would be less than the CEQA significance threshold; however, there could be health risks for schools located less than 700 feet from oil processing equipment and located less than 367 feet from drilling of a 10,000-foot well. Therefore, impacts could be significant. Implementation of the setback requirements in EIR Sections 4.3, Air Quality, would ensure that oil and gas activities would not occur in close proximity to schools and, therefore, the impact would be less than significant with mitigation.

Some of the acutely hazardous materials that have been used in oil and gas activities in Kern County include anhydrous ammonia, hydrochloric acid, oxygen difluoride (compressed gas), peracetic acid (acetic acid over 60%), hydrogen sulfide, and nitric oxides. During all phases of oil and gas activities, acutely or extremely hazardous materials would have to be transported according the Hazardous Materials Transport Act, handled and stored according to OSHA and California Fire Code, and disposed of according to RCRA and California Hazardous Waste regulations. Most oil and gas activities do not require the long-term storage of hazardous or acutely hazardous materials. Some of these types of chemicals would be used during acid-based WST operations defined by SB 4, as well as non-SB 4 routine maintenance operations and generally during the production process.

California State law requires that new schools should not be located near an aboveground water or fuel storage tank or within 1,500 feet (0.28 miles) of the easement of an aboveground or underground pipeline that can pose a safety hazard as determined by a risk analysis study. Therefore, new schools would not be sited near oil and gas operations or pipelines. Currently, oil and gas wells cannot be drilled within 300 feet of a school, but that does not preclude other oil and gas activities from occurring within 300 feet of a school, such as the installation of pipelines or other operational activities. Although state and federal regulations safeguard the handling of acutely hazardous materials during routine operations and these should prevent releases, accidents do occur. Schools and other locations where people congregate are particularly vulnerable to accidents. Therefore, impacts could be significant.
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Finding:

Without mitigation, the Project has the potential to emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school. This significant adverse impact will be reduced to a level that is less than significant by implementation of mitigation measures described below.

Brief Explanation of the Rationale for the Finding:

CEQA requires that all feasible and reasonable mitigation be applied to reduce the Project's potential to emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school. Incorporation of the toxic air contaminant setback mitigation measures described in EIR Section 4.3, Air Quality, and incorporation of the following mitigation measures into the Project will reduce this impact to a level that is less than significant:

**MM 4.8-15** The Applicant who intends to use acutely hazardous chemicals, including chemicals at or above the specified threshold quantities or a process which involves a Category I flammable gas or a flammable liquid with a flashpoint below 100 degrees Fahrenheit (37.8 degrees Celsius) on site in one location, in a quantity of 10,000 pounds (4535.9 kilograms) or more according to 8 California Code of Regulations Section 5189, Appendix A, within 0.25 mile from a school must:

a. Evaluate whether other alternative chemicals that are less hazardous could be used.

b. Ensure that the smallest quantity of necessary acutely hazardous materials are stored on site.

c. Notify the occupants of the buildings when and where acutely hazardous materials would be used.

d. Notify Kern County Fire Department about the details of the use of acutely hazardous materials (e.g., when, where, how much).

e. Ensure that all employees who would contact the acutely hazardous materials are trained on the handling, transport, storage, and disposal of the materials.

f. Ensure that all employees who would contact the acutely hazardous materials are trained and are provided the proper personal protective equipment.

g. Ensure that all employees who would contact the acutely hazardous materials are trained and have exercised on the Spill Prevention, Control, and Countermeasures Plan that addresses these chemicals.

**Significant Effect:**

Without mitigation, the Project has the potential to create a hazard to public or the environment as a result of being located on a site that is included on a list of hazardous material sites compiled pursuant to Government Code Section 65962.5 (Impact 4.8-4).
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Description of Specific Impact:

Government Code Section 65962.5 requires CalEPA to compile a hazardous materials release sites called the Cortese List. This list is housed in a database called ENVIROSTOR. The list for the Project Area includes locations that are under evaluation, need evaluation, active, inactive, undergoing closure, closed, and closed with land use restrictions. Most of the current sites are located within Bakersfield or other municipalities, but some are located within or near oilfields (see Figure 4.8-6). The list of sites changes as sites are cleaned up or are designated hazardous waste sites. Appendix R contains the list as of January 21, 2015. In addition, there are multiple locations where there has been petroleum product contamination including within oilfield operating areas.

Oil and gas activities, such as preparation of new sites; exploratory drilling; drilling of production wells; excavation of onsite soils for building foundations, pits, sumps, or other facilities, have the potential to disturb soils or cross aquifers. Unearting of pre-existing contaminated soil at an identified hazardous waste site, causing pre-existing contamination in one groundwater aquifer to enter another, or disturbing formerly contaminated areas that have been capped has the potential to expose the public or the environment to contamination and therefore impacts could be a significant impact.

Finding:

Without mitigation, the Project has the potential to create a hazard to public or the environment as a result of being located on a site that is included on a list of hazardous material sites compiled pursuant to Government Code Section 65962.5. However, these significant adverse impacts will be reduced to a level that is less than significant by implementation of mitigation measures described below.

Brief Explanation of the Rationale for the Finding:

CEQA requires that all feasible and reasonable mitigation be applied to reduce the Project's potential create a hazard to public or the environment as a result of being located on a site that is included on a list of hazardous material sites compiled pursuant to Government Code Section 65962.5. Incorporation of Mitigation Measure MM 4.8-14, described above, and Mitigation Measures MM 4.8-17 and MM 4.8-18, as described below in the findings regarding Impact 4.8-5, into the Project will lessen the impacts to a level that is less than significant:

Significant Effect:

Without mitigation, the Project has the potential to result in a safety hazard for people residing or working those portions of the Project Area located within an adopted Airport Land Use Compatibility Plan (Impact 4.8-5).

Description of Specific Impact:

Currently, 10 oilfields are located within 2 miles of a public use airport (see Figure 4.8-7). The proposed amended ordinance does not have any specific restrictions associated with land use restrictions near airports or private airstrips; therefore, additional oil and gas activities could occur within close proximity of public use airport or private airstrip.

The Kern County Airport Land Use Compatibility Plan (ALUCP) specifies restrictions within designated zones surrounding airports to ensure that activities within those zones are compatible
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with the safe operation of the airport. If oil and gas-related development activities are proposed in the vicinity of one of the 16 airports identified in the Kern County ALUCP, some activities may not be compatible with the ALUCP and, therefore, would have a significant impact. Drilling rigs and storage tanks could exceed height limits in certain airport influence zones. Lighting on drilling rigs, tanks, roads, pumps, and other facilities could exceed restrictions on lighting type, design, and placement in certain airport influence zones. Whether oil and gas activities would pose a hazard to navigation would be determined by the FAA in response to notification of that agency of a proposed Project. Therefore, oil and gas development related equipment heights and lighting placement/design could create a significant hazard to aviation safety, with attendant potential impacts to people and the environment, in the vicinity of a public use airport.

Finding:

Without mitigation, the Project has the potential to create a significant safety hazard for people residing or working those portions of the Project Area located within an adopted Airport Land Use Compatibility Plan. However, this potentially significant adverse impact will be reduced to a level that is less than significant by implementation of mitigation measures described below.

Brief Explanation of the Rationale for the Finding:

CEQA requires that all feasible and reasonable mitigation be applied to reduce the Project’s potential to result in a safety hazard for people residing or working those portions of the Project Area located within an adopted Airport Land Use Compatibility Plan. The following mitigation measure will be incorporated into the Project to reduce this impact to a level that is less than significant:

MM 4.8-17  The Applicant shall determine whether any proposed construction or alteration meets requirements for notification of the Federal Aviation Administration. If a proposed construction or alteration is found to require notification, the Applicant shall notify the Federal Aviation Administration and request that the Federal Aviation Administration issue a Determination of No Hazard to Air Navigation. If the Federal Aviation Administration determines that the construction or alteration would result in a potential hazard to air navigation, the Applicant would be required to work with the Federal Aviation Administration to resolve any adverse effects or airport operations. The Applicant shall notify the Federal Aviation Administration and the nearest Airport, by completing and submitting Federal Aviation Administration Form 7460-1 if oil and gas related exploration, production, or associated development activities are planned that meet one or more of the following criteria:

a. Any construction or alteration exceeding 200 feet above ground level.

b. Any construction or alteration within 20,000 feet of all public use airports except Poso-kern Airport which exceeds a 100:1 surface from any point on the runway.

c. Any construction or alteration within 10,000 feet of the Poso-Kern Airport which exceeds a 50:1 surface from any point on the runway.

d. Any construction or alteration within 5,000 feet of a public use heliport which exceeds a 25:1 surface.
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e. When requested by the Federal Aviation Administration.

f. Any construction or alteration located on a public use airport or heliport regardless of height or location.

MM 4.8-18 The Applicant shall determine the distance from the proposed operation to the nearest boundary of the Joint Service Restricted R-2508 Complex, using a map of this Complex provided by the County. The Applicant shall notify the Joint Service Restricted R2508 Complex representative identified by the County if oil and gas related exploration, production, or associated development activities are planned that meet one or more of the following criteria:

a. Any structure within 75 miles of the R-2508 Complex that is greater than 50 feet tall.

b. Any project within 50 miles of the R-2508 Complex that emit radio and communication frequencies.

c. Any project that would create environmental impacts such as visibility or elevated obstructions within 25 miles of the R-2508 Complex.

MM 4.8-19 All oil and gas related development activities shall review the Kern County Airport Land Use Compatibility Plan for compliance with all applicable policies.

Significant Effect:

Without mitigation, the Project has the potential to expose people or structures to a significant risk of loss, injury or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands (Impact 4.8-8).

Description of Specific Impact:

The Project Area is characterized by the mostly agricultural floor of the San Joaquin Valley, forest or grassland covered hills, and urban environments, each of which has an associated fire risk. The combination of seasonally hot weather, dry climate, wind, and fuel load result in areas of moderate to very high fire severity as indicated in the Kern Multi-Jurisdiction Hazard Mitigation Plan. According to the Kern Multi Jurisdiction Hazard Mitigation Plan, areas of the San Joaquin Valley are mostly mapped as having a fire severity rating of less than moderate due to the lack of fuel. Hills surrounding the San Joaquin Valley are rated with mostly moderate and high severity with areas of very high severity near the southern and northwestern boundary of the Project Area. Most oilfields are located in areas with moderate fire hazard severity or are located in non-wildland/non-urban areas.

Construction and operational activities, such as brush clearing, welding, cutting, grinding, and blasting, could occur anywhere in the Project Area. In certain locations, these activities could increase the potential for wildland fires. Although the exact location of future oil and gas development is not known within the Project Area, activities associated with the implementation of the Project could result in a significant risk of wildland fires that could result in loss, injury, or death.

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Without mitigation, the Project has the potential to expose people or structures to a significant risk of loss, injury or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands. This potential impact will be reduced to a level that is less than significant with implementation of the mitigation measures described below.

Brief Explanation of the Rationale for the Finding:

CEQA requires that all feasible and reasonable mitigation be applied to reduce the Project’s potential to expose people or structures to a significant risk of loss, injury or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands. The following mitigation measures will be incorporated into the Project to lessen the impacts to a level that is less than significant:

MM 4.8-20 The Applicant is required to implement the following measures:

a. Comply with Kern County Fire Codes.

b. Maintain firefighting apparatus and supplies required by the Kern County Fire Department.

c. Maintain a list of all relevant fire-fighting authorities for each work site.

d. Have available equipment to extinguish incipient fires and or construction of a fire break, such as: chemical fire extinguishers, shovels, axes, chain saws, etc.

e. Carry water or fire extinguishers and shovels in non-passenger vehicles in the field.

f. Have and maintain an adequate supply of fire extinguishers for welding, grinding, and brushing crews.

g. Use available resources to protect individual safety and to contain any fire that occurs and notify local emergency response personnel.

h. Remove any flammable wastes generated during oil and gas activities regularly.

i. Store all flammable materials used in oil and gas activities away from ignition sources and in approved containers.

j. Allow smoking only in designated smoking areas.

k. Prohibit smoking where flammable products are present and when the fire hazard is high. Train personnel regarding potential fire hazards and their prevention.

l. All internal combustion engines, stationary and mobile, shall be equipped with spark arresters. Spark arresters shall be in good working order.
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m. Light trucks and cars with factory-installed (type) mufflers shall be used only on roads where the roadway is cleared of vegetation. Said vehicle types shall maintain their factory-installed (type) muffler in good condition.

n. Fire rules shall be posted on the Project bulletin board at the contractor’s field office and areas visible to employees.

o. Equipment parking areas and small stationary engine sites shall be cleared of all extraneous flammable materials.

p. Personnel shall be trained in the practices of the Fire Safety Plan relevant to their duties. Construction and maintenance personnel shall be trained and equipped to extinguish small fires in order to prevent them from growing into more serious threats.

MM 4.8-21 The Applicant should restrict the use of chainsaws, chippers, vegetation masticators, grinders, tractors, torches, and explosives at its locations, and ensure the sites where this equipment is used are equipped with portable or fixed fire extinguishers and/or a water tank, with hoses, fire rakes, and other tools to extinguish and or control incipient stage fires. The Worker Environmental Awareness Program shall include fire prevention and response training for workers using these tools.

Significant Effect:

Without mitigation, the Project has the potential to generate vectors or have a component that includes agricultural waste exceeding adopted qualitative thresholds (Impact 4.8-9).

Description of Specific Impact:

Oil and gas activities that would be authorized under this Project do not involve the generation of agricultural or food waste; however, implementation of the Project would involve construction and operations that could result in standing water, trash piles, or open containers that could provide breeding areas for mosquitoes, flies, or rodents. These potential disease vectors could pose a potential hazard to personnel or the public.

Construction of the Project would occur in an area favorable to the growth of the Valley Fever vector, the fungus Coccidioides immitis, which grows in soils in areas of low rainfall, high summer temperatures, and moderate winter temperatures. Project construction would disturb the soil and cause the fungal spores to become airborne, potentially putting construction personnel and wildlife at risk of contracting Valley Fever; however, most Valley Fever cases are very mild, and more than half of infected people either have no symptoms or experience flu-like symptoms and never seek medical attention. In addition, mitigation for dust control, as described in Section 4.3, Air Quality, would minimize the spread of fungal spores. Oil and gas activities that would be authorized under this Project have the potential to generate disease vectors which could pose a hazard to personnel or the public, therefore, impacts could be significant.

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Without mitigation, the Project has the potential to generate vectors or have a component that includes agricultural waste exceeding adopted qualitative thresholds. This impact will be reduced to a level that is less than significant by implementing the mitigation measures described below.

Brief Explanation of the Rationale for the Finding:

CEQA requires that all feasible and reasonable mitigation be applied to reduce the Project’s potential to generate vectors or have a component that includes agricultural waste exceeding adopted qualitative thresholds. The dust control and Valley Fever education and mask measures described in EIR Section 4.3, Air Quality, and the following mitigation measure will be incorporated into the Project to reduce this impact to a level that is less than significant:

MM 4.8-22 Applicants shall ensure that trash is stored in closed containers and removed from the site at regular intervals. Open containers shall be inverted and construction ditches shall not be allowed to accumulate water. Construction and maintenance operations shall not generate standing water. Naturally occurring depressions, drainages, or pools at the site shall not be drained or filled without consulting with the appropriate resource agency (Kern County, United States Army Corps of Engineers, United States Fish and Wildlife Service, California Department of Fish and Wildlife) as applicable, and obtaining the appropriate permits.

C. Environmental Effects of the Project That Cannot Be Mitigated to a Level Less Than Significant.

None.


Significant Effect:

Without mitigation, the Project has the potential to contribute to significant cumulative hazards and hazardous materials impacts (Impact 4.8-10).

Description of Specific Impact:

Since oil and gas activities could occur anywhere in the Project Area, it is not possible to analyze the combined impacts of hazards or a release of hazardous materials and wastes from the Project and existing or reasonably foreseeable projects at a specific location.

With regard to the creation of a hazard through the routine transport, use, or disposal of hazardous materials (Impact 4.8-1), a potentially significant impact could result if a spill or leak were to occur during oil and gas construction or operation activities; however, compliance with state and county regulations and the mitigation measures outlined above would ensure that impacts would remain less than significant. This impact does not have the potential to combine with contamination from spills from other projects within 0.5 mile of the site to result in a cumulative impact due to the site- specific nature of soil contamination and the mitigation measures that would ensure proper cleanup and disposal of contaminated soil. Cumulative contamination of groundwater is discussed in Section 4.9, Hydrology and Water Quality. Therefore, impacts of the Project would not be expected to make a cumulatively considerable contribution, in combination
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with impacts from past, present, or reasonably foreseeable projects, to result in a cumulative impact.

With regard to creation of a hazard through upset or accident conditions involving a hazardous material release (Impact 4.8-2), the potential exists for oil and gas activities through the implementation of the Project to result in the release of hazardous materials in the soil resulting in exposure of personnel and other sensitive receptors to contaminant levels that could result in short-term and/or long-term health effects. Additionally, releases from pipelines could pose a hazard to personnel and the public; however, conformance with existing state and county regulations, Project safety design features, and implementation of the mitigation measures identified above would render this impact less than significant. This impact does not have the potential to combine with impacts of other projects because of the localized nature of the impacts, and because appropriate safety, cleanup, and disposal methods would be implemented to reduce the impact to a level that would not combine with impact of other projects. Therefore, impacts of the Project would not have the potential to make a cumulatively considerable contribution in combination with impacts from past, present, or reasonably foreseeable projects to result in a cumulative impact.

With regard to creation of a hazard to the public or the environment as a result of being located on a site that is included on a list of hazardous material sites compiled pursuant to government code section 65962.5, although the exact location of new oil and gas development is not known, implementation of MM 4.8-3 and 4.8-15 would ensure that the Applicant not only has a method to address unanticipated contamination, but they have also proactively evaluated whether there is a potential hazardous waste site where they would be operating and have made measure to avoid disturbing it. Therefore, impacts of the Project would not have the potential to combine with impacts from past, present, or reasonably foreseeable projects to result in a cumulative impact.

With regard to the creation of a safety hazard for a project located within the Kern County ALUCP, oil and gas activities could occur within the Kern County ALUCP, and therefore, do have the potential to result in creation of a safety hazard to air navigation. However, the Project would be required to comply with County zoning requirements and FAA regulations to ensure that impacts remain less than significant (Impact 4.8-4). With the implementation of MM 4.8-14, 4.8-17, and 4.8-18, in conjunction with compliance with existing rules, the Project does not have the potential to combine with impacts of other projects. Therefore, impacts of the Project would not have the potential to make a cumulatively considerable contribution, in combination with impacts from past, present, or reasonably foreseeable projects, to result in a cumulative impact.

With regard to interference with an adopted emergency response plan or emergency evacuation plan (Impact 4.8-5), it would be unlikely that Project-related activities would interfere with the Lake Isabella emergency response/evacuation. The Project's less-than-significant impact has the potential to combine with other current and future projects that would generate high volumes of traffic on area roadways by creating a cumulative traffic burden on regional roadways; however, given the overall rural nature of the Project Area, and the fact that the Kern Council of Governments Regional Transportation Plan took in account traffic volumes from anticipated projects, the potential for a considerable contribution to a cumulative impact to emergency response is unlikely to occur, and would therefore be less than significant.

With regard to exposing people or structures to a wildland fire hazard (Impact 4.8-6), construction and maintenance would increase the likelihood of wildfire ignition; however, implementation of MM 4.8-19 outlined above would substantially reduce the possibility of a Project-related ignition, rendering this impact less than significant. Mitigation would reduce this
impact to a level that would not combine with other projects. Therefore, impacts of the Project would not have the potential to make a cumulatively considerable contribution, in combination with impacts from past, present, or reasonably foreseeable projects, to result in a cumulative impact.

With regard to generating disease vectors (Impact 4.8-7), oil and gas construction activities could disturb the Valley Fever vector or attract other disease vectors by allowing standing water, trash piles, or open containers to accumulate at the Project site, potentially resulting in a hazard to construction personnel or the general public. However, implementation of the MM 4.8-20 described above would reduce this impact to a less than significant level. Mitigation would reduce this impact to a level that would not combine with other projects, therefore, impacts of the Project would not have the potential to make a cumulatively considerable contribution, in combination with impacts from past, present, or reasonably foreseeable projects, to result in a cumulative impact.

Finding:

Without mitigation, the Project has the potential to contribute to significant and cumulative impacts to the hazards and hazardous materials. However, with implementation of the mitigation measures described below, these impacts will be reduced to a level that is less than significant.

Brief Explanation of the Rationale for the Finding:

CEQA requires that all feasible and reasonable mitigation be applied to reduce the Project's potential to contribute to significant and cumulative impacts to the hazards and hazardous materials. Mitigation Measures MM 4.8-1 through MM 4.8-22, as described above, along with the dust control and Valley Fever education and mask mitigation measures described in section II(3) of these findings related to Air Quality, the risk reduction mitigation measures described in section II(6) of these findings related to Geology and Soils, and the mitigation measures to maintain water quality described in section II(8) of these findings related to Hydrology and Water Quality, will be incorporated into the Project to reduce this impact to a level that is less than significant.

E. Cumulative Environmental Effects of the Proposed Project That Will Have a Significant Impact on the Environment.

None.

9. HYDROLOGY AND WATER QUALITY


The Project will not place structures within a 100-year flood hazard area as mapped on a federal flood hazard boundary or flood insurance rate map or other flood hazard delineation map (Impact 4.9-7).

The Project will not contribute to inundation by seiche, tsunami, or mudflow (Impact 4.9-10).

B. Environmental Effects of the Project That Are Potentially Significant, but That Can Be Mitigated to Less Than Significant Levels.
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Significant Effect:

Without mitigation, the Project has the potential to violate water quality standards or waste discharge requirements (Impact 4.9-1).

Description of Specific Impact:

Construction period activities that disturb soils and surface vegetation could mobilize sediment, debris and other site constituents that may be transported to surface water or percolate into groundwater due to storm event runoff, nuisance flows, or to a lesser extent by vehicle tracking, potentially causing exceedances of water quality standards if not controlled and therefore, there could be significant impacts. Moreover, well construction and reworking utilize and generate drilling fluids and mud that could be accidentally discharged to surface water or groundwater, potentially causing exceedances of water quality standards if not controlled and therefore, there could be significant impacts.

The potential for surface or subsurface discharges from well-construction and reworking activity could be significant without the implementation of mitigation measures. Drilling muds and fluids could also come into contact with groundwater prior to the installation of well casing and cement or in the event of a well failure during well construction or reworking. Discharges to groundwater could occur in the event of a well failure or blowout during construction. Under certain circumstances, drilling muds and fluids may be comingled with oil and or gas from hydrocarbon-bearing formations and contact subsurface aquifers before the well casing and cementing process is completed or in the event of a blowout. Also, surface spills or leaks could occur during the conveyance, mixing and application of fluids and other chemicals during construction. However, the relatively low volume of higher quality M&I water used for well plugging and abandonment, and the limited amount of potentially hazardous materials that could be purged during the closure process, reduces the risk that closure construction activities could significantly affect surface water or groundwater quality to less than significant with the mitigation.

Operational activities related to oil well and facility maintenance, oil or produced water conveyance by truck, the staging and completion of well stimulation treatments, including use of trucks, storage tanks, and pumps, and the conveyance and application of EOR-related steam or water, well reworking, and plugging and abandonment, could generate soils, debris or constituents that could be mobilized by stormwater runoff, or vehicle tracking, and reach surface water or percolate into groundwater and could result in significant impacts to water quality. Also, during Project operations, surface spills or leaks could occur from ruptured or leaking tanks, pipes, valves, hoses, and treatment and other process equipment used during operational oil, gas, produced water, M&I water, and chemical site treatment, conveyance, storage, and mixing and preparation activities. However, with mitigation, potential impacts would be less than significant.

As shown in EIR Table 4.9-27, under Project conditions, the use of produced water for EOR purposes is expected to increase from about 88,668 AF in 2012 to over 121,215 AF per year in 2035, or by 32,547 AF. EOR activities could result in unintended discharges to groundwater in the event of a casing or well failure, which might allow injected steam or produced water to migrate from breach locations to other water-bearing formations. Although produced water use for EOR generally cycles water from hydrocarbon-bearing formations to the surface for treatment and reinjection into the same or similar hydrocarbon-bearing formations, injection into a non-exempt underground source of drinking water (USDW) could significantly impact water quality in or near the affected zones.
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EIR Section 4.9, Hydrology and Water Quality, analyzes three projections of Project-related water use in 2035 based on the Applicant’s demand estimates were developed to analyze a range of potential water demand and supply outcomes, as summarized in EIR Table 4.9-27. All of the scenarios assume that the amount of produced water generated by oil and gas exploration and production would increase by 38% by 2035 from 2012 levels. The three scenarios (Scenarios 1, 2, and 3) focus on potential variation in the amount of surface pond disposal, injection well disposal, and reuse of produced water that could occur under future conditions. Scenario 1 projects that 41,806 AF would be disposed to surface ponds in 2035, an increase of over 10,000 AF from 2012. Water quality impacts from the increased use of ponds that the CVRWQCB has determined to have affected groundwater quality would be significant without mitigation. Scenario 2 assumes that surface disposal volumes are reduced to 50% of 2012 levels, or to 15,112 AF by 2035. Potential water quality impacts from pond use would be lower than under Scenario 1, but not necessarily avoided. Scenario 3 assumes that surface disposal is reduced to 90% below 2012 levels or to 3,022 AF in 2035. Potential water quality impacts from pond use levels in Scenario 3 would be lower than under Scenario 1, and Scenario 2, but impacts to groundwater quality could still occur from the remaining disposal to unlined surface impoundments.

In lieu of ponds for disposal, oil and gas operators are increasingly discharging produced water to Class II injection wells. Injection well disposal could result in a discharge to groundwater in the event of a casing or well failure that allows injected materials to move from breach locations into other water-bearing formations. As the volume of waste disposal accumulates over time in specific zones, the discharge formation and portions of the well structure could become pressurized and subject to stresses that could increase the risk of well failure and groundwater impacts could increase. Without mitigation, waste disposal injection into a non-exempt USDW could significantly impact water quality in the affected zones.

Well stimulations in the Project Area have primarily consisted of hydraulic fracturing and acid matrix treatments. These technologies are expected to account for most forms of well stimulation in the future. Potential water quality impacts associated with well stimulations include unpermitted discharges of stimulation flowback fluids to drilling sumps or other surface impoundments, and unintended contact with groundwater due to well failures or casing leaks, as well as potential impacts from surface discharges, as discussed above. Although nearly 2,000 well stimulation treatments were performed in the Project Area during 2011 through 2014, there has never been a confirmed report of any well stimulation-related discharges to, or adverse effect, on surface or ground water although the potential exists for a release which could result in a significant impact.

In sum, significant impacts could occur during both construction and operations that could result in a violation of water quality standards waste discharge requirements. However, with the implementation of mitigation measures, construction and operational period impacts would be less than significant with mitigation.

Finding:

Without mitigation, the Project has the potential to violate water quality standards or waste discharge requirements. This impact will be reduced to a less than significant level by implementation of mitigation measures.
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Brief Explanation of the Rationale for the Finding:

CEQA requires that all feasible and reasonable mitigation be applied to reduce the Project's potential to violate water quality standards or waste discharge requirements. The following mitigation measures will be incorporated into the Project to reduce this impact to a level that is less than significant.

MM 4.9-1 The Applicant shall comply with all applicable federal, state, regional and local agency water quality protection laws and regulations, and commonly utilized industry standards, including (where applicable) obtaining coverage under the stormwater construction general permit and industrial general permit issued by the State Water Resources Control Board and complying with industry stormwater management standards for construction and operational activities. The applicant shall obtain all required permits from Division of Oil Gas and Geothermal Resources, and such permits shall include measures that will safeguard protected groundwater with appropriate casing, seal and related down-hole technical specifications.

MM 4.9-2 A. Oil and Gas Activities in Tier 1 shall comply with the following:

1. In areas subject to National Pollutant Discharge Elimination System stormwater permitting requirements, project applicants shall file a Notice of Intent to the State Water Resources Control Board to comply with the statewide General Permit for Discharges of Stormwater Associated with Construction Activities (Construction General Permit State Water Resources Quality Control Board Order No 2009-009-DWO) prior to undertaking all ground-disturbing activities greater than one acre and shall prepare and implement a Stormwater Pollution Prevention Plan for construction activities on the Project site in accordance with the Construction General Permit. For facilities requiring coverage under the Construction General Permit, the site specific Stormwater Pollution Prevention Plan shall include measures to achieve the following objectives: (1) all pollutants and their sources, including sources of sediment associated with construction activity are controlled; (2) all non-stormwater discharges are identified and either eliminated, controlled and treated, (3) site Best Management Practices are effective and result in the reduction or elimination of pollutants in stormwater discharges and authorized non-stormwater discharges from construction activity and (4) stabilization Best Management Practices to reduce or eliminate pollutants after construction are completed. The Stormwater Pollution Prevention Plan shall be prepared by a qualified preparer and shall include the minimum Best Management Practices required for the identified risk level. The Stormwater Pollution Prevention Plan shall include a construction site monitoring program that identified requirements for dry weather visual observations of pollutants at all discharge locations and, as appropriate, depending on the project risk level, sampling of site effluent and receiving waters. A qualified Stormwater Pollution Prevention Plan practitioner shall be responsible for implementing and all monitoring for the Best Management Practices as well as all inspection, maintenance and repair activities at the project site. If applicable, each project shall also implement and fully comply
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with the Industrial Storm Water Permit (Order No 97-03-DWO) and Kern County Municipal Stormwater Permit (Order No 5-01-120). All plans under these requirements shall be submitted to Kern County Public Works for review and approval.

2. Any operator of a facility that meets the following requirements is not required to be covered by the Construction General Permit (State Water Regional Control Board Memorandum dated 5-18-2010):

   a. discharges of stormwater runoff from oil and gas exploration, production, processing or treatment operations or transmission facilities, including field activities or operations that may be considered construction activity;

      1. are not contaminated by contact with, or do not come into contact with, any overburden, raw material, intermediate products, finished product, byproduct or waste products;

      2. are only contaminated by or only come into contact with sediment; and

      3. pursuant to 40.C.F.R. § 122.26(c)(1) (iii) that do not contribute to a violation of a water quality standard.

Any change to this State Water Regional Control Board determination will require full compliance with National Pollutant Discharge Elimination System requirements.

3. Any operator not subject to National Pollutant Discharge Elimination System stormwater permitting requirements shall implement Best Management Practices during construction and operation. All selected practices shall be shown on a drainage implementation plan and self-certified as complete and feasible by a licensed professional qualified in drainage and flood control issues. The plan shall be submitted to the Kern County Planning and Community Development department.

The following Best Management Practices shall be implemented and shown on the drainage implementation plan:

   a. Utilizing established facilities design, construction or similar standards as appropriate (e.g., American Society for the Testing and Materials (ASTM) American Petroleum Institute (API)).

   b. Implementation good housekeeping and maintenance practices:

      i. Preventing trash, waste materials and equipment from construction storm water.
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ii. Maintaining wellheads, compressors, tanks and pipelines in good condition without leaks or spills.

iii. Designing and maintaining graded pads to not actively erode and discharge sediment

iv. Maintaining vehicles in good working order

v. Providing secondary containment for all above-ground storage tanks and maintaining such containment features in good operating condition

c. Implementing spill prevention and response measures

i. Utilizing preventative operating practices such as tank level monitoring, safe chemical handling and conducting regular inspections.

ii. Developing and maintaining a spill response plan

iii. Conducting spill response training for employees and have a process to ensure contractors have the necessary training

iv. Maintaining spill response equipment on site.

d. Implementing material storage and management practices:

i. Preventing unauthorized access

ii. Utilizing “run-on” and “run-off” control berms and swales

iii. Stabilizing exposed slopes through vegetation and other appropriate methods (e.g., hay bales or rolls).

B. Oil and gas activities outside Tier 1 shall comply with all applicable state and federal stormwater management laws. For any oil and gas activity outside Tier 1 that is not subject to state or federal stormwater management laws, regulations or general permits, the Applicant shall prepare a drainage plan that is designed to minimize runoff and minimize the potential for impeding or redirecting 100-year flood flows. The drainage plan shall be prepared in accordance with the Kern County Grading Code, the Green Code and approved by the Kern County Department of Public Works, Floodplain Management Section. The plan shall specify best management practices to prevent all construction pollutants from contacting stormwater, with the intent of keeping sedimentation or any
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other pollutants from moving offsite and into receiving waters. The requirements of the Plan shall be incorporated into design specifications. Recommended best management practices for the construction phase must be shown on a drainage plan, and shall include the following:

a. Erosion Control -
   1. Scheduling of construction activities to avoid rain events.
   2. Limiting vegetation removal to the minimum required.

b. Sediment Control -
   1. Secure stockpiling of soil.
   2. Installation of a stabilized construction entrance/exit and stabilization of disturbed areas.

c. Non-stormwater Control -
   1. Proper fueling and maintenance of equipment and vehicles.
   2. Proper concrete handling techniques.

d. Waste and Material Management -
   1. Properly managing construction materials, designating construction staging areas in or around the Project site.
   2. Stockpiling and disposing of demolition debris, concrete, and soil properly.
   3. Prompt removal and proper disposal of litter.
   4. Proper disposal of demolition debris, concrete and soil.
   5. Proper protections for fueling and maintenance of equipment and vehicles.
   6. Provide and maintain adequate secondary containment to minimize or eliminate pollutants from moving offsite and into receiving waters.

e. Post-Construction Stabilization -
   1. Ensuring the stabilization of all disturbed soils per revegetation or application of a soil binder.

C. If construction activities will alter federal jurisdictional waters, project applicants shall comply with the federal Clean Water Act Section 404 and Section 401 permitting and certification requirements. If construction activities will alter state waters, project applicants shall comply with California Department of Fish and Wildlife Streambed Alteration requirements.
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MM 4.9-3

All drilling operations must either use a closed loop system to avoid discharges of drilling muds and fluids, or obtain coverage under the State Water Resources Control Board low threat discharge General Order (Waste Discharge Requirements General Order 2003-0003-DEW), obtain individual Waste Discharge Requirements issued by the Central Valley Regional Water Quality Control Board for the unit, or obtain coverage under a general order issued by the Central Valley Regional Water Quality Control Board applicable to drilling ponds. Any surface ponds or sumps must be cleared of fluids and muds in accordance with the State Water Resources Control Board general order, applicable Water Discharge Requirements and Division of Oil Gas and Geothermal Resources regulations. Compliance with the State Water Resources Control Board or Central Valley Regional Water Quality Control Board low-threat discharge orders or Water Discharge Requirements, if closed-loop systems are not used, and applicable laws, regulations and standards will reduce potential surface water quality impacts from contact with drilling muds or fluids during drilling and construction to less than significant levels.

After consultation with and approval by the Regional Water Board with jurisdiction over injection and groundwater, applicant shall provide for a tracer or some other reasonable method to allow well stimulation fluids to be distinguished from other fluids or chemicals for well stimulation permits. This could consist of an added tracer using an inert constituent that could be used to identify the presence of well stimulation fluids. Alternatively, it could be an intrinsic tracer, or some naturally occurring component that makes the well stimulation fluids chemically unique. Potential geochemical changes in the subsurface during injection or migration shall be considered. Use of a tracer shall be required to be disclosed to the public under Section 1788 of the SB 4 regulations. The regulations specifically require that the applicant require the composition and disposition of all well stimulation treatment fluids other than water, including “any radiological components or tracers injected into the well as part of the well stimulation treatment, a description of the recovery method, if any, for those components or tracers, the recovery rate, and specific disposal information for the recovered components or tracers a radiological component or tracer injected” (Section 1788 (15)).

For any well stimulation treatment activity, the applicant shall not conduct well stimulation treatment activity until the State Water Resources Control Board, in consultation with the Central Valley Regional Water Quality Control Board, has approved either a groundwater monitoring plan or exclusion from groundwater monitoring for a given well, consistent with the State Water Resources Control Board Model Criteria for Groundwater Monitoring in Areas of Oil and Gas Well Stimulation.

MM 4.9-4

For any activity for which Chapter 19.98 applies, the Applicant shall not conduct any Class II injection activity regulated by the Underground Injection Control program, including enhanced oil recovery activities that discharge into any underground source of current or future beneficial use groundwater, including drinking water, unless the aquifer has been exempted by the United States Environmental Protection Agency or injection has otherwise been authorized by the U.S. Environmental Protection Agency or by the Division of Oil Gas and
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Geothermal Resources, in consultation and agreement by the State Water Resources Control Board, consistent with Public Resources Code 3131.

**MM 4.9-5**
For any activity for which Chapter 19.98 applies, the Applicant shall not discharge produced water into any surface disposal facility unless the facility has received the Waste Discharge Requirements from the Central Valley Regional Water Quality Control Board, or the need for Water Discharge Requirements has been waived by the Central Valley Regional Water Quality Control Board. As required by the SB 4 regulations, well stimulation treatment fluids and produced fluids from wells that have been stimulated cannot be stored, discharged, or disposed into surface ponds or pits.

**MM 4.9-6**
For any oil and gas activity within a Special Flood Hazard Area, the Applicant shall ensure that all constructed facilities are elevated or floodproofed in compliance with the requirements and standards found in the Kern County Floodplain Management Ordinance and Chapters 19.50 and 19.70 of the Kern County Zoning Code.

**Significant Effect:**

Without mitigation, the Project has the potential to substantially alter the existing drainage pattern of the site or area, including through alteration of the course of a stream or river, in a manner that would result in substantial erosion or siltation on-site or off-site (Impact 4.9-3).

**Description of Specific Impact:**

Construction and operational activities could alter new well site topography and soil and vegetation conditions in a manner that could affect drainage patterns. Site preparation and the installation of wells and related equipment would also change the amount of impervious surfaces and runoff retention rates within new development areas. Without mitigation, such Project impacts are potentially significant.

**Finding:**

Without mitigation, the Project has the potential to substantially alter the existing drainage pattern of the site or area, including through alteration of the course of a stream or river, in a manner that would result in substantial erosion or siltation on-site or off-site. With mitigation, this impact would be reduced to a less than significant level.

**Brief Explanation of the Rationale for the Finding:**

CEQA requires that all feasible and reasonable mitigation be applied to reduce the Project’s potential to substantially alter the existing drainage pattern of the site or area, including through alteration of the course of a stream or river, in a manner that would result in substantial erosion or siltation on-site or off-site. Mitigation Measures **MM 4.9-1** through **MM 4.9-6**, described above, along with the groundwater mitigation measures described in section II(17) of these findings related to Utilities and Service Systems, will be incorporated into the Project and would reduce this impact to a less than significant level.

**Significant Effect:**
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Without mitigation, the Project has the potential to substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, or substantially increase the rate or amount of surface runoff in a manner that would result in flooding on-site or off-site (Impact 4.9-4).

Description of Specific Impact:

Based on the conservative impact estimates, the potential development of 2,697 new production wells per year in the Project Area could disturb up to 4,856 acres per year. Over 90%, or 4,400 acres, of this disturbance would be located in existing Tier 1 areas that are currently subject to the highest level of existing disturbance from prior oil and gas exploration and production activities. New well development could disturb up to 298 acres in Tier 2 areas where agriculture is the predominant land use, and up to 158 acres in Tiers 3 through 5. Construction and operational activities, site preparation and installation of wells and related equipment could also change existing drainage patterns and runoff rates and result in on or offsite flooding.

Finding:

Without mitigation, the Project has the potential to substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, or substantially increase the rate or amount of surface runoff in a manner that would result in flooding on-site or off-site. With mitigation, this impact would be reduced to a less than significant level.

Brief Explanation of the Rationale for the Finding:

CEQA requires that all feasible and reasonable mitigation be applied to reduce the Project’s potential to substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, or substantially increase the rate or amount of surface runoff in a manner that would result in flooding on-site or off-site. Mitigation Measures MM 4.9-1 through MM 4.9-6, described above, along with the groundwater mitigation measures described in section II(17) of these findings related to Utilities and Service Systems, will be incorporated into the Project and would reduce this impact to a less than significant level.

Significant Effect:

Without mitigation, the Project has the potential to create or contribute runoff water that would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff (Impact 4.9-5).

Description of Specific Impact:

About 97.4% of the Project Area consists of Tier 1 lands (10.1%) in which oil and gas activities are the predominant land use, or Tier 2 lands (87.3%) where agriculture is the predominant use. In addition, 97% of the projected annual disturbance of up to 4,856 acres would occur in Tier 1 (4,400 acres) or Tier 2 (298 acres) areas. Urban-scale constructed stormwater drainage systems occur to a limited extent in Tier 1 and Tier 2 areas. Most drainage is managed on a site-specific basis in Project Area oilfields and agricultural locations. Potential Project-related development in Tiers 3 through 5 could produce runoff to existing or planned regional or constructed stormwater drainage systems. The extent of the potential new development would affect at most 0.3% of the acreage in Tiers 3 through 5 per year and would not generate new sources of runoff that could
EXHIBIT A

significantly impact existing or planned drainage systems in these locations; therefore, impacts would be less than significant

Runoff water and potential polluted runoff risks would be managed by site-specific stormwater and runoff management measures. As discussed above, oil and gas operations that are located in close proximity with or on sites that are hydrologically connected to waters of the United States are generally subject to the requirements of the Construction General Permit and Industrial General Permit adopted by the SWRCB unless otherwise subject to exemption or waiver. These permits require strict compliance with water quality standards through the implementation of BMPs and other measures. The API and other sources of applicable industry engineering standards publish and regularly update oil and gas industry standards and criteria for stormwater and runoff management. With the implementation of MM 4.9-1 and MM 4.9-2, any potential impact would be further reduced.

Finding:

Without mitigation, the Project has the potential to create or contribute runoff water that would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff. With mitigation, this impact would be reduced to a less than significant level.

Brief Explanation of the Rationale for the Finding:

CEQA requires that all feasible and reasonable mitigation be applied to reduce the Project’s potential to create or contribute runoff water that would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff. Mitigation Measures MM 4.9-1 through MM 4.9-6, described above, will be incorporated into the Project and would reduce this impact to a less than significant level.

Significant Effect:

Without mitigation, the Project has the potential to otherwise substantially degrade water quality (Impact 4.9-6).

Description of Specific Impact:

The Basin Plan incorporates the SWRCB anti-degradation policy (SWRCB Resolution No. 68-16) and requires that “high-quality waters of the state” be maintained consistent with the maximum benefit to the people of the state. The purpose of this policy is to prevent or minimize degradation of high quality surface waters and groundwater. The Basin Plan also incorporates the SWRCB sources of drinking water policy (SWRCB Resolution No. 88-63), which provides that all surface and ground waters of the state “are considered to be suitable, or potentially suitable, for municipal or domestic water supply and should be so designated by the RWQCBs with the exception of” waters in which: (a) TDS levels exceed 3,000 mg/L (5,000 µmhos/cm electrical conductivity) and the aquifer cannot be reasonably expected to supply a public water system; (b) there is contamination, either by natural processes or by human activity (unrelated to a specific pollution incident), that cannot reasonably be treated for domestic use using either BMPs or best economically achievable treatment practices; or (c) the water source cannot provide sufficient water to supply a single well capable of producing an average, sustained yield of 200 gallons per day. The Basin Plan defines “groundwater” to mean “subsurface water that occurs beneath the ground surface in fully saturated zones within soils and other geologic formations.”
EXHIBIT A

To implement the SWRCB sources of drinking water policy, the Basin Plan has designated all ground waters in the Tulare Lake region, including all groundwater in the Project Area, as suitable for municipal (MUN) beneficial uses unless specifically exempted by the CVRWCB and approved for exemption by the SWRCB. The MUN beneficial use includes drinking water and water for domestic purposes. As discussed in the Basin Plan, factors the CVRWQCB considers when making exemptions to the MUN ground water designation include the exception criteria listed in Resolution No. 88-63 (discussed above), and whether a specific aquifer has been exempted by the EPA under the UIC program. As shown on EIR Figure 4.9-11, based on the list of approved groundwater MUN designations in the Table II-2 of the Basin Plan, most of the Project Area groundwater is subject to a MUN beneficial use designation. The SWRCB sources of drinking water policy includes an exception for an aquifer that "is regulated as a geothermal energy producing source or has been exempted administratively pursuant to 40 Code of Federal Regulations, Section 146.4 for the purpose of underground injection of fluids associated with the production of hydrocarbon or geothermal energy, provided that these fluids do not constitute a hazardous waste under 40 CFR, Section 261.3" (SWRCB Resolution No. 88-63 [1988], as amended by Resolution No. 2006-0008 [2006]). State and federal agencies are currently updating the status of aquifer exemptions in the Project Area. EIR Figure 4-9.11 identifies the locations in the Project Area where the groundwater MUN beneficial use has been removed by the CVRWQCB in the Basin Plan.

Except for a limited number of injection wells that are the subject of the UIC program review and revision process being conducted by DOGGR, the SWRCB, and the EPA, and one case in which surface disposal was judicially determined to impair water supplies used in an adjacent orchard, oil and gas activities in the Project Area primarily affect groundwater with TDS levels substantially above 3,000 mg/L and that cannot be reasonably expected to supply a public water system. Groundwater in hydrocarbon-bearing zones has also been impacted by natural processes, including substantial deposits of oil, gas and other hydrocarbons and related constituents, and by human activity, including decades of prior oil and gas exploration and production activity. A substantial amount of the water that could be derived from hydrocarbon-bearing formation cannot reasonably be treated for domestic use. With the possible exception of the eight oilfield aquifers in the Project Area that DOGGR has determined were not clearly exempted under the UIC, aquifers subject to oil and gas injection, stimulation treatment or other discharges that may affect water quality would usually not meet the SDWA criteria for protection as an underground source of drinking water, or have been exempted in accordance with the UIC program.

The Basin Plan also discusses the March 1988 MOA between the SWRCB and DOGGR, under which DOGGR permits Class II injection wells in California subject to review and comment by the CVRWQCB and SWRCB. The Basin Plan indicates that the purpose of the MOA "is to ensure that the construction or operation of Class II injection disposal wells and the land disposal of wastewaters from oil, gas, and geothermal production facilities does not cause degradation of waters of the state." The Basin Plan further states that the MOA "provides a coordinated approach that results in a single permit satisfying the statutory obligations of both agencies."

The Basin Plan description of the MOA process, and the inclusion of specific MUN designation exception criteria in the 1988 SWRCB sources of drinking water policy, indicate that even if a MUN designation is applicable to most groundwater in the Project Area, permitted oil and gas activities would not degrade high-quality waters that could feasibly be used for MUN purposes and therefore the Project would have a less than significant impact to the water sources.

Finding:
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Without mitigation, the Project has the potential to otherwise substantially degrade water quality. With mitigation, this impact would be reduced to a less than significant level.

**Brief Explanation of the Rationale for the Finding:**

CEQA requires that all feasible and reasonable mitigation be applied to reduce the Project's potential to otherwise substantially degrade water quality. Mitigation Measures MM 4.9-1 through MM 4.9-6, described above, along with the groundwater mitigation measures described in section II (17) of these findings related to Utilities and Service Systems, will be incorporated into the Project and would reduce this impact to a less than significant level.

**Significant Effect:**

Without mitigation, the Project has the potential to place within a 100-year flood hazard area structures that would impede or redirect flood flows (Impact 4.9-8).

**Description of Specific Impact:**

Without mitigation, Project-related oil and gas exploration and production activity, including new wells, infrastructure, and oil, gas, produced water and chemical treatment and storage facilities, could occur within Project Area land that is subject to a 100-year flood risk and impede or redirect flood flows in these areas. Flooding could also damage affected structures, or mobilize constituents of concern in floodwaters that are used in and gas exploration and production and could result in significant impacts.

**Finding:**

Without mitigation, the Project has the potential to place within a 100-year flood hazard area structures that would impede or redirect flood flows. With mitigation, this impact would be reduced to a less than significant level.

**Brief Explanation of the Rationale for the Finding:**

CEQA requires that all feasible and reasonable mitigation be applied to reduce the Project's potential to place within a 100-year flood hazard area structures that would impede or redirect flood flows. Mitigation Measures MM 4.9-1 through MM 4.9-6, described above, will be incorporated into the Project. Implementation of MM 4.9-1 through 4.9-6 would reduce the level of impacts to less than significant. These mitigations would require that the applicant to comply with all applicable federal, state, regional, and local agency laws and regulations, and commonly utilized industry standards, including the Kern County Floodplain Management Ordinance, and KCGP and Zoning Code provisions related to floodplain risks. In addition, the applicant would have to implement management practices to avoid causing any adverse stormwater discharges and address potential impacts from potential oil and gas development in a 100-year floodplain.

**Significant Effect:**

Without mitigation, the Project has the potential to expose people or structures to a significant risk of loss, injury, or death involving flooding, including as a result of the failure of a levee or dam (Impact 4.9-9).

**Description of Specific Impact:**
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About 93,400 acres of existing oil and gas administrative fields within the Project Area are subject to potential inundation in the event the Lake Isabella dam facilities, located in the Sierra Nevada mountains, 40 miles northeast of Bakersfield, experienced a catastrophic failure under full storage conditions. In the event of a catastrophic failure, released water would flow southeast along the Kern River towards Bakersfield and eventually flood downstream locations, including valley floor portions of the Eastern Subarea south of the river, most of the Central Subarea, and valley floor portions of the Western Subarea extending north along Interstate 5. Project-related oil and gas exploration and production activities, including new wells, infrastructure, and oil, gas, produced water, and chemical treatment and storage facilities, could occur and expose people or structures to a risk of harm within Project Area that is subject to inundation from a catastrophic failure of the Lake Isabella dam.

In 2008, the USACE analyzed the length of time that would elapse before potentially affected locations in the Project Area would be inundated to a depth of one foot. The analysis assumed that a catastrophic failure of the dam facilities would occur under full capacity conditions. The analysis shows that areas located near the eastern portion of the Kern River plain, and near Bakersfield, would reach one foot of inundation within 6 to 8 hours (Figure 4.9-19). One foot of inundation in the other potentially affected portions of the Project Area would occur over a period of from 8 to 36 hours.

Finding:

Without mitigation, the Project has the potential to expose people or structures to a significant risk of loss, injury, or death involving flooding, including as a result of the failure of a levee or dam. With implementation of the mitigation measures described below, this impact will be reduced to a less than significant level.

Brief Explanation of the Rationale for the Finding:

CEQA requires that all feasible and reasonable mitigation be applied to reduce the Project’s potential to expose people or structures to a significant risk of loss, injury, or death involving flooding, including as a result of the failure of a levee or dam. Mitigation Measures MM 4.9-1 through MM 4.9-6, described above, along with the groundwater mitigation measures described in EIR Section 4.17, Utilities and Service Systems, will be incorporated into the Project and would reduce this impact to a less than significant level.

C. Environmental Effects of the Project That Cannot Be Mitigated to a Level Less Than Significant.

Significant Effect:

Without mitigation, the Project has the potential to substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there will be a net deficit in aquifer volume or a lowering of the local groundwater table level (Impact 4.9-2).

Description of Specific Impact:

The Project’s potential groundwater impacts would be mitigated to less than significant levels if sufficient amounts of produced water otherwise subject to disposal were treated and reused to offset the consumption of M&I water for oil and gas exploration and production. The feasibility of achieving additional produced water reuse to offset oil and gas M&I water use in the Project
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Area, depends on several factors, including produced water quality, treatment costs and requirements, the availability of conveyance capacity to route produced water to and from treatment facilities, and the availability of institutional mechanisms for managing produced water treatment and distribution. At present, the extent to which oilfield operators can increase produced water reuse and decrease M&I demand is uncertain. As a result, potential impacts to groundwater levels and aquifer volumes would be significant and unavoidable with mitigation.

Finding:

Without mitigation, the Project has the potential to substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there will be a net deficit in aquifer volume or a lowering of the local groundwater table level. Potential impacts to groundwater supply and recharge from produced water generation, injection, and well stimulation would be less than significant with the implementation of MM 4.9-1 through 4.9-6. However as discussed in EIR Section 4.17, Utilities and Service Systems, while MM 4.17-2 through MM 4.17-4 would encourage the additional reuse of produced water, the extent to which oilfield operators can increase produced water reuse and decrease M&I demand is uncertain. As a result, potential impacts to groundwater levels and aquifer volumes would be significant and unavoidable with mitigation.

Brief Explanation of the Rationale for the Finding:

CEQA requires that all feasible and reasonable mitigation be applied to reduce the Project’s potential to substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there will be a net deficit in aquifer volume or a lowering of the local groundwater table level. The Project will incorporate and implement Mitigation Measures MM 4.9-1 through MM 4.9-6, discussed above, as well as the groundwater mitigation measures described in section II(17) of these findings related to Utilities and Services Systems, to reduce this impact to the extent feasible, but such measures will not reduce this impact to a less than significant level. Accordingly, this Project impact is significant and unavoidable.


None

E. Cumulative Environmental Effects of the Proposed Project That Will Have a Significant Impact on the Environment.

Significant Effect:

Without mitigation, the Project has the potential to contribute to cumulative hydrology and water quality impacts (Impact 4.9-11).

Description of Specific Impact:

The ongoing production of oil and gas in Kern County, with the additional mitigation measures and other substantive and procedural requirements included in the proposed revisions to the County’s oil and gas ordinances included in the Project, is not expected to result in significant impacts to hydrology and water other than to groundwater elevations and aquifer volumes. On a cumulative basis, these impacts would also be less than significant because the Project would not
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incrementally contribute to water quality, erosion risks, flooding, and other hydrology impacts. Project Area aquifers are historically overdrafted, and recent monitoring data indicates that groundwater storage and elevations have been reduced to historically low levels in many Project Area locations during the current drought. Project Area aquifers are identified as high priority basins in the state CASGEM program and a sustainable level of groundwater use must be determined and implemented for the region by 2020 under recently enacted state law. Oil and gas M&I water use, and the increased level of M&I water demand projected for oil and gas activities by 2035, contributes to significant Project Area cumulative impacts to groundwater elevations and aquifer volumes.

Project impacts could result in cumulatively considerable impacts that would be considered significant. Implementation of MM 4.9-1 through MM 4.9-6, described above, would reduce potential cumulative impacts to water quality, erosion risks, flooding and other hydrologic resources to less than significant with mitigation. Although groundwater mitigation measures (as described in section II(17) of these findings related to Utilities and Service Systems) encourage the additional reuse of produced water, the extent to which oilfield operators can increase produced water reuse and decrease M&I demand is uncertain. As a result, cumulative impacts to groundwater would be significant and unavoidable.

Finding:

Without mitigation, the Project has the potential to contribute to cumulative hydrology and water quality impacts. This impact is significant and unavoidable, even with implementation of all feasible mitigation.

Brief Explanation of the Rationale for the Finding:

CEQA requires that all feasible and reasonable mitigation be applied to reduce the Project’s potential to contribute to cumulative hydrology and water quality impacts. The Project will incorporate and implement Mitigation Measures MM 4.9-1 through MM 4.9-6, discussed above, as well as the groundwater mitigation measures described in EIR Section 4.17, Utilities and Services Systems, to reduce this impact to the extent feasible, but such measures will not reduce this impact to a less than significant level. The County lacks jurisdiction and control over land conversions, and actions or approvals by other agencies that may cause cumulatively significant impacts to hydrology or water quality in the region; accordingly, this impact remains significant and unavoidable.

10. LAND USE AND PLANNING


The Project will not conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the Project (Impact 4.10-2).

The Project will not conflict with any applicable habitat conservation plan or natural community plan (Impact 4.10-3).

B. Environmental Effects of the Project That Are Potentially Significant, but That Can Be Mitigated to Less Than Significant Levels.
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Significant Effect:

Without mitigation, the Project has the potential to physically divide an established community (Impact 4.10-1).

Description of Specific Impact:

Established residential communities are dispersed throughout the Project Area on unincorporated County land. However, the majority of wells in Kern County would be constructed in Tier 1 areas (90%), which, by definition, are areas in which oil and gas activity is currently the primary land use. In contrast, residences are predominantly located on Tier 4 land. Although residences may be located on Tier 2 land, such residences are dispersed over large agricultural parcels and do not represent established communities. Finally, Tiers 3 and 5, while they might include residences, do not presently include residential communities. Therefore, there are no established communities located within Tiers 1, 2, 3, or 5.

Tier 4 areas make up less than 35,000 acres of the Project Area. Of this total, 26,160 acres are zoned for residential uses (Residential, Estate, or Mobile Park), the majority of which are clustered near the Metropolitan Bakersfield Planning Area in the Central and Eastern Subareas. However, because communities comprise a variety of uses, including commercial and industrial uses, the total acreage of 34,450 has been used to calculate impacts, even though, in some cases, these lands represent Commercial Highway areas or Industrial uses located outside of established communities.

Unlike a linear project, such as a proposed highway, which has the potential to create a physical barrier in the middle of an existing community, wells drilled in Tier 4 areas would be dispersed over 34,450 acres throughout the 3,700-square-mile Project Area. Drilling activities, such as those described in the Future Development Scenario, have historically existed in the Project Area and, in some cases, residential uses have been constructed near historic drilling operations, encroaching upon oil and gas operations. As a result, KCGP policies and zoning setbacks are intended to protect both residential uses as well as oil and gas drilling operations. Therefore, the disturbance of less than 1% of total Tier 4 land per year would not result in the physical division of an established community, and impacts under this criterion would be less than significant. In addition, mitigation measures would further ensure that impacts on adjacent land uses, including established communities, are reduced, and impacts during construction would remain less than significant.

Impacts during operation would be similar to construction; however, during operation, fewer pieces of equipment and fewer workers would be located onsite, which would result in fewer impacts to the community. In addition, wells are only viable so long as the reservoir remains viable in a particular location. Therefore, although it is estimated that 25 new wells would be constructed per year, a portion of the existing wells are likely to be decommissioned and abandoned each year throughout the life of the Project. Also, the acreage conversion conservatively assumes that all land disturbed during construction would be disturbed throughout the life of the well when, in reality, the permanent footprint of most wells would be less than what is projected. Even so, assuming that a total of 47 acres of land were to be permanently converted each year, in 25 years, a total of 1,175 acres would be disturbed. This total represents less than 3.5% of Tier 4 land in the Project Area as it exists today. Similar to construction, this disturbance would be dispersed throughout the Project Area and would not result in the physical division of an established community. Therefore, impacts during operation would be less than significant.
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Finding:

Without mitigation, the Project has the potential to physically divide an established community, though this impact will be reduced to a less than significant through implementation of the mitigation measures described below.

Brief Explanation of the Rationale for the Finding:

CEQA requires that all feasible and reasonable mitigation be applied to reduce the Project’s potential to physically divide and established community. The Project will incorporate the mitigation measures described in section II(1) of these findings related to Aesthetics and Visual Resources, section II(3) of these findings related to Air Quality, section II(4) of these findings related to Biological Resources, section II(12) of these findings related to Noise, section II(15) of these findings related to Recreation, and section II(17) of these findings related to Utilities and Service Systems, implementation of which will reduce this impact to a less than significant level.

C. Environmental Effects of the Project That Cannot Be Mitigated to a Level Less Than Significant.

None.


The Project will not make a considerable contribution to cumulative land use impacts (Impact 4.10-4).

E. Cumulative Environmental Effects of the Proposed Project That Will Have a Significant Impact on the Environment.

None.

11. MINERAL RESOURCES


The Project will 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 (Impact 4.11-1).

The Project will 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 (Impact 4.11-2).

B. Environmental Effects of the Project That Are Potentially Significant, but That Can Be Mitigated to Less Than Significant Levels.

None.

C. Environmental Effects of the Project That Cannot Be Mitigated to a Level Less Than Significant.
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None.


The Project will not contribute to cumulative mineral resources impacts (Impact 4.11-3).

E. Cumulative Environmental Effects of the Proposed Project That Will Have a Significant Impact on the Environment.

None.

12. NOISE


The Project will not generate or expose persons to, or generate, excessive ground borne vibration or ground borne noise levels (Impact 4.12-2).

B. Environmental Effects of the Project That Are Potentially Significant, but That Can Be Mitigated to Less Than Significant Levels.

**Significant Effect:**

Without mitigation, the Project has the potential to generate or expose persons to noise levels in excess of standards established in the local general plan or noise ordinance or applicable standards of other agencies (Impact 4.12-1).

**Description of Specific Impact:**

Short-term construction noise impacts could result from land clearing and grading for well pads and work areas, construction/maintenance of access roads, construction of accessory facilities (including pipelines, electrical transmission lines, drilling sumps or temporary storage tanks), transporting the drilling rig, associated equipment, workers and materials to the well pad site, well drilling, and construction equipment operations. Due to the complexity of drilling and the hazards associated with leaving a well unattended during the drilling process, drilling operations are typically conducted 24 hours a day. Depending upon the depth of the formation, some wells may take less than 24 hours to drill, while some wells may take up to 60 days in deeper formations.

Although construction noise that occurs between 6:00 AM and 9:00 PM on weekdays, and between 8:00 AM and 9:00 PM on weekends is exempt from restrictions, after that time construction noise cannot be audible within 150 feet of the construction site and 1,000 feet of an occupied residential building. If construction were to be conducted 24 hours per day, all activities described in EIR Table 4.2-8 would be audible at 150 feet. In accordance with the Kern County Zoning Ordinance, setbacks for oil and gas wells currently are 150 feet from residential dwellings and hospitals and 300 feet from places of assembly, including schools and churches. These land uses are considered sensitive noise receptors. If oil and gas activities were to occur within 150 feet of a residence or 300 feet of a place of assembly, construction noise levels could exceed audible levels if construction were to occur outside of the 6:00 AM to 9:00 PM framework. In
EXHIBIT A

addition, construction noise could exceed the County’s 65 dBA CNEL threshold at residences and places of assembly, even if the current setbacks were observed. Therefore, even with the current setback requirements, construction noise impacts could be significant if construction were to occur between 9:00 PM and 6:00 AM.

According to Implementation Measure 4 of the KCGP Noise Element, commercial and industrial uses or operations need to be designed or arranged so that they will not subject residential or other noise sensitive land uses to exterior noise levels in excess of 65 dBA CNEL. EIR Table 4.12-9 demonstrates that noise from electric power generation attenuates to less than the 65 dB standard by a distance of 70 feet from the source. Accordingly, based on the current setback requirements for oil and gas activities in Kern County for residential dwellings and hospitals (150 feet), and places of assembly, including schools and churches (300 feet), well operations using electrical power would comply with the established noise level requirement. However, EIR Table 4.12-9 shows that noise from diesel power generation attenuates to less than the 65 dB standard by a distance of 190 feet from the source, indicating that well operations using diesel power may not comply with the standard near residences and hospitals with a 150 foot setback. Therefore, impacts due to operational noise could be significant.

Finding:

Without mitigation, the Project has the potential to generate or expose persons to noise levels in excess of standards established in the local general plan or noise ordinance or applicable standards of other agencies. This Project impact will be reduced to a less than significant level through implementation of mitigation measures.

Brief Explanation of the Rationale for the Finding:

CEQA requires that all feasible and reasonable mitigation be applied to reduce the Project’s potential to generate or expose persons to noise levels in excess of standards established in the local general plan or noise ordinance or applicable standards of other agencies. The following mitigation measures will be incorporated into the Project to reduce this impact to a level that is less than significant:

MM 4.12-1 Construction:

The Site Plan Application shall include a Site Vicinity Figure showing the location of any sensitive receptor(s) within the distances listed in the construction noise setbacks table, as shown below, of the construction site (potential impact area) for the proposed new well or other ancillary facility or equipment (excluding pipelines). This Figure need not be prepared for Tier 1 areas unless a sensitive receptor is located within 270 feet of a construction site inside the Tier 1 area.

a. If there are no sensitive noise receptors within this potential impact area, then no construction mitigation measures shall be required.
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b. If there are sensitive human noise receptors within the potential impact area, then additional information must be provided showing the type of equipment being used and the noise contours with levels not exceeding 65 dB DNL at the nearest exterior wall of the sensitive receptor or more than 1 dB DNL higher than the ambient noise levels, if in excess of 65 dB DNL. If noise levels are shown to exceed 65 dB DNL or more than 1 dB DNL higher than the ambient noise levels in excess of 65 dB DNL, then one or more of the following mitigation measures shall be taken:

1. Placement of a temporary sound attenuation wall(s) shall be placed at the optimal distance to the sensitive receptor, as determined by an acoustical expert.

2. Construction of a temporary berm shall be placed at the optimal distance to the sensitive receptor, as determined by an acoustical expert.

3. Modification of equipment to reduce noise impacts.

4. Implementation of a quiet mode drilling plan or other sound reduction technology or practices as documented in a report submitted to the County.

5. Arranging for the voluntary, temporary relocation of the occupants of the sensitive receptor during the construction period.

6. Use the following setback distances for the activities specified:

<table>
<thead>
<tr>
<th>Activity</th>
<th>Setback Distance (feet)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Drilling (Well Advancement)</td>
<td>1,550</td>
</tr>
<tr>
<td>Drilling (Pull Out Of Well/Borehole)</td>
<td>820</td>
</tr>
<tr>
<td>Large-Scale Exploratory Drilling¹</td>
<td>3,270</td>
</tr>
<tr>
<td>Well Workover</td>
<td>930</td>
</tr>
<tr>
<td>Hydraulic Fracturing</td>
<td>1,090</td>
</tr>
</tbody>
</table>

Note:
¹Kenai Drill Rig #7

Information submitted with the Site Plan Application must detail the combination and methods used to determine the level of reduction and shall not exceed 65 dB DNL or any ambient levels in excess of 65 dB DNL or more than 1 dB DNL higher than the ambient noise levels, if in excess of 65 dB DNL.

MM 4.12-2 Operation:
New oil and gas wells shall be a minimum 210 feet from the closest sensitive receptor. Geophysical testing methods using vibroseis vehicles to generate sound waves shall be a minimum 150 feet from the closest occupied building, water well, sewer system, and septic tank. Geophysical testing methods using shot holes that employ explosives shall be a minimum 300 feet from the closest occupied building, water well, sewer system, and septic tank, and shall be in full compliance with all laws governing explosives.

**Significant Effect:**

Without mitigation, the Project has the potential to cause a substantial temporary or periodic increase in ambient noise levels in the Project vicinity above levels existing without the Project (Impact 4.12-3).

**Description of Specific Impact:**

A substantial permanent increase in ambient noise levels would occur if noise levels increase in excess of 65 dBA CNEL. The EIR’s analysis examined operational noise levels because they would be long-term in nature. At a distance of 70 feet from a well, noise from electric-powered oil and gas wells would attenuate to a level of 60 dBA, which is less than 65 dBA CNEL. However, noise from diesel powered oil and gas wells would not attenuate to a level of 60 dBA CNEL until 190 feet from a well. A house or hospital could be located within 150 feet of a well; therefore, there is the potential for a substantial permanent increase in ambient noise levels in excess of the 65 dBA standard in the vicinity of sensitive noise receptors and therefore impacts could be significant.

**Finding:**

Without mitigation, the Project has the potential to cause a substantial temporary or periodic increase in ambient noise levels in the Project vicinity above levels existing without the Project. These impacts will be mitigated to a level that is less than significant.

**Brief Explanation of the Rationale for the Finding:**

CEQA requires that all feasible and reasonable mitigation be applied to reduce the Project’s potential to cause a substantial temporary or periodic increase in ambient noise levels in the Project vicinity above levels existing without the Project. Mitigation Measure MM 4.12-2, described above, will be incorporated into the Project to reduce this impact to a level that is less than significant.

**Significant Effect:**

Without mitigation, the Project has the potential to cause a substantial temporary or periodic increase in ambient noise levels in the Project vicinity above levels existing without the Project (Impact 4.12-4).

**Description of Specific Impact:**

Oil and gas well development would result in temporary increases in ambient noise levels in the vicinity. Noise levels would fluctuate depending on the phase of construction, equipment type and duration of use, and distance between the noise source and receptor. Although construction
noise conducted between 6:00 AM and 9:00 PM on weekdays and 8:00 AM and 9:00 PM on weekends is exempt from restrictions, after that time it is prohibited from being audible within 150 feet of the construction site and 1,000 feet of an occupied residential building. Based on available data, well pad preparation, drilling, and hydraulic fracturing would be audible within 150 feet of the equipment. Hydraulic fracturing would be audible at 1,000 feet from the pump trucks and well pad preparation and drilling could be audible at 1,000 feet. Based on the fact that sensitive noise receptors could hear construction noise and these noise levels would be in excess of 65 dBA CNEL, particularly if drilling occurs all night, construction noise is considered a significant adverse impact if located near one or more sensitive noise receptors (e.g., a home, hospital, school, church, or other public assembly facility). This impact is potentially significant.

Finding:

Without mitigation, the Project has the potential to cause a substantial temporary or periodic increase in ambient noise levels in the Project vicinity above levels existing without the Project. With implementation of mitigation measures, this impact will be reduced to a level that is less than significant.

Brief Explanation of the Rationale for the Finding:

CEQA requires that all feasible and reasonable mitigation be applied to reduce the Project’s potential to cause a substantial temporary or periodic increase in ambient noise levels in the Project vicinity above levels existing without the Project. Mitigation Measure MM 4.12-1, described above, will be incorporated into the Project to reduce this impact to a level that is less than significant.

Significant Effect:

Without mitigation, the Project has the potential to expose people residing or working within that part of the Project Area located within an airport land use compatibility plan to excessive noise levels (Impact 4.12-5).

Description of Specific Impact:

Future oil and gas-related development activities could occur in the vicinity of any of the public use airports identified in the Kern County ALUCP. Noise levels generated during construction or operations of oil and gas facilities at specified distances exceed 65 dB CNEL. Oil and gas activities could only occur at the appropriate setback distance, but could be as close as 50 feet from an industrial facility. If oil and gas facilities were built or operated within the 65 decibel CNEL contours of Meadows Field or the Bakersfield Municipal Airport, then the combined noise levels of aircraft take-offs and landings and oil and gas activities have the potential to exceed County acceptable noise levels for workers and/or residents that are in proximity to both the public airport and potential oil and gas activities, depending on the location of the well and the residence or facility. Therefore, there could be significant impacts.

Finding:

Without mitigation, the Project has the potential to expose people residing or working within that part of the Project Area located within an airport land use compatibility plan to excessive noise levels. With implementation of mitigation measures, this impact will be reduced to a level that is less than significant.
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Brief Explanation of the Rationale for the Finding:

CEQA requires that all feasible and reasonable mitigation be applied to reduce the Project’s potential to expose people residing or working within that part of the Project Area located within an airport land use compatibility plan to excessive noise levels. Mitigation Measures MM 4.12-1 and MM 4.12-2, described above, will be incorporated into the Project to reduce this impact to a level that is less than significant.

Significant Effect:

Without mitigation, the Project has the potential to expose people residing or working within that part of the Project Area located within the vicinity of a private airstrip to excessive noise levels (Impact 4.12-6).

Description of Specific Impact:

Oil and gas development activities authorized under the Project could occur in proximity to a private airstrip. Given that oil and gas activities authorized under the Project would, at a minimum, have to comply with current setback requirements, an industrial facility could be within 50 feet or a residence could be with 150 feet. Noise levels at these distances under some circumstances could exceed acceptable noise levels. The combined noise levels of aircraft take-offs and landings and oil and gas activities have the potential to exceed acceptable noise levels for workers and/or residents that are in proximity to both a private airport and potential oil and gas activities, depending on the location of the well and the residence or facility and therefore impacts could be significant.

Finding:

Without mitigation, the Project has the potential to expose people residing or working within that part of the Project Area located within the vicinity of a private airstrip to excessive noise levels. With implementation of mitigation measures, this impact will be reduced to a level that is less than significant.

Brief Explanation of the Rationale for the Finding:

CEQA requires that all feasible and reasonable mitigation be applied to reduce the Project’s potential to expose people residing or working within that part of the Project Area located within the vicinity of a private airstrip to excessive noise levels. Mitigation Measures MM 4.12-1 and MM 4.12-2, described above, will be incorporated into the Project to reduce this impact to a level that is less than significant.

C. Environmental Effects of the Project That Cannot Be Mitigated to a Level Less Than Significant.

None.


Significant Effect:
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Without mitigation, the Project has the potential to contribute to cumulative noise impacts (Impact 4.12-7).

Description of Specific Impact:

Since oil and gas activities could occur anywhere in the Project Area, the combined noise levels from the Project and existing or reasonably foreseeable projects depend on the proximity of oil and gas activities to other noise sources at a specific location. Noise generated from construction of certain types of wells authorized under the Project, conservatively assuming use of the largest exploratory deep drilling rig (Kenai Rig), could be in excess of 65 dBA CNEL up to 3,000 feet from a construction site and up to 190 feet from a diesel-powered operating well. Therefore, significant noise impacts would occur if there are sensitive noise receptors within 3,000 feet of the construction of a well and 190 feet of an operating diesel-powered well. Other projects with construction or operations occurring concurrently with construction or operations of a well would also contribute to noise levels experienced by nearby sensitive noise receptors.

Oil and gas activities subject to Project authorization would have to implement MM 4.12-1 if there are sensitive human noise receptors within 3,000 feet of a well to ensure that the noise levels do not exceed 65 dBA at the nearest exterior wall of the nearest sensitive receptor or more than 1 dBA higher than the ambient noise levels, if in excess of 65 dBA. Cumulatively significant noise impacts could occur even if noise levels associated oil and gas activities are under 65 dBA, depending on the location of another nearby project, its noise levels, and the distance to a sensitive noise receptor.

Finding:

Without mitigation, the Project has the potential to make a considerable contribution to cumulative noise impacts. With implementation of mitigation measures, this impact will be reduced to a level that is less than significant.

Brief Explanation of the Rationale for the Finding:

CEQA requires that all feasible and reasonable mitigation be applied to reduce the Project’s potential to make a considerable contribution to cumulative noise impacts. Mitigation Measures MM 4.12-1 and MM 4.12-2, described above, will be incorporated into the Project to reduce this impact to a level that is less than significant.

E. Cumulative Environmental Effects of the Proposed Project That Will Have a Significant Impact on the Environment.

None.

13. POPULATION AND HOUSING


The Project will not induce substantial population growth in an area, either directly or indirectly (Impact 4.13-1).
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The Project will not displace substantial numbers of existing housing, necessitating the construction of replacement housing elsewhere (Impact 4.13-2).

The Project will not displace substantial numbers of people, necessitating the construction of replacement housing elsewhere (Impact 4.13-3).

B. Environmental Effects of the Project That Are Potentially Significant, but That Can Be Mitigated to Less Than Significant Levels.

None.

C. Environmental Effects of the Project That Cannot Be Mitigated to a Level Less Than Significant.

None.


The Project will not contribute to cumulative population and housing impacts (Impact 4.13-4).

E. Cumulative Environmental Effects of the Proposed Project That Will Have a Significant Impact on the Environment.

None.

14. PUBLIC SERVICES


None.

B. Environmental Effects of the Project That Are Potentially Significant, but That Can Be Mitigated to Less Than Significant Levels.

Significant Effect:

Without mitigation, the Project has the potential to cause substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times, or other performance objectives for any of the public services, which include: fire protection, police protection, schools, parks, and other public facilities (Impact 4.14-1).

Description of Specific Impact:

Given the history of oil and gas development within Kern County, any nominal increase in the oil and gas workforce in the future would likely be comprised of local Kern County residents. As such, the nominal population growth would not stress certain existing public services, such as
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schools and libraries; however, the anticipated new oil and gas activity may strain services, such as police and fire services, in the vicinity of the new oil and gas wells.

Fires could occur at oil and gas facilities because of the hazardous materials that could be located at such facilities. Both Kern County and City of Bakersfield have hazardous materials teams. However, with the projected increase in the number of oil and gas facilities where many different types of chemicals and/or large quantities of oil or gas are present, significant impacts could occur if the hazardous material response teams do not have sufficient firefighting materials or equipment to extinguish the type of fires that could be associated with the types of materials that could be at an oil and gas facility.

Although police service demands would not increase from the implementation of the proposed Project, new oil and gas exploration and production activities could increase the level of demand for police protection services from the Sheriff's Office, specifically in rural areas, because new oil and gas activity could attract vandals or create security risks requiring police response. Since the majority of new oil and gas activities would likely be in rural areas, there could be some increase in demands on the Rural Crimes Unit of the Kern County Sheriff's Department. This impact could be significant.

The Project would not substantially affect enrollment in local schools, and school impacts are considered less than significant. Moreover, since population growth is anticipated to be nominal as a result of the implementation of the proposed Project, the Project would not have a significant impact on emergency services or to other public facilities, such as or postal services or libraries. Therefore, impacts on other public facilities are considered to be less than significant.

Finding:

Without mitigation, the Project has the potential to result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times, or other performance objectives for any of the public services, which include: fire protection, police protection, schools, parks, and other public facilities. Mitigation measures will be implemented to reduce this impact to a level that is less than significant.

Brief Explanation of the Rationale for the Finding:

CEQA requires that all feasible and reasonable mitigation be applied to reduce the Project's potential to The Project will result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times, or other performance objectives for any of the public services. The following mitigation measures will be incorporated into the Project to reduce this impact to a level that is less than significant:

MM 4.14-1 Applicant shall contribute to funding the acquisition of a Combination Walk-in/Non-Walk-in Industrial Firefighting vehicle capable of responding with a minimum of five firefighters with the tools and equipment necessary for industrial firefighting and rescue. Each Applicant shall pay $150 per well on each Oil and Gas Conformity Review permit until the total cost of the vehicle purchase is reached, not to exceed $850,000, to be paid through mitigation fees.
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on Oil and Gas Conformity Review permits. Subsequent Applicants shall not be subject to this mitigation measure.

**MM 4.14-2** Applicant shall provide funding in the amount of $425 per Oil and Gas Conformity Review permit issued for the Sheriff’s Rural Crime Unit. Funding shall be used for one Sergeant, two Senior Deputies (investigators), three Deputies, One Support Technician (clerical), and helicopter usage, based on the amount of funding provided by this permit mitigation fee. The fee shall be in addition to any general funds received by the Sheriff’s Department. The Sheriff’s department shall annually report on the expenditure of funds for the Rural Crimes Unit, including incident reports and response times. If other sources of funding for the Rural Crimes Unit are secured, then the mitigation fee amount shall be adjusted to pay only the gap between actual costs and funding provided from other sources. The first 100 permits issued in a calendar year to certified small producers under the Small Producers Program included in the Project shall not pay this mitigation fee based on their very low proportionate use of the Rural Crimes Unit (100 permits are estimated to generally be less than 5% of the permits issued annually).

**C. Environmental Effects of the Project That Cannot Be Mitigated to a Level Less Than Significant.**

None.

**D. Cumulative Environmental Effects of the Proposed Project That Will Have a Less Than Significant Impact on the Environment.**

**Significant Effect:**

Without mitigation, the Project has the potential to make a considerable contribution to cumulative public service impacts (Impact 4.14-2).

**Description of Specific Impact:**

Overall, the proposed Project would cumulatively contribute to an increased demand for fire, police, schools, and other public facilities and, therefore, could be significant impacts. While the proposed Project’s contribution to growth in the region would be nominal, cumulative projects that would occur under the regional plans would add to the cumulative demand for such services through the introduction of new residents and users of the proposed facilities. However, this growth has been considered and accounted for in the KCGP, the MBGP, and the Kern Council of Governments Regional Transportation Plan/Sustainable Communities Strategy. Additionally, in accordance with the KCGP, Public Services and Facilities, Policies 9 and 16, new developments would be required to pay a pro rata share of the local cost for the expansion of services under the Public Facilities Mitigation Program. Developers would be required to assume full responsibility for costs incurred in service extensions or improvements that are required to serve their project(s). Therefore, new projects would have to pay for the extension or improvement of fire, police, or other services to serve a specific development, if those services are not available and to ensure service objectives are met. Additionally, the Project Area is located in an area that is served by all public service providers and the proposed Project’s incremental impacts can be sufficiently mitigated (MM 4.14-1 and MM 4.14-2, described above); therefore, the Project’s incremental...
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effect on public services is not cumulatively considerable and would be considered less than significant with mitigation.

Finding:

Without mitigation, the Project has the potential to make a considerable contribution to cumulative public service impacts. With mitigation, this cumulative impact will be reduced to a level that is less than significant.

Brief Explanation of the Rationale for the Finding:

CEQA requires that all feasible and reasonable mitigation be applied to reduce the Project's potential to make a considerable contribution to cumulative public service impacts. Mitigation Measures MM 4.14-1 and MM 4.14-2, described above, will be incorporated into the Project to reduce this impact to a level that is less than significant.

E. Cumulative Environmental Effects of the Proposed Project That Will Have a Significant Impact on the Environment.

None.

15. RECREATION


The Project will not result in increased use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration would occur or be accelerated (Impact 4.15-1).

The Project will not include recreational facilities or require construction or expansion of recreational facilities that might have an adverse physical effect on the environment (Impact 4.15-2).

B. Environmental Effects of the Project That Are Potentially Significant, but That Can Be Mitigated to Less Than Significant Levels.

None.

C. Environmental Effects of the Project That Cannot Be Mitigated to a Level Less Than Significant.

None.


The Project will not contribute to cumulative recreation impacts (Impact 4.15-3).

E. Cumulative Environmental Effects of the Proposed Project That Will Have a Significant Impact on the Environment.
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None.

16. TRANSPORTATION AND TRAFFIC.


None.

B. Environmental Effects of the Project That Are Potentially Significant, but That Can Be Mitigated to Less Than Significant Levels.

**Significant Effect:**

Without mitigation, the Project has the potential to conflict with an applicable plan, ordinance, or policy establishing measures of effectiveness for the performance of the circulation system, including, but not limited to, intersections, streets, highways and freeways, pedestrian and bicycle paths, and mass transit (Impact 4.16-1).

**Description of Specific Impact:**

The addition of Project-related traffic to Year 2015 conditions would contribute to 19 of the 101 intersections evaluated as operating below acceptable LOS (at LOS E or worse for intersections located within the non-metropolitan region of Kern County and LOS D or worse for intersections located within the Bakersfield and Kern County metropolitan areas and for Caltrans facilities). These impacts would be significant. Moreover, the addition of Project-related traffic to Year 2015 conditions would contribute to 30 of the 462 roadway segments evaluated as operating below acceptable LOS (at LOS E or worse for roadways located within the non-metropolitan region of Kern County, and LOS D or worse for roadways located within the Bakersfield and Kern County metropolitan areas and for Caltrans facilities (Appendix W). These impacts would be significant. Finally, Project-related traffic could contribute to the degradation of pavement conditions and the service life for roadways in the Project Area, which could be a significant impact.

**Finding:**

Without mitigation, the Project has the potential to conflict with an applicable plan, ordinance, or policy establishing measures of effectiveness for the performance of the circulation system, including, but not limited to, intersections, streets, highways and freeways, pedestrian and bicycle paths, and mass transit. This impact would be reduced to a level that is less than significant by implementing the mitigation measures described below.

**Brief Explanation of the Rationale for the Finding:**

CEQA requires that all feasible and reasonable mitigation be applied to reduce the Project’s potential to conflict with an applicable plan, ordinance, or policy establishing measures of effectiveness for the performance of the circulation system, including, but not limited to, intersections, streets, highways and freeways, pedestrian and bicycle paths, and mass transit. The following mitigation measures will be incorporated into the Project to reduce this impact to a level that is less than significant:
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MM 4.16-1 The Applicant shall pay a road maintenance mitigation fee of $1,500 per permit for new wells to pay for roadway maintenance and related improvements to address wear and tear on roads caused by oil and gas industry traffic. The Kern County Public Works Department shall annually report on the expenditure of funds from the Oil and Gas Roadway Maintenance Fee. Expenditures from the fund shall be as determined by the Roads Commissioner, using as a reference the list of roadways identified in the Environmental Impact Report as being used for traffic by the oil and gas industry. If Kern County secures funding from a sales tax dedicated to transportation funding, then the amount of the traffic mitigation fee shall be re-evaluated at the time the County becomes a self-help county. The first 100 permits issued in a calendar year to certified small producers under the Small Producers Program included in the Project shall not pay this mitigation fee based on their very low proportionate roadway use (100 permits are estimated to generally be less than 5% of the permits issued annually).

MM 4.16-2 Applicants who are using an arterial or collector, or Caltrans route, for access to a construction site, shall consult with the Kern County Public Works Department to determine if a Construction Traffic Control Plan is required based on the timing and volume of larger vehicle rigs and the volume of traffic to address public safety and congestion management. If a Plan is required, the Applicant shall prepare and submit a Construction Traffic Control Plan to the Kern County Public Works Department and to the California Department of Transportation (District 9 office) for approval. The Construction Traffic Control Plan must be prepared in accordance with both the California Department of Transportation Manual on Uniform Traffic Control Devices and Work Area Traffic Control Handbook and shall include, but not be limited to, the following issues:

a. Timing of deliveries of heavy equipment and building materials.

b. Placing temporary signing, lighting, and traffic control devices as necessary to indicate the presence of heavy vehicles and construction traffic.

c. Determining the need for construction work hours and arrival/departure times outside peak traffic periods.

d. Ensuring access for emergency vehicles to the Project site.

e. Any temporary closure of travel lanes or disruptions to street segments and intersections during well development.

f. Maintaining access to adjacent property.

Significant Effect:

Without mitigation, the Project has the potential to conflict with an applicable congestion management program, including, but not limited to level of service standards and travel demand measures or other standards established by the County congestion management agency or adopted County threshold for designated roads or highways (Impact 4.16-2).
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Description of Specific Impact:

The Circulation Element of the KCGP states that the design LOS for Kern County is LOS C. The minimum LOS for conformance with the KCGP is LOS D. The Kern COG CMP has established LOS E as the minimum system-wide LOS traffic standard for CMP corridors. With the addition of Project-related construction traffic, under the future condition, a number of CMP corridors would operate at LOS E or below. However, these roadways would also operate below acceptable LOS even without Project-related traffic. Therefore, operation of these corridors below acceptable LOS is not considered an impact of the Project; however because the LOS of these corridors is impaired, implementation of MM 4.16-2 would reduce Project impacts to existing levels that would represent a less than significant impact.

Finding:

Without mitigation, the Project has the potential to cause significant impacts by conflicting with an applicable congestion management program, including, but not limited to LOS standards and travel demand measures or other standards established by the County congestion management agency or adopted County threshold for designated roads or highways. This impact would be reduced to a level that is less than significant by implementing the mitigation measures described below.

Brief Explanation of the Rationale for the Finding:

CEQA requires that all feasible and reasonable mitigation be applied to reduce the Project’s potential to cause significant impacts by conflicting with an applicable congestion management program, including, but not limited to LOS standards and travel demand measures or other standards established by the County congestion management agency or adopted County threshold for designated roads or highways. Mitigation Measure MM 4.16-2 will be incorporated into the Project to reduce this impact to a level that is less than significant.

Significant Effect:

Without mitigation, the Project has the potential to cause changes in air traffic patterns, including either an increase in traffic levels or a change in location, that result in substantial safety risks (Impact 4.16-3).

Description of Specific Impact:

If an oil or gas well permit applicant would require a vertical structure more than 200 feet in height (e.g., transmission line poles, vertical pump jack), the applicant would be required to comply with FAA Advisory Circular 70/7460-1, Obstruction Lighting/Marking requirements. If the FAA determines that the structure would result in a potential obstruction unless reduced to a specified height, the applicant would be required to work with the FAA to resolve any adverse effects on aeronautical operations. Numerous public, military, and private airports are located within the Project Area. Section 4.8, Hazards and Hazardous Materials includes mitigation measures, which require applicants to comply with the applicable airport land use compatibility plan if their operations would be located within an airport area of influence. Implementation of these mitigation measures would ensure that the Project is consistent with Section 3.3.4 of the Kern County ALUCP. The mitigation measures would also ensure that the Project would not impact operations of aircraft using Kern County airspace, and that all required Project
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components shall have lighting and markings required by the FAA so as not to create a hazard to air navigation

Finding:

Without mitigation, the Project has the potential to cause changes in air traffic patterns that result in substantial safety risks. These impacts will be reduced to a less than significant level by implementation of mitigation measures.

Brief Explanation of the Rationale for the Finding:

CEQA requires that all feasible and reasonable mitigation be applied to reduce the Project's potential to cause changes in air traffic patterns that result in substantial safety risks. The Project will incorporate the mitigation measures described in EIR Section 4.8, Hazards and Hazardous Materials, implementation of which will reduce this impact to a level that is less than significant.

Significant Effect:

Without mitigation, the Project has the potential to substantially increase hazards due to a design feature or incompatible uses (Impact 4.16-4).

Description of Specific Impact:

Well development (which includes well stimulation activities), would continue to require the delivery of heavy construction equipment using area roadways. The use of oversized vehicles during construction can create a hazard to the public by limiting motorist views on roadways and by the obstruction of space and, therefore, could have a significant impact. The introduction of construction-related traffic would have the potential to increase accident rates and could result in significant impacts; however, with the implementation of MM 4.16-2, as discussed above, would also require this information be provided in the Construction Traffic Control Plan for Kern County approval and would reduce this potential impact to less than significant level.

Finding:

Without mitigation, the Project has the potential to substantially increase hazards due to a design feature or incompatible uses. These impact will be reduced to a level that is less than significant through implementation of mitigation measures.

Brief Explanation of the Rationale for the Finding:

CEQA requires that all feasible and reasonable mitigation be applied to reduce the Project's potential to substantially increase hazards due to a design feature or incompatible uses. The incorporation of the Mitigation Measure 4.16-2, described above, will reduce this impact to a level that is less than significant.

Significant Effect:

Without mitigation, the Project has the potential to result in inadequate emergency access (Impact 4.16-5).
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Description of Specific Impact:

Increased Project-related traffic could cause a significant increase in congestion or affect the existing and future LOS on roads, which could indirectly affect emergency access. While the Project is not expected to require closures of public roads, which could inhibit access by emergency vehicles, during well development, heavy construction-related traffic could interfere with emergency response or emergency evacuation procedures in the event of an emergency, such as a wildfire or a chemical spill. Heavy construction-related traffic could also interfere with emergency response to other NOG-related uses in the vicinity and, therefore, could represent a significant impact.

Finding:

Without mitigation, the Project has the potential to result in inadequate emergency access. This impact will be reduced to a level that is less than significant by incorporation of mitigation measures, as described below.

Brief Explanation of the Rationale for the Finding:

CEQA requires that all feasible and reasonable mitigation be applied to reduce the Project's potential to result in inadequate emergency access. Mitigation Measure MM 4.16-2 will be incorporated into the Project to reduce this impact to a level that is less than significant.

Significant Effect:

Without mitigation, the Project has the potential to conflict with adopted policies, plans or programs regarding public transit, bicycle, or pedestrian facilities, or otherwise decrease the performance or safety of such facilities (Impact 4.16-6).

Description of Specific Impact:

Kern County operates KRT, which operates daily bus routes within the unincorporated communities of Buttonwillow, Lamont, Kern River Valley, Frazier Park, Rosamond, and Mojave. In western Kern County, bus routes connect Bakersfield to various cities including Delano, Wasco, Taft, Lebec, and Frazier Park (KRT 2014). KRT also provides inter-city service between Delano/McFarland/Wasco/Shafter/ Bakersfield, Lamont/Bakersfield, Lake Isabella/Bakersfield, Frazier Park/Bakersfield, California City/Mojave/Rosamond/Lancaster/Palmdale, Lost Hills/Bakersfield, and Taft/Bakersfield. To ensure Project-related traffic would not impact roadways utilized by the KRT, MM 4.16-2 requires that a Construction Traffic Control Plan be prepared, these mitigation measures would ensure that Project-related traffic does not impact KRT operations.

Finding:

Without mitigation, the Project has the potential to conflict with adopted policies, plans or programs supporting alternative transportation. These impacts will be reduced to a level that is less than significant through implementation of the mitigation measures described below.
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Brief Explanation of the Rationale for the Finding:

CEQA requires that all feasible and reasonable mitigation be applied to reduce the Project’s potential to conflict with adopted policies, plans or programs supporting alternative transportation. Mitigation Measure **MM 4.16-2**, described above, will be incorporated into the Project to reduce this impact to a level that is less than significant.

C. Environmental Effects of the Project That Cannot Be Mitigated to a Level Less Than Significant.

None.


**Significant Effect:**

Without mitigation, the Project has the potential to contribute to cumulative transportation and traffic impacts (Impact 4.16-7).

**Description of Specific Impact:**

The addition of Project-related traffic contributes to 34 of the 101 intersections that operate below acceptable LOS (LOS E or below for intersections located within the non-metropolitan region of Kern County and LOS D or below for intersections located within the Bakersfield and Kern County metropolitan areas and for Caltrans facilities, as stated in the Traffic Study) under Year 2035 conditions (Table 4.16-18). This impact would be significant.

The addition of Project-related traffic contributes to 99 of the 462 roadway segments that operate below acceptable LOS (LOS E or below for roadways located within the non-metropolitan region of Kern County and LOS D or below for roadways located within the Bakersfield and Kern County metropolitan areas and for Caltrans facilities) under Year 2035 conditions (see Table 4.16-19) (Appendix W). This impact would be significant.

**Finding:**

Without mitigation, the Project has the potential to make a considerable contribution to cumulative transportation and traffic impacts. These impacts will be reduced to a less than significant level by implementation of the mitigation measures described below.

**Brief Explanation of the Rationale for the Finding:**

CEQA requires that all feasible and reasonable mitigation be applied to reduce the Project’s potential to make a considerable contribution to cumulative transportation and traffic impacts. Mitigation Measures **MM 4.16-1** and **MM 4.16-2**, as described above, will be incorporated into the Project to reduce this cumulative impact to a level that is less than significant.

E. Cumulative Environmental Effects of the Proposed Project That Will Have a Significant Impact on the Environment.

None.
17. UTILITIES AND SERVICE SYSTEMS.


None.

B. Environmental Effects of the Project That Are Potentially Significant, but That Can Be Mitigated to Less Than Significant Levels.

**Significant Effect:**

Without mitigation, the Project has the potential to exceed wastewater treatment requirements of the applicable regional water quality control board (Impact 4.17-1).

**Description of Specific Impact:**

About 97.4% of the Project Area consists of Tier 1 lands, in which oil and gas activities are the predominant land use, or Tier 2 lands, where agriculture is the predominant use. Of the 97.4% of the Project Area in Tier 1 and Tier 2 lands, 10.1% of the Project Area is located in Tier 1, and 87.3% is located in Tier 2. The remaining 2.6% is found in Tier 3, 4, and 5 lands. In addition, 97% of the projected annual disturbance of up to 4,856 acres would occur in Tier 1 (4,400 acres) or Tier 2 (298 acres) areas. Urban-scale constructed wastewater treatment facilities that are subject to CVRWQCB wastewater treatment requirements would not be significantly affected by Project activity because the majority of activity would not occur where these types of facilities are present.

The majority of wastewater produced by oil and gas activities associated with the implementation of the Project is produced water and well stimulation flowback water, which would likely be either disposed of via Class II Underground Injection Control (UIC) injection wells, percolation and evaporation ponds (aka wastewater disposal ponds), and sumps. Wastewater would not be delivered directly to a municipal wastewater treatment facility. Therefore, these disposal methods would not impact municipal wastewater treatment facilities.

Potential impacts could occur associated with wastewater treatment requirements that may be adopted by the CVRWQCB for other oil and gas-related activities are discussed in EIR Section 4.9, Hydrology and Water Quality, including Impact 4.9-1 (Violate any water quality standards or waste discharge requirements). Potential impacts related to CVRWQCB wastewater treatment requirements analyzed in EIR Section 4.9 include: stormwater and runoff impacts; surface or subsurface discharges during well construction and operation; produced water reuse and disposal (including enhanced oil recovery activities, agricultural irrigation, disposal in evaporation and percolation ponds, and disposal in injection wells); and well stimulation activities. These could result in significant impacts, but would be mitigated through the implementation of the stormwater mitigation measures in EIR Section 4.9, Hydrology and Water Quality, which require compliance with all applicable water quality protection laws and regulations, including stormwater management laws and regulations.

In addition, as discussed in the EIR Section 4.13, Population and Housing, no population or employment growth is anticipated as part of the of the Project beyond the continued gradual growth attributed to the region as a whole (and not attributable to any particular industry sector) by the Kern County of Governments (COG) Regional Transportation Plan (RTP)/Sustainable
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Communities Strategy (SCS) EIR projections. Therefore, Project-related employment would not lead to sanitary wastewater generation that would exceed wastewater treatment requirements, and impacts would be less than significant.

Finding:

Without mitigation, the Project has the potential to exceed wastewater treatment requirements of the applicable regional water quality control board. This impact would be reduced to a less than significant level through implementation of mitigation measures, as discussed below.

Brief Explanation of the Rationale for the Finding:

CEQA requires that all feasible and reasonable mitigation be applied to reduce the Project’s potential to exceed wastewater treatment requirements of the applicable regional water quality control board. The stormwater mitigation measures described in section II(9) of these findings related to Hydrology and Water Quality, will be incorporated into the Project to reduce this cumulative impact to a level that is less than significant.

Significant Effect:

Without mitigation, the Project has the potential to require or result in the construction of new water or wastewater treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects (Impact 4.17-2).

Description of Specific Impact:

Future oil and gas exploration and production activities and related Project facilities could, depending on their location relative to existing oil and gas infrastructure, require construction/expansion of a septic system and leach line. While sanitary wastewater generation is not anticipated to be significant, new and/or expanded non-municipal wastewater treatment facilities could be required. While all applicable local, state, and federal requirements and Best Management Practices (BMPs) would be incorporated into construction of all Project-related facilities, a new or expanded septic system and leach line could result in significant impacts to the environment (with respect to surface water, groundwater, and vegetation).

Finding:

Without mitigation, the Project has the potential to require or result in the construction of new wastewater treatment facilities, the construction of which could cause significant environmental effects. These impacts will be reduced to a level that is less than significant by implementation of the mitigation measure described below.

Brief Explanation of the Rationale for the Finding:

CEQA requires that all feasible and reasonable mitigation be applied to reduce the Project’s potential to require or result in the construction of new water or wastewater treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects. The following mitigation measure will be incorporated into the Project to reduce this impact to a level that is less than significant:
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MM 4.17-1 Prior to the issuance of building permits for an operations and maintenance building, the method of sewage disposal shall be as required and approved by the Kern County Public Health Services Department. Compliance with this requirement will necessitate that the Project proponent obtain the necessary approvals for the design of the septic system from the Kern County Department of Public Works. The septic system disposal field shall be located a minimum of 100 feet from a classified stream or 25 feet from a non-classified stream and shall not be located where it would impact State wetlands or special-status plant species.

Significant Effect:

Without mitigation, the Project has the potential to require or result in the construction of new stormwater drainage facilities or expansion of existing facilities, the construction of which could cause significant environmental effects (Impact 4.17-3).

Description of Specific Impact:

About 97.4% of the Project Area consists of Tier 1 and Tier 2 lands. Tier 1 lands, in which oil and gas activities are the predominant land use, represent 10.1% of the Project Area, while Tier 2 lands, where agriculture is the predominant use, represent 87.3% of the Project Area. In addition, 97% of the projected annual disturbance of up to 4,856 acres would occur in Tier 1 (4,400 acres) or Tier 2 (298 acres) areas. Urban-scale constructed stormwater drainage systems occur, to a limited extent, in Tier 1 and Tier 2 areas. Potential Project-related development in Tiers 3, 4, and 5 could produce runoff to existing or planned regional or constructed stormwater drainage systems. The extent of the potential new development would affect, at most, 0.3% of the acreage in Tiers 3, 4, and 5, per year, and would not generate new sources of runoff that could significantly impact existing or planned wastewater treatment systems in these locations.

Stormwater drainage would be managed by site-specific stormwater and runoff management measures. Oil and gas operations that are located in close proximity with or on sites that are hydrologically connected to waters of the United States are generally subject to the requirements of the Construction General Permit and Industrial General Permit adopted by the SWRCB unless otherwise subject to exemption or waiver. These permits require strict compliance with water quality standards through the implementation of BMPs and other measures. The American Petroleum Institute (API) and other sources of applicable industry engineering standards publish and regularly update oil and gas industry standards and criteria for stormwater and runoff management. Stormwater mitigation measures described in EIR Section 4.9, Hydrology and Water Quality, require compliance with all applicable federal, state, regional, and local agency water quality protection laws and regulations, and commonly utilized industry standards, including (where applicable) obtaining coverage under the stormwater construction general permit and industrial general permit issued by the SWRCB and complying with industry stormwater management standards for construction and operational activities. In addition, they require that any oil and gas applicant not subject to state or federal stormwater management laws, regulations or general permits, must implement a drainage plan as specified in the Kern County Grading. These measures ensure that all sites subject to the Project’s Chapter 19.98 conformity review process will implement stormwater drainage control measures that meet applicable water quality and other legal requirements. The conservative disturbance factors used in the EIR account for all activities, including stormwater management measure implementation, related to oil and gas activities subject to the Project’s Chapter 19.98 conformity review process. Therefore,
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with the implementation of the stormwater mitigation measures in Section 4.9, Hydrology and Water Quality, would further ensure that impact would be less than significant.

Finding:

Without mitigation, the Project has the potential to require or result in the construction of new stormwater drainage facilities or expansion of existing facilities, the construction of which could cause significant environmental effects. This impact will be reduced to a less than significant level through implementation of the mitigation measures discussed below.

Brief Explanation of the Rationale for the Finding:

CEQA requires that all feasible and reasonable mitigation be applied to reduce the Project’s potential to require or result in the construction of new stormwater drainage facilities or expansion of existing facilities, the construction of which could cause significant environmental effects. The stormwater mitigation measures described in section II(9) of these findings related to Hydrology and Water Quality, will be incorporated into the Project to reduce this cumulative impact to a level that is less than significant.

Significant Effect:

Without mitigation, the Project has the potential to result in a determination by the wastewater treatment provider that serves or may serve the Project 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 (Impact 4.17-5).

Description of Specific Impact:

Almost all oil and gas activities in the Project Area would occur in locations that are not served by, or planned to be served by, constructed, municipal, or regional wastewater treatment facilities. Potential impacts related to the capacity of a wastewater treatment provider to meet Project-related demands would be less than significant. Potential impacts related to produced water and other wastewater treatment and disposal will be less than significant with mitigation. Potential impacts related to onsite domestic wastewater treatment will be mitigated to less than significant levels by requiring the installation of septic systems where applicable in compliance with Kern County standards. No population or employment growth is anticipated as part of the Project beyond the continued gradual growth attributed to the region as a whole. Therefore, Project-related sanitary wastewater generation would not exceed the capacity of wastewater treatment providers, and impacts would be less than significant.

Finding:

Without mitigation, the Project has the potential to result in a determination by the wastewater treatment provider that serves or may serve the Project 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. This Project will incorporate mitigation measures that will reduce this potential impact to a less than significant level.
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Brief Explanation of the Rationale for the Finding:

CEQA requires that all feasible and reasonable mitigation be applied to reduce the Project’s potential to result in a determination by the wastewater treatment provider that serves or may serve the Project 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. Mitigation Measure MM 4.17-1 will be incorporated into the Project to reduce this potential impact to a less than significant level.

Significant Effect:

Without mitigation, the Project has the potential to be served by a landfill with insufficient permitted capacity to accommodate the Project’s solid waste disposal needs (Impact 4.17-6).

Description of Specific Impact:

The Project would generate solid waste during construction and operations. Several landfills within the County have the availability capacity to accommodate the solid waste anticipated to be generated by the Project through and beyond 2035, and as discussed above much of the solid waste that would be generated by oil and gas activities would be managed onsite. Therefore, the Project would not be expected to significantly impact Kern County landfills. Nevertheless, mitigation is required to ensure compliance with policies to reduce waste sent to landfills.

Finding:

Without mitigation, the Project has the potential to be served by a landfill with insufficient permitted capacity to accommodate the Project’s solid waste disposal needs. The Project will incorporate mitigation measures, as described below, to reduce this potential impact to a less than significant level.

Brief Explanation of the Rationale for the Finding:

CEQA requires that all feasible and reasonable mitigation be applied to reduce the Project’s potential to be served by a landfill with insufficient permitted capacity to accommodate the Project’s solid waste disposal needs. Mitigation Measures MM 4.17-2, MM 4.17-3 and MM 4.17-5, described below, will be incorporated into the Project to reduce this impact to a level that is less than significant:

**MM 4.17-2** Applicant shall increase the re-use of produced water, and reduce its use of municipal and industrial-quality ground or surface water use to the extent feasible. By the end of 2016, the Applicants shall work with the County to review water use data submitted to Division of Oil Gas and Geothermal Resources under Senate Bill 1281 and identify the five biggest oil industry users of municipal and industrial water by volume. The five biggest oil industry users of municipal and industrial water shall work together to develop and implement a plan identifying new measures to reduce municipal and industrial water use by 2020. The plan shall address the following activities, as appropriate: steam generation; drilling and completions (including hydraulic fracturing); dust control; compaction activities related to construction; and landscaping. Through the KernFLOWS initiative or other efforts (e.g., Groundwater Sustainability Agency), the five biggest oil industry users of municipal-and-industrial water shall also work with
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local agricultural producers and water districts to identify new opportunities to increase the use of produced water for agricultural irrigation and other activities, as appropriate. Any produced water treated and used for agricultural irrigation or other activities shall be tested and monitored to assure compliance with applicable standards for such agricultural irrigation or other uses.

**MM 4.17-3**

In the County’s required participation for the formulation of a Groundwater Sustainability Agency, the Applicant shall work with the County to integrate into the Groundwater Sustainability Plan for the Tulare Lake-Kern Basin, best practices from the oil and gas industry to encourage the re-use of produced water from oil and gas activities, and (with appropriate treatment) to produce new water supplies for other uses such as agricultural irrigation and groundwater recharge. The produced water re-use goal is 30,000 acre-feet per year, which would offset more than the current use of imported water and groundwater from non-oil bearing zones by the oil and gas industry.

**MM 4.17-5**

During construction activities for Project facilities, the Applicant shall not store construction waste onsite for longer than the duration of the construction activity, or transport any waste to any unpermitted facilities. The Applicant shall also reduce construction waste transported to landfills by recycling solid waste construction materials, such as taking materials to recycling and reuse locations listed in the brochure on recycling construction and demolition materials available on the Kern County Waste Management Department website.

**Significant Effect:**

Without mitigation, the Project has the potential to fail to comply with federal, state, and local solid waste statutes and regulations (Impact 4.17-7).

**Description of Specific Impact:**

The Project would generate solid waste during construction and operations. The 1989 California Integrated Waste Management Act (AB 939) requires Kern County to attain specific waste diversion goals. In addition, the California Solid Waste Reuse and Recycling Access Act of 1991, as amended, requires expanded or new development projects to incorporate storage areas for recycling bins into the Project design. AB 341 requires additional solid waste recycling by 2020. Implementation of mitigation will ensure compliance with policies to reduce waste sent to landfills.

**Finding:**

Without mitigation, the Project has the potential to fail to comply with federal, state, and local solid waste statutes and regulations. This impact will reduced to a less than significant level through implementation of mitigation measures, as described below.

**Brief Explanation of the Rationale for the Finding:**

CEQA requires that all feasible and reasonable mitigation be applied to reduce the Project’s potential to fail to comply with federal, state, and local solid waste statutes and regulations. Mitigation Measure MM 4.17-5, described above, will be incorporated into the Project to reduce this impact to a level that is less than significant.
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C. Environmental Effects of the Project That Cannot Be Mitigated to a Level Less Than Significant.

Significant Effect:

The Project will not have sufficient water supplies available to serve Project demand from existing entitlements and resources, or new or expanded entitlements would be needed (Impact 4.17-4).

Description of Specific Impact:

Based on the potential development of up to 2,697 new production wells per year, oil and gas exploration and production demand for produced water and M&I water would increase from existing levels. Oil and gas demand for produced water is projected to increase by 32,600 AFY, and M&I demand is projected to increase by about 2,982 AFY from 2012 levels by 2035. Produced water demand for agricultural reuse is projected to be 32,771 AFY. Oil and gas exploration and production activities currently generate sufficient produced water to meet existing and future demands for produced water. With respect to the Project’s demand for M&I water, however, current drought conditions have severely restricted the availability of imported and local surface supplies throughout California, including the Project Area, and groundwater is being used more heavily to meet Project Area demand, including for oil and gas activities. Surplus M&I-quality water is not available in the Project Area. Any new use reduces the availability of M&I-quality water to another Project Area user, or increases the regional groundwater overdraft if supply shortfalls are addressed by increased groundwater extraction. Consequently, existing entitlements and resources are insufficient to meet current and projected future M&I water demand in the Project Area. Increasing M&I water demand under overdraft conditions is considered to be a significant impact.

Finding:

The Project could cause significant impacts to existing water supply entitlements and resources. This impact will be reduced with implementation of the feasible mitigation measures described below, but such measures cannot reduce this impact to a less than significant level. Project impacts to water supplies would be significant and unavoidable.

Brief Explanation of the Rationale for the Finding:

CEQA requires that all feasible and reasonable mitigation be applied to reduce the Project’s potential to cause significant impacts to existing water supply entitlements and resources. Mitigation Measures MM 4.17-2 and MM 4.17-3, described above, and MM 4.17-4, described below, will be incorporated into the Project to reduce its water supply impacts, but the allocation of water supplies and water demands, the complex laws affecting water rights, the many water districts that have legal jurisdiction over one or more sources of water in the Project Area, the varied technical feasibility of treating produced water, and the produced water reuse opportunities, all present complex variables that fall outside the scope of the County’s jurisdiction or control under CEQA. The County concludes that other agencies can and should cooperate in water management planning and implementation actions under the Sustainable Groundwater Management Act and other applicable laws to improve the quantity and reliability of water supplies in the Project Area. Because of significant ongoing regional uncertainties regarding water supplies, and the need for agencies other than Kern County to take action to improve
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management of regional water supplies to meet existing and reasonable foreseeable demand, Project impacts to water supplies would remain significant and unavoidable.

MM 4.17-4 The Applicant shall work with the County on the Groundwater Sustainability Plan to increase Applicant use of reclaimed water and reduce the Applicant’s use of municipal-and-industrial quality imported surface water or groundwater. The Applicant will provide copies of water use reports produced under SB 1281 to the Groundwater Management Agency, which will then integrate this information into the Groundwater Sustainability Plan required under the Sustainable Groundwater Management Act.


None.

E. Cumulative Environmental Effects of the Proposed Project That Will Have a Significant Impact on the Environment.

Significant Effect:

The Project will make a considerable contribution to cumulative impacts on utilities and sewer systems (Impact 4.17-8).

Description of Specific Impact:

Significant cumulative impacts to public services would occur if the cumulative projects would overburden the public service agencies and if utility providers were unable to provide adequate services. The cumulative projects would substantially increase the demand for public service providers and utility servers. The Project would not increase the demand for municipal wastewater treatment, stormwater management, or landfills. Incorporation of the mitigation measures 4.17-1 and 4.17-5 described above would further reduce impacts from the proposed Project, in conjunction with other projects in the area, to a less than significant cumulative level for public utilities use, except water supply.

Future growth will increase water demand in the Project Area by 2035 in average, dry, and multiple dry year conditions, even assuming groundwater extractions remain at historic levels and are not limited to comply with the state’s new GSP requirements. The Central Subarea has a supply deficit in average years ranging from -681,596 AF in 2015 to -717,682 in 2035. Surpluses in the Eastern Subarea, generally associated with the availability of diverted water from the Kern River, and smaller average year surpluses in the Western Subarea slightly exceed the supply deficits in the Central Subarea. Under single dry year conditions, Project Area supply deficits in single dry years would range from -750,710 AF in 2015 to -817,127 AF in 2035. Under multiple dry year conditions, Project Area supply deficits in multiple dry years would range from -315,626 AF in 2015 to -383,042 AF in 2035.

Oil and gas demand for M&I water is also projected to increase by about 2,982 AFY from 2012 levels by 2035. Surplus M&I-quality water is not available in the Project Area. Any new use reduces the availability of M&I-quality water to another Project Area user, or increases the regional groundwater overdraft if supply shortfalls are addressed by increased groundwater extraction. Consequently, existing entitlements and resources are insufficient to meet the current
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and projected future M&I water demand in the Project Area, and increasing M&I water demand under overdraft conditions would contribute to a significant cumulative water supply impact in the Project Area.

Finding:

The Project has the potential to make a considerable contribution to cumulative impacts on utilities and sewer systems, specifically with respect to water supplies. This impact will be reduced with implementation of the feasible mitigation measures described below, but such measures cannot reduce this impact to a less than significant level with respect to water supplies. The Project’s cumulative impact to water supplies would be significant and unavoidable.

Brief Explanation of the Rationale for the Finding:

CEQA requires that all feasible and reasonable mitigation be applied to reduce the Project’s potential to make a considerable contribution to cumulative impacts on utilities and sewer systems. Mitigation Measures MM 4.17-1 through MM 4.17-5, described above, will be incorporated into the Project to reduce its cumulative water supply impacts, but the allocation of water supplies and water demands, the complex laws affecting water rights, the many water districts that have legal jurisdiction over one or more sources of water in the Project Area, the varied technical feasibility of treating produced water, and the produced water reuse opportunities, all present complex variables that fall outside the scope of the County’s jurisdiction or control under CEQA. The County concludes that other agencies can and should cooperate in water management planning and implementation actions under the Sustainable Groundwater Management Act and other applicable laws to improve the quantity and reliability of water supplies in the Project Area. Because of significant ongoing regional uncertainties regarding water supplies, and the need for agencies other than Kern County to take action to improve management of regional water supplies to meet existing and reasonable foreseeable demand, cumulative impacts to water supplies would remain significant and unavoidable.

SECTION III FINDINGS REGARDING GROWTH INDUCING IMPACTS

The KCGP recognizes that certain forms of growth are beneficial, both economically and socially. Section 15126.2(d) of the CEQA Guidelines provides the following guidance on growth-inducing impacts: a project is identified as growth inducing if it “could foster economic or population growth, or the construction of additional housing, either directly or indirectly, in the surrounding environment.”

Growth inducement can be a result of new development that requires an increase in employment, removes barriers to development, or provides resources that lead to secondary growth. With respect to employment, 16,752 workers in Kern County were employed in the oil and gas extraction industry in 2012. Of this total, 14,067 were estimated to be “oilfield” employees. Future oil and gas exploration and production activities that would be authorized under the proposed Amendment to Chapter 19.98 (Oil & Gas Production) of the Kern County Zoning Ordinance would result in 2,697 new production wells being drilled annually, while 2,231 wells would be plugged and abandoned. Additionally, it is anticipated that 1,200 wells would receive some type of well stimulation treatment during this same timeframe. Given the long history of oil and gas development within Kern County, implementation of the Project would not result in a large increase in employment that would significantly induce growth.
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With respect to removing barriers to development, such as through providing access to previously undeveloped areas, the oil and gas development activities would involve constructing temporary and permanent access roads. Some roads may be removed and restored after initial construction; some may be reduced in size; and others may be maintained at their construction size for the life of the associated oil and gas operation. In general, these roads would provide for access to oil and gas construction and operation areas and would not provide access into other areas thereby promoting growth-inducing development. No other development would be anticipated as a result of these roads, and oil and gas development would tend to preclude other development from occurring.

While the Project would contribute to energy supply, which supports growth, the development of additional oil and gas resources is a response to increased market demand and is not a factor that induces new growth. Kern County planning documents already permit and anticipate a certain level of growth in the area of the Project and in the state as a whole, along with attendant growth in energy demand. It is this anticipated growth that drives energy-production projects and development, not vice versa. The Project would supply oil and gas to accommodate and support existing demand and projected growth, but it would not foster any new growth. Therefore, any link between the Project and growth in Kern County would be speculative.

In Kerncrest Audubon Society v. Los Angeles Department of Water and Power, the analysis of growth-inducing effects contained in the EIR for the Pine Tree Wind Development Project was challenged. Plaintiffs argued that the discussion was too cursory to provide adequate information about how additional electricity generated by the Project would sustain further growth in the Los Angeles area. The court held that the additional electricity that the Project would produce was intended to meet the current forecast of growth in the Los Angeles area. As such, the wind development project would not cause growth, and so it was not reasonable to require a detailed analysis of growth-inducing impacts. In addition, EIRs for similar energy projects have contained similarly detailed analyses of growth-inducing impacts. Their conclusions that increasing the energy supply would not create growth have been upheld, because: (1) the additional energy would be used to ease the burdens of meeting existing energy demands within and beyond the area of the Project; (2) the energy would be used to support already-projected growth; or (3) the factors affecting growth are so multifarious that any potential connection between additional energy production and growth would necessarily be too speculative and tenuous to merit extensive analysis. Thus, as has been upheld in the courts, this level of analysis is sufficient to inform the public and decision makers of the growth-inducing impacts of the Project.

For the reasons set forth above, the County finds that the Project would not directly or indirectly induce population or economic growth.

SECTION V STATEMENT OF OVERRIDING CONSIDERATIONS

According to Section 15355 of the CEQA Guidelines, the term cumulative impacts "refers to two or more individual effects which, when considered together, are considerable or which compound or increase other environmental impacts." Individual effects that may contribute to a cumulative impact may be from a single project or a number of separate projects. Individually, the impacts of a project may be relatively minor, but when considered along with impacts of other closely related or nearby projects, including newly proposed projects, the effects could be cumulatively considerable.
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As discussed above, the County has considered the potential cumulative effects of the proposed Project and found that Project impacts for the following issue areas have been found to be cumulatively considerable:

- Aesthetics;
- Agriculture and Forest Resources;
- Air Quality;
- Biological Resources;
- Cultural Resources;
- Greenhouse Gases (GHGs);
- Hydrology and Water Quality; and
- Utilities and Services (Water Supply).

When an agency approves a project with significant environmental effects that will not be avoided or substantially lessened, in must adopt a “statement of overriding considerations” explaining that, because of the project’s overriding benefits, the agency is approving the project despite its environmental harm. (14 Cal. Code Regs. § 15043.) The County’s statement of overriding considerations for the Project is as follows:

The California Environmental Quality Act (CEQA) requires a public agency to balance the benefits of a proposed project against its significant unavoidable adverse impacts in determining whether to approve a project. The Amendment to Title 19.98 and related provisions of the Kern County Zoning Ordinance (the Project) will result in environmental effects, which, although mitigated to the extent feasible by the implementation of mitigation measures required for the Project, will remain significant and unavoidable, as discussed in the Final Environmental Impact Report (EIR) and CEQA Findings of Fact. These impacts are summarized below and constitute those impacts for which this Statement of Overriding Considerations is made.

1. Although implementation of mitigation measures would reduce the adverse visual changes experienced at individual key observation point locations, there are no mitigation measures that would preserve the existing character and quality of the Project Area and its surroundings. Project-related oil and gas activities would continue to produce visible changes to the existing environment and the resultant visual impact is considered significant and unavoidable. The Project has the potential to create a new source of substantial light or glare that would adversely affect day or nighttime views in the area. After implementation of MM 4.1-6, this impact would remain significant and unavoidable.

2. The oil and gas industry has a visible presence on the landscape of the San Joaquin Valley Floor and, the Project in combination with the implementation of other reasonably foreseeable oil and gas projects will continue to result in adverse visible changes within Kern County. Therefore, the Project’s cumulative contribution after implementation of the recommended mitigation measures would remain cumulatively significant and unavoidable as a result of these changes in visual character and quality.

3. The Project would continue to generate odors. With implementation of MM 4.3-7, impacts would still be significant and unavoidable.
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4. The construction and operational activities of oil and gas activities that would be authorized under the Project would result in an increase of criteria pollutants (oxides of nitrogen [NOx], volatile organic compounds [VOC], carbon monoxide [CO], particulate matter less than 10 microns and less than 2.5 microns in diameter [PM10 and PM2.5, respectively]) in excess of the recommended criteria pollutant significance threshold adopted by the SJVAPCD Board. Emission sources in Kern County contribute between 11% and 21% of criteria pollutant emissions in the San Joaquin Valley Air Basin. The Project would contribute between 2% and 14% of these pollutants in the San Joaquin Valley Air Basin or between 19% and 97% of Kern County’s contribution. This analysis indicates that most sulfur dioxide (SO2) emissions in Kern County would originate from oil and gas activities and the majority of NOX emissions. Therefore, the proposed Project would have a cumulatively considerable contribution of criteria pollutant (NOX, PM10, PM2.5, CO and SO2) emissions to the Kern County portion of the SJVAB.

5. The geographic scope for cumulative impacts to agricultural and forest resources encompasses the whole of Kern County. The oil and gas exploration and production activities that would be authorized through implementation of the proposed Project along with projected population growth could result in significant and unavoidable cumulative impacts on farmland conversion.

6. Future oil and gas exploration and production activities related to the proposed Zoning Ordinance amendment could contribute to a significant cumulative impact on Project Area biological resources because future use and development of federal, state, and incorporated urban lands are not within the County’s jurisdiction or control. Future land uses and development could affect biological resources in each of these jurisdictions and would be undertaken as independent actions with associated impacts, avoidance and minimization requirements, and mitigation, if required, under applicable federal, state, regional and local agency law. Impacts would remain significant and unavoidable with mitigation.

7. While implementation of MM 4.5-1 through MM 4.5-5 would reduce Project impacts to a less than significant level, cumulative impacts to cultural and paleontological resources within and beyond the boundaries of the Project Areas (including on lands within incorporated cities and on lands owned by other government agencies) would be significant. The County lacks the jurisdiction and control over these other jurisdictions and thus cannot enforce cultural and paleontological resource mitigation measures to reduce cumulative cultural and paleontological impacts to a less than significant level.

8. The Project has the potential to conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases. With the implementation of MM 4.7-5, the impact would remain significant and unavoidable.

9. The geographic scope for cumulative impacts for GHGs includes the area within 6 miles of the external Project Area boundary, and areas (e.g., incorporated cities) within the Project Area. Climate change impacts are inherently global and cumulative, and not Project specific. While implementation of MM 4.7-1 through MM 4.7-3 and the 2014 Regional Transportation Plan mitigation measures would encourage reduction in GHG emissions at a regional level, they do not provide a mechanism that guarantees GHG emission reductions on a cumulative basis. The Project’s cumulative contribution after implementation of the recommended mitigation measures would remain cumulatively significant and unavoidable as a result of the GHG emissions associated with the Project.
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10. Although MM 4.17-2 through MM 4.17-4 would encourage the additional reuse of produced water, the extent to which oilfield operators can increase produced water reuse and decrease municipal and industrial demand is uncertain. As a result, potential impacts to groundwater levels and aquifer volumes would be significant and unavoidable with mitigation.

11. Project hydrology and water quality impacts could be cumulatively considerable impacts and thus considered significant. Implementation of MM 4.9-1 through MM 4.9-6 would reduce potential cumulative impacts to water quality, erosion risks, flooding and other hydrologic resources to less than significant with mitigation. Although MM 4.17-2 through MM 4.17-4 encourage the additional reuse of produced water, the extent to which oilfield operators can increase produced water reuse and decrease municipal and industrial demand is uncertain. As a result, cumulative impacts to groundwater would be significant and unavoidable. The County lacks jurisdiction and control over land conversions, and actions or approvals by other agencies that may cause cumulatively significant impacts to hydrology or water quality in the region; accordingly, this impact remains significant and unavoidable.

12. Implementation of MM 4.17-2 to MM 4.17-4 could reduce water supply impacts, but the allocation of water supplies and water demands, the complex laws affecting water rights, the many water districts that have legal jurisdiction over one or more sources of water in the Project Area, the varied technical feasibility of treating produced water, and the produced water reuse opportunities all present complex variables that fall outside the scope of the County’s jurisdiction or control under CEQA. Although mitigation measures would reduce Project water supply impacts, such impacts would remain significant and unavoidable after mitigation.

13. The geographic scope for cumulative impacts to utilities and service systems includes the area within 6 miles of the external Project Area. Cumulative impacts would be significant and unavoidable with respect to water supply, even with implementation of MM 4.17-1 through MM 4.17-5.

Findings:

The Board of Supervisors finds and determines in approving the Project that the Final EIR has considered the identified means of lessening or avoiding the Project’s significant effects and that to the extent any significant direct or indirect environmental effects, including cumulative project impacts, remain unavoidable or not mitigated to below a level of significance after mitigation, such impacts are at an acceptable level in light of the social, legal, economic, environmental, technological and other project benefits discussed below, and such benefits override, outweigh, and make “acceptable” any such remaining environmental impacts of the project (CEQA Guidelines Section 15092(b)).

The following benefits and considerations outweigh such significant and unavoidable adverse environmental impacts. All of these benefits and considerations are based on the facts set forth in the Findings, the Final EIR, and the record of proceedings for the Project. Each of these benefits and considerations is a separate and independent basis that justifies approval of the Project, so that if a court were to set aside the determination that any particular benefit or consideration will occur and justifies project approval, this Board of Supervisors determines that it would stand by its determination that the remaining benefit(s) or consideration(s) is or are sufficient to warrant project approval.
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Facts:

Each benefit set forth below constitutes an overriding consideration warranting approval of the Project, independent of the other benefits, and the Board of Supervisors determines that the adverse environmental impacts of the Project are “acceptable” if any one of these benefits will be realized.

The benefits set forth below are more fully outlined in the Final EIR and in the attached independent report entitled The Economic Contribution of the Oil and Gas Industry in Kern County.

The Project will provide benefits to Kern County as follows:

1. General Economic and Community Benefits of the Project to the County

Below are a few examples of how oil and gas companies contribute to the community and benefit the local economy. The Project, by spurring continued oil and gas activity in the County, ensures these benefits will persist.

Kern is the leading oil-producing county in the nation, yielding 145 million bbl of oil and 132 billion CF of gas annually, according to 2014 DOGGR data:

These amounts represent 71% of California’s oil production and 10% of the total U.S. oil production. Kern County produces 66% of the state’s total gas production. The oil and gas industry is the number-one industry in Kern County in terms of gross domestic product and tax contributions. The industry generates significant regional economic activity. Extraction, production, refining, and petroleum product manufacturing result in highly tradable products that are consumed domestically and are also exported. These efforts produce high revenues, create high wage jobs, and contribute significant tax revenue to all levels of government. The impact of the oil and gas industry is very far-reaching. The approximately $3.8 billion paid in 2013 to local...
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oil and gas employees creates a significant “ripple effect” phenomenon in the local economy. Direct activity includes the materials purchased and the employees hired by the industry itself. Indirect effects are those which stem from the employment and business revenues motivated by the purchases made by the industry and any of its suppliers. Increased output generates new money in the community, resulting in increased spending on new homes, durable goods such as cars and appliances, plus additional spending on restaurants and entertainment options.
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There is also a correlation between rising oil prices and regional economic growth. Seventy of GDP growth over the period 2001-2013 could be directly attributed to rising oil prices:

**Change in Kern Oil Prices vs. Kern GDP Growth, 2001-2013**

Local employment increases / decreases are associated with shifts in oil prices:

**Kern County O&G Industry Employment vs. Kern Oil Prices, 2001-2014**

Kern County's oil and gas industry also significantly impacts the community through its philanthropic activity and contributions to local education efforts. More than $5.5 million was donated to more than 130 local non-profits and educational programs in 2014. Kern County's two community colleges, California State University - Bakersfield, and K-12 funding are the most frequent beneficiaries of the financial support. Social service non-profits (e.g., the Homeless Center / Alliance Against Family Violence) and health-related organizations (e.g., the American Heart Association) also rank among the top recipients.

Several science, technology, engineering and math programs were started or sustained due to oil and gas industry funding at Taft College and Bakersfield College. California State University - Bakersfield opened its new Fabrication Lab in 2014 due, in large part, to oil and gas funding. These programs, plus others like a local welding program and a hands-on research program for high school students, help prepare students for a variety of careers. An industry-funded program
EXHIBIT A

at Taft College places students in positions with local non-profit organizations; some are traditional students, and some are part of the Transition to Independent Living program which serves students with developmental / intellectual disabilities. The oil and gas funding provides wages for these students.

More than 15,000 oil and gas employee hours were volunteered for local programs in 2014, and the United Way states that oil and gas employees (plus oilfield service company employees) donated nearly $400,000 during the 2013/14 fiscal year.

2. Local Tax Revenues

As outlined in detail below, the oil and gas industry accounted for roughly 30% of the Kern County’s $100 billion in property tax valuations in 2014. Taxes paid by the oil and gas industry play a major role in the support of local infrastructure, including schools, public safety, streets and roads, and parks. The Project will advance the continued production of oil and gas resources in Kern County, thereby securing an important local tax base.

Kern County Assessed Property Values, 2014

![Graph showing assessed property values from 1981 to 2013, with a significant increase in oil and gas property values.]

Data source: Kern County, CA assessor's office
EXHIBIT A

Economic and Fiscal Contribution of the O&G Industry in Kern County, 2013

<table>
<thead>
<tr>
<th>Economic Contribution</th>
<th>Employment</th>
<th>Labor Income</th>
<th>Value Added</th>
<th>Output</th>
</tr>
</thead>
<tbody>
<tr>
<td>Direct</td>
<td>23,857</td>
<td>$2,994.2</td>
<td>$4,893.6</td>
<td>$15,153.9</td>
</tr>
<tr>
<td>Indirect</td>
<td>7,073</td>
<td>$399.1</td>
<td>$517.7</td>
<td>$955.7</td>
</tr>
<tr>
<td>Induced</td>
<td>13,615</td>
<td>$50.0</td>
<td>$957.6</td>
<td>$1,580.8</td>
</tr>
<tr>
<td><strong>Total Contribution</strong></td>
<td><strong>44,544</strong></td>
<td><strong>$3,621.4</strong></td>
<td><strong>$6,366.9</strong></td>
<td><strong>$27,689.1</strong></td>
</tr>
</tbody>
</table>

Percent of Total CA Contribution: 11.8%
Percent of County Total: 11.0%

Fiscal Contribution

<table>
<thead>
<tr>
<th></th>
<th>State and Local</th>
<th>Federal</th>
<th>Total Taxes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sales and excise taxes</td>
<td>$607.6</td>
<td>$164.7</td>
<td>$772.3</td>
</tr>
<tr>
<td>Property taxes</td>
<td>$285.6</td>
<td></td>
<td>$285.6</td>
</tr>
<tr>
<td>Personal income taxes</td>
<td>$117.2</td>
<td>$307.7</td>
<td>$424.9</td>
</tr>
<tr>
<td>Corporate profits taxes</td>
<td>$31.6</td>
<td>$125.2</td>
<td>$156.8</td>
</tr>
<tr>
<td>Social insurance taxes</td>
<td>$13.9</td>
<td>$287.9</td>
<td>$301.8</td>
</tr>
<tr>
<td>Other taxes</td>
<td>$93.6</td>
<td>$28.9</td>
<td>$122.5</td>
</tr>
<tr>
<td>Fees, fines and permits</td>
<td>$26.3</td>
<td>$7.3</td>
<td>$33.7</td>
</tr>
<tr>
<td><strong>Total Tax Revenues</strong></td>
<td><strong>$1,145.7</strong></td>
<td><strong>$1,023.8</strong></td>
<td><strong>$2,167.5</strong></td>
</tr>
</tbody>
</table>

Source: IEDC

3. Local Job Creation

Kern County's oil and gas industry is a significant source of overall employment and also a provider of high-paying jobs that require moderate-to-high skill levels (i.e., jobs in technical and engineering occupations). The Project will ensure that these important opportunities continue to be available in Kern County.

Oil and gas-related employment accounts for approximately 1 in 7 jobs in the County. Almost all segments of the industry pay higher wages than the Kern County average. In some more specialized or highly-skilled areas, wages are triple the 2014 county average of $41,100. The oil and gas industry offers higher-than-average wages in Kern County. Oil and gas extraction, consisting of highly skilled engineering and geological jobs, was the highest-paying segment with an average annual salary of nearly $143,000. The average annual salary for the entire sector was $78,000, which is nearly double the "all industries" annual average of $41,100:

Kern County Oil and Gas Industry Annual Wages, 2014

<table>
<thead>
<tr>
<th>NAICS Sub-Sector</th>
<th>Annual Establishments</th>
<th>Annual Average Direct Employment</th>
<th>Total Annual Wages</th>
<th>Annual Wages per Employee</th>
</tr>
</thead>
<tbody>
<tr>
<td>NAICS 211 Oil and gas extraction</td>
<td>36</td>
<td>3,248</td>
<td>$462,292,109</td>
<td>$13,458</td>
</tr>
<tr>
<td>NAICS 213111 Drilling oil and gas wells</td>
<td>26</td>
<td>1,864</td>
<td>$49,461,614</td>
<td>$18,323</td>
</tr>
<tr>
<td>NAICS 213112 Support activities for oil and gas operations</td>
<td>117</td>
<td>6,425</td>
<td>$503,666,507</td>
<td>$42,707</td>
</tr>
<tr>
<td>NAICS 2212 Natural Gas Distribution</td>
<td>4</td>
<td>462</td>
<td>ND</td>
<td>ND</td>
</tr>
<tr>
<td>NAICS 2371 Oil and gas pipeline construction</td>
<td>20</td>
<td>4,876</td>
<td>$266,088,395</td>
<td>$13,374</td>
</tr>
<tr>
<td>NAICS 3241 Petroleum refineries</td>
<td>26</td>
<td>949</td>
<td>$11,954,267</td>
<td>$135,380</td>
</tr>
<tr>
<td>NAICS 333132 Oil and gas field machinery and equipment mfg</td>
<td>123</td>
<td>692</td>
<td>$13,365,000</td>
<td>$107,269</td>
</tr>
<tr>
<td>NAICS 4444 Petroleum merchant wholesalers</td>
<td>28</td>
<td>375</td>
<td>$2,277,000</td>
<td>$80,942</td>
</tr>
<tr>
<td>NAICS 4471 Gasoline stations</td>
<td>199</td>
<td>2,349</td>
<td>$493,172,745</td>
<td>$24,992</td>
</tr>
<tr>
<td>NAICS 4541 Fuel dealers</td>
<td>11</td>
<td>74</td>
<td>$43,120,700</td>
<td>$3,915</td>
</tr>
<tr>
<td>NAICS 4862 Pipeline transportation</td>
<td>13</td>
<td>376</td>
<td>$3,456,168</td>
<td>$261,923</td>
</tr>
<tr>
<td><strong>Total Oil and Gas Industry</strong></td>
<td><strong>501</strong></td>
<td><strong>21,710</strong></td>
<td><strong>$1,565,307,615</strong></td>
<td><strong>$376,292</strong></td>
</tr>
<tr>
<td><strong>Total, All Industries</strong></td>
<td><strong>16,267</strong></td>
<td><strong>254,626</strong></td>
<td><strong>10,466,685,362</strong></td>
<td><strong>$41,107</strong></td>
</tr>
</tbody>
</table>
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Indirect employment opportunities at gas stations, fuel dealers, petroleum wholesale, equipment manufacturing, pipeline construction and the like, the Final EIR estimates that 16,752 workers in Kern County were employed in the oil and gas extraction industry in 2012, with the state employment office measuring a steady increase of employment from 2002 to 2012 at which time growth stabilized around 12,000.

### Oil and Gas Direct Employment in Kern County, 2013 vs. 2014

<table>
<thead>
<tr>
<th>Industry</th>
<th>2013</th>
<th>2014</th>
</tr>
</thead>
<tbody>
<tr>
<td>Support activities for oil &amp; gas</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Oil and gas pipeline construction</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Oil and gas extraction</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Gas stations</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Drilling oil and gas wells</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Petroleum refineries</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Oil and gas field machinery and equip mfg</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Natural gas distribution</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pipeline transportation</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Petro and petro prods wholesale</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Fuel dealers</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Kern County is the only county in the western region with an above average concentration of oil and gas-related jobs. Kern County is heavily concentrated in oil and gas extraction as well as in oil and gas pipeline construction.

### Counties with the Highest Relative Concentration of Employment (Location Quotient) in the Oil and Gas Extraction Industry, 2014

The oil and gas industry is one of the most impactful industry sectors on economic activity throughout the region:
EXHIBIT A

Economic Impact of O&G Expenditures and Production

<table>
<thead>
<tr>
<th>Impact per $1 million of O&amp;G Extraction Expenditures</th>
<th>Value Added</th>
<th>Gross Output</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Impacts</strong></td>
<td><strong>Jobs</strong></td>
<td><strong>Wages</strong></td>
</tr>
<tr>
<td>Direct</td>
<td>1.39</td>
<td>$134,740</td>
</tr>
<tr>
<td>Indirect</td>
<td>2.44</td>
<td>$174,982</td>
</tr>
<tr>
<td>Induced</td>
<td>2.00</td>
<td>$102,670</td>
</tr>
<tr>
<td>Total</td>
<td>5.83</td>
<td>$412,191</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Impact per $1 million O&amp;G Production</th>
<th>Value Added</th>
<th>Gross Output</th>
</tr>
</thead>
<tbody>
<tr>
<td>Direct</td>
<td>1.80</td>
<td>$133,757</td>
</tr>
<tr>
<td>Indirect</td>
<td>2.18</td>
<td>$157,460</td>
</tr>
<tr>
<td>Induced</td>
<td>1.83</td>
<td>$93,727</td>
</tr>
<tr>
<td>Total</td>
<td>5.80</td>
<td>$384,945</td>
</tr>
</tbody>
</table>

Source: Implant (CA Model)

Kern County recently ranked in the Top 10 in the U.S. in terms of upward mobility and in the overall concentration of science, technology, engineering and math jobs. A majority of Kern County’s hi-tech employment is in the oil and gas industry (an estimated 65%), where most positions require technical degrees rather than advanced degrees. Bakersfield College is ranked 6th in the nation among similar schools with regard to which schools’ graduates received “added value,” based on their mid-career earnings levels. Bakersfield College students were predicted to earn $56,957 annually based on student characteristics and college type, but their mid-career salaries surpassed that prediction, coming in at an average of $67,200 (15% higher than predicted). California State University - Bakersfield also has graduates earning $75,400 at the mid-career point, 11.6% better than the predicted $66,599. The high performance of these colleges and their graduates was due to a combination of factors, including extensive science, technology, engineering and math curriculum in the schools, and the programs’ proximity to energy employment centers.

4. Compliance with the Goals and Policies of the Kern County General Plan (General Plan) and Zoning Ordinance

The Project is consistent with various Goal and Policies of the Kern County General Plan, including:

- Protect areas of important mineral, petroleum, and agricultural resource potential for future use.
- Encourage safe and orderly energy development within the County, including research and demonstration projects, and to become actively involved in the decision and actions of other agencies as they affect energy development in Kern County.
- Support and work toward the elimination of disincentives for business and industry to prosper in Kern County, and create special economic development programs to encourage commerce and industry to locate in Kern County.
- Periodically review and update procedures for granting development approvals and permits and facilitate the processing of land use entitlements.

The General Plan Energy Element notes the importance of the oil and gas industry to Kern County. The project will further the Goals and Objectives of the General Plan by enhancing the economic stability of the oil and gas industry in the County.

5. State, Regional and Federal Tax Revenue
EXHIBIT A

In 2013, economic activity associated with the oil and gas industry in Kern County is estimated to have generated $1.15 billion in state and local tax revenue, plus $1.02 billion in federal tax revenue. The Project will foster the continued production of oil and gas resources in Kern County, thereby securing an important source of tax revenue for California, the western region and the nation.

6. Energy Independence

The Project will allow California producers to better meet current demand and to keep pace with population growth. The Project will also help California to take steps toward strengthening its energy independence, which is financially and environmentally desirable.

California is currently a net importer of oil, producing only about 37 percent of the petroleum that it uses:

Sources Supplying Crude Oil to California Refineries

Dependence on foreign oil makes the state vulnerable to energy shortages and price spikes, and makes us dependent on foreign countries for energy. In addition, Californians then miss out on critical infrastructure funding since imported oil is exempt from California taxes (while high-paying oil and gas jobs then go to foreign countries or other states). All oil and gas produced in California is used here and is produced under the most stringent regulations in the world.
SECTION VI. FINDINGS REGARDING PROJECT ALTERNATIVES

CEQA requires that the lead agency adopt mitigation measures or alternatives, where feasible, to substantially lessen or avoid significant environmental impacts that would otherwise occur. The concept of “feasibility” encompasses the question of whether a particular alternative or mitigation measure promotes the underlying goals and objectives of a project. (City of Del Mar v. City of San Diego (1982) 133 Cal.App.3d 410, 417 (City of Del Mar); Sierra Club v. County of Napa (2004) 121 Cal.App.4th 1490, 1506-1509 [court upholds CEQA findings rejecting alternatives in reliance on applicant’s project objectives]; see also California Native Plant Society v. City of Santa Cruz (2009) 177 Cal.App.4th 957, 1001 (CNPS) [“an alternative ‘may be found infeasible on the ground it is inconsistent with the project objectives as long as the finding is supported by substantial evidence in the record’”] (quoting Kostka & Zischke, Practice Under the Cal. Environmental Quality Act [Cont.Ed.Bar 2d ed. 2009] (Kostka), § 17.39, p. 825; In re Bay-Delta Programmatic Environmental Impact Report Coordinated Proceedings (2008) 43 Cal.4th 1143, 1165, 1166 (Bay-Delta) [“[i]n the CALFED program, feasibility is strongly linked to achievement of each of the primary project objectives”; “a lead agency may structure its EIR alternative analysis around a reasonable definition of underlying purpose and need not study alternatives that cannot achieve that basic goal”].) Moreover, “feasibility” under CEQA encompasses ‘desirability’ to the extent that desirability is based on a reasonable balancing of the relevant economic, environmental, social, legal, and technological factors.” (City of Del Mar, supra, 133 Cal.App.3d at p. 417; see also CNPS, supra, 177 Cal.App.4th at p. 1001 [“an alternative that ‘is impractical or undesirable from a policy standpoint’ may be rejected as infeasible”] (quoting Kostka, supra, § 17.29, p. 824); San Diego Citizenry Group v. County of San Diego (2013) 219 Cal.App.4th 1, 17.)

Were an alternatives analysis required, CEQA requires evaluations of alternatives that can reduce the significance of identified Project impacts that will not be avoided or substantially lessened by mitigation measures and can "feasibly attain most of the basic objectives of the proposed Project." Thus, overall Project objectives were considered by this County in evaluating the alternatives.

The County has defined the following objectives for the Project:

- Update the County’s Zoning Ordinance to include additional procedures and compliance standards that address changes in laws and regulations by other agencies, and technological advancements within the oil and gas industry, for the purpose of reducing or eliminating potential significant adverse environmental impacts, to the extent feasible, of future oil and gas activities, and thereby ensure that current County ordinances reflect the County’s interest in protecting the health, safety, and general welfare of residents and visitors.

- Encourage ongoing economic development by the oil and gas industry that creates quality, high paying jobs and promotes capital investment in Kern County, which enables the County to invest in capital improvement projects and social programs, which benefit County residents, retail businesses, and capital industries which ensures the County’s fiscal stability.

- Continue Kern County’s ongoing commitment to consult and cooperate with federal, state, regional, and local agencies by periodically reviewing adopted regulations to ensure the long-term viability of Kern County’s resources.
EXHIBIT A

- Continue to improve and streamline current energy regulations and increase County monitoring and involvement in state and federal energy legislation.
- Protect areas of important mineral, petroleum, and agricultural resource potential for future use by promoting sustainability and encouraging best management practices, which are mutually beneficial, through strategic short- and long-range planning.
- Ensure the protection of environmental resources by emphasizing the conservation of productive agricultural lands, the encouragement of planned urban growth, the promotion of clean air strategies to address existing air quality issues, and the promotion of long-term water conservation strategies which will ensure the quality and adequacy of surface and groundwater supplies for future growth of all of Kern County’s industries.
- Contain new development within an area large enough to meet generous projections of foreseeable need, but in locations that will not impair the economic strength derived from residential developments, agriculture, rangeland, mineral resources, or diminish the other amenities that exist in Kern County.

The Project Applicants have defined the following objectives for the Project:

- Create an effective regulatory and permitting process for oil and gas exploration and production that can be relied on by the County of Kern, as well as the California Division of Oil, Gas and Geothermal Resources and other responsible agencies.
- Achieve an efficient and streamlined environmental review and permitting process for all oil and gas operations covered by the proposed Project.
- Provide for economically feasible and environmentally responsible growth of the Kern County oil and gas industry.
- Develop industry-wide best practices, performance standards, and mitigation measures that ensure adequate protection of public health and safety and the environment.
- Increase oil and gas exploration and production in Kern County as a means of reducing California’s dependence upon foreign sources of energy.
- Increase oil and gas exploration and production in Kern County as a means of increasing employment opportunities and economic prosperity to Kern County’s residents, businesses, and local government.

The following findings and brief explanation of the rationale for the findings regarding Project alternatives identified in the EIR are set forth to comply with the requirements of Section 15091(a)(3) of the CEQA Guidelines.

The consideration of alternatives is an integral component of the CEQA process. The selection and evaluation of a reasonable range of alternatives provides the public and decision-makers with information on ways to avoid or lessen environmental impacts created by a proposed project. When selecting alternatives for evaluation, CEQA requires alternatives that meet most of the basic objectives of the Project, while avoiding or substantially lessening the Project’s significant effects.

Six alternatives to the Project were defined and analyzed:
**EXHIBIT A**

**Alternative 1: No Project**

**Finding:** As required by CEQA Guideline §15126.6, this chapter describes and analyzes a “no project” alternative for the purpose of comparing the impacts of approving the Project with the impacts of not approving the Project. Alternative 1, the “No Project” Alternative, thus assumes that the Project’s proposed amendment to Title 19 of the Kern County Zoning Ordinance will not be approved. Accordingly, Alternative 1 assumes that Chapter 19.98 of the Kern County Zoning Ordinance will not be amended to establish updated development standards and conditions to address environmental impacts of pre-drilling exploration, well drilling and the operation of wells and other oil and gas production-related equipment and facilities, including exploration, production, completion, stimulation, reworking, injection, monitoring and plugging and abandonment. Moreover, Alternative 1 assumes that Chapter 19.98 of the Kern County Zoning Ordinance will not be amended to establish a new “Oil and Gas Conformity Review” ministerial permit procedure for County approval of future well drilling and operations to ensure compliance with the updated development standards and conditions and provide for ongoing tracking and compliance monitoring. Moreover, under Alternative 1, the Zoning Ordinance would not be updated to incorporate the Project’s relevant proposed development standards into the County’s Dark Skies Ordinance or the Zoning Ordinance provisions governing the Floodplain Primary District, the Petroleum Extraction (PE) Combining District, and Hillside Development.

Alternative 1 assumes that oil and gas development and production activities will continue in the Project Area in accordance with the existing Kern County Zoning Ordinance. As discussed in Chapter 3, Project Description, Section 19.98.020 of the existing Zoning Ordinance currently authorizes “unrestricted drilling,” with no County permit required, in County lands zoned for Exclusive Agriculture (A), Limited Agriculture (A-1), Medium Industrial (M-2), Heavy Industrial (M-3) and Natural Resource (NR), subject to compliance with specified conditions and standards which augment those of DOGGR, the SJVAPCD, and applicable fire and safety ordinances and regulations of the County of Kern. Thus, in these zoning districts, no review or permit would be required under the “No Project” Alternative for the drilling of any well intended for the exploration for, or development or production of, oil, gas, and other hydrocarbon substances, or for any related accessory equipment, structure, or facility used as part of the oil and gas production process. However, per the existing Zoning Ordinance, under Alternative 1, drilling would continue to be prohibited within, at minimum, one hundred (100) feet of any existing residence without the written consent of the owner thereof.

Under Alternative 1, oil or gas exploration or production would continue to be allowed within the Floodplain Primary District (FPP), subject to the Special Review Procedures and Development Standards set forth in Zoning Ordinance Section 19.50.130. Moreover, oil or gas exploration or production would continue to be permitted within a Special Planning District (SP), provided it is consistent with the County General Plan land use designation applicable to the subject property and does not create a conflict with the public health, safety, and welfare.

In addition, under Alternative 1, drilling by “ministerial permit” will continue in several zoning districts pursuant to Zoning Ordinance Section 19.98.030. A “ministerial” permit requires an application and review process, but the County does not impose site-specific conditions in such permits and the Applicant is entitled to receive the permit once it demonstrates that relevant standards are met. Under Alternative 1, ministerial permits will continue to be required in the Light Industrial (M-1) and Recreation-Forestry (RF) Districts, subject to specified development standards, which will also continue to apply in Drilling Island (DI) Zone Districts and Petroleum Extraction (PE) Combining District.
EXHIBIT A

Under Alternative 1, a Conditional Use Permit (CUP) will continue to be required for oil or gas exploration or production in all residential districts, including the Estate District (E), as well as in the Low, Medium, and High-Density Residential Districts (R-1, R-2, and R-3, respectively). A CUP will also continue to be required in commercial districts, including the Commercial Office District (CO), Neighborhood Commercial District (C-1), General Commercial District (C-2) and the Highway Commercial District (CH) as well as in the Platted Lands District (PL). Finally, under Alternative 1, oil and gas exploration or production will continue to be prohibited in Mobile Home Park District (MP) (Section 19.26.040) and in the Open Space District (OS) zoning districts (Section 19.44.040).

Alternative 1 is environmentally inferior to the proposed Project. As explained in Chapter 3, Project Description, the proposed Project would substantially amend sections of the Kern County Zoning Ordinance related to oil and gas exploration and production, including Chapter 19.98, Oil and Gas Production. In doing so, the Project would update and extend to all oil and gas exploration and production facilities development standards and conditions designed to avoid or minimize environmental impacts associated with pre-drilling exploration, well drilling, and the operation of well and other oil and gas production-related equipment and facilities. As discussed in EIR, Chapter 3, Project Description, the updated development standards and conditions include several new requirements that would avoid or minimize the impacts of oil and gas exploration and production related to land use, agricultural resources, biological resources, soils and geological resources, water resources, flooding, fire safety, odor management, noise, air quality, cultural resources, lighting, spill prevention and remediation measures, among other categories. The Project would also establish a new “Oil and Gas Conformity Review” procedure for County approval of future well drilling and operations to ensure compliance with the updated development standards and conditions, and to provide for ongoing tracking and compliance monitoring. If Alternative 1 were adopted, none of the Project’s proposed development standards or conditions would be implemented in the County on a consistent basis for all new oil and gas wells in the future and, therefore, Alternative 1 would not achieve the same environmental benefits of the Project. Without implementation of the Project’s proposed development standards and conditions, Alternative 1 would have greater environmental impacts than the Project in most impact categories, particularly with respect to impacts related to biological resources, hydrological resources, cultural resources, and noise.

If implemented, Alternative 1 would not achieve most of the Project objectives. Alternative 1 would not update the County’s Zoning Ordinance to include additional procedures and compliance standards. Alternative 1 would not streamline the County’s current energy regulations, nor would it promote sustainability and best management practices to the same extent as the Project. Compared to the Project, Alternative 1 would not ensure the protection of environmental resources by emphasizing the conservation of productive agricultural lands, the encouragement of planned urban growth, the promotion of clean air strategies, and the promotion of long-term water conservation strategies. Compared to the Project, Alternative 1 would not create an effective regulatory and permitting process for oil and gas exploration and production that can be relied on by the County, DOGGR, and other responsible agencies. Since Alternative 1 would not implement the Project’s proposed development standards and conditions, it would not ensure future oil and gas development in a manner that avoids impairing the economic strength derived from residential developments, agricultural, rangeland, mineral resources, other amenities that exist in Kern County. Finally, Alternative 1 would not encourage ongoing economic development by the oil and gas industry that creates quality, high paying jobs and proposed capital investment in Kern County.
EXHIBIT A

In sum, Alternative 1 is environmentally inferior to the Project and would not achieve most of the Project objectives, including its basic objective. Under "no project" conditions, Project activities occur in many zoning districts within the Project Area without any ministerial or discretionary review, based on prior determinations regarding the general land use compatibility of continued oil and gas extraction activities and the sufficiency of third-party expert agency regulations to protect human health and safety, and the environment. The basic project objective is to substantially expand the County's oversight and enforcement role with respect to new oil and gas well permitting, construction and operations, and to establish a ministerial oil and gas well permitting process that is procedurally structured to avoid imposing excessive administrative burdens, while assuring effective implementation and enforceability. This basic objective cannot be achieved if the Project is not approved and future well permits continue to be processed in accordance with existing zoning regulations.

Facts in Support of Finding: The EIR, including Section 6.0 of the Draft EIR, contains facts and analysis supporting the Finding, some of which are set forth here. Under Alternative 1, oil and gas development and production activities will continue in the Project Area in accordance with the existing Kern County Zoning Ordinance. However, Alternative 1 is environmentally inferior to the proposed Project. If Alternative 1 were adopted, none of the Project's proposed development standards or conditions would be implemented in the County on a consistent basis for all new oil and gas wells in the future. Without implementation of the Project's proposed development standards and conditions, Alternative 1 would have greater environmental impacts than the Project in most impact categories, particularly with respect to impacts related to biological resources, hydrological resources, cultural resources, and noise. Moreover, Alternative 1 would not achieve most of the Project objectives, nor its basic objective. Therefore, the Board hereby rejects Alternative 1.

Alternative 2: CUP Alternative

Finding: Under Alternative 2, the CUP Alternative, all new oil and gas exploration, development, and production activities would be permitted in the Project Area only upon County's issuance of a conditional use permit that authorizes such activities. Under Alternative 2, Chapter 19.98 of the Kern County Zoning Ordinance would be amended to eliminate its Sections 19.98.020 (Unrestricted Drilling) and 19.98.030 (Drilling By Ministerial Permit), and amend Section 19.98.040 to require a conditional use permit for new oil and gas development and production activities in the following zoning districts: Exclusive Agriculture (A); Limited Agriculture (A-1); Medium Industrial (M-2); Heavy Industrial (M-3); Natural Resource (NR); Light Industrial (M-1); Recreation-Forestry (RF); Estate District (E); Low, Medium, and High-Density Residential (R-1, R-2, R-3); Commercial Office (CO); Neighborhood Commercial (C-1); General Commercial (C-2); Highway Commercial (CH); Platted Lands (PL); Floodplain Primary (FPP); and Special Planning (SP). Conforming amendments would also be made to the Zoning Ordinance chapters applicable to each of the above zoning districts to clarify that oil and gas exploration, development and production activities are conditionally permitted uses within such districts. In effect, Alternative 2 would amend the Zoning Ordinance to eliminate all unrestricted, and ministerial approval of, oil and gas exploration, development, and production activities. Under Alternative 2, such activities would only be permitted upon issuance of a conditional use permit in all zoning districts, except the Mobile Home Park District (MP) and the Open Space District (OS), were new oil and gas development and production activities would continue to be prohibited.

Like the Project, Alternative 2 would amend Zoning Ordinance Chapter 19.98 to establish updated development standards and conditions to address environmental impacts of pre-drilling
exploration, well drilling and the operation of wells and other oil and gas production-related equipment and facilities, including exploration, production, completion, stimulation, reworking, injection, monitoring and plugging and abandonment. Unlike the Project, however, Alternative 2 would not amend the Zoning Ordinance to establish a new “Oil and Gas Conformity Review” procedure to ensure compliance with all of the updated development standards and conditions and provide for ongoing tracking and compliance monitoring. Instead, under Alternative 2, implementation of the updated development standards and conditions would occur on a case-by-case basis, as deemed necessary, through the standard conditional use permit approval and compliance monitoring processes.

Although, under Alternative 2, future oil and gas drilling projects in the County would require a discretionary conditional use permit approval from the County that would incorporate site-specific and project-specific conditions of approval to minimize or avoid each project’s potential environmental effects, Alternative 2 is ultimately environmentally inferior to the proposed Project. The mitigation program that would be established by the Project would provide mitigation at levels in excess of that which would occur if new wells were subject to discretionary approval following individual environmental review. In this sense, the Project is environmentally superior to Alternative 2 and will better serve regional conservation priorities, such as those described in SJVAPCD’s Climate Change Action Plan and air quality attainment plans. Alternative 2 would not achieve the Project’s basic objective. Although Alternative 2 would update the County’s Zoning Ordinance to include additional procedures and compliance standards for future permitting of oil and gas exploration and development, it would not streamline the County’s current oil and gas permitting procedures because it would impose a lengthy and cumbersome discretionary permitting process on all new oil and gas development within the County. The County currently contains approximately 75 active oil and gas fields, and over 2,500 wells are drilled in the County every year. It is not practical to subject every well permit to an individual discretionary approval process, or for environmental reviews to be conducted on every single well or groups of wells. The County lacks the resources to process thousands of oil and gas Negative Declarations and/or EIRs each year. The economic consequences for operators would be severe, delaying drilling for many months during the preparation of costly individualized CEQA documents. Moreover, such individualized review would be highly repetitive, as the thousands of Negative Declarations and EIRs would re-analyze the same impacts and prescribe the same mitigation for each new well or group of wells throughout the County. Accordingly, the basic objective of the Project and this EIR is to eliminate time-consuming and costly discretionary reviews of individual well and field development activities by establishing a ministerial site plan review process which incorporates mitigation identified in this EIR. As such, future County actions processing individual site plans will not trigger further CEQA review by the County. In addition, in the vast majority of cases, this process will avoid the need for responsible agencies to prepare additional CEQA documents for individual well or field development proposals when they are considering the discretionary decisions within their respective jurisdictions. Only if the criteria for supplemental CEQA review under CEQA Section 21166 are met would additional review be necessary. (14 Cal. Code Regs. §§ 15096(e)(3), 15162.) Such streamlined permitting is a permissible objective reflecting land use policy decisions within the authority of a county board of supervisors. San Diego Citizenry Group v. County of San Diego, 219 Cal.App.4th 1 (2013). The basic objective of the Project cannot be achieved by Alternative 2, the CUP Alternative.

**Facts in Support of Finding:** The EIR, including Section 6.0 of the Draft EIR, contains facts and analysis supporting the Finding, some of which are set forth here. Under Alternative 2, the CUP Alternative, all new oil and gas exploration, development, and production activities would be permitted in the Project Area only upon County’s issuance of a conditional use permit that
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authorizes such activities. Alternative 2 would achieve not achieve the Project’s basic objective and is environmentally inferior to the proposed Project. Therefore, the Board hereby rejects Alternative 2.

Alternative 3 - Reduced Ground Disturbance Alternative

Finding: Alternative 3, the Reduced Ground Disturbance Alternative, is identical to the Project, except that it would prohibit all new well drilling activities outside existing DOGGR-designated "Administrative Boundary" areas and would require subsurface oil and gas to be extracted from surface equipment located within such Administrative Boundary areas. This alternative would also limit the disturbance footprint on existing agricultural lands to requiring clustering of new wells in locations immediately adjacent to existing oil and gas equipment. As discussed in Chapter 3, Project Description, the vast majority of future oil and gas production in Kern County will occur in and adjacent to Administrative Boundary areas. Accordingly, this alternative assumes that subsurface oil and gas resources located outside of existing Administrative Boundary areas could still be accessed from inside existing Administrative Boundary areas through use of directional and horizontal drilling techniques. Thus, Alternative 3's restrictions on oil and gas exploration and development are assumed to be legally feasible.

Like the Project, Alternative 3 would amend sections of the Kern County Zoning Ordinance relating to oil and gas drilling, including Chapter 19.98 (Oil and Gas Production) to establish updated development standards and conditions to address environmental impacts of pre-drilling exploration, well drilling and the operation of wells and other oil and gas production-related equipment and facilities, including exploration, production, completion, stimulation, reworking, injection, monitoring and plugging and abandonment. Like the Project, Alternative 3 would amend Zoning Ordinance Chapter 19.98 to establish a new "Oil and Gas Conformity Review" ministerial permit procedure for County approval of future well drilling and operations within the Project Area to ensure compliance with the updated development standards and conditions and provide for ongoing tracking and compliance monitoring. Unlike the Project, however, no new ground disturbance from well drilling activities would be allowed outside existing Administrative Boundary areas.

Since Alternative 3 would restrict new oil and gas well surface development to locations within existing Administrative Boundary areas, it will result in less overall ground disturbance than would the Project, which allows for new well development both inside and outside of existing Administrative Boundary areas. Thus, Alternative 3 would have somewhat reduced impacts to agricultural resources, biological resources, aesthetic resources, and hydrologic resources as compared to the Project. Further, Alternative 3 would reduce the Project's significant and unavoidable cumulative aesthetic impacts, though not to a less than significant level.

In addition to its environmental benefits, Alternative 3 would create certain environmental impacts greater than those caused by the Project. If this alternative were adopted, the owners of mineral rights underlying outside of Administrative Boundary areas could only access their mineral interests, if at all, from adjacent lands that are located within an Administrative Boundary area through the use of directional and horizontal drilling techniques, which may not be technologically or economically feasible, depending on geologic conditions and location. Where feasible, the directional and horizontal drilling assumed by this alternative is reasonably expected to require longer drilling periods to reach the mineral source than would be necessary to complete a vertical well. Longer drilling periods mean increased levels of construction-related emissions. It is therefore reasonable to assume that directional and horizontal well development activities under this alternative would cause greater emissions than would occur if the wells were drilled.
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vertically under Project conditions. Thus, while this alternative would have the environmental benefit of impacting fewer acres of land, it would also exacerbate overall emissions of criteria pollutants for which the air basin is in nonattainment.

Alternative 3 would achieve most of the Project objectives. Alternative 3 would update the County’s Zoning Code in a manner similar to the Project, though it would reduce the overall Project surface footprint. Alternative 3 would also encourage ongoing and increased economic development by the oil and gas industry in a manner consistent with the Project objectives, though not to the same extent as the Project. Like the Project, Alternative 3 would streamline the County’s oil and gas regulations and environmental review processes. Alternative 3 would also help reduce California’s dependence upon foreign sources of energy and would accommodate foreseeable need in appropriate locations, provided more oil and gas can be produced through increased horizontal and directional drilling techniques than would occur under the “No Project” scenario. Alternative 3 would also secure the protection of environmental resources by emphasizing the conservation of productive agricultural lands and through the development and implementation of industry-wide best practices, performance standards, and mitigation measures, though it would have greater overall environmental effects in some impact categories than would the Project, as discussed above.

Nevertheless, Alternative 3 is not legally or economically feasible. Given the size and unconventional geology of the Project Area, it is reasonable to assume that, in some instances, the owners of mineral interests underlying lands outside of Administrative Boundary areas will not be able to feasibly exercise their mineral rights as a result of the drilling restrictions assumed by this alternative. In such cases, this alternative would arguably destroy all economically beneficial or productive use of such mineral interests, thus exposing the County to economic harm and unreasonable legal liability.

Pursuant to the Fifth Amendment to the U.S. Constitution (applicable to the states through the Fourteenth Amendment), and Article I, Section 19 of the California Constitution, zoning regulations may not be so oppressive that they effect a taking of private property without just compensation. See Kavanau v. Santa Monica Rent Control Bd. (1997) 16 Cal.4th 761, 859. This principle of law was first established in the seminal case Pennsylvania Coal Co. v. Mahon, wherein the U.S. Supreme Court held that a land use regulation that “goes too far” may effect a taking of that property, even though title to such property remains in private hands. See (1922) 260 U.S. 393, 415. Notably, in Pennsylvania Coal, the Court determined that a land use regulation prohibiting extraction of privately owned subsurface minerals did indeed “go too far” and effect an unconstitutional taking without just compensation. Id.

Since Pennsylvania Coal, both the United States Supreme Court and the California Supreme Court have established that a regulation that deprives “all economically beneficial or productive use” of private property effects a per se taking of such property. See Kavanau at 774 (citing Lucas v. South Carolina Coastal Council (1992) 505 U.S. 1003, 1015). Indeed, a regulation that stops short of destroying all economically beneficial use of private property may nevertheless effect a taking depending on the economic impact of the regulation, the extent to which the regulation interferes with distinct investment-backed expectations, and the character of the governmental action. See Kavanau at 775-776 (citing Penn Cent. Transp. Co. v. N.Y. (1978) 438 U.S. 104, 124). In either case, “the property owner may bring an inverse condemnation action, and if it prevails, the regulatory agency must either withdraw the regulation or pay just compensation. Even if the agency withdraws the regulation, the property owner may have the right to just compensation for the temporary taking while the regulation was in effect.” Id. at 773.
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As recognized by the California Supreme Court, the owner of a mineral interest “has a property right in oil and gas beneath the surface” that includes “the exclusive right to drill[.] ... This is a right which is as much entitled to protection as the property itself, and an undue restriction of the use thereof is as much a taking for constitutional purposes as appropriating or destroying it.” Bernstein v. Bush (1947) 29 Cal.2d 773, 778 (internal citations omitted.) Thus, California courts have held that land use regulations that provide “no adequate means of protection or substitute for their right to extract oil” affects a compensable taking of private property. See, e.g., Braly v. Board of Fire Comrs. of City of Los Angeles (1958) 157 Cal.App.2d 608, 616; Bernstein v. Bush (1947) 29 Cal.2d 773, 780. Similarly, federal law recognizes that owners of oil and gas interests “have the right to reduce to possession the oil and gas beneath the surface, and that they could not be absolutely deprived of that right without a taking of private property.” Ohio Oil Co. v. Indiana (1900) 177 U.S. 190, 209. Alternative 3, if adopted, would deprive the affected mineral owners the right to extract oil and gas beneath the surface, effectively denying them “all economically beneficial or productive use” of their private property. Thus, under Kavanaugh and Lucas, adoption of this alternative would expose the County to potentially substantial legal liability.

Kern County leads the state in oil and natural gas production. Kern County produced 77% of California’s in-state oil in 2012 and about 64% of the state’s total natural gas. Kern County’s Elk Hills oilfield is the state’s top natural gas producer. Two other fields, South Belridge and Lost Hills, rank in the state’s top five for gas production. The state’s top five oil producing fields—Midway-Sunset, South Belridge, Kern River, Cymric, and Elk Hills—are located within the Project Area. Three of these fields—Midway-Sunset, South Belridge, and Kern River—are ranked in the top 10 producing oilfields in the nation. Specifically, Kern County produced 141.69 million barrels of oil and 143.16 million cubic feet of natural gas in 2012. The historic production of oil and natural gas in Kern County, from 2002 to 2012, is provided in Draft EIR Chapter 3, Project Description (Table 3-3). As of 2014, of the 100 administrative wellfields located within Kern County, 76 are active fields that continue to produce oil and natural gas.

Kern County is a leading oil-producing county in the nation, yielding approximately 145 million bbl of oil and 132 billion CF of gas annually, according to 2014 DOGGR data. These amounts represent 71% of California’s oil production and 10% of the total U.S. oil production. Kern County produces 66% of the state’s total gas production (KCEDF, 2015). The oil and gas industry has the highest gross domestic product and tax contribution level in the County. The industry generates significant regional economic activity. Extraction, production, refining, and petroleum product manufacturing result in highly tradable products that are consumed domestically and are also exported. These efforts produce high revenues, create high wage jobs, and contribute significant tax revenue to all levels of government. The impact of the oil and gas industry is very far-reaching. The approximately $3.8 billion paid in 2013 to local oil and gas employees creates a significant “ripple effect” phenomenon in the local economy. Direct activity includes the materials purchased and the employees hired by the industry itself. Indirect effects are those which stem from the employment and business revenues motivated by the purchases made by the industry and any of its suppliers. Increased output generates new money in the community, resulting in increased spending on new homes, durable goods such as cars and appliances, plus additional spending on restaurants and entertainment options.

In 2009, oil reserves in Kern County were estimated at 1,395,171 mbbl, as shown in Table Alt-1(a), below (DOGGR, 2009). Production information available from DOGGR between 2010 and 2014 shows that approximately 720 mbbl were extracted from oilfields in Kern County, for a total reserve of approximately 1,394,450 mbbl of oil, as shown in Table Alt-1(b), below (DOGGR, 2010, 2011, 2012, 2013, 2014). At the current price of $50 per barrel of oil, the Kern County
reserves estimated value is $62 billion, and at an average yearly (July 2014 – July 2015) price of $75.60 per barrel of oil the estimated value is $105 billion.

Table Alt-1(a):
2009 Kern County Oil Reserves

<table>
<thead>
<tr>
<th>District 4</th>
<th>Kern County Oil Field</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>2009 Reserves mbbl</td>
</tr>
<tr>
<td>Buena Vista</td>
<td>5,460</td>
</tr>
<tr>
<td>Cymric</td>
<td>78,784</td>
</tr>
<tr>
<td>Elk Hills</td>
<td>62,301</td>
</tr>
<tr>
<td>Fruitvale</td>
<td>9,173</td>
</tr>
<tr>
<td>Kern Front</td>
<td>17,990</td>
</tr>
<tr>
<td>Kern River</td>
<td>569,417</td>
</tr>
<tr>
<td>Lost Hills</td>
<td>123,699</td>
</tr>
<tr>
<td>McKittireck</td>
<td>13,574</td>
</tr>
<tr>
<td>Mount Paso</td>
<td>6,344</td>
</tr>
<tr>
<td>Mountain View</td>
<td>659</td>
</tr>
<tr>
<td>North Belridge</td>
<td>17,460</td>
</tr>
<tr>
<td>Round Mt.</td>
<td>7,113</td>
</tr>
<tr>
<td>Semitropic</td>
<td>310</td>
</tr>
<tr>
<td>South Belridge</td>
<td>482,887</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>1,395,171</strong></td>
</tr>
</tbody>
</table>

Table Alt-1(b):
District 4 Production from 2010 to 2014

<table>
<thead>
<tr>
<th>(bbl)</th>
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<tbody>
<tr>
<td>148,949,301</td>
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</table>
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<table>
<thead>
<tr>
<th>143,286,239</th>
</tr>
</thead>
<tbody>
<tr>
<td>141,693,959</td>
</tr>
</tbody>
</table>

Total Kern County taxable property value for the fiscal year beginning July 1, 2015 is $89.2 billion, representing an $8.5 billion decrease or a 9% decline from the prior fiscal year. A decline in overall Kern County assessed property values was anticipated due to the recent plunge in oil and gas prices and underscores the role of oil and gas as an economic asset in Kern County. The mineral roll represented approximately one third of assessed values for the 2014-2015 tax year but is down to less than one quarter of the county’s total assessment for the new fiscal year, 2015-2016 (Kern County Assessor Recorder, http://www.recorder.co.kern.ca.us/). Based on one quarter of the County’s total assessment, approximate mineral roll represents a value of $22.3 billion in Kern County, a sizable portion of which is located outside of Administrative Boundary Areas.

A complete ban of oil and gas activities within those portions of the Project Area outside of Administrative Boundary areas would cause enormous economic impacts throughout the County and the state and would adversely impact the investment-backed expectations of many Project Area mineral owners, including both individuals and companies. Even a moratorium on drilling outside of Administrative Boundary Areas would raise similar concerns regarding the County’s ability compensate for lost value for the duration of the moratorium using General Fund proceeds derived in large part from taxes on oil and gas production. Mineral and petroleum resources are a fundamental element of Kern County’s employment base and overall economy. As new recovery technologies come into use, petroleum extraction should continue its economic importance. Even as California ramps up state laws to promote renewable energy resources and alternative transportation fuels, experts continue to recognize that oil and gas production will continue to be critical, and domestic oil and gas production remains a vital national interest. In sum, a ban on oil and gas activity within the Project Area but outside of Administrative Boundary areas, as contemplated by Alternative 3, is not feasible within the meaning of CEQA.

Facts in Support of Finding: The EIR, including Section 6.0 of the Draft EIR, contains facts and analysis supporting the Finding, some of which are set forth here. Alternative 3 would prohibit all new well drilling activities outside existing DOGGR-designated “Administrative Boundary” areas and would require subsurface oil and gas to be extracted from surface equipment located within such Administrative Boundary areas. This alternative would also limit the disturbance footprint on existing agricultural lands to requiring clustering of new wells in locations immediately adjacent to existing oil and gas equipment. Although Alternative 3 would achieve most of the Project objectives, and would achieve some environmental benefits, these benefits are partially outweighed by this alternative’s environmental costs. Alternative 3 would incentivize additional horizontal and directional subsurface drilling activity, as compared to the Project, that would generate greater air quality, greenhouse gas, and toxic air contaminant emissions than would the Project. More importantly, Alternative 3 is legally and economically infeasible because its adoption would conflict with applicable regulatory limitations, would have a significant adverse economic impact on a key County economic sector, and would imprudently expose the County to significant and unreasonable legal liability, as explained below. Since Alternative 3 is, in some respects, environmentally inferior to the Project, and is economically and legally infeasible, it is hereby rejected by the Board of Supervisors.

Alternative 4 – No Hydraulic Fracturing Alternative
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Finding: Pursuant to its police power, the County has broad discretion to regulate oil and gas exploration and production activities within its jurisdiction. However, a local government’s legal authority to regulate every step in the hydraulic fracturing process is the subject of legal disputes currently pending in certain California courts. Assuming the County has sufficient legal authority to regulate subsurface oil and gas exploration and development activities as contemplated by this alternative, Alternative 4, the No Hydraulic Fracturing Alternative, would implement the Project as proposed, except that it would amend Zoning Ordinance Chapter 19.98 to ban all hydraulic fracturing activities, a form of well stimulation, within the Project Area. In all other respects, the Alternative 4 is the same as the Project.

Alternative 4 would only prohibit hydraulic fracturing in the Project Area, but it would not prohibit acid fracturing or acid matrix well stimulation techniques. Were Alternative 4 approved, however, it is unlikely that its hydraulic fracturing ban would cause an increase in acid fracturing or acid matrix well stimulation in the Project Area. Hydraulic fracturing is a viable well stimulation treatment in diatomite subsurface formations, as explained in Section 4.9, Hydrology and Water Quality. In contrast, acid fracturing and acid matrix stimulation techniques are only viable in carbonate reservoir rocks and siliciclastic reservoir formations, respectively. Thus, acid fracturing and acid matrix techniques do not serve as viable substitutes for hydraulic fracturing. Moreover, as explained in Section 4.9, there are no carbonate reservoir rocks in Kern County oil and gas fields that would be subject to acid fracturing techniques, in any case. A ban on hydraulic fracturing may, however, cause an increased use of Enhanced Oil Recovery techniques in the Project Area.

For most impacts, Alternative 4 is environmentally comparable to the Project. Indeed, as explained in Section 4.9, Hydrology and Water Quality, most wells that are hydraulically fractured in the Project Area are shallow vertical wells installed in diatomite subsurface formations located in the Western Subarea. Accordingly, in the Central and Eastern Subareas, where little to no hydraulic fracturing is expected to occur, Alternative 4 is essentially the same as Project and would cause generally identical impacts as the Project. Even in the Western Subarea, Alternative 4’s environmental effects related to aesthetic, agricultural, and forest resources, biological resources, cultural resources, geology and soils, land use and planning, mineral resources, noise, population and housing, public services, recreation, and utilities and service systems would be generally the same as the Project.

Alternative 4 would achieve most of the Project objectives to some degree. Alternative 4 would update the County’s Zoning Code in a manner similar to the Project, though it would also ban hydraulic fracturing in the Project Area. Alternative 4 would also encourage ongoing and increased economic development by the oil and gas industry in a manner consistent with the Project objectives, though not to the same extent as the Project (unless increases in EOR activities spurred by Alternative 4 are able to offset any decrease in oil and gas production caused by a hydraulic fracturing ban). This alternative would also protect areas of important mineral, petroleum, and agricultural resource potential for future use by promoting sustainability and encouraging best management practices. Like the Project, Alternative 4 would streamline the County’s oil and gas regulations and environmental review processes. Alternative 4 would also help reduce California’s dependence upon foreign sources of energy and would accommodate foreseeable need in appropriate locations, but perhaps not to the same degree as the Project. Finally, Alternative 4 would ensure the protection of environmental resources through the development and implementation of industry-wide best practices, performance standards, and mitigation measures, though it may have greater overall environmental effects in some impact categories than would the Project.
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Approval of the No Hydraulic Fracturing alternative would likely cause an increase in greenhouse gas emissions, without a reduction in other adverse impacts. As explained by the California Council on Science & Technology (CCST) in its recent study, An Independent Scientific Assessment of Well Stimulation in California, “[t]he majority of impacts associated with hydraulic fracturing are caused by the indirect impacts of oil and gas production enabled by the hydraulic fracturing.” According to the CCST, “all oil and gas development causes similar impacts whether the oil is produced with well stimulation or not.” The exception to this general rule, however, concerns greenhouse gas emissions.

According to CCST:

Fields with lighter oil result in low emissions per barrel of crude produced, while fields with heavier oil have higher emissions because of the need for steam injection during production as well as more intensive refining needed to produce useful fuels such as gasoline. Well stimulation generally applies to reservoirs with lighter oil and consequently smaller greenhouse gas burdens per unit of oil. Oil and gas from San Joaquin Basin reservoirs using hydraulic fracturing have a relatively smaller carbon footprint than oil and gas from reservoirs such as those in the Kern River field that use steam flooding. If well stimulation were disallowed and consumption of oil and gas in California did not decline, more oil and gas would be required from non-stimulated California fields ..., possibly with higher emissions per barrel. Consequently, overall greenhouse gas emission due to production could increase if well stimulation were stopped in California.

Thus, if well stimulation were disallowed, as contemplated by the No Hydraulic Fracturing Alternative, more oil and gas would be required from non-stimulated California fields. This would likely result in an overall increase in greenhouse gas emissions, without an overall increase in other adverse environmental impacts. Accordingly, the No Hydraulic Fracturing Alternative would be environmentally inferior to the Project in terms of air quality impacts.

Moreover, Alternative 4 is legally infeasible. Local legislation that conflicts with state law is preempted and void. Conejo Wellness Ctr., Inc. v. Agoura Hills (2013) 214 Cal. App. 4th 1534, 1552. A conflict can occur if the local ordinance duplicates state law, contradicts state law or enters an area or field fully occupied by state law. Id. “Local legislation enters an area or field that is ‘fully occupied’ by state law when the Legislature has either expressly manifested its intent to fully occupy the area or has impliedly has done so.” Id. “Implied preemption occurs when: (1) general law so completely covers the subject as to clearly indicate the matter is exclusively one of state concern; (2) general law partially covers the subject in terms clearly indicating a paramount state concern that will not tolerate further local action; or (3) general law partially covers the subject and the adverse effect of a local ordinance on transient citizens of the state outweighs the possible municipal benefit.” Big Creek Lumber Co. v. Santa Cruz (2006) 38 Cal. 4th 1139, 1157–1158.

The California Attorney General has concluded that, through enactment of the comprehensive California oil and gas laws set forth in Division 3 of the Public Resources Code, commencing with section 3000, and its implementing regulations, the State had completely covered the field with respect to “down-hole or subsurface” oil and gas operations:

In our view, the conservation and protection of the state’s finite energy resources, by means of regulatory policy reviewed herein, transcends local boundaries and interests. Oil, gas and geothermal resources are flung far and wide around the
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state; to leave the simultaneous regulation of their development to various local entities would subject development of the state’s fuel resources to [a] “checkerboard of regulations[.]” ... Such local regulation could obviously interfere with and frustrate the state’s conservation and protection regulatory scheme reviewed above. This “checkerboard” problem seems highlighted by the fact that this state’s deposits of energy resources do often extend under the boundaries of several local entities as, for example, in the Los Angeles basin. In our view, the drilling and production of energy resources represents an endeavor of commercial activity that commands uniform regulation. ... The statutory and administrative regulatory scheme outlined above reveal to us a comprehensive purpose and scope broad enough to exclude local regulation in each instance where the [State Oil & Gas] Supervisor or his regulatory program approves or specifies plans of operation, methods, materials, procedures or equipment to be used by the operator or where activities are to be carried out under the direction of the Supervisor as part of the Supervisor’s regulation for purposes of conservation or protection of resources.

59 Ops. Cal. Atty. Gen. 461, Opinion No. 76-32 (Aug. 24, 1976) at 477-478. On this basis, the Attorney General concluded that the state oil and gas laws “appear to occupy fully the underground phases of oil and gas activities” and that, “in all probability there will in our view be a [preemptive] conflict with state regulation when a local entity, attempting to regulate for a local purpose, directly or indirectly attempts to exercise control over subsurface activities.” Id. at 478.

With the recent enactment of SB 4 and the California Department of Conservation, Division of Oil Gas and Geothermal Resources’ (DOGGR’s) permanent WST regulations, the level of complexity, detail, and comprehensive quality of the State oil and gas laws has only increased since the Attorney General first concluded that local down-hole regulation of oil and gas activities is preempted by state law. The complexity and specificity of SB 4 and its implementing regulations are described in detail on Draft EIR pages 4.9-108 through 4.9-109. This new mandatory regulatory program only reinforces the Attorney General’s prior determination that the State’s statutory and administrative regulatory scheme governing subsurface oil and gas activities presents “a comprehensive purpose and scope broad enough to exclude local regulation[.]” Accordingly, County regulations limiting subsurface WST operations would be preempted. Kern County retains its police power, and may enact laws in furtherance of public health, safety and the general welfare, including ordinances regulating oil and gas activities at the surface. However, the County is prohibited from enacting laws that ban or control WST operations in areas where oil and gas operations are allowed to take place. In addition, to the extent the Alternative 4, the No Hydraulic Fracturing Alternative would deny affected mineral rights holders all economically beneficial or productive use of such mineral rights, then such alternative would be legally and economically infeasible for the same reasons described above for Alternative 3.

Facts In Support of Finding: The EIR, including Section 6.0 of the Draft EIR, contains facts and analysis supporting the Finding, some of which are set forth here. Alternative 4 would implement the Project as proposed, except that it would amend Zoning Ordinance Chapter 19.98 to ban all hydraulic fracturing activities, a form of well stimulation, within the Project Area. Although Alternative 4 would achieve most of the Project objectives to some degree and reduce some of the Project’s significant effects, it would also cause an increased use of Enhanced Oil Recovery techniques in the Project Area, which would in turn cause a corresponding increase in the emission of greenhouse gases and criteria air pollutants, as compared to the Project. Moreover, Alternative 4 is legally and economically infeasible. Therefore, the Board hereby rejects Alternative 4.
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Alternative 5 – Low-Emission Enhanced Oil Recovery (EOR) Technology Alternative

Finding: Alternative 5, the Low-Emission Enhanced Oil Recovery (EOR) Alternative, is identical to the proposed Project, except that the updated development standards and conditions required by the Project’s proposed Zoning Ordinance amendment would be expanded to require oil and gas well permit applicants to implement low-emission EOR technology as a condition of permit approval for new and replacement steam generators, and to replace existing steam generators constructed prior to 1990 within five years of enactment of the amended Ordinance. As explained in Chapter 3, Project Description, EOR is a production technique used to increase the mobility of oil, most commonly through steam injection techniques that reduce the viscosity of the hydrocarbons and allow produced fluids to flow. There are four major types of EOR operations: waterflood; thermal (i.e., steamflood, cyclic steam and in-situ combustion); CO₂ or other gas (miscible and immiscible); and chemical/polymer flooding (i.e., alkaline flooding or micellar-polymer flooding). With thermal EOR, steam is injected into a well, which necessitates the installation of steam generators at the well. Steam generators are large heaters that generate steam, usually from produced groundwater. Under Alternative 5, all new and replacement steam generators for thermal EOR activities would be required to implement lower-emission steam generation technology, such as, by way of example, the ClearSign Duplex Tile combustion technology or similar technologies. In all other respects, Alternative 5 would be identical to the Project.

Alternative 5’s environmental effects would be generally the same as the Project, except Alternative 5 would have reduced air quality and greenhouse gas impacts, as compared to the Project. With respect to new Project-level emissions, Alternative 5 and the Project, as mitigated, would have similar air quality and greenhouse gas impacts. However, Alternative 5’s additional requirement that certain existing pre-1990 steam generators be replaced within five years of enactment of the amended Zoning Ordinance would further reduce emissions that are included in the baseline emissions inventory, a reduction that would not occur under Project conditions. In addition, it is expected that Alternative 5’s required low-emission steam generation technology would be more fuel efficient than Project technology, thus reducing overall fuel transportation and handling impacts, as compared to the Project. Alternative 5 is not expected to cause any environmental impacts that would be greater than those caused by the Project.

Alternative 5 would meet most of the Project objectives. This alternative would update the County’s Zoning Ordinance to include additional procedures and compliance standards that address changes in laws and regulations by other agencies, and it would continue to improve and streamline current energy regulations and increase County monitoring and involvement in state and federal energy legislation. Alternative 5 would also protect areas of important mineral, petroleum, and agricultural resource potential for future use by promoting clean air strategies to address existing air quality issues. Alternative 5 would provide sufficient new development within an area large enough to meet generous projections of foreseeable need but in locations that will not impair the economic strength derived from residential developments, agriculture, rangeland, mineral resources, or diminish the other amenities that exist in Kern County. Alternative 5 would also create an effective regulatory and permitting process for oil and gas exploration and production that can be relied on by the County and other responsible agencies, and it would develop industry-wide best practices, performance standards and mitigation measures that ensure adequate protection of public health and safety and the environment. Finally, this alternative also has the potential to increase oil and gas exploration and production in Kern County as a means of (i) reducing California’s dependence upon foreign sources of energy, and (ii) increasing employment opportunities and economic prosperity to Kern County’s residents, businesses, and local government.
EXHIBIT A

However, Alternative 5 is not technologically or economically feasible. Low-emission steam generation technologies are still in the demonstration and prototype phase. ClearSign Duplex (CSD) technology, which is referenced as a possible technology in Alternative 5, involves ceramic tile and burner modification. One operator (Aera) is conducting pilot testing of CSD. At least one other operator (Chevron) is considering pilot testing low-emission steam generation technologies. All technologies currently under consideration require additional testing and validation in actual operating conditions and environments before they can be considered field-proven.

Long-term effectiveness and commercial viability of either technology still remain to be determined, and no company has deployed either technology to date. Furthermore, because the technologies are still in development, the cost of installing the equipment is high compared to the resulting emissions decreases. As such, the technology is not yet readily available on a commercial scale for implementation in oil and gas production in Kern County. The technological infeasibility of Alternative 5 is further demonstrated by the current Best Available Control Technology (BACT) Guideline for oilfield steam generators in the San Joaquin Valley Air Pollution Control District (SJVAPCD). The federal Clean Air Act requires implementation of BACT, defined as an emission limitation that the relevant permitting entity “determines is achievable.” 42 USC § 7479. Similarly, the SJVAPCD defines BACT as the most stringent emission limitation or control technique (1) achieved in practice; (2) contained in any State Implementation Plan, if presently achievable; (3) contained in an applicable New Source Performance Standard; (4) “Any other emission limitation or control technique, including process and equipment changes of basic or control equipment, found ... to be cost effective and technologically feasible ...” Rule 2201, Section 3.10. The SJVAPCD BACT guideline was last updated in March of 2014 and currently requires 6 ppm NOx at 3% O₂ for steam generators that operate at 85 MMBtu/hr; and 7 ppm NOx at 3% O₂ for steam generators that operate at less than 85 MMBtu/hr. By comparison, the low-emission steam generation technology contemplated by Alternative 5 would be expected to achieve rates comparable to or lower than 5 ppm NOx at 3% O₂ for steam generators operating at 55 MMBtu/hr. The fact that the rates in the current SJVAPCD BACT guideline are higher than what is contemplated by Alternative 5 further supports the conclusion that the technology required by Alternative 5 has not yet been achieved in practice, has not been shown to be presently achievable and is not technologically feasible. Alternative 5 is therefore properly rejected as an alternative. Moreover, at such time as the SJVAPCD determines that low-emission steam generation technology has become feasible, it would be expected to update its BACT guidelines accordingly.

Facts In Support of Finding: The EIR, including Section 6.0 of the Draft EIR, contains facts and analysis supporting the Finding, some of which are set forth here. Alternative 5, is identical to the proposed Project, except that it would require oil and gas well permit applicants to implement low-emission EOR technology as a condition of permit approval and to replace existing steam generators constructed prior to 1990 within five years of enactment of the amended Ordinance. Alternative 5 would meet most of the Project objectives and it would further reduce emissions that are included in the baseline emissions inventory, a reduction that would not occur under Project conditions. In addition, it is expected that Alternative 5’s required low-emission steam generation technology would be more fuel efficient than Project technology, thus reducing overall fuel transportation and handling impacts, as compared to the Project. As explained below, Alternative 5 is the environmentally superior alternative to the Project.

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However, for the reasons discussed above, Alternative 5 is neither technologically nor economically feasible.

Alternative 6 – Recycled Water Alternative

Finding: Under Alternative 6, the Recycled Water Alternative, the Applicants would be required to treat an amount produced water that is currently being disposed of via underground injection wells which is equivalent to the amount of M&I water used in Applicant’s operations. The produced water reuse goal is 30,000 acre-feet per year, which would offset more than the current use of imported water and groundwater from non-oil bearing zones by the oil and gas industry. Such produced water would be required to be treated, recycled and put to an alternate use such as agricultural irrigation to the extent feasible. Under Alternative 6, Applicants would be required to fund treatment and conveyance facilities for produced water for local re-use (such as agricultural irrigation). For purposes of analysis in this EIR, this Alternative assumes that water treatment facilities would be located in Tier 1 areas more than 1000 feet away from the nearest sensitive receptor, that treatment facilities would be subject to New Source Review permit requirements (where applicable) including use of best available control technology to minimize air emissions, that remaining criteria and GHG emissions would be fully offset, and that waste products (including residuals from treated produced water) would be disposed of in accordance with applicable law. In all other respects, Alternative 6, the Recycled Water Alternative, is identical to the proposed Project.

Alternative 6 would meet most of the Project objectives. For example, this alternative would update the County’s Zoning Ordinance to include additional procedures and compliance standards that address changes in laws and regulations by other agencies, and it would continue to improve and streamline current energy regulations and increase County monitoring and involvement in state and federal energy legislation. Alternative 6 would also protect areas of important mineral, petroleum, and agricultural resource potential for future use by promoting long-term water conservation strategies which will ensure the quality and adequacy of surface and groundwater supplies for future growth of all of Kern County’s industries. Alternative 6 would provide sufficient new development within an area large enough to meet generous projections of foreseeable need but in locations that will not impair the economic strength derived from residential developments, agriculture, rangeland, mineral resources, or diminish the other amenities that exist in Kern County. Moreover, Alternative 6 would create an effective regulatory and permitting process for oil and gas exploration and production that can be relied on by the County and other responsible agencies, and it would develop industry-wide best practices, performance standards and mitigation measures that ensure adequate protection of public health and safety and the environment.

Further analysis of Alternative 6 in response, in part, to comments on the Draft EIR indicates that this alternative is environmentally inferior to the Project in important respects and not legally, economically or technologically feasible. The reuse of treated produced water would, in many cases, significantly increase costs, and could result in increased chemical use, longer and more intensive surface activities, and the need for additional permitting processes to avoid adverse secondary environmental impacts. Moreover, in comments on the Draft EIR, DOGGR has expressed concerned that the reuse of produced water, as contemplated by this alternative, may contribute to land subsidence in the Project Area, as explained below.

Produced water is currently used for some oilfield activities, such as discharge for dust suppression, but increasing that use beyond existing levels would require additional permitting and approvals to avoid impacts to biological, water and other resources. While the oil and gas
industry in Kern County has been working with the Regional Water Quality Control Boards to increase the treatment and use of produced water for dust suppression and other oilfield activities, there are regulatory hurdles to increasing use of produced water and it is uncertain whether and to what extent additional use of produced water will be permitted by the Boards. As such, a requirement to substitute produced water, as contemplated by Alternative 6, is currently legally infeasible.

While oil and gas operators may be able to utilize additional produced water for some oilfield activities – as contemplated by Mitigation Measures 4.17-2, 4.17-3 and 4.17 – not all oilfield activities are able to use produced water. For some oilfield activities, such as drilling and abandonment work, the use of fresh water is required to properly formulate the cement mixtures that are needed to safely drill and abandon wells. Using produced water for these activities would jeopardize operators’ ability to comply with well specifications provided for in DOGGR regulations.

Certain enhanced oil recovery (EOR) operations, such as steam generation, can require higher-quality water supplies than are typically obtained from treated produced water in order to avoid equipment corrosion or damage and potential chemical interactions. Use of produced water in these operations can also lead to increased need for equipment maintenance due to, for example, silica buildup or tube failures in boilers. Even when produced water can be used in EOR operations, water losses in the oil production cycle—due to losses on the surface, in the geological zones, or otherwise—typically necessitate the use of some fresh or brackish “make up” water from a surface or subsurface source. Depending on the nature of the operation, “make up” water often represents between 10 and 25 percent of the water used.

Additionally, the lack of infrastructure linking sources of produced water to the locations where water may be used, particularly in cases of new exploration, can result in increased truck trips and other more significant impacts associated with transporting produced water to operation sites. For example, pilot EOR projects typically cannot use recycled water due to the early stage of project development, which results in a lack of available recycled water. Furthermore, the treatment of water for reuse requires specialized equipment, consumes energy, and generates waste. In many cases, operators have also contracted with local water purveyors to utilize some supply of purchased water over a long-term contract; cancellation of such contracts would also create negative financial impacts for the region.

In addition, the use of produced water specifically for well stimulation treatments would significantly increase chemical use as well as costs. Chemicals used in fracture treatments impart viscosity for proppant transport and fracture geometry creation and improve post-treatment production results by minimizing polymer plugging and other phenomena detrimental to production. Using produced water instead of fresh water as a base fluid for fracture treatments would increase the chemical volumes needed to fulfill these functions. Produced water use for fracture treatments could require as much as a five-fold increase in buffering agents, and additional chelating agents, clay and scale inhibitors, and surfactants to prevent emulsions and reduce surface tension may also be needed to minimize production complications that would be caused by the use of produced water. While produced water could be pre-treated to require fewer chemicals during the fracture treatment itself, such pre-treatment conditioning would also involve more chemicals, equipment, or both, to obtain water sufficient for use in the fracture treatment. Because of these complications, a typical fracturing operation would become significantly more expensive, and often uneconomic.
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In addition, for some types of well stimulation, such as matrix acid stimulation, it is technologically infeasible to utilize produced water. Typically, matrix acid stimulation employs hydrofluoric acid (HF acid), which can only be mixed with fresh water. If HF acid comes into contact with formation brine, insoluble precipitants form, limiting the effectiveness of the acid stimulation system by plugging pore throats in the reservoir pore network. Such plugging can completely counteract the effects of the stimulation treatment. The reduction in the effectiveness of the treatment would require more frequent treatments, larger treatments, or both, which would lead to a significant increase in use of chemicals, emissions and heavy vehicle traffic hauling hazardous chemicals.

Finally, in its comment letter on the Draft EIR, DOGGR expresses its concern that the treatment and reuse of produced water for agricultural or other uses may adversely affect the balance between production and injection that needs to be maintained to prevent subsidence in the Project Area. DOGGR is mandated to prevent subsidence. It is concerned that, if produced fluids are redirected to other beneficial uses, there may not be fluid available to put to use in subsidence abatement. The County concurs with DOGGR’s view that alternative uses of produced water should not be at the expense of other considerations that equally important, such as subsidence management.

In sum, while operators are working to increase their use of produced water for oil and gas operations in Kern County, issues ranging from harms caused by chemical interactions, the lack of availability of produced water at certain sites, the lack of distribution infrastructure to deliver treated produced water to other beneficial uses (and the increased cost and environmental impact of constructing such infrastructure), as this alternative’s adverse impact on regional subsidence management, demonstrates that Alternative 6 is infeasible.

**Facts in Support of Finding:** The EIR, including Section 6.0 of the Draft EIR, contains facts and analysis supporting the Finding, some of which are set forth here. Under Alternative 6, applicants would be required to treat an amount produced water that is currently being disposed of via underground injection wells which is equivalent to the amount of M&I water used in Applicant’s operations. Although Alternative 6 would meet most of the Project objectives, it will have greater adverse environmentally effects that the Proposed project in some impact categories and is legally and economically infeasible. Therefore, the Board hereby rejects Alternative 6.

**Environmentally Superior Alternative**

The State CEQA Guidelines require the identification of an environmentally superior alternative to the Project. (CEQA Guidelines, Section 15126.6(e)(2).) An environmentally superior alternative is an alternative to the Project that would reduce and/or eliminate the significant adverse environmental impacts associated with the Project without creating other significant adverse environmental impacts and without substantially reducing and/or eliminating the environmental benefits attributable to the Project. Selection of an environmentally superior alternative is based on an evaluation of the extent to which the alternatives reduce or eliminate the significant impacts associated with the Project and on a comparison of the remaining environmental impacts of each alternative.

**Finding:** As compared to the Project, Alternative 1, the No Project Alternative, would have greater impacts than the Project in most categories. Alternative 2, the CUP Alternative, could slightly reduce the Project’s aesthetic impacts, but would also generate greater in environmental effects than the Project is multiple impact categories. As compared to the Project, Alternative 3, the Reduced Ground Disturbance Alternative, would have less impacts to aesthetic resources,
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agricultural resources, cultural resources, and biological resources, but these environmental benefits would be offset by greater environmental impacts related to air quality, greenhouse gas emissions, noise, and traffic. Alternative 4, the No Hydraulic Fracturing Alternative, would have less water quality and hazards impacts than the Project, but would have greater impacts related to air quality and greenhouse gas emission than would the Project. As compared to the Project, Alternative 6, the Recycled Water Alternative, could have reduced water supply impacts, but may increase hydrology and water quality impacts related to the use of produced water for other beneficial uses, as compared to the Project. In addition, the construction of new water treatment facilities and the infrastructure required to distribute treated produced water to other beneficial uses would have greater impacts related to aesthetics, air quality, biological resources, cultural resources, greenhouse gas emissions, and noise, as compared to the Project.

The Board hereby finds that the environmentally superior alternative is Alternative 5, the Low-Emission EOR Technology Alternative. Compared to the Project, Alternative 5 would have less environmental effects related to criteria air pollutant and greenhouse gas emissions. Moreover, Alternative 5 would not result in any environmental impacts that are greater than those of the Project. However, for the reasons discussed above, Alternative 5 is neither technologically nor economically feasible

Section VII – Findings Regarding Recirculation of the Draft EIR.

The Board of Supervisors adopts the following findings with respect to whether to recirculate the Draft EIR. Under section 15088.5 of the CEQA Guidelines, recirculation of an EIR is required when “significant new information” is added to the EIR after public notice is given of the availability of the Draft EIR for public review but prior to certification of the Final EIR. The term “information” can include changes in the project or environmental setting, as well as additional data or other information. New information added to an EIR is not “significant” unless the EIR is changed in a way that deprives the public of a meaningful opportunity to comment upon a substantial adverse environmental effect of the project or a feasible way to mitigate or avoid such an effect (including a feasible project alternative) that the project’s proponents have declined to implement. “Significant new information” requiring recirculation includes, for example, a disclosure showing that:

(1) A new significant environmental impact would result from the project or from a new mitigation measure proposed to be implemented.

(2) A substantial increase in the severity of an environmental impact would result unless mitigation measures are adopted that reduce the impact to a level of insignificance.

(3) A feasible project alternative or mitigation measure considerably different from others previously analyzed would clearly lessen the significant environmental impacts of the project, but the project’s proponents decline to adopt it.

(4) The Draft EIR was so fundamentally and basically inadequate and conclusory in nature that meaningful public review and comment were precluded.

(CEQA Guidelines, § 15088.5.)

Recirculation is not required where the new information added to the EIR merely clarifies or amplifies or makes insignificant modifications in an adequate EIR. The above standard is “not intend[ed] to promote endless rounds of revision and recirculation of EIRs.” (Laurel Heights
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_Improvement Assn. v. Regents of the University of California_ (1993) 6 Cal. 4th 1112, 1132.) “Recirculation was intended to be an exception, rather than the general rule.” _Ibid._

The Board of Supervisors recognizes that the Final EIR contains additions, clarifications, modifications, and other changes to the Draft EIR. Some comments on the Draft EIR either expressly or impliedly sought changes to proposed mitigation measures identified in the Draft EIR as well as additional mitigation measures. As explained in the Final EIR (Text Revisions), some of the suggestions were found to be appropriate and feasible and were adopted in the Final EIR. Where changes have been made to mitigation measures, these changes do not change the significance of any conclusions presented in the Draft EIR.

CEQA case law emphasizes that “[t]he CEQA reporting process is not designed to freeze the ultimate proposal in the precise mold of the initial project; indeed, new and unforeseen insights may emerge during investigation, evoking revision of the original proposal.” _Kings County Farm Bureau v. City of Hanford_ (1990) 221 Cal.App.3d 692, 736-737; see also _River Valley Preservation Project v. Metropolitan Transit Development Bd._ (1995) 37 Cal.App.4th 154, 168, fn. 11.) “CEQA compels an interactive process of assessment of environmental impacts and responsive project modification which must be genuine. It must be open to the public, premised upon a full and meaningful disclosure of the scope, purposes, and effect of a consistently described project, with flexibility to respond to unforeseen insights that emerge from the process. In short, a project must be open for public discussion and subject to agency modification during the CEQA process.” _Concerned Citizens of Costa Mesa, Inc. v. 33rd Dist. Agricultural Assn._ (1986) 42 Cal.3d 929, 936 (internal citations omitted). Here, the changes made to the Draft EIR in the Final EIR are exactly the kind of revisions that the case law recognizes as legitimate and proper.

The Board of Supervisors finds that none of the revisions to the Draft EIR made by, or discussion included in, the Final EIR involves “significant new information” triggering recirculation because the changes do not result in any new significant environmental effects, substantial increase in the severity of previously identified significant effects, or feasible project alternatives that would clearly lessen the environmental effects of the project. Similarly, no documentation produced by, or submitted to, the County and relied on by the County after publication of the Final EIR, including but not limited to the Late Comments described above, identifies any new significant effect, substantial increase in the severity of any environmental effect, or feasible project alternatives that would clearly lessen the environmental effects of the project. All project modifications were either environmentally benign or environmentally neutral and all additional documentation relied on by the County merely clarifies or amplifies conclusions in the EIR, and thus represent the kinds of common changes that occur and supplemental information that is received during the environmental review process as it works towards its conclusion. Under such circumstances, the Board of Supervisors hereby finds that recirculation of the EIR is not required.
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STATEMENT OF OVERRIDING CONSIDERATIONS

State CEQA Guidelines Section 15093

For

REVISIONS TO THE KERN COUNTY ZONING ORDINANCE – 2015(C) PROJECT

California Independent Petroleum Association
Independent Oil Producers Association
Western States Petroleum Association

Final Environmental Impact Report

(SCH# 2013081079)

Lead Agency: Kern County Planning and
Community Development Department

The California Environmental Quality Act (CEQA) requires a public agency to balance the benefits of a proposed project against its significant unavoidable adverse impacts in determining whether to approve a project. The Amendment to Title 19.98 and related provisions of the Kern County Zoning Ordinance (the Project) will result in environmental effects, which, although mitigated to the extent feasible by the implementation of mitigation measures required for the Project, will remain significant and unavoidable, as discussed in the Final Environmental Impact Report (EIR) and CEQA Findings of Fact. These impacts are summarized below and constitute those impacts for which this Statement of OVERRIDING Considerations is made.

1. Although implementation of mitigation measures would reduce the adverse visual changes experienced at individual key observation point locations, there are no mitigation measures that would preserve the existing character and quality of the Project Area and its surroundings. Project-related oil and gas activities would continue to produce visible changes to the existing environment and the resultant visual impact is considered significant and unavoidable. The Project has the potential to create a new source of substantial light or glare that would adversely affect day or nighttime views in the area. After implementation of MM 4.1-6, this impact would remain significant and unavoidable.

2. The oil and gas industry has a visible presence on the landscape of the San Joaquin Valley Floor and, the Project in combination with the implementation of other reasonably foreseeable oil and gas projects will continue to result in adverse visible changes within Kern County. Therefore, the Project’s cumulative contribution after implementation of the recommended mitigation measures would remain cumulatively significant and unavoidable as a result of these changes in visual character and quality.

3. The Project would continue to generate odors. With implementation of MM 4.3-7, impacts would still be significant and unavoidable.

Statement of Overriding Considerations - Section 15093
Revisions To The Kern County Zoning
Ordinance – 2015(C) Project

November 9, 2015
Board of Supervisors – FINAL
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4. The construction and operational activities of oil and gas activities that would be authorized under the Project would result in an increase of criteria pollutants (oxides of nitrogen [NOx], volatile organic compounds [VOC], carbon monoxide [CO], particulate matter less than 10 microns and less than 2.5 microns in diameter [PM10 and PM2.5, respectively]) in excess of the recommended criteria pollutant significance threshold adopted by the SJVAPCD Board. Emission sources in Kern County contribute between 11% and 21% of criteria pollutant emissions in the San Joaquin Valley Air Basin. The Project would contribute between 2% and 14% of these pollutants in the San Joaquin Valley Air Basin or between 19% and 97% of Kern County’s contribution. This analysis indicates that most sulfur dioxide (SO2) emissions in Kern County would originate from oil and gas activities and the majority of NOX emissions. Therefore, the proposed Project would have a cumulatively considerable contribution of criteria pollutant (NOX, PM10, PM2.5, CO and SO2) emissions to the Kern County portion of the SJVAB.

5. The geographic scope for cumulative impacts to agricultural and forest resources encompasses the whole of Kern County. The oil and gas exploration and production activities that would be authorized through implementation of the proposed Project along with projected population growth could result in significant and unavoidable cumulative impacts on farmland conversion.

6. Future oil and gas exploration and production activities related to the proposed Zoning Ordinance amendment could contribute to a significant cumulative impact on Project Area biological resources because future use and development of federal, state, and incorporated urban lands are not within the County’s jurisdiction or control. Future land uses and development could affect biological resources in each of these jurisdictions and would be undertaken as independent actions with associated impacts, avoidance and minimization requirements, and mitigation, if required, under applicable federal, state, regional and local agency law. Impacts would remain significant and unavoidable with mitigation.

7. While implementation of MM 4.5-1 through MM 4.5-5 would reduce Project impacts to a less than significant level, cumulative impacts to cultural and paleontological resources within and beyond the boundaries of the Project Areas (including on lands within incorporated cities and on lands owned by other government agencies) would be significant. The County lacks the jurisdiction and control over these other jurisdictions and thus cannot enforce cultural and paleontological resource mitigation measures to reduce cumulative cultural and paleontological impacts to a less than significant level.

8. The Project has the potential to conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases. With the implementation of MM 4.7-5, the impact would remain significant and unavoidable.

9. The geographic scope for cumulative impacts for GHGs includes the area within 6 miles of the external Project Area boundary, and areas (e.g., incorporated cities) within the Project Area. Climate change impacts are inherently global and cumulative, and not Project specific. While implementation of MM 4.7-1 through MM 4.7-3 and the 2014 Regional Transportation Plan mitigation measures would encourage reduction in GHG emissions at a regional level, they do not provide a mechanism that guarantees GHG emission reductions on a cumulative basis. The Project’s cumulative contribution after implementation of the recommended mitigation measures would remain cumulatively significant and unavoidable as a result of the GHG emissions associated with the Project.
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10. Although MM 4.17-2 through MM 4.17-4 would encourage the additional reuse of produced water, the extent to which oilfield operators can increase produced water reuse and decrease municipal and industrial demand is uncertain. As a result, potential impacts to groundwater levels and aquifer volumes would be significant and unavoidable with mitigation.

11. Project hydrology and water quality impacts could be cumulatively considerable impacts and thus considered significant. Implementation of MM 4.9-1 through MM 4.9-6 would reduce potential cumulative impacts to water quality, erosion risks, flooding and other hydrologic resources to less than significant with mitigation. Although MM 4.17-2 through MM 4.17-4 encourage the additional reuse of produced water, the extent to which oilfield operators can increase produced water reuse and decrease municipal and industrial demand is uncertain. As a result, cumulative impacts to groundwater would be significant and unavoidable. The County lacks jurisdiction and control over land conversions, and actions or approvals by other agencies that may cause cumulatively significant impacts to hydrology or water quality in the region; accordingly, this impact remains significant and unavoidable.

12. Implementation of MM 4.17-2 to MM 4.17-4 could reduce water supply impacts, but the allocation of water supplies and water demands, the complex laws affecting water rights, the many water districts that have legal jurisdiction over one or more sources of water in the Project Area, the varied technical feasibility of treating produced water, and the produced water reuse opportunities all present complex variables that fall outside the scope of the County’s jurisdiction or control under CEQA. Although mitigation measures would reduce Project water supply impacts, such impacts would remain significant and unavoidable after mitigation.

13. The geographic scope for cumulative impacts to utilities and service systems includes the area within 6 miles of the external Project Area. Cumulative impacts would be significant and unavoidable with respect to water supply, even with implementation of MM 4.17-1 through MM 4.17-5.
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Findings:

The Board of Supervisors finds and determines in approving the Project that the Final EIR has considered the identified means of lessening or avoiding the Project’s significant effects and that to the extent any significant direct or indirect environmental effects, including cumulative project impacts, remain unavoidable or not mitigated to below a level of significance after mitigation, such impacts are at an acceptable level in light of the social, legal, economic, environmental, technological and other project benefits discussed below, and such benefits override, outweigh, and make “acceptable” any such remaining environmental impacts of the project (CEQA Guidelines Section 15092(b)).

The following benefits and considerations outweigh such significant and unavoidable adverse environmental impacts. All of these benefits and considerations are based on the facts set forth in the Findings, the Final EIR, and the record of proceedings for the Project. Each of these benefits and considerations is a separate and independent basis that justifies approval of the Project, so that if a court were to set aside the determination that any particular benefit or consideration will occur and justifies project approval, this Board of Supervisors determines that it would stand by its determination that the remaining benefit(s) or consideration(s) is or are sufficient to warrant project approval.

Facts:

Each benefit set forth below constitutes an overriding consideration warranting approval of the Project, independent of the other benefits, and the Board of Supervisors determines that the adverse environmental impacts of the Project are “acceptable” if any one of these benefits will be realized.

The benefits set forth below are more fully outlined in the Final EIR and in the attached independent report entitled The Economic Contribution of the Oil and Gas Industry in Kern County.

The Project will provide benefits to Kern County as follows:

1. General Economic and Community Benefits of the Project to the County

Below are a few examples of how oil and gas companies contribute to the community and benefit the local economy. The Project, by spurring continued oil and gas activity in the County, ensures these benefits will persist.
Kern is the leading oil-producing county in the nation, yielding 145 million bbl of oil and 132 billion CF of gas annually, according to 2014 DOGGR data:

Top 20 Oil Producing Counties/Regions

These amounts represent 71% of California's oil production and 10% of the total U.S. oil production. Kern County produces 66% of the state's total gas production. The oil and gas industry is the number-one industry in Kern County in terms of gross domestic product and tax contributions. The industry generates significant regional economic activity. Extraction, production, refining, and petroleum product manufacturing result in highly tradable products that are consumed domestically and are also exported. These efforts produce high revenues, create high wage jobs, and contribute significant tax revenue to all levels of government. The impact of the oil and gas industry is very far-reaching. The approximately $3.8 billion paid in 2013 to local oil and gas employees creates a significant “ripple effect” phenomenon in the local economy. Direct activity includes the materials purchased and the employees hired by the industry itself. Indirect effects are those which stem from the employment and business revenues motivated by the purchases made by the industry and any of its suppliers. Increased output generates new money in the community, resulting in increased spending on new homes, durable goods such as cars and appliances, plus additional spending on restaurants and entertainment options.
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There is also a correlation between rising oil prices and regional economic growth. Seventy of GDP growth over the period 2001-2013 could be directly attributed to rising oil prices:

**Change in Kern Oil Prices vs. Kern GDP Growth, 2001-2013**

Local employment increases / decreases are associated with shifts in oil prices:

**Kern County O&G Industry Employment vs. Kern Oil Prices, 2001-2014**

Kern County’s oil and gas industry also significantly impacts the community through its philanthropic activity and contributions to local education efforts. More than $5.5 million was donated to more than 130 local non-profits and educational programs in 2014. Kern County’s two community colleges, California State University - Bakersfield, and K-12 funding are the most frequent beneficiaries of the financial support. Social service non-profits (e.g., the Homeless Center / Alliance Against Family Violence) and health-related organizations (e.g., the American Heart Association) also rank among the top recipients.

Several science, technology, engineering and math programs were started or sustained due to oil and gas industry funding at Taft College and Bakersfield College. California State University - Bakersfield opened its new Fabrication Lab in 2014 due, in large part, to oil and gas funding. These programs, plus others like a local welding program and a hands-on research program for high school students, help prepare students for a variety of careers. An industry-funded program at Taft College places students in...
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positions with local non-profit organizations; some are traditional students, and some are part of the Transition to Independent Living program which serves students with developmental / intellectual disabilities. The oil and gas funding provides wages for these students.

More than 15,000 oil and gas employee hours were volunteered for local programs in 2014, and the United Way states that oil and gas employees (plus oilfield service company employees) donated nearly $400,000 during the 2013/14 fiscal year.

2. Local Tax Revenues

As outlined in detail below, the oil and gas industry accounted for roughly 30% of the Kern County’s $100 billion in property tax valuations in 2014. Taxes paid by the oil and gas industry play a major role in the support of local infrastructure, including schools, public safety, streets and roads, and parks. The Project will advance the continued production of oil and gas resources in Kern County, thereby securing an important local tax base.

Kern County Assessed Property Values, 2014

![Graph showing Kern County assessed property values, 2014.](image)

Data source: Kern County, CA assessor's office
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Economic and Fiscal Contribution of the O&G Industry in Kern County, 2013

<table>
<thead>
<tr>
<th>ECONOMIC CONTRIBUTION</th>
<th>Employment</th>
<th>Labor Income</th>
<th>Value Added</th>
<th>Output</th>
</tr>
</thead>
<tbody>
<tr>
<td>Direct</td>
<td>23,857</td>
<td>$2,954.2</td>
<td>$4,891.6</td>
<td>$15,152.3</td>
</tr>
<tr>
<td>Indirect</td>
<td>7,073</td>
<td>$359.1</td>
<td>$517.7</td>
<td>$955.7</td>
</tr>
<tr>
<td>Induced</td>
<td>13,615</td>
<td>$508.0</td>
<td>$957.6</td>
<td>$1,580.8</td>
</tr>
<tr>
<td><strong>TOTAL CONTRIBUTION</strong></td>
<td><strong>44,544</strong></td>
<td><strong>$3,821.4</strong></td>
<td><strong>$6,366.9</strong></td>
<td><strong>$17,689.1</strong></td>
</tr>
</tbody>
</table>

| Percent of Total CA Contribution | 11.8% | 11.6% | 10.0% | 9.2% |
| Percent of County Total         | 11.0% | 17.0% | 17.9% | 27.0% |

<table>
<thead>
<tr>
<th>FISCAL CONTRIBUTION</th>
<th>State and Local ($ millions)</th>
<th>Federal ($ millions)</th>
<th>Total Taxes ($ millions)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sales and excise taxes</td>
<td>$607.6</td>
<td>$164.7</td>
<td>$772.3</td>
</tr>
<tr>
<td>Property taxes</td>
<td>$285.6</td>
<td></td>
<td>$285.6</td>
</tr>
<tr>
<td>Personal income taxes</td>
<td>$117.2</td>
<td>$307.7</td>
<td>$424.9</td>
</tr>
<tr>
<td>Corporate profits taxes</td>
<td>$31.6</td>
<td>$125.2</td>
<td>$156.8</td>
</tr>
<tr>
<td>Social insurance taxes</td>
<td>$13.9</td>
<td>$387.9</td>
<td>$401.8</td>
</tr>
<tr>
<td>Other taxes</td>
<td>$63.6</td>
<td>$28.9</td>
<td>$92.5</td>
</tr>
<tr>
<td>Fees, fines and permits</td>
<td>$26.3</td>
<td>$7.3</td>
<td>$33.7</td>
</tr>
<tr>
<td><strong>TOTAL TAX REVENUES</strong></td>
<td><strong>$1,145.7</strong></td>
<td><strong>$1,021.8</strong></td>
<td><strong>$2,167.5</strong></td>
</tr>
</tbody>
</table>

Source: LAEDC

3. Local Job Creation

Kern County's oil and gas industry is a significant source of overall employment and also a provider of high-paying jobs that require moderate-to-high skill levels (i.e. jobs in technical and engineering occupations). The Project will ensure that these important opportunities continue to be available in Kern County.

Oil and gas-related employment accounts for approximately 1 in 7 jobs in the County. Almost all segments of the industry pay higher wages than the Kern County average. In some more specialized or highly-skilled areas, wages are triple the 2014 county average of $41,100. The oil and gas industry offers higher-than-average wages in Kern County. Oil and gas extraction, consisting of highly skilled engineering and geological jobs, was the highest-paying segment with an average annual salary of nearly $143,000. The average annual salary for the entire sector was $78,000, which is nearly double the “all industries” annual average of $41,100:
## Kern County Oil and Gas Industry Annual Wages, 2014

<table>
<thead>
<tr>
<th>NAICS Sub-Sector</th>
<th>Annual Establishments</th>
<th>Annual Average Direct Employment</th>
<th>Total Annual Wages</th>
<th>Annual Wages per Employee</th>
</tr>
</thead>
<tbody>
<tr>
<td>NAICS 211 Oil and gas extraction</td>
<td>56</td>
<td>3,243</td>
<td>$462,232,109</td>
<td>$142,543</td>
</tr>
<tr>
<td>NAICS 213111 Drilling oil and gas wells</td>
<td>25</td>
<td>1,864</td>
<td>$149,487,414</td>
<td>$80,219</td>
</tr>
<tr>
<td>NAICS 213112 Support activities for oil and gas operations</td>
<td>112</td>
<td>6,432</td>
<td>$503,666,507</td>
<td>$78,307</td>
</tr>
<tr>
<td>NAICS 2212 Natural Gas Distribution</td>
<td>4</td>
<td>492</td>
<td>ND</td>
<td>ND</td>
</tr>
<tr>
<td>NAICS 23712 Oil and gas pipeline construction</td>
<td>20</td>
<td>4,876</td>
<td>$266,098,995</td>
<td>$54,574</td>
</tr>
<tr>
<td>NAICS 32411 Petroleum refineries</td>
<td>26</td>
<td>949</td>
<td>$119,544,267</td>
<td>$125,980</td>
</tr>
<tr>
<td>NAICS 333132 Oil and gas field machinery and equipment mfg</td>
<td>12</td>
<td>680</td>
<td>$43,305,000</td>
<td>$63,664</td>
</tr>
<tr>
<td>NAICS 4247 Petroleum merchant wholesalers</td>
<td>23</td>
<td>375</td>
<td>$25,277,950</td>
<td>$67,376</td>
</tr>
<tr>
<td>NAICS 447 Gasoline stations</td>
<td>199</td>
<td>2,349</td>
<td>$49,312,745</td>
<td>$20,992</td>
</tr>
<tr>
<td>NAICS 45431 Fuel dealers</td>
<td>11</td>
<td>74</td>
<td>$3,102,702</td>
<td>$42,071</td>
</tr>
<tr>
<td>NAICS 486 Pipeline transportation</td>
<td>13</td>
<td>376</td>
<td>$34,200,826</td>
<td>$91,152</td>
</tr>
<tr>
<td><strong>Total, Oil and Gas Industry</strong></td>
<td>501</td>
<td>21,710</td>
<td><strong>$1,656,307,615</strong></td>
<td><strong>$76,292</strong></td>
</tr>
<tr>
<td><strong>Total, All Industries</strong></td>
<td>16,267</td>
<td>254,620</td>
<td><strong>$10,466,665,862</strong></td>
<td><strong>$41,107</strong></td>
</tr>
</tbody>
</table>

Across the oil and gas industry in 2014, there were approximately 50,000 direct, indirect, and induced energy-related jobs in Kern County. Even using more conservative numbers (excluding indirect employment opportunities at gas stations, fuel dealers, petroleum wholesale, equipment manufacturing, pipeline construction and the like), the Final EIR estimates that 16,752 workers in Kern County were employed in the oil and gas extraction industry in 2012, with the state employment office measuring a steady increase of employment from 2002 to 2012 at which time growth stabilized around 12,000.

### Oil and Gas Direct Employment in Kern County, 2013 vs. 2014
Kern County is the only county in the western region with an above average concentration of oil and gas-related jobs. Kern County is heavily concentrated in oil and gas extraction as well as in oil and gas pipeline construction:

Counties with the Highest Relative Concentration of Employment (Location Quotient) in the Oil and Gas Extraction Industry, 2014

The oil and gas industry is one of the most impactful industry sectors on economic activity throughout the region:

Economic Impact of O&G Expenditures and Production
EXHIBIT B

<table>
<thead>
<tr>
<th>Impact per $1 million of O&amp;E Extraction Expenditures</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Impacts</td>
<td>Jobs</td>
</tr>
<tr>
<td>Direct</td>
<td>1.39</td>
</tr>
<tr>
<td>Indirect</td>
<td>2.44</td>
</tr>
<tr>
<td>Induced</td>
<td>2.00</td>
</tr>
<tr>
<td>Total</td>
<td>5.83</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Impact per $1 million O&amp;E Production</th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Direct</td>
<td>1.80</td>
<td>$133,757</td>
<td>$542,968</td>
<td>$1,000,000</td>
</tr>
<tr>
<td>Indirect</td>
<td>2.18</td>
<td>$157,460</td>
<td>$281,037</td>
<td>$469,367</td>
</tr>
<tr>
<td>Induced</td>
<td>1.83</td>
<td>$93,727</td>
<td>$168,233</td>
<td>$279,367</td>
</tr>
<tr>
<td>Total</td>
<td>5.80</td>
<td>$384,945</td>
<td>$992,238</td>
<td>$1,748,733</td>
</tr>
</tbody>
</table>

Source: Implan (CA Model)

Kern County recently ranked in the Top 10 in the U.S. in terms of upward mobility and in the overall concentration of science, technology, engineering and math jobs. A majority of Kern County's hi-tech employment is in the oil and gas industry (an estimated 65%), where most positions require technical degrees rather than advanced degrees. Bakersfield College is ranked 6th in the nation among similar schools with regard to which schools' graduates received "added value," based on their mid-career earnings levels. Bakersfield College students were predicted to earn $56,957 annually based on student characteristics and college type, but their mid-career salaries surpassed that prediction, coming in at an average of $67,200 (15% higher than predicted). California State University - Bakersfield also has graduates earning $75,400 at the mid-career point, 11.6% better than the predicted $66,599. The high performance of these colleges and their graduates was due to a combination of factors, including extensive science, technology, engineering and math curriculum in the schools, and the programs' proximity to energy employment centers.

4. Compliance with the Goals and Policies of the Kern County General Plan (General Plan) and Zoning Ordinance

The Project is consistent with various Goal and Policies of the Kern County General Plan, including:
- Protect areas of important mineral, petroleum, and agricultural resource potential for future use.
- Encourage safe and orderly energy development within the County, including research and demonstration projects, and to become actively involved in the decision and actions of other agencies as they affect energy development in Kern County.
- Support and work toward the elimination of disincentives for business and industry to prosper in Kern County, and create special economic development programs to encourage commerce and industry to locate in Kern County.
- Periodically review and update procedures for granting development approvals and permits and facilitate the processing of land use entitlements.
EXHIBIT B

The General Plan Energy Element notes the importance of the oil and gas industry to Kern County. The project will further the Goals and Objectives of the General Plan by enhancing the economic stability of the oil and gas industry in the County.

5. State, Regional and Federal Tax Revenue

In 2013, economic activity associated with the oil and gas industry in Kern County is estimated to have generated $1.15 billion in state and local tax revenue, plus $1.02 billion in federal tax revenue. The Project will foster the continued production of oil and gas resources in Kern County, thereby securing an important source of tax revenue for California, the western region and the nation.

6. Energy Independence

The Project will allow California producers to better meet current demand and to keep pace with population growth. The Project will also help California to take steps toward strengthening its energy independence, which is financially and environmentally desirable.

California is currently a net importer of oil, producing only about 37 percent of the petroleum that it uses:

Sources Supplying Crude Oil to California Refineries

Dependence on foreign oil makes the state vulnerable to energy shortages and price spikes, and makes us dependent on foreign countries for energy. In addition, Californians then miss out on critical infrastructure funding since imported oil is exempt from California taxes (while high-paying oil and gas
jobs then go to foreign countries or other states). All oil and gas produced in California is used here and is produced under the most stringent regulations in the world.
### Exhibit C  
**Mitigation Monitoring and Reporting Program for Kern County Gas & Oil Zoning Ordinance Environmental Impact Report**

<table>
<thead>
<tr>
<th>Impact</th>
<th>Mitigation Measure</th>
<th>Time Frame for Implementation</th>
<th>Responsible Monitoring Agency</th>
<th>Date</th>
<th>Initials</th>
</tr>
</thead>
<tbody>
<tr>
<td>4.1</td>
<td><strong>Aesthetics</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4.1-3</td>
<td><strong>MM 4.1-1</strong></td>
<td>The Applicant shall use existing roads to access oil production areas, or shall construct new roads (or extend existing roads) to minimize the amount of disturbance without impeding existing surface use.</td>
<td>Delineated on Site Plan; During construction and operation</td>
<td>Kern County Planning and Community Development Department (KC PCDD)</td>
<td></td>
</tr>
</tbody>
</table>
|        | **Steps to Compliance:** | A. The Applicant shall implement measures related to use of access roads as specified in the mitigation measures.  
B. The Kern County Planning and Community Development Department will verify. |                                |      |         |
|        | **MM 4.1-2**        | All derricks, boilers, and other drilling equipment used to drill, repair, clean out, deepen or redrill any well with oil, gas, or other hydrocarbon shall be removed from the drill site within 90 days after completion of production tests or after abandonment of any well. Earthen sumps used in drilling shall be filled within 90 days after any well has been placed in production (unless such sumps are to be used within six months for the drilling of another well), and any sump used in productions shall be filled after its abandonment and restored to a uniform grade within ninety days. | During construction and operation | KC PCDD |     |         |
|        | **Steps to Compliance:** | A. The Applicant shall implement measures as specified in the mitigation measures.  
B. The Kern County Planning and Community Development Department will verify. |                                |      |         |
|        | **MM 4.1-3**        | Sumps and ponds shall be permitted only to the extent authorized by the Central Valley Regional Water Quality Control Board (via waiver, Waste Discharge Requirements, or other form of authorized written documentation) and shall comply with all applicable legal requirements and mitigation measures for sumps serving as storage, percolation or evaporation ponds for produced water. | Delineated on Site Plan; During construction and operation | KC PCDD |     |         |
|        | **Steps to Compliance:** | A. The Applicant shall implement measures as specified in the mitigation measures.  
B. The Kern County Planning and Community Development Department will verify. |                                |      |         |
|        | **MM 4.1-4**        | Except where located within agricultural land, new oil or gas tanks located within 200 feet of any sensitive receptor shall be partially screened from public view by shrubs, trees or solid screen fencing. Similarly, new pump sites (including multiple well pump sites) within 500 feet of any dwelling must be surrounded by a fence, at least 6 feet in height, constructed of dark-colored chain-link with wood or metal slates, dark green or brown fabric material, or other more visually restrictive fencing material. The height of all new pumping units shall not exceed 80 feet, and shall be painted in accordance with the Kern County Zoning Ordinance. | Delineated on Site Plan; During construction and operation | KC PCDD |     |         |
|        | **Steps to Compliance:** | A. The Applicant shall implement measures as specified in the mitigation measures.  
B. The Kern County Planning and Community Development Department will verify. |                                |      |         |
|        | **MM 4.1-5**        | Project signage is limited to directional, warning, safety, security and identification signs in connection with oil, gas, or other hydrocarbon drilling and development operations in accordance with Chapter 19.84.135 of the Kern County Zoning Ordinance. For any signage necessary for wayfinding, safety, or security, the Applicant shall use the minimum necessary to adequately communicate the required information. | Delineated on Site Plan; During construction and operation | KC PCDD |     |         |
|        | **Steps to Compliance:** | A. The Applicant shall implement measures as specified in the mitigation measures. |                                |      |         |
### Exhibit C  Mitigation Monitoring and Reporting Program for Kern County Gas & Oil Zoning Ordinance Environmental Impact Report

<table>
<thead>
<tr>
<th>Impact</th>
<th>Mitigation Measure</th>
<th>Time Frame for Implementation</th>
<th>Responsible Monitoring Agency</th>
<th>Date</th>
<th>Initials</th>
</tr>
</thead>
<tbody>
<tr>
<td>4.1-4</td>
<td><strong>MM 4.1-6</strong></td>
<td>Delineated on Site Plan;</td>
<td>KC PCDD</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>During operation</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Steps to Compliance:**
A. The Applicant shall implement measures as specified in the mitigation measures.
B. The Kern County Planning and Community Development Department will verify.

#### 4.1-5
Implement MM 4.1.1 through 4.1.6 Steps to Compliance

### Agricultural Resources

<table>
<thead>
<tr>
<th>Impact</th>
<th>Mitigation Measure</th>
<th>Time Frame for Implementation</th>
<th>Responsible Monitoring Agency</th>
<th>Date</th>
<th>Initials</th>
</tr>
</thead>
<tbody>
<tr>
<td>4.2-1</td>
<td><strong>MM 4.2-1</strong></td>
<td>Delineated on Site Plan;</td>
<td>KC PCDD</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Prior to Issuance of Oil and Gas Conformity or Minor Activity Review Permit</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Steps to Compliance:**
A. The Applicant shall implement measures as specified in the mitigation measures.
B. The Kern County Planning and Community Development Department will verify.

For new oil and gas exploration and extraction activities that are: 1) on land designated Prime, Farmland of Statewide Importance or Unique Farmland; and 2) that have been actively farmed 5 years or more out of the last 10 years, agricultural land mitigation is required at a ratio of 1:1. The 1:1 ratio is applied to actual ground disturbance area for oil and gas activities (inclusive of temporary construction and permanent operational impact areas), but excludes non-farmed existing areas such as roads, and tank and maintenance areas, and lands for which agricultural mitigation has previously been provided at a 1:1 ratio. Prior to ground disturbing activity, the Applicant shall submit to the County written evidence of completion of one or more of the following measures to achieve this 1:1 mitigation ratio:

- **a.** Funding and/or purchasing agricultural conservation easements or similar instrument acceptable to the County (to be managed and maintained by an appropriate entity).
- **b.** Purchasing of credits for conservation of agricultural lands from an established agricultural farmland mitigation bank or an equivalent agricultural farmland preservation program managed by the County.
- **c.** Restoring agricultural lands to productive use through the removal of legacy oil and gas production equipment, including well abandonment and removal of surface equipment.
- **d.** Participating in any agricultural land mitigation program adopted by Kern County that provides equal or more effective mitigation than the measures listed above.

Mitigation lands shall meet the definition of Prime Farmland, Farmland of Statewide Importance, and/or Unique Farmland, and be of similar or higher agricultural quality as the lands, as established by the California Department of Conservation. Completion of the selected measure or, with the Kern County Planning and Community Development Director’s approval, a combination of measures, are to occur on qualifying land in Kern County. If qualifying lands cannot be found in Kern County, upon written application to the County, the mitigation lands may be located within the San Joaquin Valley (San Joaquin,
<table>
<thead>
<tr>
<th>Impact</th>
<th>Mitigation Measure</th>
<th>Time Frame for Implementation</th>
<th>Responsible Monitoring Agency</th>
<th>Date</th>
<th>Initials</th>
</tr>
</thead>
<tbody>
<tr>
<td>4.2-5</td>
<td>To protect crops and structures adjacent to oil and gas activities on active agricultural lands, each Applicant/operator shall comply with the following mitigation measures set forth in other chapters of this Environmental Impact Report:</td>
<td>Delineated on Site Plan; Prior to Issuance of Oil and Gas Conformity or Minor Activity Review Permit</td>
<td>KC PCDD</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>a. Surface water runoff and drainage on the well pads shall be mitigated as described in mitigation measures for Hydrology and Water Quality.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>b. A Spill Prevention Countermeasure and Contingency Plan or Division of Oil Gas and Geothermal Resources Assembly Bill 1960 spill plan, as applicable, shall be prepared for the site and oil and chemical spills treated in accordance with the Division of Oil Gas and Geothermal Resources Senate Bill 4 Regulations for the site to protect adjacent farmland, as described in mitigation measures for Hazards.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>c. Speed limits for oil and gas trucks shall be posted on unpaved roads to reduce dust generation; in the absence of signage, speed limits shall be limited to 25 miles per hour (or an alternate, more stringent dust suppression standard as adopted by the San Joaquin Valley Air Pollution Control District), and Applicants shall attest that employees have been trained in the appropriate speed limits.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>d. Unpaved roads shall be watered or otherwise treated for dust suppression and control as described in Mitigation Measure for Air Quality, unless speeds are restricted to 15 mph.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>e. Vehicle tracking control shall be installed where unpaved roads intersect with public paved roads, to prevent tracking of mud, dust, and weed seeds off site, unless speeds are restricted to 15 mph. This shall consist of a 50-foot length of a 3-inch-thick layer of gravel one inch or larger in diameter (or an alternate, more stringent dust suppression technique as approved by the San Joaquin Valley Air Pollution Control District).</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>f. Stormwater control shall be required at construction sites during well drilling, reworking, and/or decommissioning as described in mitigation measures for Hydrology.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>g. Hazardous materials shall be stored within secondary containment as described in mitigation measures for Hazards.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>h. Overhead electrical or communication lines shall be shown on the Site Plan, and shall be aligned to the greatest extent feasible with existing</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
### Exhibit C  Mitigation Monitoring and Reporting Program for Kern County Gas & Oil Zoning Ordinance Environmental Impact Report

<table>
<thead>
<tr>
<th>Impact</th>
<th>Mitigation Measure</th>
<th>Time Frame for Implementation</th>
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<th>Date</th>
<th>Initials</th>
</tr>
</thead>
</table>
| access roads and the minimum distance between the access road and the well installation or other oil and gas facility, parallel to tree or row crops, described further in mitigation measures for Public Utilities. If the use of existing roads is not feasible, lines shall be routed to minimize surface disturbance and minimize the impacts to surface activity.  
   i. Underground pipelines serving the Project shall be shown on the Site Plan with locations marked and recorded with USAA, and periodically inspected and maintained as described in mitigation measures for Hazards. | Prior to Issuance of Oil and Gas Conformity or Minor Activity Review Permit | San Joaquin Valley Air Pollution Control District; KC PCDD | | | |

#### Air Quality

| 4.3-1  | MM 4.3-1 | Consistent with the requirements of the San Joaquin Valley Air Pollution Control District Regulation II-Permits, the Applicant shall obtain an Authority to Construct permit and a Permit to Operate for any facility or equipment requiring a permit from the San Joaquin Valley Air Pollution Control District, such as stationary sources required to obtain permits pursuant to District Rule 2010. All emissions increases from permitted equipment shall comply with District Rule 2201. |

| 4.3-2  | MM 4.3-2 | The Applicant shall develop and implement a Fugitive Dust Control Plan in compliance with San Joaquin Valley Air Pollution Control District fugitive dust suppression regulations to further reduce emissions, during construction, of particulate matter that is 10 microns or less and 2.5 microns or less in diameter. The Fugitive Dust Control Plan shall include:  
  a. Name(s), address(es), and phone number(s) of person(s) responsible for the preparation, submission, and implementation of the plan.  
  b. Description and location of operation(s).  
  c. Listing of all fugitive dust emissions sources included in the operation.  
  d. The following dust control measures shall be implemented:  
     1. All on-site unpaved roads shall be effectively stabilized using water or chemical soil stabilizers that can be determined to be as efficient as or more efficient for fugitive dust control than California Air Resources Board approved soil stabilizers, and that shall not increase any other environmental impacts including loss of vegetation.  
     2. All material excavated or graded will be sufficiently watered to prevent excessive dust. Watering will occur as needed with complete coverage of disturbed areas. The excavated soil piles will be watered as needed to limit dust emissions to less than 20% opacity or covered with temporary coverings.  
     3. Construction activities that occur on unpaved surfaces will be | Prior to Issuance of Oil and Gas Conformity or Minor Activity Review Permit | KC PCDD | | | |

Steps to Compliance:
A. The Project Proponent shall submit an application to obtain Authority to Construct permit and Permit to Operate;  
B. The San Joaquin Valley Air Pollution Control District will review and approve prior to issuance of the permits.

Steps to Compliance:
A. The Project Proponent shall prepare a Fugitive Dust Control Plan and submit it to the Kern County Planning and Community Development Department prior to construction.  
B. The Kern County Planning and Community Development Department will approve the Plan prior to issuing grading or building permits.
<table>
<thead>
<tr>
<th>Impact</th>
<th>Mitigation Measure</th>
<th>Time Frame for Implementation</th>
<th>Responsible Monitoring Agency</th>
<th>Date</th>
<th>Initials</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>discontinued during windy conditions when winds exceed 25 miles per hour and those activities cause visible dust plumes. Construction activities may continue if dust suppression measures are used to minimize visible dust plumes.</td>
<td>Delineated on Site Plan; During construction and operation</td>
<td>KC PCDD</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>4. Track-out debris onto public paved roads shall not extend 50 feet or more from an active operation and track-out shall be removed or isolated such as behind a locked gate at the conclusion of each workday, except on agricultural fields where speeds are limited to 15 mph.</td>
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<td></td>
<td>5. All hauling materials should be moist while being loaded into dump trucks.</td>
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<td></td>
<td>6. All haul trucks hauling soil, sand, and other loose materials on public roads shall be covered (e.g., with tarps or other enclosures that would reduce fugitive dust emissions).</td>
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<td></td>
<td>7. Soil loads should be kept below 6 inches or the freeboard of the truck.</td>
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<td>8. Drop heights should be minimized when loaders dump soil into trucks.</td>
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<td></td>
<td>9. Gate seals should be tight on dump trucks.</td>
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<td></td>
<td>10. Traffic speeds on unpaved roads shall be limited to 25 miles per hour.</td>
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<td></td>
<td>11. All grading activities shall be suspended when visible dust emissions exceed 20%.</td>
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<td></td>
<td>12. Other fugitive dust control measures as necessary to comply with San Joaquin Valley Air Pollution Control District Rules and Regulations.</td>
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<tr>
<td></td>
<td>13. Disturbed areas should be minimized.</td>
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<tr>
<td></td>
<td>14. Disturbed areas should be re-vegetated as soon as possible after disturbance if area is no longer needed for oil and gas activities.</td>
<td></td>
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<td></td>
</tr>
</tbody>
</table>

**Steps to Compliance:**

A. The Project Proponent shall take the specified steps to reduce exhaust emissions during construction.

B. The Kern County Building Inspection Department will verify in the field during construction.
### Mitigation Monitoring and Reporting Program for Kern County Gas & Oil Zoning Ordinance Environmental Impact Report

<table>
<thead>
<tr>
<th>Impact</th>
<th>Mitigation Measure</th>
<th>Time Frame for Implementation</th>
<th>Responsible Monitoring Agency</th>
<th>Date</th>
<th>Initials</th>
</tr>
</thead>
<tbody>
<tr>
<td>2449(d)(2)(A).</td>
<td>b. All equipment engines shall be maintained in good operating condition and in proper tune per manufacturers’ specifications.</td>
<td>Delineated on Site Plan; During construction and operation</td>
<td>KC PCDD</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>MM 4.3-4</strong></td>
<td>To further reduce emissions of oxides of nitrogen from on-road heavy-duty diesel haul vehicles:</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>a. 2007 engines or pre-2007 engines shall comply with California Air Resources Board retrofit requirements set forth in California Code of Regulations Title 13 Section 2025.</td>
<td></td>
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<td></td>
</tr>
<tr>
<td></td>
<td>b. All on-road construction vehicles, except those meeting the 2007/California Air Resources Board-certified Level 3 diesel emissions controls, shall meet all applicable California on-road emission standards and shall be licensed in the State of California. This does not apply to worker personal vehicles.</td>
<td></td>
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<tr>
<td></td>
<td>c. All on-road construction vehicles shall be properly tuned and maintained in accordance with the manufacturers’ specifications.</td>
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</tr>
<tr>
<td><strong>Steps to Compliance:</strong></td>
<td></td>
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</tr>
<tr>
<td></td>
<td>A. The Project Proponent shall take the specified steps to reduce exhaust emissions during construction.</td>
<td></td>
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</tr>
<tr>
<td></td>
<td>B. The Kern County Building Inspection Department will verify in the field during construction.</td>
<td></td>
<td></td>
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</tr>
<tr>
<td>4.3-2</td>
<td>Implement MM 4.3-1 through MM 4.3-4 Steps to Compliance.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>4.3-3</strong></td>
<td><strong>MM 4.3-5</strong> Construction:</td>
<td></td>
<td></td>
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</tr>
<tr>
<td></td>
<td>The Site Plan Application shall include a Site Vicinity Figure showing the location of any sensitive receptor(s) within 3,000 feet of the construction site (potential impact area) for the proposed new well or other ancillary facility or equipment (excluding pipelines).</td>
<td></td>
<td></td>
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</tr>
<tr>
<td></td>
<td>a. If there are no sensitive receptors within this potential impact area, then no construction mitigation measures shall be required.</td>
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<tr>
<td></td>
<td>b. If there are sensitive receptors within the potential impact area, then additional information must be provided showing the setback from the closest edge of the well pad to the property line of the nearest sensitive receptor. The minimum distances shall be as follows:</td>
<td></td>
<td></td>
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<tr>
<td><strong>Well Depth (Feet)</strong></td>
<td><strong>Minimum Setback Distance from Well Site to Adjacent Property Line of an Existing Sensitive Receptor (Feet)</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Western Subarea</td>
<td></td>
<td></td>
<td></td>
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<td></td>
</tr>
<tr>
<td>10,000</td>
<td>367</td>
<td></td>
<td></td>
<td></td>
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</tr>
<tr>
<td>5,000</td>
<td>116</td>
<td></td>
<td></td>
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</tr>
<tr>
<td>2,000</td>
<td>NA</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Central Subarea</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>10,000</td>
<td>367</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Impact</td>
<td>Mitigation Measure</td>
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<tr>
<td>5,000</td>
<td>116</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2,000</td>
<td>NA</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Eastern Subarea</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>10,000</td>
<td>296</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5,000</td>
<td>NA</td>
<td></td>
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<td></td>
<td></td>
</tr>
<tr>
<td>2,000</td>
<td>NA</td>
<td></td>
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</tbody>
</table>

c. If the above setbacks cannot be met, and for existing wells, the Applicant shall provide a site-specific or other risk assessment to the San Joaquin Valley Air Pollution Control District, which may include implementation of one or more of the following risk minimization measures, or other such measures that are demonstrated by the Applicant to the San Joaquin Valley Air Pollution Control District, to achieve a level of risk less than the threshold risk level, and shall provide confirmation from the San Joaquin Valley Air Pollution Control District that the activity that is the subject of the application will not exceed the risk threshold:
1. Placement of engines in the potential impact area away from the sensitive receptors.
2. Utilize directional drilling to locate rig away further from the sensitive receptor(s).
3. Use of late-model engines, low-emission diesel products, alternative cleaner fuels (e.g., natural gas or liquefied petroleum gas), engine retrofit technology, add-on devices such as diesel particulate filters or oxidation catalyst, and/or other options as such become available to reduce emissions from off-road and other equipment.
4. Utilize electricity line power if available.
5. Shutdown all equipment when not in use, and otherwise minimize engine idling by limiting idling to 15 minutes.
6. Use of automatic rigs.
7. Assist and pay to relocate residents to temporary lodging during well construction, drilling, and completion activities, if such residents voluntarily agree to such relocation.

**MM 4.3-6** Applicants shall include in their Worker Environmental Awareness Program information on how to recognize the symptoms of Valley Fever and to promptly report suspected symptoms of work-related Valley Fever to a supervisor. Workers exposed to fugitive dust shall be provided with the option of using a filter fitted over their nose and mouth, secured by a strap, including training for

<table>
<thead>
<tr>
<th>Steps to Compliance:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Provide with Application Package;</td>
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<tr>
<td>During construction and operation</td>
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<tr>
<td>KC PCDD</td>
</tr>
</tbody>
</table>
### Exhibit C  Mitigation Monitoring and Reporting Program for Kern County Gas & Oil Zoning Ordinance Environmental Impact Report

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<tbody>
<tr>
<td>4.3.4</td>
<td>MM 4.3-7 Applicant shall submit an Odor Complaint Management Plan to the County prior to receiving its first Site Plan conformity review approval. The Plan shall include a designated contact for odor complaints, creation of a log for odor complaints, and protocol for handling odor complaints. The Odor log and report files shall be available for public review upon request.</td>
<td>Provide with Application Package; During construction and operation</td>
<td>KC PCDD</td>
<td></td>
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</tbody>
</table>

#### Steps to Compliance:
A. Submit an Odor Complaint Management Plan to the Kern County Planning and Community Development Department;
B. The Kern County Planning and Community Development Department will approve the Plan prior to issuing the oil and gas conformity review approval.

4.3.5 Implement MM 4.3-1 through MM 4.3-4 Steps to Compliance.

4.3.6 MM 4.3-8 For criteria emissions, not required to be offset under a District rule as described in MM 4.3-1, and for Project vehicle and other mobile source emissions, the County will enter into an emission reduction agreement with the San Joaquin Valley Air Pollution Control District, pursuant to which the Applicant shall pay fees to fully offset Project emissions of oxides of nitrogen, reactive organic gases, and particulate matter of 10 microns or less in diameter (including as applicable mitigating for reactive organic gases by additive reductions of particulate matter of 10 microns or less in diameter) (collectively, “designated criteria emissions”) to avoid any net increase in these pollutants. The air quality mitigation fee shall be paid to the County as part of the Site Plan review and approval process, and shall be used to reduce designated criteria emissions to fully offset Project emissions that are not otherwise required to be fully offset by District permit rules and regulations.

As an alternative to paying the fee, an Applicant may reduce emissions for one or more designated criteria emissions through actual reductions in air emissions from other Applicant sources, as submitted to the County and validated by the District. This Project offset requirement alternative shall be enforced by the County and verified by San Joaquin Valley Air Pollution Control District, and must be approved in advance by the San Joaquin Valley Air Pollution Control District. If a voluntary emission reduction agreement is not executed by the County and San Joaquin Valley Air Pollution Control District, then each Applicant must mitigate for the full amount of designated criteria pollutants as verified by the San Joaquin Valley Air Pollution Control District, with evidence of such District-verified offsets presented as part of the Site Plan Conformity Review application documentation.

#### Steps to Compliance:
A. The Project Proponent shall take the specified steps to reduce emissions according to the emission reduction agreement between the County and the San Joaquin Valley Air Pollution Control District.
B. The San Joaquin Valley Air Pollution Control District will verify compliance with the offset requirements.
### Exhibit C  Mitigation Monitoring and Reporting Program for Kern County Gas & Oil Zoning Ordinance Environmental Impact Report

<table>
<thead>
<tr>
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<th>Date</th>
<th>Initials</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Examples of feasible air emission reduction activities that may be funded by air quality fees paid by Applicant or proposed and implemented by the Applicant under the emission reduction agreement include, but are not limited to, the following:</td>
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<tr>
<td></td>
<td>a. Replacing or retrofitting diesel-powered stationary equipment such as motors on generators, pumps and wells with electric or other lower-emission engines that are not subject to Title V reductions.</td>
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<td></td>
<td>b. Replacing or retrofitting diesel-powered school, transit, municipal and other community mobile sources such as buses, car fleets, and maintenance equipment, with electric or other lower-emission engines.</td>
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<td>c. Reducing emissions from public infrastructure sources such as water and wastewater treatment and conveyance facilities, and reducing water-related emissions through water conservation and reclamation.</td>
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<td>d. Funding lower-emission equipment and processes for local businesses, schools, non-profit and religious institutions, hospitals, city and county facilities.</td>
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### Biological Resources

**4.4.1 MM 4.4-1** A qualified biologist shall conduct a biological reconnaissance survey in potential special-status species habitat to advise the project proponent of potential project impacts, potential surveying needs, and advise on the need for focused special status surveys. Early consultation with United States Fish and Wildlife Service and California Department of Fish and Wildlife would confirm the biologist's advice and/or inform project proponents of additional recommendations. Based on the information gathered from the biological reconnaissance survey and any informal consultation with United States Fish and Wildlife Service and California Department of Fish and Wildlife, focused/protocol surveys shall be conducted by a qualified or permitted biologist (whichever is applicable) well in advance of ground disturbing activities to determine the presence/absence of sensitive species protected by state and federal Endangered Species Acts and potential project impacts to those species. The survey shall be conducted in accordance with the most current standard protocol of United States Fish and Wildlife Service and California Department of Fish and Wildlife. The purpose of focused/protocol surveys is to confirm the presence or absence of any species listed as threatened or endangered under the federal Endangered Species Act, threatened or endangered under the California Endangered Species Act, rare or endangered in the California Native Plant Protection Act, or designated as fully-protected in the California Fish and Game Code (collectively, "Protected Species"), and to confirm the presence or absence of any other species considered "sensitive" under California Environmental Quality Act ("Sensitive Species"), and to identify and implement feasible avoidance and minimization measures for such species. The surveys shall be conducted in accordance with all currently-applicable presence and absence survey and/or species protocols established by

<table>
<thead>
<tr>
<th>Steps to Compliance:</th>
<th>Provide with Application Package; During construction and operation</th>
<th>California Department of Fish and Wildlife; U.S. Fish and Wildlife Service; KC PCDD</th>
</tr>
</thead>
<tbody>
<tr>
<td>A.</td>
<td>A qualified biologist must conduct the surveys.</td>
<td></td>
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<tr>
<td>B.</td>
<td>A survey plan must be submitted to USFWS and the CDFW for approval prior to surveys.</td>
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<td>C.</td>
<td>Results from the surveys must be submitted to the USFWS, CDFW and Kern County Planning and Community Development Department.</td>
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<tr>
<td>D.</td>
<td>The survey report must contain avoidance and minimization measures if sensitive species were documented within the survey area.</td>
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<tr>
<td>Impact</td>
<td>Mitigation Measure</td>
<td>Time Frame for Implementation</td>
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<tr>
<td>--------</td>
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<tr>
<td></td>
<td>the United States Fish and Wildlife Service and the California Department of Fish and Wildlife (&quot;Species Protocols&quot;). In the absence of any approved protocols, the survey shall extend for a minimum of 250 feet from all areas where any ground disturbance activities would occur, provided that permission to access has been obtained. As an alternative to individual pre-disturbance surveys for each application, and after consultation with and concurrence by the California Department of Fish and Wildlife and the United States Fish and Wildlife Service, multiple parcels or areas of oil and gas production lands (including lands which may have multiple surface or mineral ownership) may be consolidated for the purpose of more efficiently managing pre-disturbance surveys and determinations regarding the absence of protected species in areas of proposed new ground disturbance activities. A biological monitor shall be present during ground-disturbing activities in project locations that have special-status species habitat or are adjacent to potential special-status species habitat. Within 30 days before any ground disturbing activities in special-status species habitat, a qualified biologist shall conduct a pre-disturbance survey to record existing conditions of the site, determine if conditions have changed since the reconnaissance or focused/protocol surveys were conducted, and to determine where sensitive species avoidance buffers will be established.</td>
<td>Provide with Application Package; During construction and operation</td>
</tr>
<tr>
<td>MM 4.4-2</td>
<td>No incidental take of any species listed as threatened or endangered under the federal Endangered Species Act, threatened or endangered under the California Endangered Species Act, rare or endangered in the California Native Plant Protection Act, or designated as fully-protected in the California Fish and Game Code (Protected Species) may occur unless the incidental take is authorized by applicable state and federal wildlife agencies in the form of a permit or other written authorization, an approved state or federal conservation plan, or in accordance with an approved regional plan such as the Draft Valley Floor Habitat Conservation Plan and/or Natural Community Conservation Plan.</td>
<td></td>
</tr>
<tr>
<td>MM 4.4-3</td>
<td>Protective buffers shall be used, where effective and feasible in the opinion and guidance of the qualified biologist, to avoid any unauthorized incidental take of Protected Species, and to minimize any incidental take of Sensitive Species, by separating the planned disturbance area from any locations where biological reconnaissance surveys, previously conducted focused/protocol surveys, or pre-disturbance surveys have detected the presence of Protected Species or Sensitive Species. Protective buffers shall be delineated using brightly colored stakes and/or flagging or similar materials and remain until construction activities are complete, at which time of completion the buffers must be removed. If special-status plant or animal species are found adjacent to the project during biological surveys, protective buffers shall be established around</td>
<td>Provide with Application Package; During construction and operation</td>
</tr>
<tr>
<td></td>
<td>Steps to Compliance:</td>
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</tr>
<tr>
<td></td>
<td>A. Obtain permits and/or written authorization from USFWS and CDFW.</td>
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<tr>
<td></td>
<td>B. The Kern County Planning and Community Development Department will verify documents and consistency with the Draft Valley Floor Habitat Conservation Plan and/or Natural Community Conservation Plan.</td>
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<tr>
<td></td>
<td>Steps to Compliance:</td>
<td></td>
</tr>
<tr>
<td></td>
<td>A. The Applicant shall implement measures related to exclusion barriers or buffers as specified in the mitigation measures.</td>
<td></td>
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<td></td>
<td>B. The Kern County Planning and Community Development Department will verify.</td>
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</tbody>
</table>
active dens and/or burrows of special-status animal species, or populations of special-status plant species to avoid unauthorized take of protected species as listed in the table below. The protective buffer distance shall be increased if required to avoid unauthorized incidental take of any Protected Species as determined by a qualified biologist. Protective buffer distances and other avoidance measures that may be implemented to avoid impacts to Protected Species or Sensitive Species must be consistent with the United States Fish and Wildlife Service and/or the California Department of Fish and Wildlife, and shall be implemented and overseen by a qualified biologist.

<table>
<thead>
<tr>
<th>Sensitive Resource</th>
<th>Buffer Zone from Disturbance (feet)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Potential San Joaquin kit fox den</td>
<td>50</td>
</tr>
<tr>
<td>Known San Joaquin kit fox den</td>
<td>100</td>
</tr>
<tr>
<td>Natal San Joaquin kit fox den</td>
<td>Contact California Department of Fish &amp; Wildlife, United States Fish &amp; Wildlife Service</td>
</tr>
<tr>
<td>Atypical San Joaquin kit fox den</td>
<td>50</td>
</tr>
<tr>
<td>Rodent burrows</td>
<td>50</td>
</tr>
<tr>
<td>Listed bird species active nests</td>
<td>0.5 mile</td>
</tr>
<tr>
<td>Burrowing owl burrow (breeding and non-breeding season)</td>
<td>Pursuant to California Department of Fish &amp; Wildlife guidelines (see Table 4.4-85)</td>
</tr>
<tr>
<td>San Joaquin coachwhip, silvery legless lizard, coast horned lizard</td>
<td>30</td>
</tr>
<tr>
<td>American badger:</td>
<td></td>
</tr>
<tr>
<td>Non-maternity dens</td>
<td>50</td>
</tr>
<tr>
<td>Maternity dens</td>
<td>200</td>
</tr>
</tbody>
</table>
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<tr>
<td>MM 4.4-4</td>
<td>Occupied burrowing owl burrows shall not be disturbed during the species nesting season (February 1 through August 31). The following distances shall be maintained between all disturbance areas and burrowing owl nesting sites (Table 4.4-85).</td>
<td>Provide with Application Package; During construction and operation</td>
<td>U.S. Fish and Wildlife Service; California Department of Fish and Wildlife; KC PCDD</td>
</tr>
</tbody>
</table>

### Table 4.4-85: Setback Distances for Burrowing Owl Nesting Sites by Level of Proposed Project Impacts

<table>
<thead>
<tr>
<th>Location</th>
<th>Nesting sites</th>
<th>Nesting sites</th>
<th>Nesting sites</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Time of Year</strong></td>
<td>April 1–Aug 15</td>
<td>Aug 16–Oct 15</td>
<td>Oct 16–Mar 31</td>
</tr>
<tr>
<td><strong>Project Impact Level</strong></td>
<td><strong>Low</strong></td>
<td><strong>Medium</strong></td>
<td><strong>High</strong></td>
</tr>
<tr>
<td></td>
<td>656 feet (200 meters)</td>
<td>656 feet (200 meters)</td>
<td>1,640 feet (500 meters)</td>
</tr>
<tr>
<td></td>
<td>1,640 feet (500 meters)</td>
<td>656 feet (200 meters)</td>
<td>328 feet (100 meters)</td>
</tr>
<tr>
<td></td>
<td>1,640 feet (500 meters)</td>
<td>1,640 feet (500 meters)</td>
<td>1,640 feet (500 meters)</td>
</tr>
</tbody>
</table>

Steps to Compliance:
A. The Applicant shall implement measures related to nesting windows and buffer set-backs from nest sites as specified in the mitigation measures.
B. The Kern County Planning and Community Development Department will verify.
C. If passive relocation techniques are implemented the Applicant must follow the Staff Report on Burrowing Owl Mitigation Guidelines.
D. If passive relocation or an alternative is implemented a burrowing owl management plan must be prepared and approved by the California Department of Fish and Wildlife.
E. The Kern County Planning and Community Development Department will verify.
<table>
<thead>
<tr>
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<td>plan shall be prepared and approved by the California Department of Fish and Wildlife. Destruction of burrows shall occur only pursuant to a management plan for the species approved by the California Department of Fish and Wildlife; burrow excavation shall be conducted by hand whenever possible. As an alternative to passive relocation, occupied burrows identified off-site within 500 feet of construction activities may be buffered with hay bales, fencing (e.g. sheltering in place), or as directed by the qualified biologist and the California Department of Fish and Wildlife, to avoid disturbance of burrows.</td>
<td>Provide with Application Package; During construction and operation</td>
<td>U.S. Fish and Wildlife Service; California Department of Fish and Wildlife; KC PCDD</td>
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<td><strong>MM 4.4-5</strong></td>
<td><strong>The pre-disturbance surveys shall determine whether active bat maternity roosts are located in or within 250 feet of any disturbance area. All active bat maternity roosts shall be avoided during breeding periods, including postponing disturbance activities if required, and to the maximum extent feasible at other times. If an active bat maternity roost location cannot feasibly be avoided by disturbance, the United States Fish and Wildlife Service and California Department of Fish and Wildlife must be contacted to identify appropriate impact minimization measures prior to initiating any disturbance that would affect the roost.</strong></td>
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<td><strong>MM 4.4-6</strong></td>
<td>Any potential San Joaquin kit fox dens (as defined in United States Fish and Wildlife Service 2011) detected during reconnaissance or focused/protocol surveys shall be reevaluated for species activity no more than 30 days prior to the commencement of ground disturbance. Potential kit fox dens shall be marked and a 50-foot avoidance buffer shall be delineated using brightly colored stakes and flagging or similar materials to prevent inadvertent damage to the potential den. If a potential den cannot feasibly be avoided, the den may be hand excavated in accordance with the United States Fish and Wildlife Service Standardized Recommendations for Protection of the Endangered San Joaquin Kit Fox Prior to or During Ground Disturbance (United States Fish and Wildlife Service 2011). If species activity is detected, the location shall be identified as a “known” kit fox den in accordance with the U.S. Fish and Wildlife Service species guidelines (United States Fish and Wildlife Service 2011). A minimum 100-foot buffer from any disturbance area shall be maintained for known dens and a minimum 500-foot buffer from any disturbance area shall be maintained for natal dens. No excavation of a known or natal den shall occur without prior authorization from the United States Fish and Wildlife Service and the California Department of Fish and Wildlife. For activities occurring on land covered under an approved federal and/or State</td>
<td>Provide with Application Package; During construction and operation</td>
<td>U.S. Fish and Wildlife Service; California Department of Fish and Wildlife; KC PCDD</td>
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**Steps to Compliance:**

A. Conduct pre-disturbance surveys as specified in the mitigation measure.
B. If avoidance of bat maternity roosts is not feasibly contact the USFWS and CDFW for appropriate minimization measures and approval prior to ground disturbing activities.
C. The Kern County Planning and Community Development Department will verify.

**Steps to Compliance:**

A. The Applicant shall conduct pre-disturbance surveys as specified in the mitigation measure.
B. If den buffers or avoidance is not feasible; the Applicant must consult and obtain approval from the USFWS and CDFW.
C. The Applicant shall implement the USFWS Standardized Recommendation for Protection of the Endangered San Joaquin Kit Fox Prior to or During Ground Disturbance if a den cannot feasibly be avoided.
D. Implement Habitat Conservation Plan measures if activity occurs on covered lands.
E. The Kern County Planning and Community Development Department will verify.
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<td>incidental take authorization, the requirements set forth in those documents shall be implemented. Other standard measures to protect San Joaquin kit fox, including capping pipes, covering trenches, adding exit ramps to excavated areas, shall be implemented in accordance with MM 4.4-15.</td>
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<td>MM 4.4-7</td>
<td>Occupied American badger dens detected during pre-disturbance surveys shall be flagged and ground-disturbing activities avoided within 50 feet of the den. Maternity dens shall be avoided and a minimum 200-foot buffer from disturbance shall be maintained during pup-rearing season (February 15 through July 1). Maternity dens must be avoided to the maximum extent feasible. If a maternity den cannot be feasibly avoided, the California Department of Fish and Wildlife must be contacted to identify appropriate impact minimization measures prior to initiating any disturbance that would affect the den, including potential passive relocation by excavation before or after the rearing season.</td>
<td>Provide with Application Package; Provide with Application Package; During construction and operation</td>
<td>U.S. Fish and Wildlife Service; California Department of Fish and Wildlife; KC PCDD</td>
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<td></td>
<td>A. The Applicant shall conduct pre-disturbance surveys as specified in the mitigation measure.</td>
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<td>B. Implement avoidance measures as specified in the mitigation measure.</td>
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<td>C. Consult with CDFW if maternity dens cannot be feasibly avoided.</td>
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<td>D. The Kern County Planning and Community Development Department will verify.</td>
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<td>MM 4.4-8</td>
<td>Pre-disturbance surveys for all sites located above 2,000 feet in elevation, or within 200 feet down gradient from the 2,000-foot elevation contour line, shall specifically survey for any golden eagle nests located within 2 miles of the site. If golden eagle nests are detected by the surveys, the qualified biologist shall conduct a nest-specific viewshed analysis. No disturbance may occur within 0.25 mile, or within 0.5 mile of the viewshed of an active golden eagle nest unless otherwise authorized by State and federal wildlife agencies. The United States Fish and Wildlife Service and California Department of Fish and Wildlife must be notified prior to the commencement of any disturbance activities within 1 mile of an active golden eagle nest to avoid golden eagle take.</td>
<td>Provide with Application Package; During construction and operation</td>
<td>U.S. Fish and Wildlife Service; California Department of Fish and Wildlife; KC PCDD</td>
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<td>A. The Applicant shall conduct pre-disturbance surveys as specified in the mitigation measure.</td>
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<td>B. Implement avoidance measures as specified in the mitigation measure.</td>
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<td>C. Consult with USFWS and CDFW if nest buffers cannot be feasibly avoided.</td>
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<td>D. The Applicant must provide documentation in writing that consultation with USFWS and CDFW was conducted for project activities within a nest buffer.</td>
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<td>E. The Kern County Planning and Community Development Department will verify.</td>
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<td>MM 4.4-9</td>
<td>All sites located above 2,000 feet in elevation, or within 200 feet down gradient from the 2,000-foot elevation contour line, shall implement the following measures to avoid and minimize potential adverse impacts to the California condor: a. The site shall, at all times, be maintained to avoid any trash, debris, food sources and microtrash, such as bottle caps, that could be ingested by or attract California condor. Trash shall be disposed in animal-proof</td>
<td>Provide with Application Package; During construction and operation</td>
<td>U.S. Fish and Wildlife Service; California Department of Fish and Wildlife; KC PCDD</td>
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<td><strong>Steps to Compliance:</strong></td>
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## Exhibit C Mitigation Monitoring and Reporting Program for Kern County Gas & Oil Zoning Ordinance Environmental Impact Report

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<td>containers as required in BIO 4.4-19.</td>
<td>A. A qualified biologist shall monitor all construction activities for impacts to the California condor.</td>
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<td>b. The Worker Environmental Awareness Program described in BIO MM 4.4-18 shall include information about microtrash and potential effects to California condor, and shall prohibit the disposal of trash (and microtrash) on the site of oil and gas activities.</td>
<td>B. The Applicant shall train workers on the issue of trash, debris, food sources and microtrash – what it is, and its potential effects to the California condors.</td>
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<td>c. If a condor is observed in a proposed construction site, all disturbance activities must immediately cease within 500 feet of the condor until the animal has moved from the site. If condor occurrence persists, the United States Fish and Wildlife Service and the California Department of Fish and Wildlife must be contacted to identify appropriate avoidance measures prior to initiating or resuming any disturbance activity.</td>
<td>C. The Applicant shall implement the Workers Environmental Awareness Program prior to the start of construction.</td>
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<td>d. All condor observations shall be reported within 24 hours to the United States Fish and Wildlife Service and the California Department of Fish and Wildlife.</td>
<td>D. The Applicant shall report all California condor sightings during construction to the USFWS and CDFW, and Kern County Planning and Community Development Department.</td>
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<td>e. All tanks, liquid storage facilities, and any open area containing water or other liquid materials, including drilling sumps, must be covered or otherwise shielded in a manner that prevents condor intrusion and potential entrapment.</td>
<td>E. The Applicant shall provide written documentation the Kern County Planning and Community Development Department showing implementation of additional measures specified in the mitigation measures.</td>
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<td>f. No overhead transmission lines may be used at the site without the prior approval of the United States Fish and Wildlife Service and the California Department of Fish and Wildlife.</td>
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**MM 4.4-10 Pre-disturbance surveys for active bird nests must be conducted no more than 10 days prior to the commencement of disturbance.** Surveys shall follow United States Fish and Wildlife and California Department of Fish and Wildlife guidance and/or protocols, as applicable. If no active nests or nesting birds are identified, then Project construction activities may proceed and no further mitigation measures for nesting birds are required. If active nest(s) are identified, the active nest(s) should be continuously surveyed for the first 24 hours after detection, to establish a behavioral baseline prior to any construction-related activities. Once construction commences, all nests shall be continuously monitored to detect any behavioral changes as a result of the Project (i.e., nest avoidance or abandonment). If behavioral changes are observed, the work causing that change should cease and the California Department of Fish and Wildlife and the United States Fish and Wildlife should be consulted for additional avoidance and minimization measures. If continuous monitoring of identified nests by a qualified wildlife biologist is not feasible, a minimum no-disturbance buffer of 250 feet will be established around active nests and a 500-foot no-disturbance buffer around the nests of raptors until the breeding season has ended, or until a qualified biologist has determined that the birds have fledged and are no longer reliant upon the nest or parental care for survival, and any adult birds are no longer occupying the nest. Variance from these no-disturbance buffers may be implemented a qualified biologist.

| MM 4.4-10 | Provide with Application Package; During construction and operation | U.S. Fish and Wildlife Service; California Department of Fish and Wildlife; KC PCDD |

**Steps to Compliance:**

A. The Applicant shall conduct pre-disturbance surveys as specified in the mitigation measure.

B. Implement avoidance measures as specified in the mitigation measure.

C. A qualified biologist shall monitor all construction activities for impacts to active bird nests if nest buffers cannot be implemented.

D. The Applicant shall provide written documentation and approval of variance from the no-disturbance areas to Kern County Planning and Community Development Department.

E. The Kern County Planning and Community Development Department will verify prior to issuing NTP or permits.
concludes that work within the buffer area would not cause nest avoidance or abandonment (e.g., when the disturbance area would be concealed from a nest site by topography). The California Department of Fish and Wildlife and the United States Fish and Wildlife must be notified in advance of implementing of a variance in the no-disturbance buffer.

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| MM 4.4-11 | The following measures will be implemented to avoid take of blunt-nosed leopard lizard and to ensure protection of these animals during Project activities:  
  a. Project activities will avoid all potential burrows that may be occupied by blunt-nosed leopard lizards. Suitable burrows within and adjacent to potential habitat for the species should be avoided by a minimum distance of 50-feet in all areas where ground-disturbing Project activities will occur.  
  b. No more than one year prior to ground disturbing activities, focused surveys following current California Department of Fish and Wildlife and United States Fish and Wildlife protocols for detection of this species or other methods approved by both agencies shall be conducted in all potential blunt-nosed leopard lizard habitat within the work site and a 250-foot buffer area. If no individual blunt-nosed leopard lizards are observed during focused surveys, and surveys are current (e.g., completed in the same calendar year), then Project activities may proceed.  
  c. If blunt-nosed leopard lizards are detected during focused surveys, a blunt-nosed leopard lizard avoidance plan shall be prepared for the Project that will result in avoidance of incidental take of this species unless take is separately authorized under a Natural Communities Conservation Plan and appropriate federal authorization is obtained. At a minimum, the blunt-nosed leopard lizard avoidance plan shall be provided to the California Department of Fish and Wildlife and the County, and shall contain the following elements:  
    1. A Worker Environmental Awareness Program shall be implemented for all construction personnel before construction begins (see MM 4.4-18).  
    2. During periods that are optimal for blunt-nosed leopard lizard activity (early spring through late fall), a qualified biologist will be present during all ground disturbing activities. The qualified biologist will check the Project site(s) and access route(s) daily during the blunt-nosed leopard lizard active season to determine presence or absence of lizards in or near the work areas. Monitoring by a qualified biologist is not required during periods of inactivity (the winter season).  
    3. All open trenches or excavations shall be covered at the end of each workday or protected with the use of exclusion fencing to |

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<td>Provide with Application Package; During construction and operation</td>
<td>U.S. Fish and Wildlife Service; California Department of Fish and Wildlife; KC PCDD</td>
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Steps to Compliance:
A. The Applicant shall conduct focused surveys as specified in the mitigation measure.
B. Implement avoidance measures as specified in the mitigation measure.
C. A qualified biologist shall monitor all construction activities except during periods of inactivity (the winter season).
D. The Applicant shall provide avoidance plan if blunt-nosed leopard lizards were detected during focused surveys.
E. Implement the Worker Environmental Awareness Program.
F. Implement additional measures as described in the mitigation measure.
G. The Kern County Planning and Community Development Department will verify prior to issuing NTP or permits.
### Mitigation Monitoring and Reporting Program for Kern County Gas & Oil Zoning Ordinance Environmental Impact Report

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<td>prevent wildlife entrapment. If an excavation is too large to cover, escape ramps shall be installed at an incline ratio of no greater than 2:1. All trenches and pipes shall be inspected for the presence of wildlife each day prior to the commencement of work. If blunt-nosed leopard lizards are observed at the work site during construction, construction shall cease within a 250-foot radius and the United States Fish and Wildlife Service and the California Department of Fish and Wildlife shall be consulted to determine what additional measures would be necessary to prevent take of this species.</td>
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<td>4.</td>
<td>Offsite locations where blunt-nosed leopard lizards have been observed or are likely to occur shall be clearly marked to prevent workers from driving off the road and to prevent inadvertent destruction of burrows. Barriers, such as exclusionary fencing may be installed. All construction equipment and construction personnel vehicles will be checked prior to moving to ensure no blunt-nosed leopard lizards are under equipment/vehicles.</td>
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<td>5.</td>
<td>A speed limit of 10 miles per hour shall be posted and observed within 0.25 miles of any reported blunt-nosed leopard lizard observation.</td>
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<td>6.</td>
<td>Construction activities shall avoid burrows that may be used by blunt-nosed leopard lizards. Any location of proposed construction activity with potential to collapse or block burrows (i.e., stockpile storage, parking areas, staging areas, trenches) will be identified prior to construction in the blunt-nosed leopard lizard avoidance plan and approved by the qualified biologist. The qualified biologist may allow certain activities in burrow areas if the combination of soil hardness and activity impact is not expected to collapse burrows and no blunt-nosed leopard lizards have been found during pre-Project surveys in the impact area.</td>
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<td>7.</td>
<td>All individual blunt-nosed leopard lizards observed above-ground will be avoided. Any individual blunt-nosed leopard lizard that may enter the Project site(s) would be allowed to leave unobstructed, and on its own accord. If a blunt-nosed leopard lizard is detected during biological monitoring or observed at any other point, the California Department of Fish and Wildlife and the United States Fish and Wildlife Service shall be notified to determine what additional measures would be necessary to prevent take of the species.</td>
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**MM 4.4-12** The Applicant shall comply with the following:

a. Plant surveys for Protected Species and Sensitive Species must be completed by a qualified biologist during the appropriate blooming periods for species identification and detection. Plant surveys shall be

Provide with Application Package; During construction and operation

U.S. Fish and Wildlife Service; California Department of Fish
Exhibit C  Mitigation Monitoring and Reporting Program for Kern County Gas & Oil Zoning Ordinance Environmental Impact Report

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<td>conducted in accordance with all applicable protocols established by the United States Fish and Wildlife Service and the California Department of Fish and Wildlife for particular plant species (&quot;Plant Survey Protocol&quot;), and shall extend 50 feet from areas where any new disturbance would occur unless a greater survey distance is specified in the Plant Survey Protocol. All detected plant populations of Protected Species and Sensitive Species shall be identified in the field during the surveys with temporary flags or other appropriate materials to avoid and minimize impacts to the plant populations from any disturbance activities.</td>
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<td>b. No incidental take or relocation of any plant listed under the federal Endangered Species Act, the California Endangered Species Act, or the California Native Plant Protection Act may occur unless the incidental take is authorized by the United States Fish and Wildlife Service and/or the California Department of Fish and Wildlife in a permit or other authorization, or in an approved Habitat Conservation Plan or Natural Communities Conservation Plan. If focused plan surveys detect the presence of any listed plant, the plant populations shall be buffered from disturbance activities by implementing applicable impact avoidance protocols established by the United States Fish and Wildlife Service and/or the California Department of Fish and Wildlife unless incidental take authority is obtained. Projects covered under incidental take authority shall conduct activities in accordance with the take authorization. The California Department of Fish and Wildlife may be contacted to determine the appropriate buffer required to prevent incidental take of a listed plant if avoidance protocols have not been established for the species. The qualified biologist shall confirm that all applicable listed plant buffers have been implemented prior to the commencement of any disturbance activity.</td>
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<td>c. If any non-listed sensitive plant species are identified that may be impacted by new ground disturbing activities, populations must be avoided by a 50-foot buffer.</td>
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| MM 4.4-14 | A Worker Environmental Awareness Program shall be developed and implemented for all personnel that could access the site prior to commencing any disturbance activities. The program shall consist of an on-site or center presentation that will describe the locations and types of sensitive plant, wildlife, and sensitive natural communities (collectively, "Biological Resources") on and near the site, an overview of the laws and regulations governing the protection of Biological Resources, the reasons for protecting the Biological Resources, the specific protection and avoidance measures that are applicable to the site, and the identity of designated points of contact should questions or issues arise, including the qualified biologist. The program shall provide training to recognize, avoid and report to applicable qualified biologists |
|           | Provide with Application Package; During construction and operation |
|           | Steps to Compliance: |
|           | A. The Applicant shall implement measures related to Worker Environmental Awareness Program as specified in the mitigation measure. |
|           | B. The Kern County Planning and Community Development Department will verify. |
any Biological Resources on the site.
   a. The Worker Environmental Awareness Program shall emphasize the need to avoid contact with onsite wildlife, and avoid entry into areas where Biological Resources have been identified based on pre-disturbance field surveys and to implement the buffer avoidance or other protection measures established by the United States Fish and Wildlife Service shall be identified California Department of Fish and Wildlife or required by the Biological Resource mitigation measures. The training shall emphasize the importance of not feeding or domesticating wildlife and the need to avoid any trash, microtrash, or potential food disposal onsite except in animal-proof containers emptied daily to avoid attracting, or causing adverse impacts to special status wildlife.
   b. All onsite personnel must sign a statement verifying that they have completed the Worker Environmental Awareness Program, and that they understand and agree to implement the biological requirements for the worksite. If signed employee statements are not available, documentation may be provided by Worker Environmental Awareness Program training records, which shall be kept by the Applicant for a minimum of 5 years. Each Applicant shall maintain a list of all persons who have completed the training program, and shall provide the list to the County or to state and federal wildlife agency representatives upon request.

**MM 4.4-15** The following additional measures shall be implemented to avoid and minimize potential significant adverse impacts to Protected and Sensitive Species:
   a. All vehicles shall observe a 20-mile-per-hour speed limit in all areas of disturbance and on unpaved roads unless otherwise posted. Off-road traffic outside of designated access routes is prohibited. Speed limit signs shall be posted in visible locations at the point of site entry and at regular intervals on all unpaved access roads.
   b. All disturbance activities, except emergency situations or drilling that may require continuous operations, shall only occur during daylight hours. Night time disturbance activity for drilling purposes shall use directed lighting, shielding methods, or reduced lumen intensity to avoid unnecessary visual disturbance to wildlife and to comply with applicable lighting mitigation measures.
   c. All food-related trash items and all forms of microtrash, such as wrappers, cans, bottles, bottle tops, and food scraps shall be disposed of in closed, animal proof containers and removed daily from the site.
   d. Excavations, spoils piles, access roadways, and parking and staging areas shall subject to dust control as set forth in the dust control mitigation measures.
   e. The use of herbicides for vegetation control shall be restricted to those

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<td>any Biological Resources on the site.</td>
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<td>a. The Worker Environmental Awareness Program shall emphasize the need to avoid contact with onsite wildlife, and avoid entry into areas where Biological Resources have been identified based on pre-disturbance field surveys and to implement the buffer avoidance or other protection measures established by the United States Fish and Wildlife Service shall be identified California Department of Fish and Wildlife or required by the Biological Resource mitigation measures. The training shall emphasize the importance of not feeding or domesticating wildlife and the need to avoid any trash, microtrash, or potential food disposal onsite except in animal-proof containers emptied daily to avoid attracting, or causing adverse impacts to special status wildlife.</td>
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<td>b. All onsite personnel must sign a statement verifying that they have completed the Worker Environmental Awareness Program, and that they understand and agree to implement the biological requirements for the worksite. If signed employee statements are not available, documentation may be provided by Worker Environmental Awareness Program training records, which shall be kept by the Applicant for a minimum of 5 years. Each Applicant shall maintain a list of all persons who have completed the training program, and shall provide the list to the County or to state and federal wildlife agency representatives upon request.</td>
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**Steps to Compliance:**
A. The Applicant shall implement measures related to protected and sensitive species as specified in the mitigation measure.
B. The Kern County Planning and Community Development Department will verify.
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<td>approved by the United States Fish and Wildlife Service and the California Department of Fish and Wildlife. No rodenticides shall be used on any site unless approved by the United States Fish and Wildlife Service, and the California Department of Fish and Wildlife, and shall observe label and other restrictions mandated by the United States Environmental Protection Agency, California Department of Food and Agriculture, and state and federal laws and regulations. For split estates, no herbicides for vegetation control may occur in Tier 2 areas without surface owner approval.</td>
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<td>f. No plants or wildlife shall be collected, taken, or removed from the site or any adjacent locations except as necessary for Project-related vegetation removal or wildlife relocation by a qualified biologist and subject to all applicable permits and authorizations.</td>
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<td>g. All open trenches or excavations shall be covered at the end of each workday to prevent wildlife entrapment. If an excavation is too large to cover, escape ramps shall be installed at an incline ratio of no greater than 2:1. All trenches and pipes shall be inspected for the presence of wildlife each day prior to the commencement of work.</td>
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<td>h. To enable San Joaquin kit foxes and other wildlife to pass through the Project site, any perimeter fencing shall include a 4- to 8-inch opening between the fence mesh and the ground or the fence shall be raised 4 inches above the ground except blunt-nosed leopard lizard exclusion fencing. The bottom of the fence fabric shall be knuckled (wrapped back to form a smooth edge) to protect wildlife.</td>
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<td>i. All vertical tubes used in Project construction and chain link fencing poles, shall be temporarily or permanently capped to avoid the entrapment and death of special-status wildlife and birds. All pipes 1.5 inches or greater in diameter stored overnight on a project location must have end caps or other physical barriers that prevent wildlife from entering the pipe.</td>
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<td>j. All dead or injured special status wildlife shall be left in place and reported to the United States Fish and Wildlife Service and the California Department of Fish and Wildlife within 48 hours of discovery for rescue or salvage. Discovery of state or federal listed species that are injured or dead shall also be managed consistent with regulatory requirements, including being reported immediately via telephone and within 24 hours in writing, and with a copy to Kern County Planning and Community Development.</td>
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<td>k. All drilling installations and operations will comply at all times with the applicable federal, State, county, and local law ordinances and regulations.</td>
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<td>l. All activity shall use previously disturbed areas to the maximum extent feasible to minimize the amount of new disturbance.</td>
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### Exhibit C  Mitigation Monitoring and Reporting Program for Kern County Gas & Oil Zoning Ordinance Environmental Impact Report

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<td>m.</td>
<td>All concrete and asphalt debris should be removed from the site for recycling or proper disposal.</td>
<td>Provide with Application Package; During construction and operation</td>
<td>U.S. Fish and Wildlife Service; California Department of Fish and Wildlife; KC PCDD</td>
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<td>n.</td>
<td>No vehicles or construction equipment shall be parked within a wetland or waterbody/dry wash.</td>
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<td>o.</td>
<td>Tracked vehicles and other construction equipment must be washed or maintained to be weed-free prior to entering and working within areas of new disturbance.</td>
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<td>p.</td>
<td>All washing of trucks, paint, equipment, or similar activities should occur in areas where runoff is fully contained for collection and offsite disposal. Wash water may not be discharged from the site and shall be located at least 100 feet from any water body, or sensitive Biological Resources.</td>
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<td>q.</td>
<td>Locate all extra work areas (such as staging areas and additional spoil storage areas) at least 50 feet away from wetland boundaries or waterbody, except where the adjacent upland consists of cultivated or rotated cropland or other disturbed land.</td>
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<td>r.</td>
<td>All areas that must be avoided as result of the pre-disturbance surveys, and areas where new disturbance will occur, shall be clearly delineated by fencing or staking and flagging and/or rope or cord.</td>
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<td>s.</td>
<td>No firearms shall be allowed on any site.</td>
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<td>t.</td>
<td>No pets shall be allowed on any site.</td>
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<td>u.</td>
<td>No smoking may occur except in designated areas.</td>
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<td>v.</td>
<td>If ground disturbance is intended to be temporary and does not occur on cultivated and crop lands, perform topsoil segregation during construction activities to preserve the seed bank for restoration efforts. Store the segregated topsoil separate from the subsoil and restore segregated topsoil to its original location.</td>
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**MM 4.4-16**  
Ground disturbance shall be mitigated at a 1.0 to 1.0 ratio (one-acre of new disturbance shall require one-acre of mitigation) except in Tier 1 areas that contain existing disturbance of 70% or greater which shall be mitigated at a 1.0 to 0.5 ratio (one-acre of new disturbance shall require one-half acre of mitigation), for the land included in the Site Plan. This compensatory mitigation requirement does not apply to construction on ground for which compensatory mitigation has already been provided, or on ground that has been previously disturbed (e.g., cleared of vegetation for other oil and gas extraction uses, existing unpaved roads, and existing unvegetated well pads). Ground disturbance activities that are authorized by permits or other written authorizations approved by the United States Fish and Wildlife Service and the California Department of Fish and Wildlife, which include avoidance and compensatory mitigation acreage requirements, may be used to satisfy this County compensatory mitigation ratio. Compensatory mitigation shall be required for the actual acreage of ground disturbance documented during the site plan review and completion process. New disturbance mitigation may be

**Steps to Compliance:**  
A. The Applicant shall implement measures related to mitigation ratios as specified in the mitigation measure.  
B. The Applicant shall implement the additional measures specified in the mitigation measure.  
C. The Kern County Planning and Community Development Department will verify.
Mitigation Measure

satisfied by one or a combination of the following measures:

- a. The recordation of a conservation easement or similar permanent, long-term conservation management agreement in a form acceptable to the County for land within the Project Area on land that has mitigation value. The easement lands may be owned by an Applicant or a third party under contract with an Applicant. Larger land areas may be placed under a conservation easement or similar agreement, and an Applicant may "draw down" the conserved land as needed to satisfy the acreage mitigation requirements for multiple site plan review conformity permits or other authorizations from the County for oil and gas activities.

- b. Acquisition of land preservation credits from a mitigation bank located within the Project Area which is owned by the County, on other lands approved by the County, or on lands approved for mitigation or conservation purposes by the United States Fish and Wildlife Service or the California Department of Fish and Wildlife.

- c. Removal of legacy oil and gas equipment, inclusive of compliance with applicable legal requirements (e.g., well plugging and abandonment requirements under state or federal regulations), restoration of the surface grade to be consistent with surrounding lands, complete a reseeding effort using native species, and notification of the site owner (if not the Applicant) of the completion of the removal and grading restoration work.

- d. Enhancement or restoration of existing habitat on lands already subject to a conservation easement or similar agreement, or which become subject to a conservation easement or similar agreement subsequent to the certification of this Environmental Impact Report, provided that such activities are covered in a permit or authorization, conservation plan, Habitat Conservation Plan, or Natural Community Conservation Plan, approved by the United States Fish and Wildlife Service or the California Department of Fish and Wildlife.

- e. Payment of a biological resources mitigation fee for the acquisition and management of mitigation lands, legacy equipment removal, and/or land enhancement already subject to conservation easements or a similar agreements under the terms of any biological resource mitigation program that is adopted by Kern County and approved by the United States Fish and Wildlife Service or the California Department of Fish and Wildlife. The County shall coordinate with the United States Fish and Wildlife Service or the California Department of Fish and Wildlife to identify priority conservation areas and potential conservation partners and funding sources to increase the efficiency and effectiveness of mitigation fee expenditures.

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<tr>
<td>4.4.2</td>
<td>Implement MM 4.4-1 through 4.4.18, described above, and dust control, spill and hazardous</td>
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<td></td>
<td>material avoidance and containment, and surface and subsurface water quality and hydrology mitigation measures.</td>
<td>Provide with Application Package; During construction and operation</td>
<td>U.S. Fish and Wildlife Service; California Department of Fish and Wildlife; KC PCDD</td>
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<td><strong>MM 4.4-17</strong></td>
<td>Pre-disturbance surveys shall be conducted by a qualified biologist during the appropriate periods for detecting Sensitive Natural Communities that could occur within the Project Area. The surveys shall be completed consistent with applicable protocols approved by the United States Fish and Wildlife Service and/or the California Department of Fish and Game, including the Protocols for Surveying and Evaluating Impacts to Special Status Native Plant Populations and Natural Communities (California Department of Fish and Wildlife 2009). The qualified person shall map and identify all sensitive natural communities, including riparian communities that occur in or within 100 feet of any new disturbance area. The site plan for the proposed activity shall identify waters, wetlands, resources subject to section 1600 of the CFGC, and other riparian habitats that occur in and within 100 feet of the disturbance area.</td>
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<td><strong>MM 4.4-18</strong></td>
<td>No land disturbance activity in any Sensitive Natural Community that requires a state or federal permit, including state or federally regulated wetlands and waters, shall occur unless the activity is specifically authorized by the issuance of permits or approvals as required by state and federal law. This provision is not intended to restrict survey activities or restrict permit approvals for such disturbance activities. However, no new wells, tanks, sumps or ponds shall be constructed within 50 feet of federal or state waters or wetlands.</td>
<td>Provide with Application Package; During construction and operation</td>
<td>U.S. Fish and Wildlife Service; California Department of Fish and Wildlife; KC PCDD</td>
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<tr>
<td>4.4-3</td>
<td>Implementation of the Biological Resources mitigation measures would ensure that oil and gas activities would not disturb state or federally regulated wetlands and waters unless the activity is specifically authorized by the issuance of permits or approvals as required by state and federal laws and that activities in the vicinity of wetlands and water bodies would not adversely disturb them. Other mitigation measures identified in this Environmental Impact Report would further reduce potential state or federally jurisdictional wetland and waters, including dust control, spill and hazardous material avoidance and containment, surface and subsurface water quality and hydrology, mitigation measures.</td>
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<td>4.4-4</td>
<td>Implementation of the Biological Resources mitigation measures would reduce wildlife movement impacts. Other mitigation measures identified in this Environmental Impact Report to further reduce wildlife movement impacts, include dust control, nighttime lighting, noise controls, spill and hazardous material avoidance and containment, and surface and subsurface water quality and hydrology (including but not limited to Kern River and Poso Creek channels), measures.</td>
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<td><strong>MM 4.4-19</strong></td>
<td>In the event that new disturbance would occur at a site within an oak woodland area as defined in Section 1.10.10 of the Kern County General Plan Land Use, Open Space and Conservation Element (10% or greater oak tree cover), the Applicant shall comply with the minimum 30% canopy retention standard in Section 1.10.10 KK (a). Impacts to oak trees in other locations, and in locations that meet the criteria for an oak woodland area, shall be avoided to the</td>
<td>Provide with Application Package; During construction and operation</td>
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**Steps to Compliance:**

A. The Applicant shall conduct pre-disturbance surveys as specified in the mitigation measure.

B. The Applicant shall submit a site plan identifying all waters, wetlands and other riparian habitats as specified in the mitigation measure.

C. The Kern County Planning and Community Development Department will verify.

A. The Applicant shall implement the measures specified in the mitigation measure.

B. The Kern County Planning and Community Development Department will verify.
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<td>4.4-6</td>
<td><strong>MM 4.4-20</strong> Applicants shall fund through the Site Conformity Review administrative fee, preparation by Kern County of, an annual report describing the Project's ground disturbance acreage, and the acreage of compensatory mitigation lands, in each sub-area. For Covered Activities within areas included in proposed HCPs, the requirements of MM 4.4-1 – 4.4-19 may be superseded by specific requirements imposed by USFWS as part of approval of a federal incidental take permit (e.g., under Section 10 or Section 7 of the Endangered Species Act), or by CDFW as part of approval of a state incidental take permit (e.g., under the Fish and Game Code), provided that USFWS (in the case of a federal incidental take permit) or CDFW (in the case of a state incidental take permit) concludes in writing that such requirements provide equivalent or greater protection than MM 4.4-1 – 4.4-19 (or any subset thereof).</td>
<td>Provide with Application Package; During construction and operation</td>
<td>KC PCDD</td>
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#### Steps to Compliance:

A. The Applicant shall implement the measures specified in the mitigation measure.

B. The Kern County Planning and Community Development Department will verify.

| 4.4-7  | Implement MM 4.4-1 through MM 4.4-20 Steps to Compliance. |      |         |      |         |

### Cultural Resources

| 4.5-1  | **MM 4.5-1** Prior to initiating ground disturbance activities for an activity for which a conformity review is required, the Applicant shall:  
  a. Provide an archival records search completed by a qualified archaeologist. This shall include an examination of the California Historical Resources Information Files at the Southern San Joaquin Valley Information Center, California State University, Bakersfield, and a search of the Native American Heritage Commission Sacred Lands Files, Sacramento. The Applicant may rely on a previously performed records search for subsequent ground disturbing activities.  
  b. If an application location has been previously surveyed and no cultural resources have been recorded on it, no further cultural resources studies shall be required.  
  c. Implement either:  
     1. If a site plan includes land that has experienced 100% previous ground-surface disturbance, or is within a section with 300 or more existing oil wells or other agricultural, industrial or urban uses, and the records searches indicate that no cultural or Native American resources are known on it, no further cultural resources studies shall be required. All other application locations shall be subject to intensive (100%) pedestrian ground-surface survey (Phase I survey/Class III inventory) by qualified archaeologists. The Applicant may rely on a previously performed ground surface | Provide with Application Package; During construction and operation | KC PCDD; State Historic Preservation Office |      |         |

#### Steps to Compliance:

A. The Applicant shall implement the measures specified in the
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<td></td>
<td>survey for subsequent ground disturbing activities; or</td>
<td>mitigation measure.</td>
<td>The Kern County Planning and Community Development Department will verify.</td>
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<td>2.</td>
<td>If an application location has not been previously surveyed based on the records search information, an intensive (100%) pedestrian ground-surface survey (Phase I survey/Class III inventory) by qualified archaeologists shall be required.</td>
<td>B.</td>
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<td>d.</td>
<td>All prehistoric/Native American archaeological sites, whether identified during the records searches or during the intensive survey, shall be demarcated by a qualified archaeologist, fenced by the Applicant, and preserved in place.</td>
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<td>e.</td>
<td>Historical (Euro-American) archaeological sites that are potentially eligible for listing in the National Register of Historic Places shall be evaluated by a qualified archaeologist and must meet the requirements of the National Historic Preservation Act of 1966 in order to qualify. Qualifying sites, structures and equipment that are identified during the records search or field survey shall be fenced and preserved in open-space, removed and curated, or treated using appropriate data recovery procedures.</td>
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<td>f.</td>
<td>Historical (Euro-American) archaeological site types relating to oil and gas activities that have been determined Not Significant/Unique shall require no archaeological study or treatment.</td>
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<td>g.</td>
<td>All oil and gas industry employees conducting work in the area identified on the Conformity Site Plan shall complete Worker Environmental Awareness Program training including training dedicated to cultural resources protection.</td>
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<td>4.5-2</td>
<td>Implement MM 4.5-1 Steps to Compliance.</td>
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<td>4.5-3</td>
<td>MM 4.5-2 As part of any Worker Environmental Awareness Program training, all construction personnel shall be trained regarding the recognition of possible buried paleontological resources and protection of paleontological resources during construction, prior to the initiation of construction or ground-disturbing activities. Training shall inform construction personnel of the procedures to be followed upon the discovery of paleontological materials. All personnel shall be instructed that unauthorized collection or disturbance of fossils is unlawful.</td>
<td>Provide with Application Package; During construction and operation</td>
<td>KC PCDD</td>
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<td>Steps to Compliance:</td>
<td>A. The Applicant shall implement the Worker Environmental Awareness Program measures specified in the mitigation measure.</td>
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<td>B. The Kern County Planning and Community Development Department will verify.</td>
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<td>MM 4.5-3</td>
<td>All permits for new wells that use Enhanced Oil Recovery or Well Stimulation methods shall pay a mitigation fee of $50 per well shall be paid to the Buena Vista Museum to fund the continued education and curation of paleontological resources and provide educational support regarding the paleontological history of the region.</td>
<td>Provide with Application Package; During construction and operation</td>
<td>KC PCDD; Buena Vista Museum</td>
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<td>Steps to Compliance:</td>
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| 4.5-4  | MM 4.5-4 In the event archaeological materials are encountered during the course of ground disturbance or construction, the Project operator/contractor shall cease any ground disturbing activities within 50 feet of the find. The qualified archaeologist shall evaluate the significance of the resources and recommend appropriate treatment measures. Per California Environmental Quality Act Guidelines Section 15126.4(b)(3), Project redesign and preservation in place shall be the preferred means to avoid impacts to significant historical resources. Consistent with California Environmental Quality Act Guidelines Section 15126.4(b)(3)(C), if it is demonstrated that resources cannot be avoided, the qualified archaeologist shall develop additional treatment measures in consultation with the County, which may include data recovery or other appropriate measures. The Planning and Community Development Department shall consult with appropriate Native American representatives in determining appropriate treatment for unearthed cultural resources if the resources are prehistoric or Native American in nature. If after consultation it is deemed appropriate, archaeological materials recovered during any investigation shall be curated at an accredited curation facility. The qualified archaeologist shall prepare a report documenting evaluation and/or additional treatment of the resource. A copy of the report shall be provided to the Kern County Planning and Community Development Department and to the Southern San Joaquin Valley Information Center. In the event archaeological materials are encountered, in Tier 2 the surface owner shall be notified immediately. | During construction | KC PCDD |      |          | A. The Applicant shall submit an unanticipated discovery plan as part of the oil and gas conformity review.  
B. A qualified archaeologist shall evaluate any unanticipated site for significance and recommend appropriate treatment measures.  
C. The Applicant qualified archaeologist shall outline the recommendations for data recovery and curation in a report for submittal to the Kern County Planning and Community Development Department.  
D. The Kern County Planning and Community Development Department shall deem if or when ground disturbing activities within 50 feet of the find can or cannot resume. |
| MM 4.5-5 | If human remains are uncovered during Project construction, the Applicant shall immediately halt all work, contact the Kern County Coroner to evaluate the remains, and follow the procedures and protocols set forth in Section 15064.4 (c)(1) of the California Environmental Quality Act Guidelines. The Kern County Planning and Community Development Department shall be notified concurrently. If the County Coroner determines that the remains are Native American, the Project proponent shall contact the Native American Heritage Commission, in accordance with Health and Safety Code Section 7050.5, subdivision (c), and Public Resources Code 5097.98 (as amended by Assembly Bill 2641). The Native American Heritage Commission shall designate a Most Likely Descendant for the remains per Public Resources Code 5097.98. Per Public Resources Code 5097.98, the applicant, in coordination with the landowner, shall ensure that the immediate vicinity, according to generally accepted cultural or archaeological standards or practices, where the Native American human remains are located, is not damaged or disturbed by further development activity until the discussion and conference with the Most Likely Descendant has occurred, if applicable, taking into account the possibility of | During construction | KC PCDD |      |          | A. The Applicant shall implement the measures specified in the mitigation measure.  
B. The Kern County Planning and Community Development Department will verify. |
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<td>multiple human remains. If the remains are determined to be neither of forensic value to the Coroner, nor of Native American origin, provisions of the California Health and Safety Code (7100 et. seq.) directing identification of the next-of-kin will apply. In the event human remains are uncovered, in Tier 2 the surface owner shall be notified immediately.</td>
<td>4.5-5 Implement MM 4.5-1 through MM 4.5-5 Steps to Compliance.</td>
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#### Geology and Soils

| 4.6-1 MM 4.6-1 | Prior to beginning a ground disturbance activity, the Applicant shall comply with the following regulations (as applicable) and confirm compliance in its Site Plan Conformity Review application documentation: a. Alquist-Priolo Earthquake Fault Zoning Act. b. California Building Code. c. Division of Oil Gas and Geothermal Resources regulations, as identified in the California Code of Regulations, Title 14, Division 2, Chapter 4, including regulations implementing Senate Bill 4 as applicable. If hydraulic fracturing is conducted for any well associated with the Site Plan Conformity Review, the Applicant shall comply with requirements to monitor the California Integrated Seismic Network for indication of an earthquake of magnitude 2.7 or greater for the period of 10 days following the end of hydraulic fracturing. The earthquake search radius shall be consistent with Division of Oil Gas and Geothermal Resources Senate Bill 4 regulations. The data will be submitted to Division of Oil Gas and Geothermal Resources for an evaluation of the risks and actions consistent with the Division of Oil Gas and Geothermal Resources Senate Bill 4 regulations. In approving a well stimulation treatment permit that would authorize, within an urban area (i.e., an area with a population over 50,000, as defined by the U.S. Census Bureau), the emplacement of well stimulation fluids into an oil or gas formation that has not been previously been subject to well stimulation activity, and/or into an oil or gas formation for which Division of Oil Gas and Geothermal Resources does not yet possess adequate information about formation fracture geometries, Division of Oil Gas and Geothermal Resources shall impose a permit condition requiring that the applicant conduct ground monitoring to characterize as-built fracture geometries prior to, during, and post-hydraulic fracturing. Monitoring shall also be conducted during fracturing treatments by use of applicable microseismic fracture mapping, tilt measurements, tracers, or proppant tagging. Copies of ground monitoring records shall be provided to the County and Division of Oil Gas and Geothermal Resources for review and approval within 30 days of well stimulation treatment. d. Additionally, the Applicant shall: 1. Avoid placement of structures intended for human occupancy on |
|----------------|-------------------------------------------------|-----------------|-------|------|----------|
|                | Steps to Compliance: A. The Applicant shall implement the measures specified in the mitigation measure. B. The Kern County Building Department will verify during the oil and gas conformity review process. | Prior to ground disturbance activity | KC PCDD |  |  |
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<td>or within 50 feet of any active faults designated and mapped pursuant to the Alquist-Priolo Earthquake Fault Zoning Act where the fault breaks the surface.</td>
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<td>2. Have a professional geologist prepare a fault rupture hazard evaluation according to guidelines in California Geological Survey Special Publication 42, 2007 for new developments with structures that are intended for human occupancy.</td>
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<td>3. All Class II injection wells shall be authorized, and shall comply with all applicable legal requirements, Underground Injection Control Program Approval permit conditions, and be operated according to the California Code of Regulations Title 14 requirements, as described in the mitigation measures for Hydrology and Water Quality.</td>
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<td>4. Ensure that active fault trace placement restrictions are in place for all permanent tanks and storage reservoirs used to store, treat, or transport hazardous materials or materials that are considered pollutants to surface water and groundwater, located in an Earthquake Fault Zone. Ensure that all newly installed pipelines subject to 49 Code of Federal Regulations (CFR) Parts 192 and 195, are engineered and constructed in compliance with the requirements of the pipeline safety regulations, as set forth by the Pipeline Hazardous Materials Safety Administration (PHMSA). All other newly installed pipelines that transport gas or hazardous liquids are to be constructed, tested operated and maintained in accordance with good oilfield practice and applicable standards set forth and approved by the State Oil and Gas Supervisor. Ensure that all new pipelines designated for or water used for fire suppression are engineered and constructed in compliance with the requirements of California Building Code Chapter 9, Fire Protection Systems, and the California Fire Code to address potential fault rupture displacements.</td>
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<td><strong>MM 4.6-2</strong> All structures designed for human occupancy shall be designed to withstand substantial ground shaking in accordance with applicable California Building Code seismic design standards and Kern County Building Code.</td>
<td>During construction and operation</td>
<td>Kern County Public Works Department</td>
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<td><strong>Steps to Compliance:</strong></td>
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<td>A. The Applicant shall implement the measures specified in the mitigation measure.</td>
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<td>B. The Kern County Building Department will verify during the oil and gas conformity review process.</td>
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<td>4.6-2 Implement MM 4.6-1 and MM 4.6-2 Steps to Compliance.</td>
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<td>4.6-3</td>
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<td><strong>MM 4.6-3</strong> Operators shall avoid siting wells or accessory equipment and facilities on slopes greater than 30% unless the Applicant determines that mineral recovery is infeasible from a different location, and site-specific Professional Engineering certification is submitted concluding that the new equipment will not cause landslides.</td>
<td>Provide with Application Package; During construction and operation</td>
<td>Kern County Public Works Department</td>
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<td><strong>Steps to Compliance:</strong></td>
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| Impact | Mitigation Measure                                                                                                                                                                                                                                                                                                                                                           | Time Frame for Implementation                                                                                           | Responsible Monitoring Agency                                                                                                                                                                                                 | Date  | Initials |
|--------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 4.6-5  | Implement stormwater mitigation measures, as described in Section 4.9, Hydrology and Water Quality.                                                                                                                                                                                                                                                                       | A. The Applicant shall implement the measures specified in the mitigation measure.                                    | B. The Kern County Building Department will verify during the oil and gas conformity review process.                                                                                                                                                           |       |          |
|        | Implement MM 4.6-3 and MM 4.6-4, as described:                                                                                                                                                                                                                                                                                                                               |                                                                                                                   |                                                                                                                                                                                                                                                                |       |          |
| 4.6-6  | **MM 4.6-4** The Applicant shall confirm compliance with, and shall implement, a Division of Oil Gas and Geothermal Resources approved re-pressuring plan as required by Division 3, Chapter 1, Article 5.5 of the Public Resources Code, commencing with Section 3315. In developed areas where subsidence is confirmed or suspected, subsidence monitoring shall be required using Synthetic Aperture Radar studies and/or other methods as approved by the Division of Oil Gas and Geothermal Resources to quantify and evaluate the potential effect on the area. | Provide with Application Package;                                                                                     | KC PCDD; Division of Oil Gas and Geothermal Resources                                                                                                                                                                                                         |       |          |
|        | **Steps to Compliance:**                                                                                                                                                                                                                                                                                                                                                       | **A. The Applicant shall implement the measures specified in the mitigation measure.**                               | **B. The Kern County Planning and Community Development Department will verify during the oil and gas conformity review process.**                                                                 |       |          |
| 4.6-7  | **MM 4.6-5** The Applicant shall avoid building infrastructure on expansive soils unless the Applicant determines that mineral recovery is infeasible from a different location, and site-specific Professional Engineering certification is submitted concluding that the new equipment will not cause substantial risks to life or property.                                                                 | Prior to issuing the NTP or permits                                                                                   | KC PCDD                                                                                                                                                                                                                                                          |       |          |
|        | **Steps to Compliance:**                                                                                                                                                                                                                                                                                                                                                       | **A. The Applicant shall implement the measures specified in the mitigation measure.**                               | **B. The Kern County Planning and Community Development Department will verify during the oil and gas conformity review process.**                                                                 |       |          |
| 4.6-8  | Implement MM 4.6-1 Steps to Compliance.                                                                                                                                                                                                                                                                                                                                     |                                                                                                                   |                                                                                                                                                                                                                                                                |       |          |
| 4.6-9  | Implement MM 4.6-1 through MM 4.6-5 Steps to Compliance.                                                                                                                                                                                                                                                                                                                    |                                                                                                                   |                                                                                                                                                                                                                                                                |       |          |
|        | **Green House Gas Emissions:**                                                                                                                                                                                                                                                                                                                                             |                                                                                                                   |                                                                                                                                                                                                                                                                |       |          |
| 4.7-1  | **MM 4.7-1** An Applicant covered by the Cap-and-Trade Program with permitted stationary sources shall comply with the Cap-and-Trade regulation (especially by surrendering greenhouse gas allowances or offset credits to satisfy their compliance obligation under the Program), and implement Best Performance Standards applicable to greenhouse gas reduction for Components at Light Crude Oil and Natural Gas Production, Natural Gas Processing Facilities, Petroleum Refineries, Gas Liquids Processing Facilities, and Chemical Plants (San Joaquin Valley Air Pollution Control District 2010), Thermally Enhanced Oil Recovery Wells (San Joaquin Valley Air Pollution Control District 2010a), Steam Generators (San Joaquin Valley Air Pollution Control District 2010b), and Front-line Organic Liquid Storage Tanks (San Joaquin Valley Air Pollution Control District 2011). | Provide with Application Package;                                                                                     | KC PCDD; San Joaquin Valley Air Pollution Control District                                                                                                                                         |       |          |
|        | **Steps to Compliance:**                                                                                                                                                                                                                                                                                                                                                       | **C. The Applicant shall implement the measures specified in the mitigation measure.**                               | **D. The Kern County Planning and Community Development Department will verify during the oil and gas conformity review process.**                                                                 |       |          |
## Exhibit C  Mitigation Monitoring and Reporting Program for Kern County Gas & Oil Zoning Ordinance Environmental Impact Report

<table>
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<tr>
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<td><strong>MM 4.7-2</strong></td>
<td>Each Applicant covered by the Cap-and-trade Program shall comply with applicable Cap and Trade regulations, and other applicable greenhouse gas emission control and reduction regulations as these may be adopted or amended over time, to reduce, avoid, mitigate and/or sequester greenhouse gas emissions from Project-related air emissions.</td>
<td>Provide with Application Package; During construction and operation</td>
<td>KC PCDD; San Joaquin Valley Air Pollution Control District</td>
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| **MM 4.7-3** | Each Applicant shall implement methods to recover for reuse or destroy methane existing in associated gas and casinghead gas, as follows:  
  a. Recover all associated gas produced from the reservoir via new wells, regardless of the well type, except for gas produced from wildcat and delineation wells or as a result of start-up, shutdown and maintenance activities (whether planned or unplanned), system failures, and emergencies in accordance with San Joaquin Valley Air Pollution Control District regulations (Rule 4401 and 4409), as this may be amended over time.  
  b. Compliance with the expected California Air Resources Board methane regulation. | Provide with Application Package; During construction and operation | KC PCDD; San Joaquin Valley Air Pollution Control District |      |          |
| **MM 4.7-4** | Each Applicant shall offset all greenhouse gas emissions not covered by the Cap-and-Trade program or other mandatory greenhouse gas emission reduction measures through Applicant reductions of greenhouse gas emissions as verified by Kern County, through acquisition of offset credits from the California Air Pollution Control Officers Association Exchange Register or other third party greenhouse gas reductions, with consultation as to the validity of methodology for calculating reductions verified by the San Joaquin Valley Air Pollution Control District and accepted by Kern County, or through inclusion in an Emission Reduction Agreement, to offset Project-related greenhouse gas emissions that are not included in the Cap and Trade program to assure that no net increase in greenhouse gas emissions from the Project. | Provide with Application Package; During construction and operation | KC PCDD; San Joaquin Valley Air Pollution Control District |      |          |

4.7-2  Implement MM 4.7-3 Steps to Compliance.

4.7-3  Implement MM 4.7-4 Steps to Compliance.

### Hazards and Hazardous Materials

4.8-1  **MM 4.8-1** The Applicant shall provide a comprehensive Worker Environmental Awareness Program to the County with its first Site Plan Conformity Review permit application in each calendar year. The program shall include all training requirements identified in Applicant Best Management Practices and mitigation measures, and include training for all field personnel (including Applicant employees, agents and contractors). The Worker Environmental Awareness

Steps to Compliance:

A. The Applicant shall implement measures as specified in the

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### Exhibit C
Mitigation Monitoring and Reporting Program for Kern County Gas & Oil Zoning Ordinance Environmental Impact Report

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<td></td>
<td>Program shall include protocols and training for responding to and handling of hazardous materials and hazardous waste management, and emergency preparedness, release reporting, and response requirements. In Tier 2, the Worker Environmental Awareness Program shall be provided to the surface owner at the time of the application pathway process so the surface owner may educate employees as well.</td>
<td>B. The Kern County Planning and Community Development Department will verify.</td>
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<td>MM 4.8-2 The Applicant shall arrange for transportation, storage and disposal of all hazardous materials in compliance with the Hazardous Materials Transportation Act. Drivers transporting hazardous materials or wastes should follow the measures recommended by the Federal Motor Carrier Safety Administration for avoiding roll-over accidents. To avoid roll-over accidents involving cargo tank trucks:</td>
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<td>a. Avoid sudden movements that may lead to roll-overs.</td>
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<td>b. Control your load in turns and on straight roadways.</td>
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<td>c. Identify high risk areas on roads.</td>
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<td>d. Remain alert and attentive behind the wheel.</td>
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<td>e. Control speed and maintain proper “speed cushions.”</td>
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<td>MM 4.8-3 The Applicant shall implement the following practices:</td>
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<td>a. Construction activities shall be conducted to allow for easy clean-up of spills. Construction crews shall have sufficient tools, supplies, and absorbent and barrier materials to contain and recover spilled materials.</td>
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<td>b. Fuels and lubricants shall be stored only at designated staging areas. Fuel and lubricant tanks shall have appropriate secondary spill containment (e.g., curbs). Compliance with laws and regulations is required, including compliance with hazardous materials and hazardous waste storage laws, as applicable.</td>
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<td>c. Storage of fuel and lubricants in the staging area shall be at least 100 feet away from the edge of water bodies. Refueling and lubrication of equipment shall be restricted to upland areas at least 100 feet away from stream channels and wetlands.</td>
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<td>d. Any fuel truck shall carry an oil spill response kit and spill response equipment at all times.</td>
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<td>e. Applicants shall be required to perform all routine equipment maintenance at the well pad or other suitable locations (i.e., maintenance yards), and promptly collect and lawfully dispose of wastes in compliance with existing regulatory requirements.</td>
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<td>f. Berms and/or dikes (secondary containment) shall be constructed around the permanent above-ground bulk tanks and the foundations shall be installed with a passive leak detection system, so that potential spill materials shall be contained and collected in specified areas isolated from any water bodies. Tanks shall not be placed in areas subject to periodic flooding or washout. Compliance with laws and regulations is required.</td>
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Steps to Compliance:
A. The Applicant shall implement measures as specified in the mitigation measures.
B. The Kern County Planning and Community Development Department will verify.

Steps to Compliance:
A. The Applicant shall implement measures as specified in the mitigation measures.
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|        | regulations is required, including compliance with hazardous materials and hazardous waste storage laws as applicable, including for secondary containment, such as Division of Oil Gas and Geothermal Resources regulation (Title 14, C.C.R. § 1773.1), which requires secondary containment in "an engineered impoundment such as a catch basin, which can include natural topographic features, that is designed to capture fluid released from a production facility."
|        | A sufficient supply of sorbent and barrier materials shall be maintained on construction sites consistent with the type and level of construction activities. Sorbent and barrier materials shall also be utilized to contain runoff from contaminated areas where appropriate.
|        | 1. Shovels and drums shall be stored at each well pad or be readily available. If small quantities of soil become contaminated, hand tools such as shovels or other appropriate tools, shall be used to collect the soil and the material shall be stored in storage drums. Large quantities of contaminated soil may be bio-remediated on-site or at a designated remediation facility, subject to government approval, or collected utilizing heavy equipment, and stored in drums or other suitable containers prior to disposal. Should contamination occur adjacent to staging areas as a result of runoff, shovels and/or heavy equipment shall be utilized to collect the contaminated material. Contaminated soil shall be disposed of in accordance with state and federal regulations.
|        | 2. Above-ground tanks, valves and other equipment shall be visually inspected monthly and when the tank is refilled. Inspection records shall be maintained. Applicants shall periodically check tanks for leaks or spills.
|        | 3. Drain valves on all tanks shall be locked to prevent accidental or unauthorized discharges from the tank.
|        | 4. Equipment maintenance shall be conducted in staging areas or other suitable locations (i.e., maintenance shops or yards) to the extent practical.
|        | 5. The Applicant shall maintain equipment in operating condition to reduce the likelihood of fuel or oil line leaks and leakage. Any vehicles with chronic or continuous leaks shall be removed from the site and repaired before being returned to operation.
|        | h. Applicants are encouraged, but not required, to use an alternate to silica sand as a proppant, after Division of Oil Gas and Geothermal Resources has determined that such an alternative does not introduce new hazards. |
Exhibit C  Mitigation Monitoring and Reporting Program for Kern County Gas & Oil Zoning Ordinance Environmental Impact Report

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| MM 4.8-4 | The Applicant shall implement the following measures to prevent, repair, and remEDIATE accidental leaks and spills from oil and gas operations.  
  a. The Applicant shall identify gas, oil and produced water pipelines to be used for each new or reworked well site in its Site Plan, and shall show the location of any sensitive receptor located within 300 feet of any such pipeline. For any pipeline located within 300 feet of a sensitive receptor, the Applicant shall present evidence that each such pipeline has been integrity tested using pressure testing or other accepted test methods by a qualified professional within a two-year period prior to submittal of the Site Plan, and shall provide a copy of the test result to the County. For all waste gas lines less than or equal to 4 inches in diameter, a Pipeline Management Plan shall be developed and implemented in accordance with Division of Oil Gas and Geothermal Resources regulations Title 14, Division 2, Chapter 4, Section 1774.2. The Pipeline Management Plan shall include:  
    1. A listing of information on each pipeline including, but not limited to:  
       i. Pipeline type.  
       ii. Grade.  
       iii. Installation date of pipeline.  
       iv. Design and operational pressure.  
       v. Any leak, repair, inspection and testing history.  
    2. A description of the testing method and schedule for all pipelines.  
  b. The Applicant shall notify the Kern County Environmental Health Division, Certified Union Program Agency (CUPA), surface landowner, and sensitive receptors located within 300 feet, of any hazardous materials/waste release immediately upon discovery, and to other applicable agencies as required by other laws. The Applicant shall immediately contain the leak (e.g., by isolating or shutting down the leaking equipment), clean up contaminated media (e.g., soils), and repair the leak prior to recommencing operations. The Applicant shall report the status and progress of the leak repair and remediation work to the County and the CUPA on monthly intervals or predetermined intervals until the repair has been completed. Contaminated media shall be analyzed according to 22 C.C.R. §§ 66261.21-66261.24 for determination of appropriate hazardous waste disposal. Hazardous Waste Determination procedures are provided in 22 C.C.R. § 66262.11.  
  c. As part of the Site Plan, the Applicant shall identify the location and right of way for all pipelines to be used for the transport of oil, gas, and |
|        | Provide with Application Package; During construction and operation | KC PCDD; Division of Oil Gas and Geothermal Resources | |

Steps to Compliance:
A. The Applicant shall implement measures as specified in the mitigation measures.  
B. The Kern County Planning and Community Development Department will verify.
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<td>produced water, including pipelines that intersect the main transport line, based on existing data and using commercially available technology, and, based on the results of this analysis, shall identify any sensitive receptors within 300 feet of the pipeline for purposes of complying with Mitigation Measure 4.8-4. Mechanical integrity testing of all such pipeline lengths within 300 feet of a sensitive receptor shall be required pursuant to Mitigation Measure 4.8-4-a.</td>
<td>Provide with Application Package; During construction and operation</td>
<td>Kern County Public Health Services; Kern County Environmental Health;</td>
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<td>If a release, identified pursuant to subsection (b), cannot be repaired or remediated within 48 hours, and has potential impact to sensitive receptors, the Applicant shall incur costs to sample and analyze the potentially affected area, which may include soil, groundwater, outdoor or indoor air of sensitive receptors within 300 feet of the leak. Applicant shall pay all temporary relocation costs (e.g., housing, food, and transportation) for any exposed sensitive receptor until such time as the leak has been repaired and post-indoor air testing has been completed, as confirmed by identified agency having oversight of the remediation.</td>
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<td>MM 4.8-5</td>
<td>If, during grading or excavation work, the Applicant observes evidence of contamination or if soil contamination is suspected, work near the excavation site shall be terminated, the work area cordoned off and appropriate health and safety procedures implemented for the location by the contractor’s Health and Safety Officer. Samples shall be collected by a trained and qualified individual. Analytical data from suspected contaminated material shall be reviewed by the contractor’s Health and Safety Officer. If the sample testing determines that contamination is not present, work may proceed at the site; however, if contamination is detected above regulatory limits, the Kern County Public Health Services Department shall be notified. All actions related to encountering unanticipated hazardous materials at the site shall be documented and submitted to the Kern County Public Health Services Department.</td>
<td>Steps to Compliance: A. The Applicant shall implement measures as specified in the mitigation measures. B. The Kern County Public Health Services and Environmental Health will verify.</td>
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<td>MM 4.8-6</td>
<td>The Applicant shall implement measures to prevent the release or accidental spillage of solid waste, garbage, construction debris, sanitary waste, industrial waste, naturally occurring radioactive materials, oil and other petroleum products, and other wastes into water bodies or water sources, including all applicable practices included in the most up-to-date versions of the following documents: Exemption of Oil and Gas Exploration and Production Wastes From Federal Hazardous Waste Regulations (EPA 2002). Equivalent industry standards such as Environmental Protection for Onshore Oil and Gas Productions and Leases (American Petroleum Institute 2009) and related standards may also be utilized, provided that a professional engineer, certified industrial hygienist or certified safety professional certifies to the County that such alternative standards are as or more protective of human health and the environment, as compared to the standards in the referenced Environmental Protection Agency manual. The determination of when and the extent to which</td>
<td>Steps to Compliance: A. The Applicant shall implement measures as specified in the mitigation measures. B. The Kern County Planning and Community Development Department will verify.</td>
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<td>a measure is “practical” is to be made by the Applicant; however, all of the below activities must comply with all applicable legal requirements, including federal and state laws and regulations, County ordinances, and the mitigation measures included in this Final EIR.</td>
<td>Provide with Application Package; During construction and operation</td>
<td>KC PCDD; Environmental Protection Agency; Kern County Fire Department</td>
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<td>a. Classify the various oil and gas exploration and production wastes for proper disposal as described in United States Environmental Protection Agency 2002, and in accordance with applicable California laws and regulations.</td>
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<td>b. Size reserve pits properly to avoid overflows.</td>
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<td>c. Use closed loop mud systems when practical, particularly with oil-based muds.</td>
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<td>d. Review safety data sheets of materials used, and select less toxic alternatives when possible.</td>
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<td>e. Minimize waste generation, such as by designing systems with the smallest volumes possible (e.g., drilling mud systems).</td>
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<td>f. Reduce the amount of excess fluids entering reserve and production pits.</td>
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<td>g. Keep non-exempt wastes out of reserve or production pits.</td>
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<td>h. Design the drilling pad to contain stormwater and rigwash.</td>
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<td>i. Recycle and reuse oil-based muds and high density brines, when practical, and when such recycling and reuse complies with hazardous waste laws and recycling laws.</td>
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<td>j. Perform routine equipment inspections and maintenance to prevent leaks or emissions.</td>
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<td>k. Reclaim oily debris and tank bottoms when practical, and when such reclamation complies with hazardous waste laws and recycling laws.</td>
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<td>l. Minimize the volume of materials stored at facilities.</td>
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<td>m. Construct adequate berms around materials and waste storage areas to contain spills.</td>
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<td>n. Perform routine inspections of materials and waste storage areas to locate damaged or leaking containers.</td>
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<td>o. Train personnel to use sensible waste management practices.</td>
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<tr>
<td>MM 4.8-7</td>
<td>Conduct exploration and development activities as described in Surface Operating Standards and Guidelines for Oil and Gas Exploration and Development The Gold Book (Bureau of Land Management 2007) or equivalent industry standard such as Environmental Protection for Onshore Oil and Gas Production Operations and Leases (American Petroleum Institute 2009) and related standards. The following specific measures should be undertaken at a minimum:</td>
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<td>a. Sufficient impervious secondary containment, such as containment dikes, containment walls, and drip pans, should be constructed and maintained around all qualifying petroleum facilities, including tank batteries and separation and treating areas consistent with the Environmental Protection Agency’s Spill Prevention, Control, and</td>
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<td>Countermeasures regulation (40 Code of Federal Regulations 112). The containment structure must have sufficient volume to contain, at a minimum, the content of the largest storage tank containing liquid hydrocarbons within the facility/battery and sufficient freeboard to contain precipitation, unless more stringent protective requirements are deemed necessary by the authorized officer. Drip pans should be routinely checked and cleaned of petroleum or chemical discharges and designed to prevent access by wildlife and livestock.</td>
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<td>b. Chemical containers should not be stored on bare ground, and should be maintained in good condition and placed within secondary containment in case of a spill or high velocity puncture.</td>
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<td>c. Containment dikes are not to be constructed with topsoil or coarse, insufficiently impervious spoil material. Containment is strongly suggested for produced water tanks. Chemicals should be placed within secondary containment and stored so that the containers are not in contact with soil or standing water and product and hazard labels are not exposed to weathering.</td>
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<td>d. Maintain a clean well location. Remove trash, junk, and other materials not in current use.</td>
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<td>e. In approving a well stimulation treatment permit, the applicant shall include in the spill contingency plan required by Section 1722.9 of Title 14 of the California Code of Regulations a protocol for measuring and reporting earthquake and earth consequences that occur during the well stimulation process, for however many well stimulation treatments are proposed to occur simultaneously at any given time. The Spill Contingency Plan shall include requirements for adequate personnel and equipment that may be necessary to conduct post-earthquake inspection and repair plans to evaluate any damage that has occurred. The Spill Contingency Plan shall include spill prevention, control and countermeasure plans to address the hazardous substances associated with well stimulation activities. The post-earthquake inspection procedures shall ensure the integrity of the mechanical systems and well integrity of wells used for stimulation or wastewater injection and idle wells that might have become conduits for escaping fluids or gases. The plan shall include procedures describing the necessary steps to be taken after service is disrupted in order to make the facilities secure, operational and safe as soon as possible.</td>
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**MM 4.8-8** Applicants shall use the appropriate American Petroleum Institute Standards, or other recognized sources imposing the same or equivalent standards, for their facility, such as the following:

a. Use cements and well materials in well completions as described in Specifications for Cements and Materials for Well Cementing (American Petroleum Institute 2011).

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<tr>
<th>Step 1</th>
<th>Steps to Compliance:</th>
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<tbody>
<tr>
<td>Provide with Application Package;</td>
<td>A. The Applicant shall implement measures as specified in the Higher Education Planning and Development Commission (HEPDC) guidelines.</td>
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<td>During construction and operation</td>
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<td>KC PCDD; Division of Oil Gas and Geothermal Resources</td>
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<td></td>
<td>b. Prior to start-up of all new facilities, verify and prove the construction, installation, integration, testing, and preparation of systems have been completed as designed following the practices described in Facilities Systems Completion Planning and Execution (American Petroleum Institute 2013a).</td>
<td>mitigation measures.</td>
<td>B. The Kern County Planning and Community Development Department will verify.</td>
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<td></td>
<td>c. When the use of centralizers and stop-collars are required during well completion activities, follow the installation and testing requirements described in Recommended Practice for Centralizer Placement and Stop-collar Testing (American Petroleum Institute 2010a).</td>
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<td></td>
<td>d. Limit the environmental footprint of oil and gas exploration and production and reduce the incidence of releases of hazardous substances following the practices described in Environmental Protection for Onshore Oil and Gas Production Operations and Leases (American Petroleum Institute 2009).</td>
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<td>e. Minimize improper disposal by following the practices described in American Petroleum Institute Order No. G00004, Guidelines for Commercial Exploration and Production Waste Management Facilities (American Petroleum Institute 2001) or other recognized methods. These guidelines discuss the relevant regulations and permitting requirements; siting, construction, and technical consideration for various waste disposal options; as well as mitigation options.</td>
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<td>f. Minimize the environmental footprint of exploration and production activities following the practices described in Land Drilling Practices for Protection of the Environment (American Petroleum Institute 2010b) or other recognized sources.</td>
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<td>g. When pressure testing is required by State or federal law, prior to pressurizing or re-pressurizing petroleum product pipelines, ensure the integrity of pipelines following the practices described in Recommended Practice for the Pressure Testing of Steel Pipelines for the Transportation of Gas, Petroleum Gas, Hazardous Liquids, Highly Volatile Liquids, or Carbon Dioxide (American Petroleum Institute 2013b) or other recognized sources.</td>
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<td>h. To minimize releases of hazardous substances during oilfield construction, pit and sump operations shall be conducted in accordance with State Water Resources Control Board General Orders or appropriate Regional Water Quality Control Board waste discharge requirements or general orders.</td>
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<td></td>
<td>MM 4.8-9 For all operations subject to the Oil and Gas Conformity Review, the Applicant shall comply with the pipeline management plan, including inspection and maintenance requirements, as administered by the Division of Oil Gas and Geothermal Resources pursuant to 14 California Code of Regulations 1774.</td>
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**Steps to Compliance:**

A. The Applicant shall implement measures as specified in the
## Exhibit C  Mitigation Monitoring and Reporting Program for Kern County Gas & Oil Zoning Ordinance Environmental Impact Report

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<tr>
<td>4.8-2</td>
<td>MM 4.8-10</td>
<td>The Applicant shall incorporate annual maintenance checks for leaks and corrosion that cause releases into current operations, maintenance, and inspection schedules as provided by the Division of Oil Gas and Geothermal Resources pursuant to 14 California Code of Regulations Sections 1774.1 and 1774.2, the Applicant shall visually inspect all above-ground pipelines for leaks and corrosion at least once per year, comply with the pipeline testing requirements included therein, shall maintain records of such inspections and testing; and shall make inspection and testing records available to the County for review upon request.</td>
<td>Provide with Application Package; During construction and operation</td>
<td>KC PCDD; Division of Oil Gas and Geothermal Resources</td>
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<tr>
<td>4.8-11</td>
<td>MM 4.8-11</td>
<td>As part of the Hazardous Materials Business Plan and the spill prevention, control, and countermeasures Plan, the Applicant shall require annual worker training requirements to: increase awareness of the most common types of failures and methods to avoid mistakes, shall maintain records of employee training, and shall make such records available to the County for review upon request.</td>
<td>Provide with Application Package; During construction and operation</td>
<td>KC PCDD; Kern County Fire Department</td>
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<tr>
<td>4.8-12</td>
<td>MM 4.8-12</td>
<td>An Applicant who plans to perform cyclic steam injection activities above reservoir fracture pressures shall conduct such activities in accordance with the requirements set forth in the Division of Oil Gas and Geothermal Resources site-specific Project Approval Letter for the injection project. The following requirements from a Project Approval Letter for an injection project are examples of the types of conditions that would be triggered if a surface expression were to occur, though such conditions may be modified by the Division of Oil Gas and Geothermal Resources to reflect site-specific conditions and changing regulatory requirements.</td>
<td>During construction and operation</td>
<td>KC PCDD; Division of Oil Gas and Geothermal Resources; Kern County Environmental Health</td>
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</table>

### Steps to Compliance:

A. The Applicant shall implement measures as specified in the mitigation measures.
B. The Kern County Planning and Community Development Department will verify.

### Additional Information:

- Cease cyclic steaming operations in accordance with the site-specific Project Approval Letter. Streaming can resume following the Division of Oil Gas and Geothermal Resources specifications outlined in the Project Approval Letter.
- All new or reactivated surface expressions that discharge oil in a reportable quantity shall be reported as an oil spill to the California Emergency Management Agency at (800) 852-7550.
- Any measures to address surface expressions from the well and associated Project shall be reviewed by the Division of Oil Gas and Geothermal Resources prior to initiating.
- Immediately control any water, steam, or oil flowing from a surface expression and contained. All discharged material shall be removed and disposed of in a manner approved by all state and local agencies.
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<tr>
<td>e.</td>
<td>Cordon off and clearly mark all surface expressions to prevent inadvertent access.</td>
<td>During construction and operation</td>
<td>KC PCDD; Division of Oil Gas and Geothermal Resources</td>
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<td>f.</td>
<td>Conduct air sampling of any emissions associated to a recent surface expression in accordance to the local air board requirements to ensure a health hazard condition does not exist.</td>
<td>During construction and operation</td>
<td>KC PCDD; Kern County Environmental Health; Environmental Protection Agency</td>
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<td>g.</td>
<td>Report immediately to the Division of Oil Gas and Geothermal Resources all surface expressions within 300 feet of the Project site. If the surface expression continues to flow after five days, all wells within a 300-foot radius shall cease steaming until the surface expression ceases to flow. If the surface expression continues to flow, the damage will be evaluated at the Supervisor's discretion, as assigned by Section 3106 of the Public Resources Code and existing laws and regulations.</td>
<td>During construction and operation</td>
<td>KC PCDD; Kern County Fire Department</td>
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</table>

**Steps to Compliance:**
A. The Applicant shall implement measures as specified in the mitigation measures.
B. The Kern County Planning and Community Development Department will verify.

**MM 4.8-15** The Applicant who intends to use acutely hazardous chemicals, including chemicals at or above the specified threshold quantities or a process which involves a Category 1 flammable gas or a flammable liquid with a flashpoint below 100 degrees Fahrenheit (37.8 degrees Celsius) on site in one location, in a quantity of 10,000 pounds (4535.9 kilograms) or more according to 8 California Code of Regulations Section 5189, Appendix A, within 0.25 mile from a school must:

a. Evaluate whether other alternative chemicals that are less hazardous could be used.

b. Ensure that the smallest quantity of necessary acutely hazardous
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<td></td>
<td>materials are stored on site.</td>
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<td>e. Notify the occupants of the buildings when and where acutely hazardous materials would be used.</td>
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<td>d. Notify Kern County Fire Department about the details of the use of acutely hazardous materials (e.g., when, where, how much).</td>
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<td>e. Ensure that all employees who would contact the acutely hazardous materials are trained on the handling, transport, storage, and disposal of the materials.</td>
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<td>f. Ensure that all employees who would contact the acutely hazardous materials are trained and are provided the proper personal protective equipment.</td>
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<td>g. Ensure that all employees who would contact the acutely hazardous materials are trained and have exercised on the Spill Prevention, Control, and Countermeasures Plan that addresses these chemicals.</td>
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<td>MM 4.8-16</td>
<td>The applicant shall not use any well stimulation fluid unless the applicant presents one of the following:</td>
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<td>1. Safety Data Sheet that accurately describes the physical and chemical properties of the well stimulation fluid; or</td>
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<td>2. Safety Data Sheets that accurately describe the physical and chemical properties of all chemical compounds in the well stimulation fluid; or</td>
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<td>3. Toxicological report prepared by a qualified laboratory and/or the fluid vendor confirming the environmental profile of the well stimulation fluid is known; or</td>
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<td>4. Results of an aquatic bioassay by a qualified laboratory confirming the environmental profile of the well stimulation fluid is known.</td>
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<td>For purposes of this mitigation measure, the term “environmental profile” means the physical and chemical properties of a compound that determine its risk to human health and the environment. This mitigation measure shall be superseded by any list of approved well stimulation treatment fluids, chemicals or additives published by the State of California or by any applicable State of California regulation pertaining to chemical use in well stimulation treatment.</td>
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<td>4.8-4</td>
<td>Implement Steps to Compliance as described in MM 4.8-1, MM 4.8-17, MM 4.8-18</td>
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<td>4.8-5</td>
<td>The Applicant shall determine whether any proposed construction or alteration meets requirements for notification of the Federal Aviation Administration. If a proposed construction or alteration is found to require notification, the Applicant shall notify the Federal Aviation Administration and request that the Provide with Application Package; During construction and operation</td>
<td></td>
<td>KC PCDD; Federal Aviation Administration</td>
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<td>Federal Aviation Administration issue a Determination of No Hazard to Air Navigation. If the Federal Aviation Administration determines that the construction or alteration would result in a potential hazard to air navigation, the Applicant would be required to work with the Federal Aviation Administration to resolve any adverse effects or airport operations. The Applicant shall notify the Federal Aviation Administration and the nearest Airport, by completing and submitting Federal Aviation Administration Form 7460-1 if oil and gas related exploration, production, or associated development activities are planned that meet one or more of the following criteria:</td>
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|        | a. Any construction or alteration exceeding 200 feet above ground level.  
|        | b. Any construction or alteration within 20,000 feet of all public use airports except Poso-kern Airport which exceeds a 100:1 surface from any point on the runway.  
|        | c. Any construction or alteration within 10,000 feet of the Poso-Kern Airport which exceeds a 50:1 surface from any point on the runway.  
|        | d. Any construction or alteration within 5,000 feet of a public use heliport which exceeds a 25:1 surface.  
|        | e. When requested by the Federal Aviation Administration.  
|        | f. Any construction or alteration located on a public use airport or heliport regardless of height or location.                                                                                                                                                                                                                       | Provide with Application Package; During construction and operation | KC PCDD |        |         |
| MM 4.8-18 | The Applicant shall determine the distance from the proposed operation to the nearest boundary of the Joint Service Restricted R-2508 Complex, using a map of this Complex provided by the County. The Applicant shall notify the Joint Service Restricted R-2508 Complex representative identified by the County if oil and gas related exploration, production, or associated development activities are planned that meet one or more of the following criteria: | Steps to Compliance:  
A. The Applicant shall implement measures as specified in the mitigation measures.  
B. The Kern County Planning and Community Development Department will verify. |                                      |                                |        |         |
|        | a. Any structure within 75 miles of the R-2508 Complex that is greater than 50 feet tall.  
|        | b. Any project within 50 miles of the R-2508 Complex that emit radio and communication frequencies.  
|        | c. Any project that would create environmental impacts such as visibility or elevated obstructions within 25 miles of the R-2508 Complex.                                                                                                                                                                      |                                |                                |        |         |
| MM 4.8-19 | All oil and gas related development activities shall review the Kern County Airport Land Use Compatibility Plan for compliance with all applicable policies.                                                                                                                                                                                                                           | Provide with Application Package; During construction and operation | KC PCDD; Kern County Airport |        |         |
|        | Steps to Compliance:  
A. The Applicant shall implement measures as specified in the mitigation measures.  
B. The Kern County Planning and Community Development Department will verify.                                                                                                                                                                                                                                        |                                |                                |        |         |
| 4.8-8 | **MM 4.8-20** The Applicant is required to implement the following measures:  
a. Comply with Kern County Fire Codes.                                                                                                                                                                                                                                                                               | Provide with Application Package; | KC PCDD; Kern County Fire |        |         |
### Mitigation Measure

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<td>b.</td>
<td>Maintain firefighting apparatus and supplies required by the Kern County Fire Department.</td>
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<td>c.</td>
<td>Maintain of a list of all relevant fire-fighting authorities for each work site.</td>
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<td>d.</td>
<td>Have available equipment to extinguish incipient fires and or construction of a fire break, such as: chemical fire extinguishers, shovels, axes, chain saws, etc.</td>
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<td>e.</td>
<td>Carry water or fire extinguishers and shovels in non-passenger vehicles in the field.</td>
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<td>f.</td>
<td>Have and maintain an adequate supply of fire extinguishers for welding, grinding, and brushing crews.</td>
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<td>g.</td>
<td>Use available resources to protect individual safety and to contain any fire that occurs and notify local emergency response personnel.</td>
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<td>h.</td>
<td>Remove any flammable wastes generated during oil and gas activities regularly.</td>
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<td>i.</td>
<td>Store all flammable materials used in oil and gas activities away from ignition sources and in approved containers.</td>
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<td>j.</td>
<td>Allow smoking only in designated smoking areas.</td>
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<td>k.</td>
<td>Prohibit smoking where flammable products are present and when the fire hazard is high. Train personnel regarding potential fire hazards and their prevention.</td>
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<td>l.</td>
<td>All internal combustion engines, stationary and mobile, shall be equipped with spark arresters. Spark arresters shall be in good working order.</td>
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<td>m.</td>
<td>Light trucks and cars with factory-installed (type) mufflers shall be used only on roads where the roadway is cleared of vegetation. Said vehicle types shall maintain their factory-installed (type) muffler in good condition.</td>
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<td>n.</td>
<td>Fire rules shall be posted on the Project bulletin board at the contractor’s field office and areas visible to employees.</td>
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<td>o.</td>
<td>Equipment parking areas and small stationary engine sites shall be cleared of all extraneous flammable materials.</td>
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<td>p.</td>
<td>Personnel shall be trained in the practices of the Fire Safety Plan relevant to their duties. Construction and maintenance personnel shall be trained and equipped to extinguish small fires in order to prevent them from growing into more serious threats.</td>
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#### MM 4.8-21

The Applicant should restrict the use of chainsaws, chippers, vegetation masticators, grinders, tractors, torches, and explosives at its locations, and ensure the sites where this equipment is used are equipped with portable or fixed fire extinguishers and/or a water tank, with hoses, fire rakes, and other tools to extinguish and or control incipient stage fires. The Worker Environmental Awareness Program shall include fire prevention and response training for workers using these tools.

#### Time Frame for Implementation

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<tr>
<td>During construction and operation</td>
<td>Department</td>
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#### Steps to Compliance:

A. The Applicant shall implement measures as specified in the mitigation measures.

B. The Kern County Planning and Community Development Department and Kern County Fire Department will verify.

---

**Provide with Application Package:**

**KC PCDD**

#### Steps to Compliance:

A. The Applicant shall implement measures as specified in the mitigation measures.
### Exhibit C

**Mitigation Monitoring and Reporting Program for Kern County Gas & Oil Zoning Ordinance Environmental Impact Report**

<table>
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<tr>
<td>4.8-9</td>
<td><strong>MM 4.8-22</strong> Applicants shall ensure that trash is stored in closed containers and removed from the site at regular intervals. Open containers shall be inverted and construction ditches shall not be allowed to accumulate water. Construction and maintenance operations shall not generate standing water. Naturally occurring depressions, drainages, or pools at the site shall not be drained or filled without consulting with the appropriate resource agency (Kern County, United States Army Corps of Engineers, United States Fish and Wildlife Service, California Department of Fish and Wildlife) as applicable, and obtaining the appropriate permits.</td>
<td>During construction and operation</td>
<td>KC PCDD</td>
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**Steps to Compliance:**

A. The Applicant shall implement measures as specified in the mitigation measures.

B. The Kern County Planning and Community Development Department will verify.

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<tr>
<td>4.8-10</td>
<td><strong>Implement MM 4.8-1 through MM 4.8-22,</strong> as described above, and dust control and toxic air contaminant setback mitigation measure, as described in Section 4.3, Air Quality, risk reduction measures, as described in Section 4.6, Geology and Soils, and mitigation measures to maintain water quality, as described in Section 4.9, Hydrology and Water Quality.</td>
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**Hydrology and Water Quality**

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<tr>
<td>4.9-1</td>
<td><strong>MM 4.9-1</strong> The Applicant shall comply with all applicable federal, state, regional and local agency water quality protection laws and regulations, and commonly utilized industry standards, including (where applicable) obtaining coverage under the stormwater construction general permit and industrial general permit issued by the State Water Resources Control Board and complying with industry stormwater management standards for construction and operational activities. The applicant shall obtain all required permits from Division of Oil Gas and Geothermal Resources, and such permits shall include measures that will safeguard protected groundwater with appropriate casing, seal and related down-hole technical specifications.</td>
<td>During construction and operation</td>
<td>KC PCDD; State Water Resources Control Board; Environmental Protection Agency</td>
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</tr>
</tbody>
</table>

**Steps to Compliance:**

A. The Applicant shall implement measures as specified in the mitigation measures.

B. The Applicant shall a Stormwater Management Plan.

C. The Applicant shall submit in writing approval from federal and state agencies verifying permit approval.

D. The Kern County Planning and Community Development Department will verify.

<table>
<thead>
<tr>
<th>Impact</th>
<th>Mitigation Measure</th>
<th>Time Frame for Implementation</th>
<th>Responsible Monitoring Agency</th>
<th>Date</th>
<th>Initials</th>
</tr>
</thead>
</table>
|        | **MM 4.9-2** A. Oil and Gas activities in Tier 1 shall comply with the following.

1. In areas subject to National Pollutant Discharge Elimination System stormwater permitting requirements, project applicants shall file a Notice of Intent to the State Water Resources Control Board to comply with the statewide General Permit for Discharges of Stormwater Associated with Construction Activities (Construction General Permit State Water Resources Quality Control Board Order No 2009-009-DWO) prior to undertaking all ground-disturbing activities greater than one acre and shall prepare and implement a Stormwater Pollution Prevention Plan for construction activities on the Project site in accordance with the Construction General Permit. For facilities requiring coverage under the Construction General Permit, | Provide with Application Package; During construction and operation | KC PCDD; Kern County Public Works Department |      |          |

**Steps to Compliance:**

A. The Applicant shall implement measures as specified in the mitigation measures.

B. The Applicant shall submit a drainage plan.

C. The Applicant shall submit in writing approval from federal and state agencies verifying permit approval.

D. The Kern County Engineering, Surveying and Permit Services Department will verify.
<table>
<thead>
<tr>
<th>Impact</th>
<th>Mitigation Measure</th>
<th>Time Frame for Implementation</th>
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<th>Date</th>
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</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>the site specific Stormwater Pollution Prevention Plan shall include measures to achieve the following objectives: (1) all pollutants and their sources, including sources of sediment associated with construction activity are controlled; (2) all non-stormwater discharges are identified and either eliminated, controlled and treated, (3) site Best Management Practices are effective and result in the reduction or elimination of pollutants in stormwater discharges and authorized non-stormwater discharges from construction activity and (4) stabilization Best Management Practices to reduce or eliminate pollutants after construction are completed. The Stormwater Pollution Prevention Plan shall be prepared by a qualified preparer and shall include the minimum Best Management Practices required for the identified risk level. The Stormwater Pollution Prevention Plan shall include a construction site monitoring program that identified requirements for dry weather visual observations of pollutants at all discharge locations and, as appropriate, depending on the project risk level, sampling of site effluent and receiving waters. A qualified Stormwater Pollution Prevention Plan practitioner shall be responsible for implementing and all monitoring for the Best Management Practices as well as all inspection, maintenance and repair activities at the project site. If applicable, each project shall also implement and fully comply with the Industrial Storm Water Permit (Order No 97-03-DWO) and Kern County Municipal Stormwater Permit (Order No 5-01-120). All plans under these requirements shall be submitted to Kern County Public Works for review and approval.</td>
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<td></td>
<td>2. Any operator of a facility that meets the following requirements is not required to be covered by the Construction General Permit (State Water Regional Control Board Memorandum dated 5-18-2010):</td>
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<tr>
<td></td>
<td>a. discharges of stormwater runoff from oil and gas exploration, production, processing or treatment operations or transmission facilities, including field activities or operations that may be considered construction activity;</td>
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<td></td>
<td>1. are not contaminated by contact with, or do not come into contact with, any overburden, raw material, intermediate products, finished product, byproduct or waste products;</td>
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<td></td>
<td>2. are only contaminated by or only come into contact with sediment; and</td>
<td></td>
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<td></td>
<td>3. pursuant to 40.C.F.R. § 122.26(c)(1) (iii) that do not contribute to a violation of a water quality standard. Any change to this State Water Regional Control Board determination will require full compliance with National Pollutant Discharge Elimination System requirements.</td>
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<td></td>
<td>3. Any operator not subject to National Pollutant Discharge Elimination System requirements.</td>
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<tr>
<td>Impact</td>
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<td></td>
<td>System stormwater permitting requirements shall implement Best Management Practices during construction and operation. All selected practices shall be shown on a drainage implementation plan and self-certified as complete and feasible by a licensed professional qualified in drainage and flood control issues. The plan shall be submitted to the Kern County Planning and Community Development department.</td>
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<tr>
<td></td>
<td>The following Best Management Practices shall be implemented and shown on the drainage implementation plan:</td>
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<tr>
<td></td>
<td>a. Utilizing established facilities design, construction or similar standards as appropriate (e.g., American Society for the Testing and Materials (ASTM) American Petroleum Institute (API)).</td>
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<td></td>
<td>b. Implementation good housekeeping and maintenance practices:</td>
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<tr>
<td></td>
<td>i. Preventing trash, waste materials and equipment from construction storm water.</td>
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<td></td>
<td>ii. Maintaining wellheads, compressors, tanks and pipelines in good condition without leaks or spills.</td>
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<td></td>
<td>iii. Designing and maintaining graded pads to not actively erode and discharge sediment</td>
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<td></td>
<td>iv. Maintaining vehicles in good working order</td>
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<td></td>
<td>v. Providing secondary containment for all -above -ground storage tanks and maintaining such containment features in good operating condition</td>
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<td></td>
<td>c. Implementing spill prevention and response measures</td>
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<tr>
<td></td>
<td>i. Utilizing preventative operating practices such as tank level monitoring, safe chemical handling and conducting regular inspections.</td>
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<td></td>
<td>ii. Developing and maintaining a spill response plan</td>
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<td></td>
<td>iii. Conducting spill response training for employees and have a process to ensure contractors have the necessary training</td>
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<td></td>
<td>iv. Maintaining spill response equipment on site.</td>
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<td></td>
<td>d. Implementing material storage and management practices:</td>
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<td></td>
<td>i. Preventing unauthorized access</td>
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<tr>
<td></td>
<td>ii. Utilizing “run-on” and “run-off” control berms and swales</td>
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<tr>
<td></td>
<td>iii. Stabilizing exposed slopes through vegetation and other appropriate methods (e.g., hay bales or rolls).</td>
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</tbody>
</table>
|        | B. Oil and gas activities outside Tier 1 shall comply with all applicable state and federal stormwater management laws. For any oil and gas activity outside Tier 1 that is not subject to state or federal stormwater management
Mitigation Measure

laws, regulations or general permits, the Applicant shall prepare a drainage plan that is designed to minimize runoff and minimize the potential for impeding or redirecting 100-year flood flows. The drainage plan shall be prepared in accordance with the Kern County Grading Code, the Green Code and approved by the Kern County Department of Public Works, Floodplain Management Section. The plan shall specify best management practices to prevent all construction pollutants from contacting stormwater, with the intent of keeping sedimentation or any other pollutants from moving offsite and into receiving waters. The requirements of the Plan shall be incorporated into design specifications. Recommended best management practices for the construction phase must be shown on a drainage plan, and shall include the following:

a. Erosion Control -
   1. Scheduling of construction activities to avoid rain events.
   2. Limiting vegetation removal to the minimum required.

b. Sediment Control -
   1. Secure stockpiling of soil.
   2. Installation of a stabilized construction entrance/exit and stabilization of disturbed areas.

c. Non-stormwater Control -
   1. Proper fueling and maintenance of equipment and vehicles.
   2. Proper concrete handling techniques.

d. Waste and Material Management -
   1. Properly managing construction materials, designating construction staging areas in or around the Project site.
   2. Stockpiling and disposing of demolition debris, concrete, and soil properly.
   3. Prompt removal and proper disposal of litter.
   4. Proper disposal of demolition debris, concrete and soil.
   5. Proper protections for fueling and maintenance of equipment and vehicles.
   6. Provide and maintain adequate secondary containment to minimize or eliminate pollutants from moving offsite and into receiving waters.

e. Post-Construction Stabilization -
   1. Ensuring the stabilization of all disturbed soils per revegetation or application of a soil binder.

C. If construction activities will alter federal jurisdictional waters, project applicants shall comply with the federal Clean Water Act Section 404 and Section 401 permitting and certification requirements. If construction activities will alter state waters, project applicants shall comply with California Department of Fish and Wildlife Streambed Alteration requirements.
Exhibit C
Mitigation Monitoring and Reporting Program for Kern County Gas & Oil Zoning Ordinance Environmental Impact Report

<table>
<thead>
<tr>
<th>Impact</th>
<th>Mitigation Measure</th>
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<th>Responsible Monitoring Agency</th>
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<th>Initials</th>
</tr>
</thead>
<tbody>
<tr>
<td>MM 4.9-3</td>
<td>All drilling operations must either use a closed loop system to avoid discharges of drilling muds and fluids, or obtain coverage under the State Water Resources Control Board low threat discharge General Order (Waste Discharge Requirements General Order 2003-0003-DEW), obtain individual Waste Discharge Requirements issued by the Central Valley Regional Water Quality Control Board for the unit, or obtain coverage under a general order issued by the Central Valley Regional Water Quality Control Board applicable to drilling ponds. Any surface ponds or sumps must be cleared of fluids and muds in accordance with the State Water Resources Control Board general order, applicable Water Discharge Requirements and Division of Oil Gas and Geothermal Resources regulations. Compliance with the State Water Resources Control Board or Central Valley Regional Water Quality Control Board low-threat discharge orders or Water Discharge Requirements, if closed-loop systems are not used, and applicable laws, regulations and standards will reduce potential surface water quality impacts from contact with drilling muds or fluids during drilling and construction to less than significant levels. After consultation with and approval by the Regional Water Board with jurisdiction over injection and groundwater, applicant shall provide for a tracer or some other reasonable method to allow well stimulation fluids to be distinguished from other fluids or chemicals for well stimulation permits. This could consist of an added tracer using an inert constituent that could be used to identify the presence of well stimulation fluids. Alternatively, it could be an intrinsic tracer, or some naturally occurring component that makes the well stimulation fluids chemically unique. Potential geochemical changes in the subsurface during injection or migration shall be considered. Use of a tracer shall be required to be disclosed to the public under Section 1788 of the SB 4 regulations. The regulations specifically require that the applicant require the composition and disposition of all well stimulation treatment fluids other than water, including &quot;any radiological components or tracers injected into the well as part of the well stimulation treatment, a description of the recovery method, if any, for those components or tracers, the recovery rate, and specific disposal information for the recovered components or tracers a radiological component or tracer injected&quot; (Section 1788 (15)). For any well stimulation treatment activity, the applicant shall not conduct well stimulation treatment activity until the State Water Resources Control Board, in consultation with the Central Valley Regional Water Quality Control Board, has approved either a groundwater monitoring plan or exclusion from groundwater monitoring for a given well, consistent with the State Water Resources Control Board Model Criteria for Groundwater Monitoring in Areas of Oil and Gas Well Stimulation.</td>
<td>During construction and operation</td>
<td>KC PCDD; State Water Resources Control Board; Central Valley Regional Water Quality Control Board</td>
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</table>

Steps to Compliance:
A. The Applicant shall implement measures as specified in the mitigation measures.
B. Obtain Waste Discharge Permit.
C. The Kern County Planning and Community Development Department will verify.

<p>| MM 4.9-4 | For any activity for which Chapter 19.98 applies, the Applicant shall not | During construction and | KC PCDD; | |</p>
<table>
<thead>
<tr>
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<tbody>
<tr>
<td></td>
<td>conduct any Class II injection activity regulated by the Underground Injection Control program, including enhanced oil recovery activities that discharge into any underground source of current or future beneficial use groundwater, including drinking water, unless the aquifer has been exempted by the United States Environmental Protection Agency or injection has otherwise been authorized by the U.S. Environmental Protection Agency or by the Division of Oil Gas and Geothermal Resources, in consultation and agreement by the State Water Resources Control Board, consistent with Public Resources Code 3131.</td>
<td>operation</td>
<td>Environmental Protection Agency; Division of Oil Gas and Geothermal Resources</td>
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<tr>
<td>MM 4.9-5</td>
<td>For any activity for which Chapter 19.98 applies, the Applicant shall not discharge produced water into any surface disposal facility unless the facility has received the Waste Discharge Requirements from the Central Valley Regional Water Quality Control Board, or the need for Water Discharge Requirements has been waived by the Central Valley Regional Water Quality Control Board. As required by the SB 4 regulations, well stimulation treatment fluids and produced fluids from wells that have been stimulated cannot be stored, discharged, or disposed into surface ponds or pits.</td>
<td>During construction and operation</td>
<td>KC PCDD; Central Valley Regional Water Quality Control Board</td>
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<tr>
<td>MM 4.9-6</td>
<td>For any oil and gas activity within a Special Flood Hazard Area, the Applicant shall ensure that all constructed facilities are elevated or floodproofed in compliance with the requirements and standards found in the Kern County Floodplain Management Ordinance and Chapters 19.50 and 19.70 of the Kern County Zoning Code.</td>
<td>Provide with Application Package; During construction and operation</td>
<td>KC PCDD</td>
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<tr>
<td>4.9-2</td>
<td>Implement Steps to Compliance MM 4.9-1 through MM 4.9-6</td>
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<td>4.9-3</td>
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<td>4.9-4</td>
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<td>4.9-11</td>
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</table>

### Land Use and Planning

| 4.10-1     | Implement specified mitigation measures, including those that are applicable from Section 4.1, Aesthetics and Visual Resources, Section 4.3, Air Quality, Section 4.4 Biological Resources, Section 4.12, Noise, Section 4.15, Recreation, and Section 4.17, Utilities and Service Systems. |                               |                                                |

### Noise

| 4.12-1     | MM 4.12-1 Construction:                                                                                                                                                                                          | Provide with Application Package | KC PCDD |          |
### Mitigation Monitoring and Reporting Program for Kern County Gas & Oil Zoning Ordinance Environmental Impact Report

<table>
<thead>
<tr>
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<tbody>
<tr>
<td></td>
<td>The Site Plan Application shall include a Site Vicinity Figure showing the location of any sensitive receptor(s) within the distances listed in the construction noise setbacks table, as shown below, of the construction site (potential impact area) for the proposed new well or other ancillary facility or equipment (excluding pipelines). This Figure need not be prepared for Tier 1 areas unless a sensitive receptor is located within 3,270 feet of a construction site inside the Tier 1 area.</td>
<td>Package; During construction and operation</td>
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<tr>
<td></td>
<td>a. If there are no sensitive noise receptors within this potential impact area, then no construction mitigation measures shall be required.</td>
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<td></td>
<td>b. If there are sensitive human noise receptors within the potential impact area, then additional information must be provided showing the type of equipment being used and the noise contours with levels not exceeding 65 dB DNL at the nearest exterior wall of the sensitive receptor or more than 1 dB DNL higher than the ambient noise levels, if in excess of 65 dB DNL. If noise levels are shown to exceed 65 dB DNL or more than 1 dB DNL higher than the ambient noise levels in excess of 65 dB DNL, then one or more of the following mitigation measures shall be taken:</td>
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<td></td>
<td>1. Placement of a temporary sound attenuation wall(s) shall be placed at the optimal distance to the sensitive receptor, as determined by an acoustical expert.</td>
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<td></td>
<td>2. Construction of a temporary berm shall be placed at the optimal distance to the sensitive receptor, as determined by an acoustical expert.</td>
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<td>3. Modification of equipment to reduce noise impacts.</td>
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<td></td>
<td>4. Implementation of a quiet mode drilling plan or other sound reduction technology or practices as documented in a report submitted to the County.</td>
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<td>5. Arranging for the voluntary, temporary relocation of the occupants of the sensitive receptor during the construction period.</td>
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<td>6. Use the following setback distances for the activities specified:</td>
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</table>

#### Construction Noise Setbacks

<table>
<thead>
<tr>
<th>Activity</th>
<th>Setback Distance (feet)</th>
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</thead>
<tbody>
<tr>
<td>Drilling (Well Advancement)</td>
<td>1550</td>
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<tr>
<td>Drilling (Pull Out Of Well/Borehole)</td>
<td>820</td>
</tr>
<tr>
<td>Large-Scale Exploratory Drilling</td>
<td>3270</td>
</tr>
<tr>
<td>Impact</td>
<td>Mitigation Measure</td>
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<td>--------</td>
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<tr>
<td></td>
<td>Well Workover</td>
</tr>
<tr>
<td></td>
<td>Hydraulic Fracturing</td>
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</tbody>
</table>

Note: 

Note: ¹Kenai Drill Rig #7

Information submitted with the Site Plan Application must detail the combination and methods used to determine the level of reduction and shall not exceed 65 dB DNL or any ambient levels in excess of 65 dB DNL or more than 1 dB DNL higher than the ambient noise levels, if in excess of 65 dB DNL.

**MM 4.12-2 Operation:**

New oil and gas wells shall be a minimum 210 feet from the closest sensitive receptor. Geophysical testing methods using vibroseis vehicles to generate sound waves shall be a minimum 150 feet from the closest occupied building, water well, sewer system, and septic tank. Geophysical testing methods using shotholes that employ explosives shall be a minimum 300 feet from the closest occupied building, water well, sewer system, and septic tank, and shall be in full compliance with all laws governing explosives.

**Steps to Compliance:**

A. The Applicant shall implement measures as specified in the mitigation measures.
B. The Kern County Planning and Community Development Department will verify.

<table>
<thead>
<tr>
<th>4.12-3</th>
<th>Implement MM 4.12-2 Steps to Compliance</th>
</tr>
</thead>
<tbody>
<tr>
<td>4.12-4</td>
<td>Implement MM 4.12-1 Steps to Compliance</td>
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<tr>
<td>4.12-6</td>
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<tr>
<td>4.12-7</td>
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</tbody>
</table>

**Public Services**

<table>
<thead>
<tr>
<th>MM 4.14-1</th>
<th>Applicant shall contribute to funding the acquisition of a Combination Walk-in/Non-Walk-in Industrial Firefighting vehicle capable of responding with a minimum of five firefighters with the tools and equipment necessary for industrial firefighting and rescue. Each Applicant shall pay $150 per well on each Oil and Gas Conformity Review permit until the total cost of the vehicle purchase is reached, not to exceed $850,000, to be paid through mitigation fees on Oil and Gas Conformity Review permits. Subsequent Applicants shall not be subject to this mitigation measure.</th>
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<tbody>
<tr>
<td></td>
<td>Provide with Application Package; During construction and operation</td>
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<tr>
<td></td>
<td>Kern County KC PCDD</td>
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</table>

**Steps to Compliance:**

A. The Applicant shall implement measures as specified in the mitigation measures.
B. The Kern County Planning and Community Development Department will verify.

<table>
<thead>
<tr>
<th>MM 4.14-2</th>
<th>Applicant shall provide funding in the amount of $425 per Oil and Gas Conformity Review permit issued for the Sheriff's Rural Crime Unit. Funding shall be used for one Sergeant, two Senior Deputies (investigators), three Deputies, One Support Technician (clerical), and helicopter usage, based on the amount of funding provided by this permit mitigation fee. The fee shall be in addition to any general funds received by the Sheriff's Department. The Sheriff's department shall annually report on the expenditure of funds for the</th>
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<tr>
<td></td>
<td>Provide with Application Package; During construction and operation</td>
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<td></td>
<td>KC PCDD</td>
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</table>

**Steps to Compliance:**

A. The Applicant shall implement measures as specified in the mitigation measures.
### Exhibit C  Mitigation Monitoring and Reporting Program for Kern County Gas & Oil Zoning Ordinance Environmental Impact Report

<table>
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<tr>
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</table>

#### Traffic and Transportation

| 4.16-1 | MM 4.16-1 The Applicant shall pay a road maintenance mitigation fee of $1,500 per permit for new wells to pay for roadway maintenance and related improvements to address wear and tear on roads caused by oil and gas industry traffic. The Kern County Public Works Department shall annually report on the expenditure of funds from the Oil and Gas Roadway Maintenance Fee. Expenditures from the fund shall be as determined by the Roads Commissioner, using as a reference the list of roadways identified in the Environmental Impact Report as being used for traffic by the oil and gas industry. If Kern County secures funding from a sales tax dedicated to transportation funding, then the amount of the traffic mitigation fee shall be re-evaluated at the time the County becomes a self-help county. The first 100 permits issued in a calendar year to certified small producers under the Small Producers Program included in the Project shall not pay this mitigation fee based on their very low proportionate use of the Rural Crimes Unit (100 permits are estimated to generally be less than 5% of the permits issued annually). | Provide with Application Package; During construction and operation | KC PCDD; Kern County Public Works Department |      |          |
|        | Steps to Compliance:                                                                                                  |                               |                               |      |          |
|        | A. The Applicant shall implement measures as specified in the mitigation measures.                                     |                               |                               |      |          |
|        | B. The Kern County Planning and Community Development Department will verify.                                          |                               |                               |      |          |

<p>| 4.16-2 | MM 4.16-2 Applicants who are using an arterial or collector, or Caltrans route, for access to a construction site, shall consult with the Kern County Public Works Department to determine if a Construction Traffic Control Plan is required based on the timing and volume of larger vehicle rigs and the volume of traffic to address public safety and congestion management. If a plan is required, the Applicant shall prepare and submit a Construction Traffic Control Plan to the Kern County Public Works Department and to the California Department of Transportation (District 9 office) for approval. The Construction Traffic Control Plan must be prepared in accordance with both the California Department of Transportation Manual on Uniform Traffic Control Devices and Work Area Traffic Control Handbook and shall include, but not be limited to, the following issues: a. Timing of deliveries of heavy equipment and building materials. b. Placing temporary signing, lighting, and traffic control devices as necessary to indicate the presence of heavy vehicles and construction traffic. c. Determining the need for construction work hours and | Provide with Application Package; During construction and operation | Kern County Public Works Department |      |          |
|        | Steps to Compliance:                                                                                                  |                               |                               |      |          |
|        | A. The Applicant shall implement measures as specified in the mitigation measures.                                     |                               |                               |      |          |
|        | B. The Kern County Public Works Department will verify.                                                              |                               |                               |      |          |</p>
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<tr>
<th>Impact</th>
<th>Mitigation Measure</th>
<th>Time Frame for Implementation</th>
<th>Responsible Monitoring Agency</th>
<th>Date</th>
<th>Initials</th>
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<tr>
<td>4.16-2</td>
<td>Implement MM 4.16-2 Steps to Compliance.</td>
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<tr>
<td>4.16-3</td>
<td>Implement airport-related mitigation measures, as described in Section 4.8, Hazards and Hazardous Materials.</td>
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<td>4.16-4</td>
<td>Implement MM 4.16-2 Steps to Compliance.</td>
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<td>4.16-5</td>
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<td>4.16-6</td>
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<tr>
<td>4.16-7</td>
<td>Implement of MM 4.16-1 and MM 4.16-2 Steps to Compliance.</td>
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**Utilities and Service System**

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<tr>
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<th>Date</th>
<th>Initials</th>
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<tbody>
<tr>
<td>4.17-2</td>
<td>MM 4.17-1 Prior to the issuance of building permits for an operations and maintenance building, the method of sewage disposal shall be as required and approved by the Kern County Public Health Services Department. Compliance with this requirement will necessitate that the Project proponent obtain the necessary approvals for the design of the septic system from the Kern County Department of Public Works. The septic system disposal field shall be located a minimum of 100 feet from a classified stream or 25 feet from a non-classified stream and shall not be located where it would impact State wetlands or special-status plant species.</td>
<td>Provide with Application Package; During construction and operation</td>
<td>Kern County Public Works Department</td>
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**Steps to Compliance:**
A. The Applicant shall implement measures as specified in the mitigation measures.
B. The Kern County Planning and Community Development Department will verify.

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<tr>
<td>4.17-4</td>
<td>MM 4.17-2 Applicant shall increase the re-use of produced water, and reduce its use of municipal and industrial-quality ground or surface water use to the extent feasible. By the end of 2016, the Applicants shall work with the County to review water use data submitted to Division of Oil Gas and Geothermal Resources under Senate Bill 1281 and identify the five biggest oil industry users of municipal and industrial water by volume. The five biggest oil industry users of municipal and industrial water shall work together to develop and implement a plan identifying new measures to reduce municipal and industrial water use by 2020. The plan shall address the following activities, as appropriate: steam generation; drilling and completions (including hydraulic fracturing); dust control; compaction activities related to construction; and landscaping. Through the KernFLOWS initiative or other efforts (e.g., Groundwater Sustainability Agency), the five biggest oil industry users of municipal-and-industrial water shall also work with local agricultural producers and water districts to identify new opportunities to increase the use of produced water for agricultural irrigation and other activities, as appropriate. Any produced water treated and used for agricultural irrigation or other activities shall be tested and monitored to assure compliance with applicable standards for such agricultural irrigation or other uses.</td>
<td>During construction and operation</td>
<td>KC PCDD</td>
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<td>Impact</td>
<td>Mitigation Measure</td>
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<td>MM 4.17-3</td>
<td>In the County’s required participation for the formulation of a Groundwater Sustainability Agency, the Applicant shall work with the County to integrate into the Groundwater Sustainability Plan for the Tulare Lake-Kern Basin, best practices from the oil and gas industry to encourage the re-use of produced water from oil and gas activities, and (with appropriate treatment) to produce new water supplies for other uses such as agricultural irrigation and groundwater recharge. The produced water re-use goal is 30,000 acre-feet per year, which would offset more than the current use of imported water and groundwater from non-oil bearing zones by the oil and gas industry.</td>
<td>Provide with Application Package; During construction and operation</td>
<td>KC PCDD</td>
<td></td>
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<tr>
<td>MM 4.17-4</td>
<td>The Applicant shall work with the County on the Groundwater Sustainability Plan to increase Applicant use of reclaimed water and reduce the Applicant’s use of municipal-and-industrial quality imported surface water or groundwater. The Applicant will provide copies of water use reports produced under SB 1281 to the Groundwater Management Agency, which will then integrate this information into the Groundwater Sustainability Plan required under the Sustainable Groundwater Management Act.</td>
<td>Provide with Application Package; During construction and operation</td>
<td>KC PCDD</td>
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</table>

**Steps to Compliance:**
- A. The Applicant shall implement measures as specified in mitigation measures.
- B. The Kern County Planning and Community Development Department will verify.

| 4.17-5           | Implement MM 4.17-1 Steps to Compliance.                                                                                                                                                                                                 |                                                                                             |                               |      |         |
| 4.17-6 MM 4.17-5 | During construction activities for Project facilities, the Applicant shall not store construction waste onsite for longer than the duration of the construction activity, or transport any waste to any unpermitted facilities. The Applicant shall also reduce construction waste transported to landfills by recycling solid waste construction materials, such as taking materials to recycling and reuse locations listed in the brochure on recycling construction and demolition materials available on the Kern County Waste Management Department website. | During construction                                                                                                                                     | KC PCDD |      |         |

**Steps to Compliance:**
- A. The Applicant shall implement measures as specified in the mitigation measures.
- B. The Kern County Planning and Community Development Department will verify.

| 4.17-7           | Implement MM 4.17-5 Steps to Compliance.                                                                                                                                                                                                 |                                                                                             |                               |      |         |
BEFORE THE PLANNING COMMISSION
COUNTY OF KERN, STATE OF CALIFORNIA

In the matter of:

RESOLUTION NO. 113-17

APPLICATION FOR CONDITIONAL USE PERMIT CASE NO. 18, MAP NO. 141

19000 Bear Mountain Boulevard, Bakersfield
Buena Vista Dairy, LLC by John Bidart (PP18119)

FINDINGS AND DETERMINATION

I, Lorelei H. Oviatt, Secretary of the Planning Commission of the County of Kern, State of California, do hereby certify that the following resolution, proposed by Mr. Sprague, seconded by Mr. Louie, was duly passed and adopted by said Planning Commission at an official meeting hereof this 28th day of September, 2017, by the following vote, to wit:

AYES: Babcock, Louie, Sprague

NOES: None

ABSTAINED: None

ABSENT: Garcia, Poole

SECRETARY OF THE PLANNING COMMISSION
COUNTY OF KERN, STATE OF CALIFORNIA

RESOLUTION

SECTION 1. WHEREAS:

(a) Pursuant to the California Government Code, Title 7, Section 65000, et seq. (known as the Planning and Zoning Law), the Kern County Board of Supervisors has adopted the Official Land Use and Zoning Ordinance for the County of Kern (Ordinance Code of Kern County, Chapter 19.02, et seq.), herein called the Zoning Ordinance; and
(b) The Zoning Ordinance establishes various classes of zones, prescribes land uses and regulations for the various zones, and adopts zoning maps for the purposes of dividing the County into zones and showing the zone boundaries; and

(c) The Zoning Ordinance regulates the use of buildings, structures, and land, as between agriculture, industry, business, residence, and other purposes, and other uses more specifically set forth in Section 65850 of said Government Code; and

(d) The Kern County Planning and Natural Resources Department has received an application pertaining to a parcel of real property which is located within that portion of the unincorporated area of the County for which an official Zoning Map has been adopted under Section 7297.157 of said Ordinance Code and for which precise land use and zoning regulations are in effect; and

(e) Said parcel of real property is described as follows:

    APN: 184-110-73

    Section 19, T31S, R26E, MDB&M, County of Kern, State of California (A complete legal description is on file with the Kern County Planning and Natural Resources Department); and

(f) Said application has been made pursuant to provisions of Chapter 19.104 of said Ordinance Code, and requests a conditional use permit as provided in Section 19.12.030.A.2, insofar as said requirements are applicable to the aforesaid parcel of real property, and more particularly to allow biomass energy conversion facility (Section 19.12.030.A.2) in an A (Exclusive Agriculture) District to facilitate the processing of untreated biogas from anaerobic digesters from dairies in the area; and

(g) The Planning and Natural Resources Department has reviewed the matter and prepared a report containing detailed description and analysis of the conditional use permit, (copy of the report is on file with the Planning and Natural Resources Department and incorporated herein by this reference as if set forth in full); and

(h) Said application has been made in the form and in the manner prescribed by said Zoning Ordinance and is on file with the Secretary of this Commission, designated as above, and reference is hereby made thereto for further particulars; and

(i) The Secretary of this Commission has caused notice to be duly given of a public hearing in this matter in accordance with law, as evidenced by the affidavit of publication and the affidavit of mailing on file with the Secretary of this Commission; and

CUP #18, Map #141
September 28, 2017
(j) Additionally, the Planning and Natural Resources Department has investigated possible environmental impacts of the requested actions and found this project to be statutorily exempt from preparation of further environmental documents pursuant to the Public Resources Code Sections 21166 and 21083.3, and Sections 15162 and 15183 of the State CEQA Guidelines; and

(k) Said public hearing has been duly and timely conducted, during which the proposal was explained by a representative of the Planning and Natural Resources Department and all persons so desiring were duly heard; and

(l) During said hearing and prior to consideration of the merits of said matter, this Commission called for any objections to the dispensing with an environmental impact report; and

(m) This Commission has considered the recommendation of the Planning and Natural Resources Department and all the testimony presented during said public hearing, after which said public hearing was concluded.

SECTION 2. NOW, THEREFORE, BE IT HEREBY RESOLVED by the Planning Commission of the County of Kern, as follows:

(a) This Commission finds that the facts recited above are true and that this Commission has jurisdiction to consider the subject of this resolution; and

(b) After careful consideration of all facts and evidence as presented at said hearing, it is the decision of the Planning Commission that the application herein described be, and it is hereby, APPROVED, with development to be in substantial conformity with the approved plan, and the approved plan shall be revised to include the following conditions of approval:

(1) Development shall be in substantial conformity with the approved plan, and the approved plan shall be revised to include the following conditions of approval.

(2) This approval authorizes a conditional use permit to allow biomass energy conversion facility (Section 19.12.030.A.2) in an A (Exclusive Agriculture) District to facilitate the processing of untreated biogas from anaerobic digesters from dairies in the area. Any additions or expansions to the approved plan may be subject to a formal modification to this plan or a new conditional use permit, as determined by the Director of the Kern County Planning and Natural Resources Department.

(3) All necessary building permits must be obtained.

(4) Prior to the issuance of building or grading permits, the applicant shall submit documentation of the following:

(a) The method of water supply and sewage disposal shall be as required and approved by the Kern County Public Health Services Department/Environmental Health Division.

CUP #18, Map #141
September 28, 2017
(b) Fire flows, fire protection facilities, and access ways shall be as required and approved by the Kern County Fire Department.

(c) The owner/operators of permitted uses that involve equipment or activities that store, use, or generate hydrocarbons, particulate matter, toxic chemicals, nuisance odors, or other air contaminants subject to air pollution control requirements, shall consult with, and be subject to the requirements of, the applicable Air Pollution Control District. If requested by the applicable Air Pollution Control District, the Building Official may withhold final inspection or issuance of a Certificate of Occupancy for any structure on property containing a business which is in noncompliance with the requirements of that District until such time as the deficiencies are corrected.

(5) Prior to final occupancy approval, the following conditions shall be verified by the building inspector and shall be continuously maintained while this permit is active:

(a) All easements shall be kept open, clear, and free from buildings and structures of any kind pursuant to Section 19.08.225 and Section 19.80.030.C of the Kern County Zoning Ordinance and Chapters 18.50 and 18.55 of the Kern County Land Division Ordinance. All obstructions, including utility poles and lines, trees, pole signs, or similar obstructions, shall be removed from the ultimate road rights-of-way in accordance with Section 18.55.030 of the Land Division Ordinance. Compliance with this requirement is the responsibility of the applicant and may result in significant financial expenditures.

(b) All storage and pressure tanks shall be painted an earthen hue color.

(c) Parking shall be provided as illustrated on the approved plan.

(d) All vehicle parking and maneuvering areas shall be surfaced with one of the following: three inches of decomposed granite, three inches of compacted rock dust, three inches of gravel, or three inches of a material of a higher quality. All required surfacing shall be continuously maintained in good condition, as determined by the Director of the Kern County Planning and Natural Resources Department.

(e) All vehicle parking and maneuvering areas shall be treated in a manner to continuously prevent blowing dust. All required surfacing shall be continuously maintained in good condition, as determined by the Director of the Kern County Planning and Natural Resources Department.

(f) Vehicle parking spaces shall be nine (9) feet by twenty (20) feet or larger in size and shall be designated by white painted stripes, except as provided in Sections 19.82.030 and 19.82.040 of the Zoning Ordinance.

(g) All signs shall be approved by the Director of the Kern County Planning and Natural Resources Department prior to installation.

(h) From the drop point of any overhead power pole on the periphery of the site, all new on-site utility services shall be placed underground.
(i) Permitted uses that include the placement of any solid or liquid material directly on the ground which has the potential to leach into the ground and adversely impact groundwater, the applicant shall consult with, and be subject to review and approval by, the California Regional Water Quality Control Board or, alternatively, the Kern County Public Health Services Department/Environmental Health Division.

(j) Any business which stores hazardous or toxic chemicals as a normal part of its business shall file a Business Plan with the Kern County Public Health Services Department/Environmental Health Division.

(6) The property owner shall continuously comply with the following conditions of approval during implementation of this permit:

(a) The development shall comply with any requirements of the San Joaquin Valley Air Pollution Control District.

(b) If any previously unknown oil, gas or injection wells are discovered, work in the area of discovery shall be stopped and the Department of Conservation/Division of Oil, Gas, and Geothermal Resources/Bakersfield office contacted by the project proponent to obtain information on the requirements of, and approval to perform, remedial operations implemented prior to resumption of work in the area of discovery.

(c) If any previously unknown archaeological or cultural resources are discovered, work in the area of discovery shall be stopped and a qualified archaeologist contacted to evaluate the find. A copy of the archaeologist’s evaluation shall be submitted to the Kern County Planning and Natural Resources Department upon its issuance and any measures recommended by the archaeologist shall be implemented prior to resumption of work in the area of discovery.

(d) All exterior/outdoor lighting fixtures shall comply with Chapter 19.81 (Outdoor Lighting “Dark Skies Ordinance”) of the Kern County Zoning Ordinance. Lighting fixtures shall not exceed a height of thirty (30) feet above grade, if freestanding, or the height of the building upon which they are attached. Light fixtures shall be maintained in sound operating conditions at all times.

(e) All signs shall comply with the signage regulations of the applicable base zone district and with Chapter 19.84 and Chapter 19.81.040(h) of the Zoning Ordinance.

(f) During all on-site grading and construction activities, adequate measures shall be implemented to control fugitive dust.

(7) If the development for which this conditional use permit has been approved pursuant to the provisions of the Zoning Ordinance has not commenced, or permits for such development have not been issued, within one (1) year of the granting of the use permit, or if the conditional use permit has been unused, abandoned, discontinued, or has ceased for a period of one (1) year, the use permit shall become null and void and of no effect, unless an extension has been granted by the decision-making authority upon written request for an extension before the expiration of the one- (1-) year period.

(8) Noncompliance with the adopted conditions of approval may cause permit revocation proceedings in accordance with Section 19.102.020 of the Ordinance Code.
(9) At the time building permits are applied for, a filing fee of $130 may be imposed to ensure that final plans are consistent with adopted conditions of approval. This fee may serve as an initial deposit for particularly complex cases, in which case a cost recovery agreement will be required and charges will be billed at $100 per hour; and

(c) Noncompliance with the adopted conditions of approval may cause permit revocation proceedings in accordance with Section 19.102.020 of said Ordinance Code; and

(d) The findings of this Commission upon which its decision is based are as follows:

(1) The applicable provisions of the California Environmental Quality Act, the State CEQA Guidelines, and the Kern County Guidelines have been duly observed in conjunction with said hearing in the consideration of this matter and all of the previous proceedings relating thereto.

(2) This Planning Commission has determined that pursuant to Public Resources Code Section 21166 and 21083.3, and Section 15183 of the State CEQA Guidelines, said project qualifies as a special situation and does not require preparation of further environmental documents under the requirements of the Environmental Quality Act of 1970.

County Staff has reviewed the Environmental Information Form submitted by the applicant, and it has been determined there are no project-specific significant effects for the Conditional Use Permit Case No. 18, Map No. 141 project. Pursuant to the California Environmental Quality Act (CEQA) and the Guidelines for the Implementation of CEQA, Section 15183, after a review of the proposed project and in light of the evidence in the record, Staff has made the determination that the requested actions for the Conditional Use Permit Case No. 18, Map No. 141 project do not require the preparation of subsequent environmental documentation based on the following:

- As a result of the requested actions, no substantial changes are proposed in the project that will require major revisions to the Kern County General Plan Final Environmental Impact Report because of the involvement of new significant environmental effects or a substantial increase in the severity of previously identified effects.

- As a result of the requested actions, no substantial changes will occur with respect to the circumstances under which the project will be undertaken that will require major revisions to the Kern County General Plan Final Environmental Impact Report because of the involvement of new significant environmental effects or a substantial increase in the severity of previously identified effects.

- There is no new information of substantial importance that was not known or could not have been known at the time the Kern County General Plan Final Environmental Impact Report was certified, and no new significant effects as a result of the requested actions will occur that were not addressed in the Kern County General Plan Final Environmental Impact Report.

- The requested actions initiate the implementation of a project addressed in the Kern County General Plan and previously analyzed in the Kern County General Plan Final Environmental Impact Report, and the requested actions are in substantial conformance with that plan.
The requested actions do not require the preparation of subsequent environmental
documentation as the conditions identified in Section 15162 do not occur.

(4) The proposed designation is consistent with designation and development patterns in the general
vicinity.

(5) The project is a logical expansion of the ongoing urbanization of the area and is consistent with past
actions for similar requests in the area.

(7) The effect upon the environment of such project and the activities and improvements which may be
carried out thereunder will not be substantial and will not interfere with maintenance of a high-quality
environment now or in the future.

(8) The proposed use is consistent with the goals and policies of the Kern County General Plan.

(9) The proposed use is consistent with the purpose of the applicable district or districts.

(10) The proposed use is listed as a use subject to a conditional use permit in the applicable zoning district
or districts or a use determined to be similar to a listed conditional use in accordance with the
procedures set out in Section 19.08.060.

(11) The proposed use meets the minimum requirements of this title applicable to the use and complies
with all other applicable laws, ordinances, and regulations of the County of Kern and the State of
California.

(12) The proposed use will not be materially detrimental to the health, safety, and welfare of the public or
to property and residents in the vicinity; and

(e) The Secretary of this Commission shall cause a Notice of Exemption to be prepared; and

(f) The Secretary of this Commission shall cause copies of this resolution to be transmitted to the following:

Buena Vista Dairy, LLC by John Bidart (PP18119) (applicant/owner) (1)
Kern County Fire Department (1)
Kern County Public Health Services Department/Environmental Health Division (1)
Kern County Public Works Department (1)
Department of Conservation/Division of Oil, Gas, and Geothermal Resources (1)
San Joaquin Valley Air Pollution Control District (1)
LIUNA/Arthur Izzo (1)
Kern County Assessor/Chief, Realty Division (1)
File (3)
NOTICE OF EXEMPTION

From: Kern County Planning and Natural Resources Department
2700 "M" Street, Suite 100
Bakersfield, CA 93301

Project Title: Conditional Use Permit Case No. 18, Map No. 141

Project Location -- Specific: 19000 Bear Mountain Boulevard, Bakersfield

Project Location -- City: Bakersfield

Project Location -- County: Kern

Description of Project: A Conditional Use Permit to allow biomass energy conversion facility (Section 19.12.030.A.2) in an A (Exclusive Agriculture) District to facilitate the processing of untreated biogas from anaerobic digesters from dairies in the area

Name of Public Agency Approving Project: KERN COUNTY PLANNING COMMISSION

Name of Person or Agency Carrying Out Project: Buena Vista Dairy, LLC by John Bidart (PP18119)

Exempt Status: Special Situation, Section 15183

Reasons Why Project Is Exempt: Section 15183 of the State CEQA Guidelines

Contact Person: Roque Nino, Planning Supervisor ((661) 862-5044)

Date Received for Filing: October 11, 2017

Date of Hearing: September 28, 2017

cc: Applicant
LiUNA/Arthur Izzo
County Clerk (4)
KERN COUNTY PLANNING AND NATURAL RESOURCES

PROJECT TITLE
CONDITIONAL USE PERMIT CASE NO. 18, MAP NO. 141

PROJECT APPLICANT NAME
BUENA VISTA DAIRY, LLC BY JOHN BIDART (PP18119)

PROJECT APPLICANT ADDRESS
2700 "M" STREET, SUITE #100

PROJECT APPLICANT (check appropriate box)
☐ Local Public Agency ☐ School District ☐ Other Special District ☐ State Agency ☒ Private Entity

CHECK APPLICABLE FEES:
☐ Environmental Impact Report (EIR) $3,078.25 $
☐ Mitigated/Negative Declaration (MND)/(ND) $2,216.25 $
☐ Certified Regulatory Program document (CRP) $1,046.50 $
☐ Exempt from fee
☑ Notice of Exemption (attach)
☐ CDFW No Effect Determination (attach)
☐ Fee previously paid (attach previously issued cash receipt copy)

☐ Water Right Application or Petition Fee (State Water Resources Control Board only) $850.00 $
☑ County documentary handling fee $50.00 $
☐ Other

PAYMENT METHOD:
☐ Cash ☐ Credit ☐ Check ☒ Other TOTAL RECEIVED $50.00

SIGNATURE

E. DEL VILLAR/KERN COUNTY/SELL
WHEREAS, California Bioenergy LLC has requested funding for the "Kern Dairy Cluster Biomethane Upgrading Facility Project" (hereafter, "Project"), a project to design, build and operate a centralized biomethane upgrading facility to clean biogas from anaerobic digesters at a dairy cluster in Kern County, and more fully set forth in proposed Agreement ARV-17-008 (hereafter, “ARV-17-008”); and

WHEREAS, Kern County is the lead agency pursuant to California Environmental Quality Act (hereafter, “CEQA”) (Pub. Resources Code section 21000 et seq.) and the State CEQA Guidelines (Cal. Code Regs., tit. 14, section 15000 et seq.); and

WHEREAS, Kern County prepared a Final Environmental Impact Report for Revisions to the Kern County Zoning Ordinance focused on Oil and Gas Local Permitting; and

WHEREAS, Kern County, on November 9, 2015, adopted Resolution 2015-298 that certified the Final Environmental Impact Report for Revisions to the Kern County Zoning Ordinance focused on Oil and Gas Local Permitting (hereafter “FEIR”); and

WHEREAS, Kern County, on September 28, 2017, adopted Resolution 113-17 that approved Conditional Use Permit No. 18, Map No. 141 (hereafter “CUP”) for a biomass energy conversion facility, finding that issuance of the CUP was exempt from CEQA under CEQA Guidelines Section 15183 as a Special Situation and directed that a Notice of Exemption (hereafter “NOE”) be filed; and

WHEREAS, Kern County, on October 26, 2017, filed the NOE and the 35 day statute of limitations to challenge Kern County’s exemption finding expired on November 30, 2017; and

WHEREAS, the Energy Commission is the responsible agency and must therefore, pursuant to State CEQA Guidelines sections 15091 and 15096, subdivision (h), must make certain findings prior to approval of ARV-17-008; and
WHEREAS, the Energy Commission has reviewed and considered the FEIR and CUP/NOE, and other related documents in the record before it; and

WHEREAS, the Energy Commission has no information indicating that the environmental documentation is inadequate, and has used its own independent judgment to consider the FEIR and CUP/NOE in deciding whether to approve ARV-17-008.

THEREFORE BE IT RESOLVED, the Energy Commission finds that the Project is within the scope of activities evaluated in the FEIR and NOE; and

BE IT FURTHER RESOLVED, Kern County has already adopted the mitigation measures recommended in the FEIR and has authority to implement the mitigation measures, or to seek any required approvals for the mitigation measures, and such measures are within the responsibility of Kern County; and

BE IT FURTHER RESOLVED, that the Energy Commission finds, on the basis of the entire record before it, that since the FEIR and NOE were adopted by Kern County, there have been no substantial changes to the project and no substantial changes in project circumstances that would require major revisions to the FEIR or NOE due to the involvement of new significant environmental effects or a substantial increase in the severity of previously identified significant impacts, and there is no new information of substantial importance that would change the conclusions set forth in the FEIR and NOE nor has the Energy Commission identified any feasible alternative or additional feasible mitigation measures within its powers that would substantially lessen or avoid any significant effect approving ARV-17-008 would have on the environment; and

BE IT FURTHER RESOLVED, that the Energy Commission approves Agreement ARV-17-008 with California Bioenergy LLC for $3,050,000; and

BE IT FURTHER RESOLVED, that the Executive Director or his/her designee shall execute the same on behalf of the Energy Commission.

CERTIFICATION

The undersigned Secretariat to the Commission does hereby certify that the foregoing is a full, true, and correct copy of a Resolution duly and regularly adopted at a meeting of the California Energy Commission held on April 11, 2018.

AYE: [List of Commissioners]  
NAY: [List of Commissioners]  
ABSENT: [List of Commissioners]  
ABSTAIN: [List of Commissioners]

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Cody Goldthrite,  
Secretariat